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OVERSEAS COUNTRIES AND TERRITORIES

ENVIRONMENTAL PROFILE

MAIN REPORT

FINAL REPORT

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LIST OF ABBREVIATIONS AND ACRONYMS USED

ACAP	Agreement on Conservation of Albatrosses and Petrels
ACOR	Association Française pour les Récifs Coralliens
ACS	Association of Caribbean States
AEPS	Arctic Environmental Protection Strategy
AFL	Aruba guilders
AI	Ascension Island
AIG	Ascension Island Government
AIWSA	Ascension Island Works & Services Agency
AMAP	Arctic Monitoring and Assessment Programme
ANG	Anguilla
ANRD	Agricultural & Natural Resources Department
AOSIS	Alliance of Small Island States
APEC	Asia-Pacific Economic Cooperation
ARU	Aruba
BAS	British Antarctic Survey
BAT	British Antarctic Territory
BIOT	British Indian Ocean Territory
BRGM	Bureau de Recherches Géologiques et Minières
BVI	British Virgin Islands
CARICOM	Caribbean Community and Common Market
CAFF	Conservation of Arctic Flora and Fauna
CAY	Cayman Islands
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CCC	Cod and Climate Change Programme
CDB	Caribbean Development Bank
Caribank	Caribbean Development Bank
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum
CBD	Convention on Biological Diversity
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CDERA	Caribbean Disaster Emergency Response Agency
CDS	Catch Documentation Scheme
CEHI	Caribbean Environmental Health Institute
CESC	Conseil Economique, Social et Culturelle (FP)
CIA	(US) Central Intelligence Agency
CITES	Convention on International Trade in Endangered Species
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CNRS	Centre National de Recherche Scientifique
COLTO	Coalition of Legal Toothfish Operators
CoP	Conference of the Parties
CPA	Country Poverty Assessment
CPACC	Caribbean Planning for Adaptation to Climate Change
CR	critically endangered (IUCN classification)
CRISP	Coral Reefs in the South Pacific
CROP	Council of Regional Organizations of the Pacific
CSD	Commission on Sustainable Development
CSM	Caribbean Single Market
DAF	Direction de l'Agriculture et de la Forêt (Mayotte)
DCNA	Dutch Caribbean Nature Alliance
DEACI	Department of Economic Affairs, Commerce and Industry
DEFRA	(UK) Department of Environment, Food and Rural Affairs
DEPD	Development & Economic Planning Department (St Helena)
DfID	(UK) Department for International Development
DIP	(Aruba) Directorate of Infrastructure and Planning

DK	Denmark
EC	European Community
ECE	Economic Commission for Europe
ECCB	Eastern Caribbean Central Bank
EDF	European Development Fund
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EIS	Environmental Impact Statement
EN	endangered (IUCN classification)
ENSO	El Niño Southern Oscillation
EPA	Economic Partnership Agreement
EPD	environment, planning and development
EU	European Union
F	France
FAO	Food and Agriculture Organisation
FCO	(UK) Foreign and Commonwealth Office
FDA	Aruba Development Foundation
FEA	Fonds pour l'Environnement et l'Agriculture
FI	Falkland Islands
FIG	Falkland Islands Government
FP	French Polynesia
GCRMN	Global Coral Reef Monitoring Network
GDP	gross domestic product
GEF	Global Environment Facility
GGF	Good Governance Fund
GHG	greenhouse gas(es)
GIWA	Global International Water Assessment
GoA	Government of Anguilla
GR	Greenland
GSGSSI	Government of South Georgia and South Sandwich Islands
HMS	His Majesty's Ship
IAATO	International Association of Antarctica Tour Operators
IBA	Important Bird Area
ICCAT	International Commission for the conservation of tuna-like fish in the Atlantic
ICES	International Council for the Exploration of the Sea
ICES-CCC	ICES Cod and Climate Change Programme
ICRI	International Coral Reef Initiative
IFRECOR	Initiative Française pour les Récifs Coralliens
IIED	International Institute for Environment and Development (UK)
IMF	International Monetary Fund
IPCC	International Panel on Climate Change
IRD	Institut de Recherche pour le Développement (France)
IUCN	International Union for Conservation of Nature
IUU	illegal, unregulated and unreported (fishing)
JCNB	Joint Commission on Narwhal and Beluga
JNCC	(UK) Joint Nature Conservation Committee
LPO	Ligue pour la Protection des Oiseaux
LSB	Landbased Sources of Marine Pollution (protocol of the Cartagena Convention)
MAB	Man and Biosphere (Reserve)
MACC	Mainstreaming Adaptation to Climate Change
MAHLE	(Montserrat) Ministry of Agriculture, Lands, Housing and Environment
MAY	Mayotte
MDGs	Millennium development goals
MEA	Multilateral environmental agreement
MINA	(NL Antilles) Ministry of Public Health and Social Development

MON	Montserrat
MoU	Memorandum of Understanding
MRAG	Marine Resources Assessment Group
MVO	Montserrat Volcano Observatory
n.a.	not available
NACRI	Netherlands Antilles Coral Reefs Initiative
NAFO	North Atlantic Fisheries Organisation
NAMMCO	North Atlantic Marine Mammal Commission
NC	New Caledonia
NDP	National Development Plan (St Pierre & Miquelon)
NEMS	National Environmental Management Strategy
NGO	non-governmental organisation
NL	Netherlands
NLA	Netherlands Antilles
NNR	National Nature Reserve
NT	National Trust
NZ	New Zealand
NZ\$	New Zealand dollars
OECS	Organisation of Eastern Caribbean States
OCT	Overseas Countries and Territories
OCTA	Overseas Countries and Territories Association
OTCC	(UK) Overseas Territories Consultative Council
OTD	Overseas Territories Department (of UK FCO)
OTEF	(UK) Overseas Territories Environment Fund
OTEP	(UK) Overseas Territories Environment Programme
PADD	Plan d'Aménagement et de Développement Durable (Mayotte)
PAME	Protection of the Arctic Marine Environment
PEP	Poverty and Environment Partnership
PGA	Plan Général d'Aménagement
PGEM	Plan de gestion de l'Espace Maritime
PID	Pacific Islands Development Programme
PNG	Papua New Guinea
POP	persistent organic pollutant
PROE	Programme régional océanien de l'environnement
PWSD	Public Works and Services Department
RFMO	Regional Fisheries Management Organisation
RSP	Regional Seas Programme or Regional Strategy Paper
RSPB	(UK) Royal Society for the Protection of Birds
SAWG	South Atlantic Working Group (of the UK OTCF)
SCOR	Scientific Committee on Oceanic Research
SCP	Strategic Country Programme
SD	sustainable development
SDP	Sustainable Development Plan
SEA	Strategic Environmental Assessment
SEAFO	South-East Atlantic Fisheries Organization
SEF	Service de l'Environnement et de la Forêt (Mayotte)
SGSSI	South Georgia and South Sandwich Islands
SHI	St Helena Island
SIDS	Small Island Developing States
SIDSNet	Small Island Developing States Information Network
SITAS	Service d'Inspection du Travail et des Affaires Sociales (Wallis & Futuna)
SMOC	(NL Antilles) Stichting Schoon Milieu Curaçao
SOPAC	South Pacific Applied Geoscience Commission
SPA	Specially Protected Area
SPAW	Protocol concerning Specially Protected Areas and Wildlife
SPEM	Service de la Pêche et de l'Environnement Marin (Mayotte)

SPD	Single Programming Document
SP&M	St Pierre & Miquelon
SPREP	South Pacific Regional Environment Programme
SPT	South Pacific Tourism Organisation
STH	St Helena
TAAF	Terres Australes et Antartiques Françaises
TAC	total allowable catch
TCI	Turks & Caicos Islands
TDC	Tristan da Cunha
TEAP	Taxe pour l'environnement, l'agriculture et la pêche
TERV	taxe pour l'enlèvement et le recyclage des véhicules
UK	United Kingdom
UKOTCF	United Kingdom Overseas Territories Conservation Forum
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNECLAC	United Nations Economic Commission for Latin America and the Caribbean
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Social and Cultural Organisation
VMS	Vessel Monitoring System
VROM	Netherlands environment ministry
VU	vulnerable (IUCN classification)
W&F	Wallis & Futuna
WH	World Heritage
WRI	World Resources Institute
WTO	World Trade Organisation
WW2	second world war

Table of Contents

EXECUTIVE SUMMARY	9
1 Introduction	12
1.1 Purpose of the project	12
1.2 What are the overseas countries and territories?	13
1.3 Scope of the term environment	13
1.4 Methodology	14
1.5 Relationship between EU and OCTs.....	15
1.5.1 2001 Agreement.....	15
1.5.2 General EU policy on aid.....	16
1.5.3 EU development aid and the environment	16
1.6 Structure of this report	16
2 OCTs Basic INFORMATION AND Statistics	17
2.1 Contrasting territories, distinguishing characteristics	17
2.2 Economies	18
2.3 Geography, topography	19
2.4 Vulnerability	20
2.5 Habitats.....	20
2.5.1 Coral	20
2.5.2 Seagrass	20
2.5.3 Mangroves.....	21
2.5.4 Estuaries, wetlands, watersheds and salinas	21
2.5.5 Forest	21
2.5.6 Beaches.....	21
2.6 Wildlife	21
3 Environmental problems in OCTs.....	22
3.1 Introduction	22
3.2 Climate change.....	23
3.2.1 What is climate change?	23
3.2.2 Effects of climate change	24
3.2.3 Special nature of climate change as a challenge.....	24
3.2.4 Climate change Greenland.....	25
3.2.5 Climate change in the Antarctic OCTs	26
3.2.6 Climate change on tropical islands	27
3.2.7 Climate change on rugged temperate islands.....	28
3.2.8 Responses.....	29
3.3 Natural hazards	30
3.4 Pressures from tourism	31
3.5 Illegal, unregulated and unreported fishing	35
3.6 Waste.....	35
3.7 Water supply and sanitation	37
3.8 Habitat destruction.....	37
3.9 Loss of wildlife, biodiversity	40
4 Environmental governance.....	43
4.1 Environmental management resources (people, money, assistance)	43
4.2 Environment and development: EIA, SEA.....	45
4.3 Legislation.....	46
4.4 MEAs	48
4.5 Other instruments	51

4.6	Civil society: role of consultation, NGOs, Aarhus	52
5.	Recommendations for multi-territory cooperation	53
5.1	Introduction	53
5.2	Advantages, disadvantages of regional / multi-territorial vs. territorial approach.....	53
5.3	Recommendations.....	54
Annex A:	Terms of reference	59
Annex B:	Pacific Region.....	68
Annex C:	Caribbean Region	75
Annex D:	South Atlantic Region.....	85
Annex E:	North Atlantic Region	93
Annex F:	Indian Ocean Region.....	99
Annex G:	List of references consulted	106

EXECUTIVE SUMMARY

This report contains environmental profiles for the 20 Overseas countries and territories (OCTs)¹ associated with the European Union. These environmental profiles are set in a socio-economic developmental perspective so that the findings can be used to assist in programming projects in the framework of the 10th European Development Fund (EDF). A special regime governs EU aid to these countries and territories.² Only a few (richer or uninhabited) OCTs are excluded from EU aid. Greenland is also in a special position in so far as it receives aid outside of the EDF in return for fishing rights for EU vessels. The OCTs, relevant member states and the European Commission hold an annual forum to discuss progress and how to improve and make the most of cooperation aid.

The report was prepared at the request of the European Union, in close collaboration with OCTA (the association of OCTs). It was conducted primarily by means of desk research, drawing on data in the public domain: data collection visits were not made to the territories themselves. These data were supplemented by a questionnaire sent to all the territories dealing with institutions, human resources, policies, budgets, for the environment. Feedback from the administrations of the OCTs, member states the Commission services and some nature conservation NGOs was an important mechanism in completing these profiles.

The OCTs are situated in 5 distinct regions³ and display great diversity in terms of geography, economy, population and key circumstances. They extend from the tropics to the polar regions, include the world's largest island (Greenland) and the tiny territory of Pitcairn (47 km²), have populations ranging from over a quarter of a million down to less than 50, and a wide range of incomes.

Despite the differences these territories also share a number of attributes. All of them, including the more affluent, are in some degree economically vulnerable: they are dependent on a small number of sectors, e.g. tourism, fishing, making the economy vulnerable to conjunctural and/or structural changes in that sector (e.g. collapse of fish stocks, tourist cycles and fashions). Their small size means diseconomies of scale and limited human resources. Their often remote situation, insularity and fragmentation mean high transport costs, making imports expensive and exports uncompetitive.

In addition to their economic vulnerability, many OCTs lie in areas which make them vulnerable to natural disasters - cyclones, hurricanes and tropical storms, earthquakes, volcanic activity and tsunamis. These events are often especially devastating to small islands because the proportionate impact is much greater than for larger states and because of the difficulty of evacuation.

The environmental issues at stake in the EU OCTs are many and interconnected, but the main ones are:

Climate change

Many argue that climate change is the greatest environmental challenge (or indeed challenge of any kind) facing mankind at present. The OCTs will be affected more than most countries by climate change.

The OCTs are to some extent a microcosm of the whole world. The OCTs contain an estimated 16% of the world's freshwater, most of it locked up in the ice-sheets of Greenland and the Antarctic OCTs. The

¹ Greenland (DK), French Polynesia, New Caledonia, Mayotte, Saint Pierre and Miquelon, Southern and Antarctic French Territories, Wallis and Futuna (F), Aruba, Dutch Antilles (NL), Anguilla, British Virgin islands, British Antarctic Territories, British Indian Ocean Territory, the Falkland Islands, Montserrat, St Helena and Dependencies, Pitcairn, South Georgia and South Sandwich islands, Turks and Caicos, the Cayman Islands (UK),

² Council Decision 2001/822/EC of 27 November 2001 on the association of the overseas countries and territories with the European Community [Official Journal L 314 of 30.11.2001 and L 324 of 07.12.2001].

³ Caribbean, Pacific, North Atlantic, South Atlantic and Indian Ocean.

Greenland ice-sheet will play a pivotal role in regard to sea-level over the next century and beyond. The OCTs also include many territories which could be particularly vulnerable to sea-level rise.

Climate change represents a particular threat to the tropical territories, most of which are either low-lying or have important settlements and tourist facilities in low-lying coastal areas. The threats in particular are:

- a rising sea-level, leading to more frequent flooding, coastal erosion, the submerging and disappearance of some land, atolls, beach loss (economically important to territories reliant on tourism), etc;
- changes in ocean temperatures, salinity and currents which will bring changes in marine ecosystems, endanger coral reefs which play a key role in the physical defence and economies of many territories, and have unpredicted effects on fish stocks;
- meteorological disruption, in particular more violent storms, but also changes in precipitation patterns.

However non-tropical territories will also be affected. Greenland in particular will be affected by changes in its ice economy (sea-ice, permafrost, grounded ice) and the salinity and temperature of arctic waters.

If climate change continues unchecked it will have profound effects not only ecological but also economic and social, particularly for OCTs with their dependence on the vulnerable tourism and fisheries sectors and their physical constraints. The OCTs have recognised this and have put climate change on their political agenda (brochure on climate change, Nuuk declaration).

Appropriate responses include:

- researching means of adapting to climate change and ensuring that these means are mainstreamed into the planning processes;
- participating in research efforts to understand, quantify, monitor and predict climate change; efforts should be concentrated in areas where individual territories have comparative advantage;
- committing to global efforts to reduce greenhouse gas emissions, particularly the UNFCCC/Kyoto process.
- public information and education, mobilisation of civil society.

Threats to wildlife and biodiversity

OCTs are very rich in flora and fauna. The OCTs have higher biodiversity than the entire European Union. Their insularity and remoteness have led to high endemism on many territories, i.e. the numbers of species found on that territory only. Even for migratory species the OCTs are often very important. A very high proportion of the world's black-browed albatross, for example, breed on either the Falkland Islands, South Georgia, the Crozet Islands or Kerguelen (TAAF).

This wildlife is coming under multiple threats, which include:

- habitat loss due to economic development, agriculture erosion, etc.,
- the introduction of non-native predators, notably rats and cats,
- seabird bycatch and injuries from fishing.

Many populations of considerable conservation interest are declining and many relevant species are listed on the IUCN red list, i.e. are threatened with global extinction.

The world community is becoming increasingly concerned about the loss of biodiversity. This year the European Community published a Communication "Halting the loss of biodiversity by 2010 — and beyond: Sustaining ecosystem services for human well-being". This Communication states "Effective action in the biodiversity-rich overseas countries and territories of Member States is vital to the EU's credibility in this international arena". But only 11 OCTs fall within the scope of the UN Convention on Biological Diversity (CBD), and many of these are not managing to fully meet their obligations under the Convention.

Appropriate responses include:

- Establishing a robust system of protected areas and protected species: legislation, management planning and enforcement;
- Introducing mandatory environmental impact assessment modelled on best practice including defined scope, quality control, full public consultation and participation, proper and timely integration into the planning process.
- Supporting the extension of multilateral environmental agreements such as the CBD to the OCTs and providing support to them in fully meeting their obligations under these agreements.
- Preventive and remedial actions to deal with invasive species. Remedial action in particular can be effective but is expensive and therefore needs to be carefully prioritised.

Waste management

Waste management poses unique challenges in the OCTs:

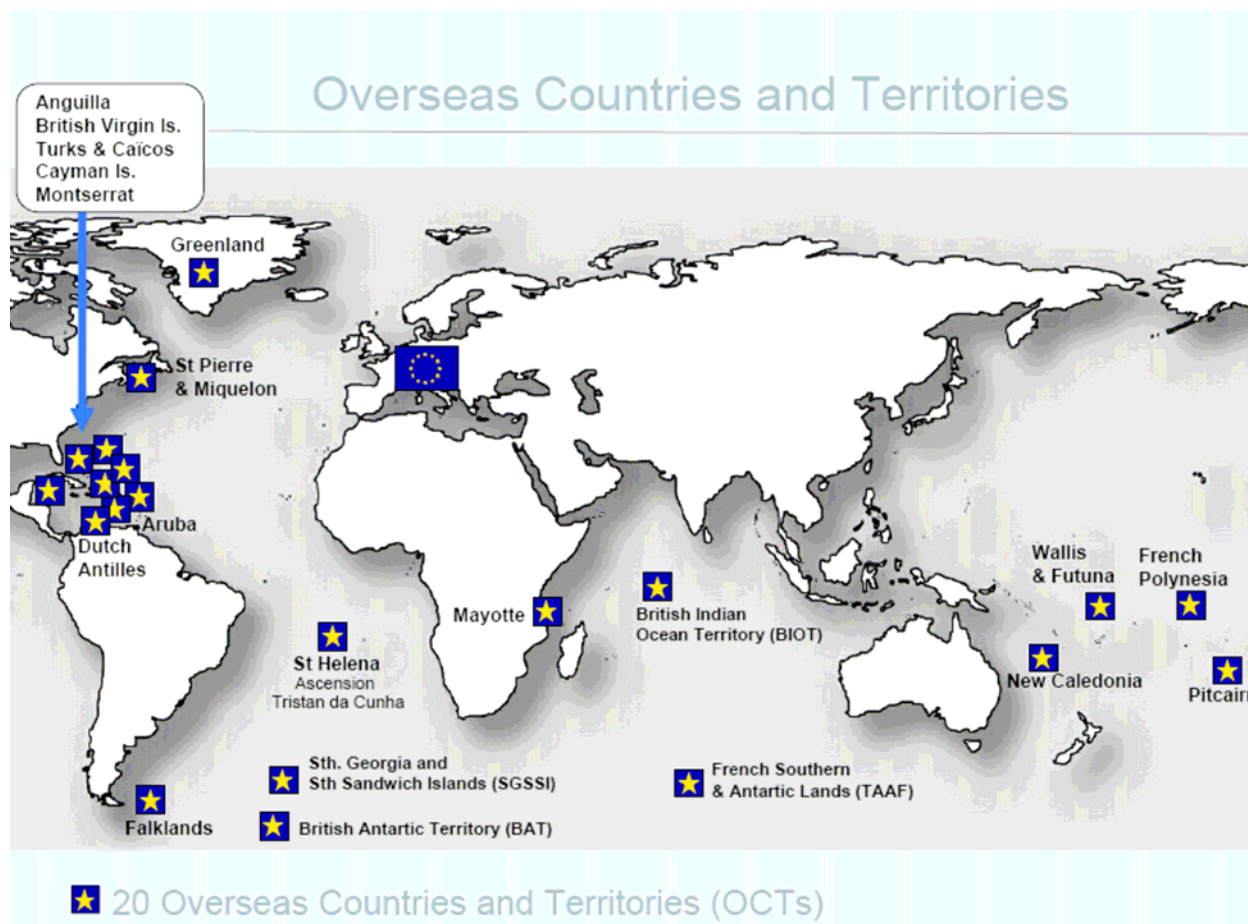
- Rapidly increasing waste volumes as a result of rising living standards and tourism;
- lack of critical mass needed to justify modern waste disposal facilities;
- poor disposal facilities which may pollute groundwater and soil;
- higher content of awkward materials such as plastics;
- difficulties in finding suitable sites for waste disposal;
- growing toxic and hazardous fraction, absence of specialised facilities; used oils, batteries, asbestos, pesticide remnants, infectious hospital waste, end-of-life vehicles and abattoir waste pose a particular problem
- litter is often widespread, and anti-litter legislation is not enforced;
- lack of critical mass required to permit recycling;

There is scope for research into practical ways of meeting these challenges and overcoming the problems. Many territories are finding inventive means of tackling the waste problem, and there needs to be a forum for the exchange of experience and good practice.

Other problems faced by OCTs include pollution and siltation of coastal waters caused by sewage pumped out into the sea, by development and agricultural activities harmful to marine habitats, particularly coral reefs, habitat destruction and siltation of rivers and estuaries by opencast mining (in New Caledonia), air pollution from oil refineries in the Dutch Leeward Islands in the Caribbean.

Careful thought needs to be given to whether environmental projects are best tackled at the territorial, regional or global level. Regional cooperation, where appropriate, need not be restricted to the OCTs and where problems are shared with other territories in the region consideration should be given to cooperating with them also.

1 INTRODUCTION



1.1 Purpose of the project

The consultants were asked to prepare 'environmental profiles' for the 20 'overseas countries and territories' (OCTs) which have a relationship with the European Union. An environmental profile is a brief document which contains various information about the environment and environmental management in the country, including:

1. a résumé of the state of the environment;
2. a statement of the governmental and other bodies responsible for environmental management;
3. a description of the policy environment, the main elements of environmental legislation and other instruments for implementing policy;
4. the country's international obligations;
5. source of financial or technical aid for environmental management.

The purpose of the environmental profiles is to feed discussions on the environment and possible consequences environmental trends may have on the OCTs' socio-economic development, and more specifically, to assist the EU in programming its EDF assistance to the OCTs.

The terms of reference for the project are appended as Annex A.

1.2 What are the overseas countries and territories?

OCTs are non-sovereign territories and countries associated or constitutionally linked to EU member states which are parties to an association agreement with the EU (see 1.5). They are in varying degrees self-governing and do not form part of the European Union. European Community legislation does not apply to OCTs unless specifically provided. There are currently 20 OCTs, eleven linked with the UK, six with France, two with the Netherlands and one with Denmark:

REGION	OCT	Abbrev. used	Member State
Caribbean	Anguilla	ANG	UK
	Aruba	ARU	NL
	British Virgin Islands (BVI)	BVI	UK
	Cayman Island	CAY	UK
	Netherlands Antilles (Bonaire, Curaçao, Saba, Statia, St Maarten)	NLA	NL
	Montserrat	MON	UK
	Turks and Caicos islands	TCI	UK
Pacific	French Polynesia	FP	FR
	New Caledonia	NC	FR
	Pitcairn	PIT	UK
	Wallis & Futuna	W&F	FR
North Atlantic	Greenland	GR	DK
	St Pierre & Miquelon	SP&M	FR
South Atlantic	British Antarctic Territories	BAT	UK
	The Falklands	FLK	UK
	St Helena and Dependencies (Ascension island, Tristan da Cunha)	STH	UK
	South Georgia and South Sandwich islands (SGSSI)	SGSSI	UK
Indian Ocean	British Indian Ocean Territory (BIOT)	BIOT	UK
	French Antarctic and Austral Territories	TAAF	FR
	Mayotte	MAY	FR

St Helena and its two 'dependencies' Ascension Island and Tristan da Cunha, although treated by the European Commission as a single OCT, are only loosely linked together, have largely separate administrations, legislation and economies, and in many ways are more usefully regarded as separate territories. At times they are treated separately in this report.

The five 'regions' into which the OCTs are grouped in the above table are somewhat arbitrary. The Caribbean and Pacific regions are obviously coherent geopolitical regions, and the OCTs of the South Atlantic, although the inter-territorial distances are very large, have a number of concerns and circumstances in common. The Indian Ocean region, on the other hand, seems a heterogeneous group of territories, with only Mayotte of the three having a permanent population, and vast inter-territory distances. The French Southern Territories would seem to belong more naturally with the South Atlantic OCTs (issues are Antarctica, fishing, seabirds). Similarly the possibilities for a purely bilateral cooperation between Greenland and St Pierre & Miquelon seem limited.

1.3 Scope of the term environment

'Environment' is rather a vague term. For the purpose of these environmental profiles the environment includes the quality of all the environmental media (surface waters, groundwater, the surrounding seas, the air, the soil), the quality and diversity of habitats and wildlife, and the way in which these are being impacted by human action.

Included within the scope of these environmental profiles: climate change and natural hazards (because these were specifically included in the terms of reference).

Excluded are:

- physical planning (except environmental impact assessment, which may form part of the physical planning process);
- fisheries management: in principle fisheries management is regarded as not being part of environmental management, but in the OCTs there is a very close interrelationship between fishing and other environmental aspects. The health of habitats such as coral reefs, seagrass beds and mangrove stands which act as nurseries or foraging grounds for fish obviously affect fish populations. If fisheries are overexploited to the point of extinction of certain species, then it becomes a biodiversity issue. And fish are often lower members of a food chain/web on which a whole ecosystem depends. Fishers and higher forms of wildlife may sometimes be in competition with one another;
- the built environment.

1.4 Methodology

The study was essentially conceived as a desk study: data collection visits were not made to the territories themselves. It was intended that use should be made of the large quantity of data already available within the Commission, with the member states, with the representatives of the OCTs in Brussels and the member states and in the public domain: see the table below.

A number of international organisations have developed models for making environmental country profiles (UNEP, WRI, EU Helpdesk, FAO). Many OCTs are however very small and remote, and this places constraints on data availability. After a first analysis of the available data and sources the consultants proposed a structure for the country profiles at a meeting with the European Commission and OCTA Executive Committee on 17 July 2006.

A questionnaire was also designed by the consultants for completion by the OCTs to collect data which might not be readily available in the public domain, dealing with institutions, manpower, policies and budgets for the environment. Responses were received from many OCTs, but no completed questionnaires were received from Anguilla, Greenland, Mayotte, Turks & Caicos Islands, the Falkland Islands, British Antarctic Territory or South Georgia and South Sandwich Island.

Source	From OCTs	FROM MS	FROM EU	From other sources
Existing Documents	Indicative programmes land Single Programming Documents made for EDF funding	Policies on international environmental issues	Environmental and cooperation policies	Global and regional environmental agreements (MEAs)
	Strategic policy papers and plans for sustainable development, environmental and nature protection, and other related sectors	Policies on OCTs	Policies and legislation in relation to OCTs	Policies and actions by organisations like UNEP in favour of SIDS (Small island developing states), SPREP in the Pacific, Barbados Action Plan, etc
	Meetings of OCTs and their organisation OCTA	Overviews of situation in OCTs s, studies etc	Regional strategies	Studies on climate change, natural hazard, biodiversity, CO ₂ emissions, international waters, state of coral reefs worldwide, socio-economic indicators, etc
Questionnaire	Prepared by the consultants, on institutions, budgets, policies, legislation and cooperation touching on the environment			
Interviews	Yes, see list in annex	Yes, see list in annex	Yes, see list in annex	Yes, see list in annex
Public sources	Websites of ministries, institutes, NGOs, newspapers in OCTs	Websites from ministries and institutes		UNEP, IUCN, WRI, CIA, World Bank, WWF, GIWA, ICRI, etc

In addition the team leader of the project attended the OCTA-EU Forum in Nuuk, Greenland in September 2006, and the UK Overseas Territories Conservation Forum Conference in Jersey in October 2006.

The draft report was circulated to all stakeholders for discussion and comment. The drafts were revised in the light of extensive comments received.

1.5 Relationship between EU and OCTs

1.5.1 2001 Agreement

Before 2001 the OCTs were in an anomalous position: not former colonies, eligible for development aid from the EDF, nor beneficiaries of regional aid (open to the overseas departments of member states). From its side, the European Commission was worried that rules of origin, health and plant standards and other obligations applying to countries and territories not part of the EU single market were not always being respected by the OCTs.

The revised European Union Treaty of Amsterdam (1997) proposed a review of the association agreements with the OCTs. In 1999 the European Commission issued a Communication on the relationship between the EU and the OCTs. This led to a European Council Decision in 2001 on a renewed association of OCTs with the European Community⁴, in order to promote their economic and social development and to establish close economic relations between them and the European Community⁵.

⁴ Council Decision 2001/822/EC of 27 November 2001, Official Journal L 314 of 30.11.2001.

⁵ <http://europa.eu/scadplus/leg/en/lvb/r12300.htm>

The Decision gave the OCTs the responsibility and possibility of making their own 'Single Programming Documents' as a step towards obtaining financial aid from the EDF. It also provided that the OCTs would be able to benefit from other types of aid: refundable aid from the Investment Facility, loans from European Investment Bank resources, aid under horizontal budget lines and Community programmes.

The Decision clarified a number of trade issues, and created an OCT-EU Forum, meeting once a year, promoting cooperation between the OCTs, the EU and the relevant Members States. Working parties were also created. The OCTs themselves created OCTA, their own association.⁶

1.5.2 General EU policy on aid

The EU policy on aid encompasses many development aspects (social, economic, environmental, trade, human rights) and instruments. Most of the funds have been directed towards the ACP (African, Caribbean and Pacific) states and the least-developed countries of the world. The EU aid regime was reformed in 2000, triggered by a wish to liberalise trade and the need to adapt to international developments such as globalisation and technological advances, plus the far-reaching social changes in ACP States. The previous cooperation conventions (Yaoundé in 1964 and the 4 following Lomé Conventions)⁷ were replaced by a Partnership Agreement signed at Cotonou. The new Cotonou agreement⁷ still sees the individual countries' GDP per capita as a very important criterion for aid, but accepts the need for differentiation and regionalisation. Special needs like direct budget support or those of landlocked and island countries are now taken into account.

A further step in this reform of external aid was taken in 2006, with the Consensus Declaration on Development.⁸ The Consensus recognises that development cooperation is a shared competence between the European Community and the Member States, with a focus on poverty eradication and with developing countries having a particular responsibility for their own development. The statement provides a common vision that will guide the EU at both member state and Community levels, in development co-operation.

1.5.3 EU development aid and the environment

The EU Consensus Declaration of 2006 reaffirms that the main aim of EU development aid is the eradication of poverty and that the EU and the 25 MS will try to ensure that their efforts are complementary. Important for these environmental profiles is that the Declaration recalls that all EC cooperation programmes should be subject environmental assessment.⁹ All development aid should benefit social well-being, sustain economic growth while safeguarding the environment.

1.6 Structure of this report

The report comprises two parts, i.e. Part 1, which is this main report, and Part 2 which comprises five volumes, i.e. one volume for each of the five regions:

Section A - Caribbean Region
Section B - Indian Ocean Region
Section C - North Atlantic Region
Section D - Pacific Region
Section E - South Atlantic Region

This volume contains an overview of the state of the environment in the OCTs and the main environmental problems they are facing. Annexes summarise the key data for the individual territories

⁶ www.octassociation.org

⁷ <http://europa.eu/scadplus/leg/en/lvb/r12101.htm> Council Decision 2000/483/EC of 23 June 2000, Official Journal L 317 of 15.12.2000.

⁸ http://ec.europa.eu/comm/development/body/development_policy_statement/index_en.htm
Council / EP/ Commission Statement 2006/C 46/01 Official Journal C 41 of 24.2.2006.

⁹ http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_en.pdf (English)
or : http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_fr.pdf (French)

and regions. Part 2, the regional reports, contain the environmental profiles for each of the territories in that region plus a regional section which looks at the overall situation from the regional perspective.

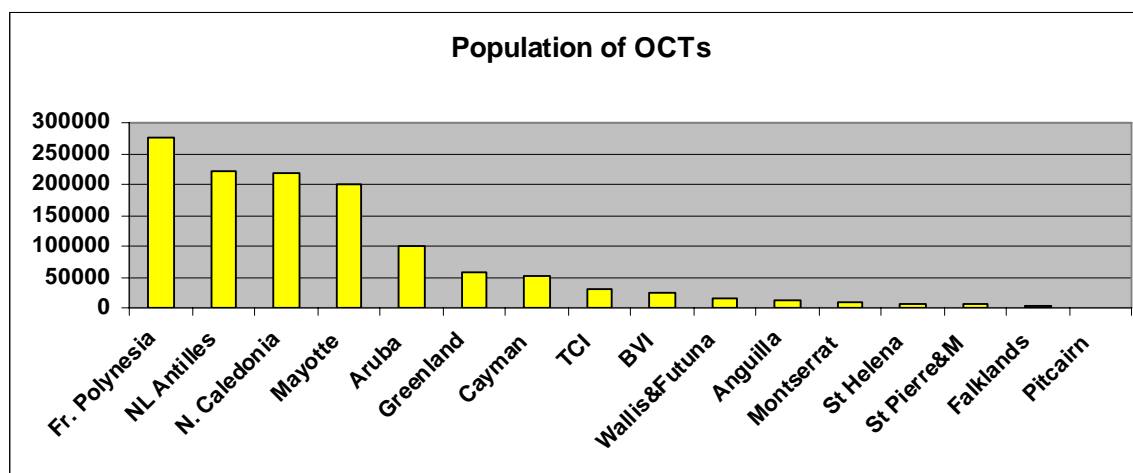
The report contains recommendations relating to future cooperation between the EC and the territories. Recommendations involving cooperation at the territorial level are included at the end of each individual territory profile in Part 2. Recommendations for cooperation at the regional level are included at the end of the appropriate regional section in Part 2. And finally recommendations for cooperation with OCTs at the interregional or global level are found in section 4 of this volume.

2 OCTs BASIC INFORMATION AND STATISTICS

2.1 Contrasting territories, distinguishing characteristics

Despite their relatively small size¹⁰ and political importance The 20 OCTs exhibit enormous contrast and variety, and have a number of characteristics which make them of crucial importance in and to the world as a whole.

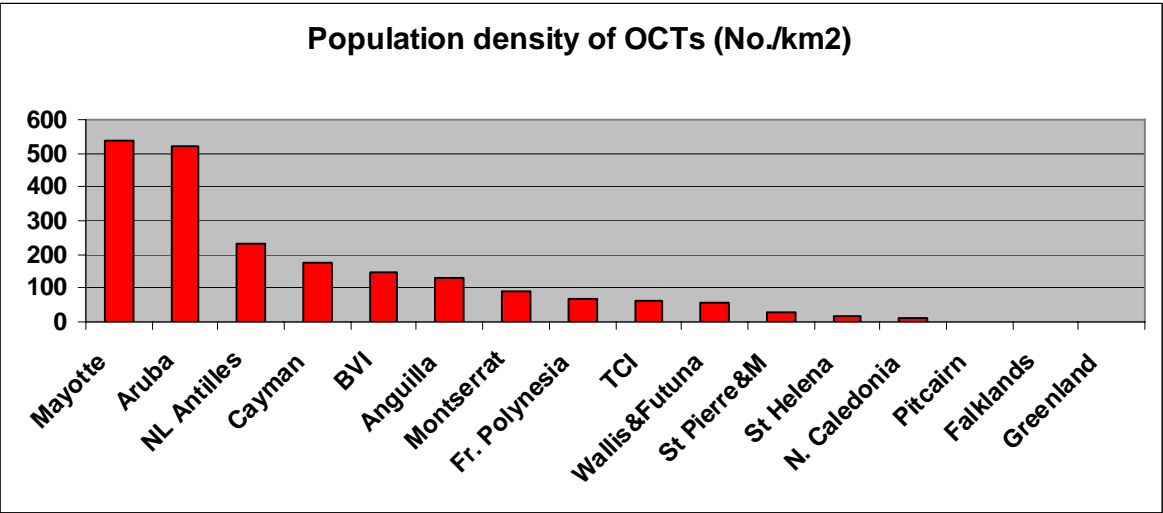
- They span the globe from latitude 83°N (north of Greenland) to 90°S (South Pole) (British Antarctic Territories, Adelie Land), from longitude 176°E (French Polynesia) to 166°W (New Caledonia).
- The territories range in size from Greenland (the world's largest island), 2.2 million km², down to Pitcairn, only 47 km². The three polar territories of Greenland, British Antarctic territory and Adelie Land account for 98% of the total land area.
- There are greatest differences in the physical remoteness of the islands. While some (Aruba, St Pierre & Miquelon) can actually see the mainland of South and North America respectively, others such as Tristan da Cunha and Pitcairn are thousands of kilometres from the nearest continent, a remoteness which is compounded by lack of an airport or even a regular shipping service.
- Although the most populous of the territories (French Polynesia) counts just over 250,000 inhabitants, there is a very great range of population, with Pitcairn being home to less than 50 people (see graph below). The four most populated territories account for 77% of the total population.



- Population density, on the other hand, can be a better indicator of potential environmental pressure. This parameter is charted in the graph below. The most densely populated territory is Mayotte, which is 20,000 times more densely populated than Greenland. Generally the tropical OCTs are more densely populated than those in more temperate (or polar) latitudes.

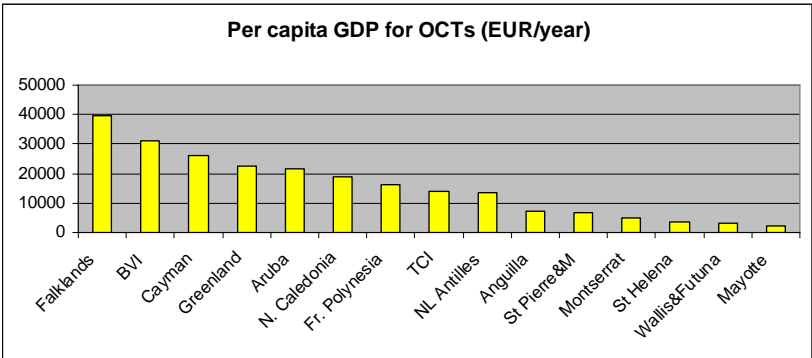
¹⁰ The OCTs account for 0.02% of the world's population and 2.7% of its area (most of which is in the polar regions).

- Despite their limited size the OCTs contain an estimated 16% of the world's freshwater. This is the water locked up in the ice-sheets of Greenland and the Antarctic OCTs.



2.2 Economies

Also in terms of economics there are great disparities between the islands. See the chart below which compares per capita GDP for the relevant territories¹¹. Some of the them do not have economies at all in the normal sense of the word. This applies to the territories with no permanent populations, such as the British Antarctic Territory, the British Indian Ocean Territory, the French Southern Territories and South Georgia and South Sandwich Islands. But also to Pitcairn, which is essentially a barter economy. Wallis and Futuna and Mayotte are also barter economies in large measure.



Also relatively low-income countries are St. Pierre & Miquelon (badly affected by the collapse of the fishing industry there, but with good health, social and educational services and heavy subsidies for the fishing industry), and Montserrat whose society, demography and economy have been badly disrupted by the activity of the Soufrière Hills volcano.

¹¹ These figures are intended to be indicative only. The figures are taken from different sources, and are not on a consistent reference year.

Importance of fishing to OCTs			
OCT	Importance	OCT	Importance
Ascension (depend ^y St H.)	○	Montserrat	○
Anguilla	●	New Caledonia*	●
Aruba	○	NL Antilles	●
Br. Ant. Territory	○	Pitcairn	●
Br. Indian Ocean Territory	●	SGSSI	●
BVI	●	St Helena (Island)	●
Cayman	○	St Pierre & Miquelon	●
Falkland	●	Fr. Southern Territories	●
Fr. Polynesia	●	TDC (depend ^y St H.)	●
Greenland	●	TCI	●
Mayotte*	●	Wallis & Futuna	●
○ Unimportant ● Artisanal / incidental / mainly for tourists ● Moderate activity ● Major activity * Important for own consumption			

The most affluent territories are the Falklands, the British Virgin Islands, the Cayman Islands and Greenland. The Falkland Islands and Greenland have very rich *fishing* waters, and fish or the sale of fishing licences are the backbone of these economies, as it is also for SGSSI and Tristan da Cunha. Fisheries were very important for St Pierre & Miquelon before the collapse of the cod fishery. But fishing is also important for many of the other OCTs, as seen in the diagram alongside. Aquaculture is also important in French Polynesia and Mayotte

OCTs is *tourism*. In some territories it is already the most important sector of the economy, but also a source of stress on the environment. This applies particularly to the Caribbean OCTs where there has been a massive shift in economies from agriculture and fishing to tourism. It is the major economic activity in all these territories, as it is in French Polynesia. However there are many other territories which enjoy some tourism at present, and which see tourism as a possible growth sector for the future and a source of economic diversification in the future. This is very often seen to be some sort of niche tourism, such as polar tourism (Antarctic and sub-Antarctic territories, Greenland), hunting and fishing (St Pierre & Miquelon, Greenland), bird-watching and nature tourism (Falklands, St Helena), etc. The tourism sector is considered in greater detail in section 3.4.

Offshore financial services are a major contributor to the economies of many of the Caribbean OCTs (Aruba, Anguilla, BVI, Cayman, Dutch Antilles, and TCI)

Other important economic activities are hydrocarbons: exploration activity in Greenland, St Pierre & Miquelon and the Falklands; oil refining in Aruba and Curaçao (NL Antilles). Mining is important in New Caledonia, which has 25% of the world's nickel reserves. Its mining and processing have been important sources of income and employment, and represent 90% of the value of exports. Greenland is also rich in minerals, and mineral exploration (and some extraction) is continuing at a number of locations in the country.

Black pearls are cultivated in French Polynesia.

The French, Dutch and Danish OCTs all receive substantial budgetary support from France, the Netherlands and Denmark respectively, while of the British territories only St Helena, Montserrat, Anguilla and Pitcairn receive such support.

A number of the richer OCTs - for example Aruba, Cayman Islands, British Virgin Islands, Falkland Islands - are not eligible for territorial EDF funds as their per capita GDP exceeds the relevant threshold. However they do qualify for funding under the regional envelope of the EDF.

Information regarding the percentage of the population below the poverty line is either not available or not trustworthy.

2.3 Geography, topography

Basically there are 3 main types of territory in physical terms:

- (1) tropical islands, mostly small, which may be very low-lying (atolls, calcareous island) or more mountainous, often of volcanic origin: the Caribbean and Pacific territories, Mayotte, BIOT, Ascension Island, St Helena;
- (2) rugged temperate islands: Falkland Islands, St Pierre & Miquelon, Tristan da Cunha
- (3) polar and sub-polar territories: Greenland, SGSSI, BAT, French Southern Territories

The South Atlantic region spans all three of these types, whereas the Caribbean and Pacific regions are more physically homogeneous

2.4 Vulnerability

The concept of vulnerability is one which has been applied by many to the OCTs and small island states or territories in general, and a number of attempts have been made to quantify it (for example by SOPAC, and the Advisory Board to the Joint Commonwealth Secretariat/World Bank Task Force on Small States).

The OCTs are considered to have high vulnerability. The concept of vulnerability includes economic vulnerability and sometimes also vulnerability to natural hazards.

On the economic side, the attributes which lead to vulnerability include:

1. Heavy dependence on small number of sectors, e.g. tourism, fishing; low economic diversification, making the economy vulnerable to conjunctural and/or structural changes in that sector (e.g. collapse of fish stocks, tourist nervousness following 9/11);
2. Small size, so inability to benefit from economies of scale, limited human resources;
3. Remote situation and lack of transport infrastructure, so high transport costs, making imports expensive and exports uncompetitive.

On the natural hazard side, not only do the OCTs have a high likelihood or frequency of hazardous events, but when such an event occurs the impact is relatively much higher than for a larger state, making it far more disruptive. See paragraph 3.4. Very low lying islands and populated coastal areas are more vulnerable to sea level rise, and in extreme cases can disappear.

2.5 Habitats

2.5.1 Coral

Coral reefs are crucial and very productive coastal resources in the tropical OCTs. Coral reefs occur along most shallow, tropical coastlines, where the water is clear and warm, and the salinity is constant. Coral reefs are formed from calcium carbonate skeletons secreted by small organisms, and are the basis of many coastal fisheries. Corals provide food, shelter and nursery areas for many fishes and crustaceans. Reefs also protect coastal areas from storms and erosion by forming natural breakwaters. Much of the white sand found on beaches originated from coral skeletons, or from the skeletons of creatures and algae associated with the reef. There are several different types of reef structure. Of these, fringing reefs occur next to the shoreline, while barrier reefs are separated from the coast by a wide lagoon. The lagoon is formed over time by faster reef growth on the seaward side of the reef, where the detrimental influences of land are not evident. Patch reefs are isolated clusters of corals, commonly found in the lagoon inside the main reef structure. Atolls are circular or semicircular reefs growing around islands that may be in the process of subsiding. Much of the tourism on the Caribbean OCTs and on French Polynesia comprises divers and snorkellers who are drawn by the beauty of the reefs and the beaches.

2.5.2 Seagrass

Large seagrass meadows usually occur in the protected waters landward of coral reefs. Seagrass beds are productive environments. Grazers, such as green turtles, fishes, and sea urchins feed directly on the grasses. Seagrass blades provide surfaces for algae and invertebrates to attach on. Seagrass beds also serve as nurseries for many commercially important species. Seagrasses help keep the water clear. The

blades of the grasses act as baffles, inducing the settling of sediment particles, while the rhizome and root system stabilize the bottom, preventing the re-suspension of sediments. Clear water is an important requirement for the maintenance of healthy coral reefs.

2.5.3 Mangroves

Mangroves are found along the coasts of tropical and subtropical regions. They are trees which can tolerate having their roots submerged in salt water. Their roots provide a surface of attachment for marine organisms in a muddy environment where hard surfaces are in short supply. Mangroves also trap and bind sediments and filter land based nutrients, promoting water clarity. Mangroves also serve as nursery grounds for the juveniles of many commercially important fisheries species, while also providing habitat for a variety of small fishes, crabs and birds. Mangroves protect coasts against erosion by breaking storm waves and dampening tidal currents.

2.5.4 Estuaries, wetlands, watersheds and salinas

Coastal areas of the Wider Caribbean near major watersheds often contain large lagoons of fresh or brackish water. Estuaries, coastal lagoons, and other inshore marine waters are very fertile and productive ecosystems. They serve as important sources of organic material and nutrients, and also provide feeding, nesting and nursery areas for various birds and fishes. These ecosystems act as sinks of terrestrial run-off, trapping sediments and toxins, which may damage the fragile coral reefs.

Salinas are found on many dry Caribbean islands. They are shallow ponds and lakes with limited water circulation and tidal contact. Traditionally, salinas have been used as salt evaporators, but more modern uses include mariculture operations and marina constructions. They function as sediment traps, protecting coral reefs from excessive sediment loading.

2.5.5 Forest

Many of the territories have dry forest, although they do not occur at extreme latitudes or on some low-lying atolls. Most have undergone at least some deforestation over the years, resulting in a loss of important habitat for many species and increasing erosion. Sustainably managed forests also have social and economic value: they supply timber for construction, fuel, export and permit hunting.

2.5.6 Beaches

Beaches serve as a buffer zone between the land and the water. They are dynamic environments, constantly changing as a result of natural processes, including storms, hurricanes, tidal changes, and sea level rise. Beaches also change as a result of man's actions. Removing sand from the beach for construction, vegetation clearance, and building of seawalls are major problems in many Caribbean and Pacific islands. Beaches are also a crucial economic element in those territories with extensive or potential tourism. Animals occupying this environment have adapted to the constant motion of the sand, gravel, or shell. Many important birds, reptiles, and other animals nest and breed on the berm and the open beach. Sea turtles use many beaches in the Caribbean and Indian Ocean to dig their nests and deposit their eggs. The beach also provides habitat for burrowing species, such as crabs, clams, and other invertebrates.

2.6 Wildlife

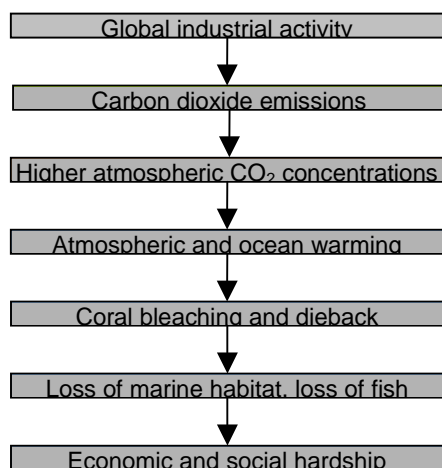
The biological diversity is high in almost all the OCTs as they are remote and have developed in isolation. The southern OCTs provide breeding grounds for millions of seabirds and penguins, including endangered species such as the albatross and the petrel. There are more than 2,000 endemic plants in New Caledonia, 200 fish species on one bank only on Saba (NLA), 200 different corals on small Mayotte, 25 marine mammals in and around Greenland as well as reindeer and polar bears. Even OCTs such as Aruba, relatively recently part of a continent, also have high biodiversity and endemic species such as the

cascabel rattlesnake. Tables for the number of endemic species¹² are given in both country and regional reports and this table summarises as best possible the overall biodiversity identified.

	Number of endemic species			
	Birds	Reptiles and amphibians	Insects	Plants
Caribbean	40	106	> 100	60
Indian Ocean	7	3	78	24
North Atlantic	0	0	0	0
South Atlantic	22	-	390	154
Pacific	56	64	> 360	3138

Endemic in the above table means found only in the territory concerned (rather than found only in the 'region'). New Caledonia accounts for a high proportion of the total recorded endemic plants for the OCTs. In some of the territories the local vegetation has been extensively modified by humans, who introduced their own cultures such as coconut plantations to BIOT, grasslands and livestock to the French Southern territories, goats to Bonaire and Curacao. This has reduced biodiversity on those islands partly because introduced species supplanted the native vegetation or because existing habitats were destroyed. Also other animals introduced by men, like rats and mice, cats and rabbits, have been harmful. On Tristan da Cunha for instance, the (unintended) introduction of mice in the 1880s destroyed much of the island's indigenous birdlife.

Many of the species on OCTs are in some degree threatened. Notable examples are albatrosses and petrels in the South Atlantic and Southern Ocean territories and coral reefs in the Caribbean.



3 ENVIRONMENTAL PROBLEMS IN OCTS

3.1 Introduction

Environmental phenomena tend to be complex, and involve long causal chains and interrelatedness.

Long causal chains

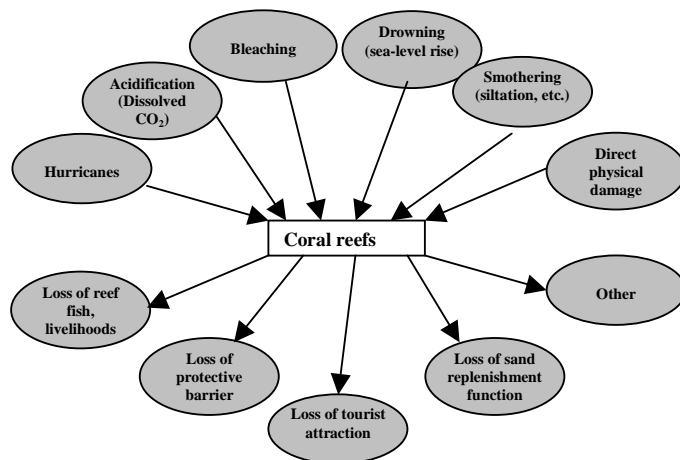
The diagram below shows one such causal chain (strand). Industrial activity worldwide uses fossil fuels and therefore emits carbon dioxide into the atmosphere. Over time this process leads to a more elevated concentration of this 'greenhouse gas' in the earth's atmosphere. This results in a warming up of the atmosphere and the oceans. This 'global warming' has many consequences. To take just one, coral has a threshold temperature tolerance. Caribbean waters are already close to this threshold. Warming causes distress to coral reefs leading to bleaching and dieback. Coral provides a habitat for many commercial species of fish, so the ill-health or death of coral means a loss of fish, and therefore of fishermen's livelihoods.

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A useful tool in dealing with these chains is the DPSIR (**D**rivers, **P**ressures, **S**tate, **I**mpacts, **R**esponse) model. Drivers (human, economic activities) lead to pressures on the environment, which in turn cause a change in the state of the environment (e.g. CO₂ concentration in air). This then has a whole chain of impacts on the physical world and ecosystems, and ultimately these have economic impacts. In the diagram grey indicates a driver, yellow a pressure, pink a state and blue the impacts.

¹² Endemism refers to the phenomenon that a species occurs in only one country (or island or group of islands). The species is then said to be endemic to that country.

Interrelatedness between different environmental phenomena



Although the term causal chain is used above, the term causal web would be a better one. This is because each of the boxes shown has many causal antecedents and many consequences. Carbon dioxide is not the only greenhouse gas. Industry is not the only source of carbon dioxide, etc.. Take coral, for example. Warmer seawater is not the only threat with which it must contend. It is also harmed by hurricanes (probably more intense in the future as a result of climate change), by direct damage by fishermen, ship anchors, tourists and divers, by pollution originating from the island, particularly sewage (which contains nutrients harmful to coral) and suspended particulates

(which run off the land as a result of development and from natural sources) and results in smothering, by acidification of seawater (the result of increased absorption of carbon dioxide as atmospheric concentrations rise) and by 'drowning' if the sea-level rises more rapidly than the coral's ability to accrete. At the same time, the loss of marine habitat and of fish stocks is not the only impact of coral damage. Coral reefs protect their host island from wave and sea damage during storms, protect the lagoons and seagrass beds behind them which are important fish nurseries, comprise a major tourist attraction and activity (dive tourism) and have a crucial function of the sand balance on beaches. Reef loss means an impairment of all these functions

Interrelatedness between environment and economy

There is a very close interdependence of economy and environment in the OCTs. Two of the most important economic sectors - tourism and fish - are very environmentally sensitive. This is because a pristine environment, healthy reefs, abundant and varied fish stocks, unspoiled landscapes, attractive, uneroded beaches and a unique flora and fauna are the motors of tourism. If the environment is allowed to degrade this is likely to harm the reputation and tourist-attractiveness and therefore the economies of the islands. And yet growing tourism is one of the main agents in this degradation. The following sections deal with the main environmental issues and challenges faced by the OCTs. For more details consult the annexes or Part 2 of the report. The foregoing notes on the complexity and interrelatedness of environmental phenomena make it clear that it is not possible to enumerate a set of independent issues and challenges. They are all interrelated and overlapping, and some of them are on a different scale or level in the DPSIR hierarchy. Nonetheless they encapsulate the most important environmental matters.

3.2 Climate change

Many argue that climate change is the greatest environmental challenge (or indeed challenge of any kind) facing mankind at present. The OCTs will be affected more than most countries by climate change.

3.2.1 What is climate change?

Climate change refers to the long-term, gradual increase in mean temperature on our planet which has been observed since at least the middle of the 20th century and which is expected to continue in the future. Over the last few decades there have been prolonged dry spells. At least a part of this phenomenon is considered to be caused by human activity, specifically the release of carbon dioxide and other 'greenhouse gases' (GHG) into the atmosphere, mainly through the combustion of fossil fuels and deforestation. Greenhouse gases are chemically stable, and therefore have long lifetimes and build up in the atmosphere. They trap solar energy incident on our planet in the atmosphere, leading to higher atmospheric temperatures and therefore higher temperatures on the surface of the oceans and land.

Since the year ... the mean ground-level air temperature has risen by ..°C. The Intergovernmental Panel on Climate Change (IPCC) estimates that this temperature may rise

3.2.2 *Effects of climate change*

Climate change will trigger a complex chain of physical, biological, economic and social effects.

Higher temperatures will lead to melting of ice in the earth's cryosphere, i.e. its glaciers, ice-sheets, sea-ice etc.

The melting of *grounded* ice and the thermal expansion of the oceans will cause a rise in sea-level. The IPCC estimates that by the end of this century the sea-level will be between 12 and 88 cm. higher¹³.

The melting of freshwater ice will result in changes in the salinity of the polar oceans, which may in turn affect the earth's thermohaline currents. This can have many effects on regional micro-climate, not all involving higher temperatures¹⁴.

Since mean intensity of cyclonic storms as they travel over the ocean is directly proportional to the surface water temperature, warmer oceans mean more intense cyclones, hurricanes and tropical storms.

Higher sea-level and more intense cyclonic storms mean erosion of coastal areas, more frequent flooding, possible permanent inundation of low-lying areas, loss of property, infrastructure, buildings, forced displacement / evacuation, social disruption.

Changing temperatures, habitats, precipitation patterns mean changes in the types of organisms, flora and fauna which are adapted to life in a particular location. There will be migration in vegetation patterns, migration by animals.

Changes in marine currents will affect the flows of nutrients through the world's seas. This together with changes in temperature will mean that there will be changes in the abundance and species composition of fish in the world's fisheries, and in seabirds, marine mammals and fish which depend on them.

3.2.3 *Special nature of climate change as a challenge*

Climate change, apart from being one of the greatest challenges facing mankind, is also one of the most intractable. The climate change problem has a number of aspects which are unique amongst environmental problems, and make it a particularly difficult one to tackle. These are:

1. Its **global** nature. Climate change is driven by emissions of greenhouse gases (GHG). All that matters in this regard is the total global emissions of GHG, it does not matter where they are emitted. This means that for a small country only a small or very small part of the impact of climate change on that country is due to the emissions of that country, and similarly that that country can do very little on its own to reduce those impacts. The smaller a country is, the more this applies. The Kyoto Protocol of course recognises that concerted action on a global level is needed to tackle climate change.
2. **Emissions of GHG are ubiquitous**. All manufacturing processes require energy, nearly all of it CO₂ generating fossil fuels. Nearly all motor vehicles use fossil fuels or electricity generated by fossil fuels. Most buildings in which the space is heated or cooled use fossil fuels or electricity generated by fossil fuels. No country has ever succeeded in developing its economy without increasing its fuel consumption. The scale of the problem is therefore enormous.
3. It is a very **long-term** problem. The complete melting of the Greenland ice-cap, if it happens, will probably take several centuries, so that sea-level rise is a phenomenon with a time-scale measured

¹³ This range is not only because of uncertainty, but also because the effects depend on society's response to the threat of climate change. By reducing future emissions of GHGs, future effects can be mitigated.

¹⁴ For example some scientists have suggested that such changes might shut down the Gulf Stream, thereby causing North-Western Europe to revert from a mild temperate to a harsher, colder climate.

in centuries (even though a rise of just less than a metre which could occur by the end of this century would have very serious effects). This time-scale for the effects is much longer than politicians' terms of office or people's life expectancies. This allows decision-makers to argue that the matter is not urgent, can be deferred until we have better technology, etc., even though the timescale for effective preventive action is much shorter.

4. Some of the science is **uncertain**. This again allows sceptical or procrastination-prone decision-makers to defer action.
5. Climate change will have a bewildering and sometimes unpredictable **range of effects**. This makes adaptation very difficult.
6. Some scenarios are **catastrophic**. A rise in sea-level of 7 metres, the probable result if the Greenland ice-cap were to melt completely, would not only mean that some OCTs would vanish and others would lose a large proportion of their territory and in particular their present coastal strips and beaches and require the evacuation of many towns. It will have devastating effects on many island states in the Pacific and would result in the inundation of a large proportion of Bangladesh.

In analysing the impact of climate change on the OCTs use is made of the typology of territories referred to 2.3 , except that a further distinction is made between the Arctic territory of Greenland and the Antarctic territories.

3.2.4 Climate change Greenland

Much of Greenland is covered by the Greenland ice-sheet, a mass of glacier ice that covers the land. The Greenland ice sheet occupies about 82% of the surface of Greenland, and has a volume of 2.8 million km³. If melted completely it would cause sea levels to rise by 7 metres. Estimated changes in the mass of Greenland's ice sheet suggest it is melting at a rate of about 239 km³ per year¹⁵.

Greenland therefore plays a pivotal role in the earth's cryosphere and water balance. The effects of global warming on the ice in Greenland is not only of local concern, but could affect all low-lying and coastal regions in the world. In fact climate change is already being observed in Greenland, and seems to be progressing faster than in other regions of the world (ACIA, 2004). Climate change is already having an impact in the Arctic region generally and Greenland in particular



Images show how the areas of Greenland that melt in summer (orange) have expanded in recent years. Source: Arctic Climate Impact Assessment

Many observations of environmental change in the Arctic show a trend consistent with climate change models. In the last century temperatures over some land areas have increased by about 5°C. Greenland's ice sheet has thinned dramatically around its southern and eastern margins. Arctic sea-ice extent decreased by

approximately 3% per decade between 1978 and 1996. The pictures alongside show further evidence of a dramatic warming trend in Greenland

The effects of climate change in Greenland are illustrated in the diagram below.

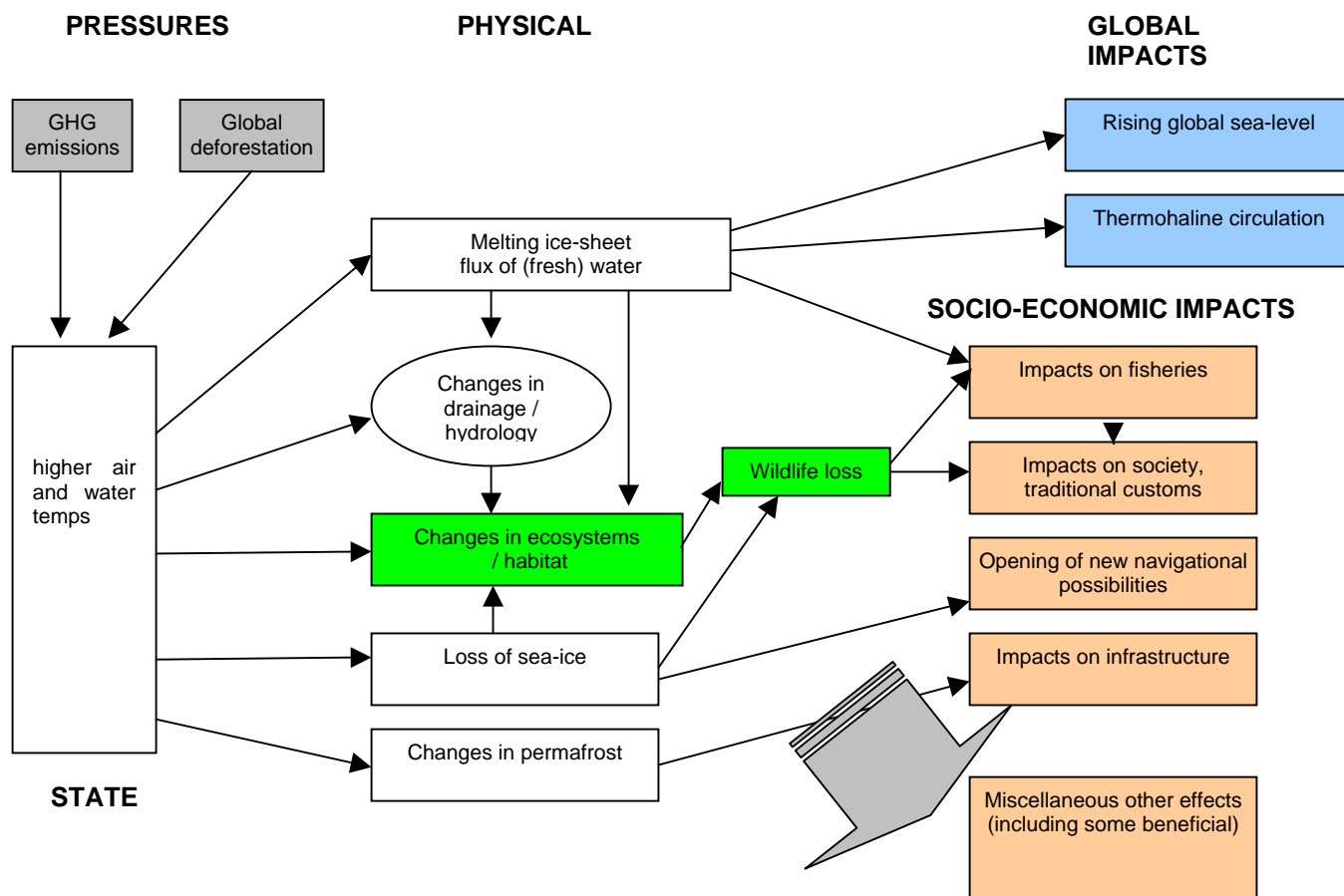
The blue boxes represent the global impacts - a rising sea-level as a result of the ice-melt, and possible changes in the world's thermohaline circulation system as a result of the injection of freshwater into the oceans. The effects of the latter are very difficult to model and predict, but could result in additional local/regional climate changes as a result of changes in ocean currents.

¹⁵ These measurements came from the US space agency's Grace (Gravity Recovery and Climate Experiment) satellite, launched in 2002.

The effects within Greenland will be multiple:

- **Melting of sea-ice** will deprive some important species, notably seals and polar bears of habitat. This is likely to have harmful effects on the communities of these species and on local people who depend on them for food and livelihoods. It will also open up new navigational possibilities for shipping around the Greenland coast,
 - Increased **melt of land-ice** will affect drainage and hydrology, and this will also have an effect on landscapes and habitats on the territory. It will also have an effect on sea salinity, and therefore possibly marine habitats and fisheries.
 - **Melting of the permafrost** will lead to damage of buildings and infrastructure which used the permafrost as a bedrock on the assumption that, as its name implies, permafrost is permanent.
- Finally the **warming of the seas**, together with changes in its salinity and in the flux of nutrients as a result of changes in sea currents may mean changes in fish stocks, a subject of great important to a territory dependent on its fisheries income.

DIAGRAM: IMPACT OF CLIMATE CHANGE IN GREENLAND



3.2.5 Climate change in the Antarctic OCTs

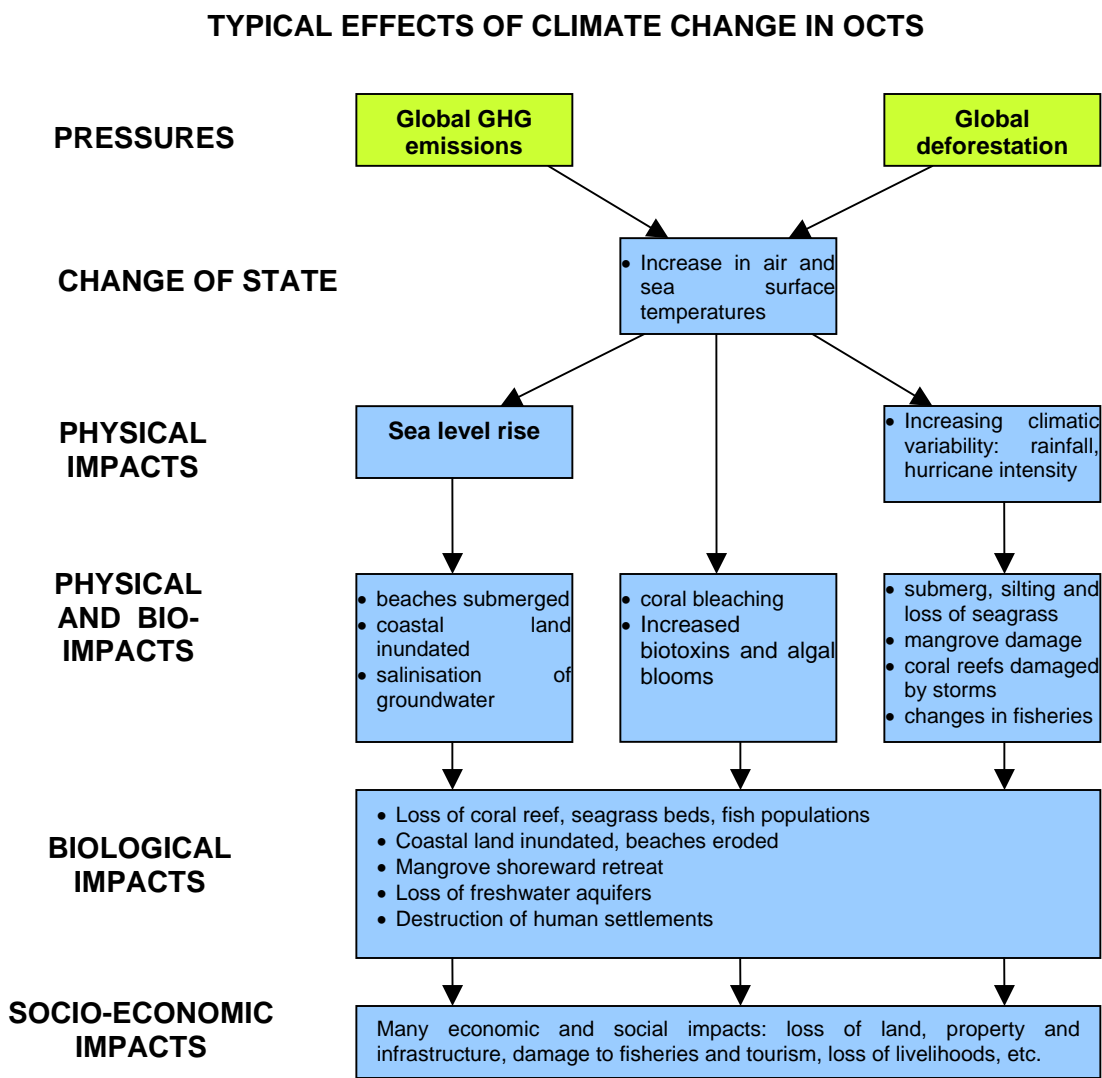
These territories are different from Greenland in two important respects: they have no permanent population and their cryospheric mass balance is not likely to have a great effect on sea levels in the short to medium term, say during the 21st century. This is because, in simple terms, it is colder so that

even with an increase in temperatures there is unlikely to be significant melting of grounded ice. On the contrary, climate change is expected to bring with it increased precipitation, so that the Antarctic ice-sheet is expected to increase slightly. The recent dramatic collapse of ice-shelves on the Antarctic Peninsula (British Antarctic Territory) will have little effect on sea-level since they are floating ice. The most important impact is likely to be a change in marine life in the Southern Ocean for similar reasons to those applying to Greenland. This could have consequences for the important fisheries there.

3.2.6 Climate change on tropical islands

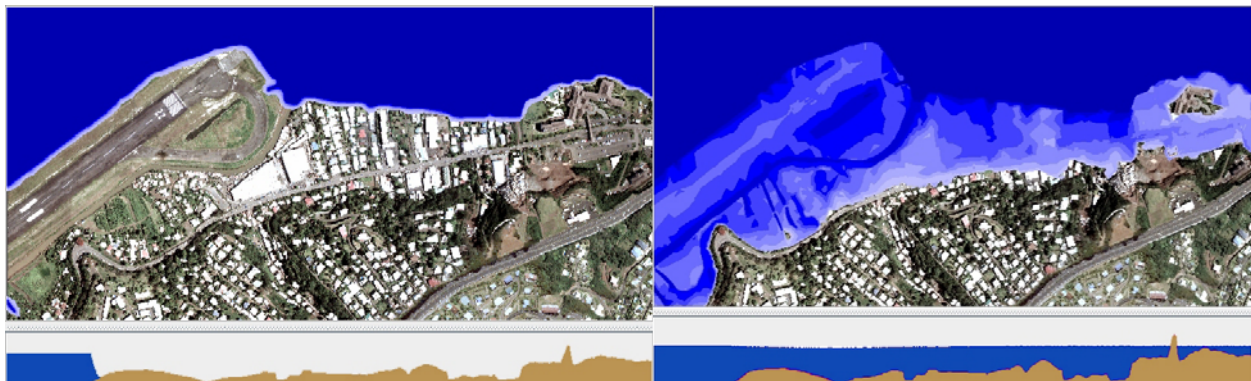
The tropical OCTs are particularly vulnerable, physically and economically, to climate change. These islands are delicate systems which are already often already suffering stress before the additional pressures placed on them by climate change. Nearly all these territories possess systems of coral reefs, seagrass, mangroves and wetlands which, as was seen in ..., perform crucial services for their host islands, particularly in terms of fisheries and tourism, one or both of which are important economically on almost all of these territories.

The additional threats posed by climate change for tropical islands are illustrated in the diagram below, and are as follows:



The **rise in sea-level** obviously poses a direct threat to most tropical islands:

- Depending on its extent it will cause increased erosion of beaches and shorelines, will threaten the integrity of buildings constructed without sufficient setback from the shoreline, will result in increased flooding of low-lying areas, will eventually cause permanent inundation of other areas and shoreline retreat. Where inhabited areas are involved, this will mean loss of property, destruction of human settlements, evacuation and the social and economic disruption and hardship this brings with it. The picture below shows the simulated impact of an 88 cm rise in sea-level on downtown Papeete in French Polynesia. The city is constructed on land which is so low-lying that a rise of less than one metre will inundate the airport and part of the city. The significance of the 88 cm is that this is the top end of the estimates by the IPCC of the likely range of rise in sea-level by the year 2100 allowing for climate change;
- it will work additively with other threats from the sea and waves, so that storm surges and wave destruction during hurricanes become greater;
- cause 'drowning' of shallow coral reefs if the coral growth is unable to keep up with sea-level rise;
- destruction or shoreward retreat of mangroves;
- salinisation of freshwater aquifers due to the intrusion of seawater.



Papeete, French Polynesia, with airport at present

Same view, after sea-rise of 88 cm.

More violent storms means more risk of death and injury to islanders, more damage to property and infrastructure, more damage to the embattled coral reefs and seagrass beds.

A **rise in water temperature** means coral bleaching¹⁶, which if serious and prolonged leads to the death of the coral. It may also mean changes in the species composition of marine life, which may affect fisheries.

All of these changes will have considerable socio-economic impacts as shown in the diagram, particularly given the dependence of these territories on fisheries and/or tourism.

3.2.7 *Climate change on rugged temperate islands*

These territories will be the least affected by climate change. Most of these islands have steep rocky perimeters, and will be much less affected by the rising sea than their low-lying tropical peers. The main effects are likely to be:

- changes to fisheries: abundance and species composition - not necessarily negative on balance;
- unpredictable changes in flora and fauna, including the many threatened and endemic species found on the islands. biodiversity on small islands may find adaptation to climate change more difficult than

¹⁶ A phenomenon in which coral under stress (e.g. due to high water temperature) expels its symbiotic zooxanthellae algae in large numbers, or the concentration of algal pigments decreases. As a result, the corals' white skeletons show through their tissue and they appear bleached.

continental flora and fauna because there is not the opportunity for terrestrial species to gradually migrate latitudinally to compensate;

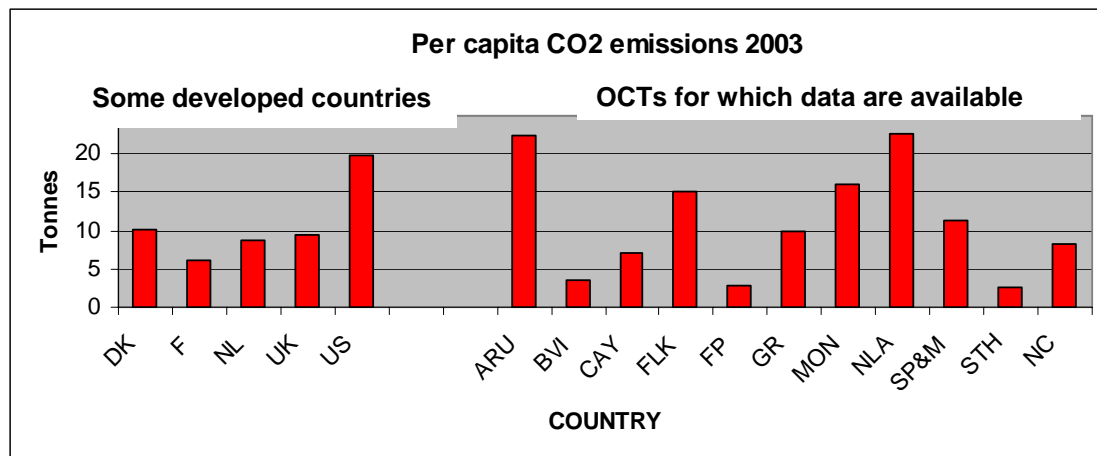
- the arrival and thriving of more non-native species in polar regions, some of which may place pressures on native species.

3.2.8 Responses

Ultimately there are two types of response to the challenge of climate change, i.e. *mitigation* (reducing impacts by reducing pressures, i.e. reducing emissions of or creating new sinks for greenhouse gases) and *adaptation* (taking measures which recognise that the climate is changing, but reduce the impacts).

In so far as *mitigation* is concerned, climate change is a global problem: all that matters is the total global emissions of greenhouse gases. It does not matter where the emissions occur. This means that international awareness, cooperation and a sense of urgency are necessary. The amount which any country can do on its own is very limited, and this applies particularly to the OCTs which probably together account for less than 0.01% of the worlds' anthropogenic GHG emissions.¹⁷ However these territories can put their weight behind efforts to mobilise the world community to take action on climate change. Local institutes can seek involvement in research programmes seeking to gain an understanding of the impact of global warming on their territory or region. Measures which reduce uncertainties about the impacts will make it more likely that international decision-makers will take appropriate action. Because OCTs are not responsible for their foreign affairs, this work will have to be done in concert with the European country with which it is associated and possibly the EU.

Furthermore the exemplary aspect is also important. While it is true that the OCTs account for only a very small proportion of global emissions of greenhouse gases, they need to be seen themselves to be making efforts to moderate greenhouse gases. The following graph shows the per capita emissions of greenhouse gases for some OCTs for which such estimates are available, compared with those for some industrialised countries:



Source: US Department of Energy CO2 Information Analysis Centre (CDIAC)

At first sight the emissions for some OCTs look surprisingly high compared with those for the selected industrialised countries. Caution is needed in interpreting or drawing conclusions from these figures, however, as their precise basis is not published along with the figures. It is possible for example that the crude oil input into the refineries in Aruba and Curaçao is treated in some anomalous way, and it is possible that bunker fuel has also been included in the territories' figures, which might be particularly high

¹⁷ This is not to say that Greenland should not try to minimise its own GHG emissions. Apart from its obligations under the UNFCCC and Kyoto Protocol, this is important to provide legitimacy to its efforts towards global emissions reductions.

for territories with high tourist arrivals. But it does emphasise that the territories need also to look at their own emissions and satisfy themselves that they are doing what they can to minimise their emissions.

Adaptation will in any case also be needed. There are many ways in which territories can prepare for climate change and mitigate its impacts. In some regions there are already multilateral initiatives in this area.

OCTs and Climate Change: Conclusions

- ✦ Some OCTs are amongst the most vulnerable territories in the world to climate change. All will be significantly affected.
- ✦ OCTs need to take all possible measures to impress on the world community the need for strong action to reduce GHG emissions.
- ✦ They need to ensure that their own emissions of greenhouse gases are defensible.
- ✦ At the same time, adaptation needs to be mainstreamed into development planning.
- ✦ Possible actions include:
 - form alliances with regional and international groupings to make sure the voice of the OCTs is heard by the world community;
 - participate in research projects for which they are suited in regional or global partnerships, so as to reduce uncertainties;
 - maintain credibility by setting a good example;
 - public awareness campaigns.

3.3 Natural hazards

There are very many kinds of natural disaster¹⁸ which can afflict countries and cause injury or sickness, damage and disruption. In this section attention is restricted to the 'headline' disasters of tropical cyclones/hurricanes, earthquakes, tsunamis and volcanic activity.

Many OCTs are situated in areas or islands which are prone to tropical cyclones, and/or seismic, tectonic or volcanic activity. A hurricane can produce a storm surge of several metres, enough to inundate very significant portions of some of the territories in the Caribbean, Pacific and Indian Oceans. Earthquakes and volcanoes can generate powerful tsunamis which may be more devastating than the earthquake or volcanic eruption itself. Tsunamis may also be generated by tectonic activity, subterranean landslides, etc.

The Caribbean and the Pacific OCTs have been hardest hit by tropical storms and hurricanes which have destroyed property and claimed many victims. These events can have knock-on economic consequences. On Cayman, hurricane Ivan has had a very negative effect on numbers of tourists. On French Polynesia a total of 50 cyclones have claimed 800 victims. In 2003 a cyclone on New Caledonia left 3500 people homeless. On Diego Garcia (BIOT in the Indian Ocean) a magnitude 7 earthquake and a tsunami in 1983 caused extensive damage to the military base (building, piers, runway).

During the last hundred years some 33 possible tsunamis have been reported in the Caribbean, of which 17 are well documented and verified. The last destructive tsunami in the Caribbean occurred in August 1946, when an earthquake and tsunami caused 75 fatalities and left 20,000 homeless, but coastal settlements are much larger now, so that the potential consequences are more grave.

There is an intricate relationship between these natural phenomena and habitats. Coral reefs, mangroves and sea-grass protect coasts against storm surges but are also damaged by them. The violent waves destroy coral cover and cause subsequent avalanches of coral material that damage and smother corals

¹⁸ In this text we regard a 'natural hazard' as an actual or potential natural event which is dangerous, and a natural disaster as a natural event which actually occurs and actually causes substantial injury and/or damage.

lower down the reef. Mangroves and sea grasses are nurseries for many breeding fish. Sea grass acts as a substrate stabiliser and keeps water clear of particulate matter. Hurricanes can also generate large volumes of waste and debris, which may be toxic, e.g. timber treated with preservatives, asbestos.

On Montserrat the Soufrière volcano became active after 350 years and half of the island is now an exclusion zone and has been evacuated. The eruptions (between 1995 and May 2006) have caused extensive damage to people, property and the (former) capital (Plymouth) but also to areas of special conservation value, including the island's first Ramsar site, coral reefs, some species of flora and fauna. It led to 19 deaths and the relocation of most of the population. It has had a major impact on the tourist and fishing industries. There are also volcanoes on St Eustatius (NL Antilles), on Tristan da Cunha (St Helena dependencies) and in the South Sandwich Islands.

According to the World Bank (2006):

- Efforts to prevent or minimize damage from natural hazards pay off in the long run.
- Risk management efforts have proven far more cost effective than waiting for the impact and then repairing the damage.
- Risk management is most cost effective when it is introduced early in the planning of key investments.
- Adopting 'no regrets' measures, such as planting mangroves to stabilize coastal land and climate-proofing key investments, can go a long way towards reducing vulnerability.

Since 1950, natural disasters in the Pacific have directly affected more than 3.4 million people and led to more than 1,700 reported deaths in the region (outside of Papua New Guinea). In the 1990s alone, reported natural disasters cost the Pacific Islands region US\$2.8 billion. Between 1950 and 2004, extreme natural disasters such as cyclones, droughts and tsunamis accounted for 65% of the total economic impact from disasters on the region's economies.

Natural hazards risk overview by region				
Region of OCTs	Cyclone/ Hurricane	Volcanic	Seismic	Tsunami
Caribbean				
Indian Ocean				
North Atlantic				
South Atlantic				
Pacific				
Severe risk	Notes: It is generally difficult to generalise by region. For example amongst Caribbean region OCTs volcanic risks are limited to Montserrat, which is relatively immune to tsunamis because of its steep-sided topography. Similarly cyclone risks vary in the Pacific region.			
Moderate risk				
Low risk				

Some OCTS have building regulations with standards intended to be hurricane-proof (e.g. French Polynesia). In the Caribbean there is a regional association for cooperation on natural disasters (ACS) which strengthens the capacity of national organisations in disaster prevention and mitigation.

3.4 Pressures from tourism

It was seen in section 2.2 that tourism is important to some extent for almost all the OCTs. However it is in the Caribbean region that tourism has really taken off, as well as in French Polynesia in the Pacific. In these territories tourism is the mainstay of the economy, accounting for up to 85% of territorial GDP (St Maarten on the Netherlands Antilles). The Caribbean islands, particularly the more Northerly, lie close to the US. Many of the UK territories are concentrating on the higher end of the tourist market. Most of the tourists who actually stay on the islands (as opposed to those who visit on cruise liners) are attracted by the magnificent beaches, but the coral reefs are also a great attraction. WRI estimates that net benefits from dive tourism in the Caribbean total an estimated US\$2 billion per year, with divers typically spending 60-80 percent more than other tourists. French Polynesia also has famous beaches and resorts on the

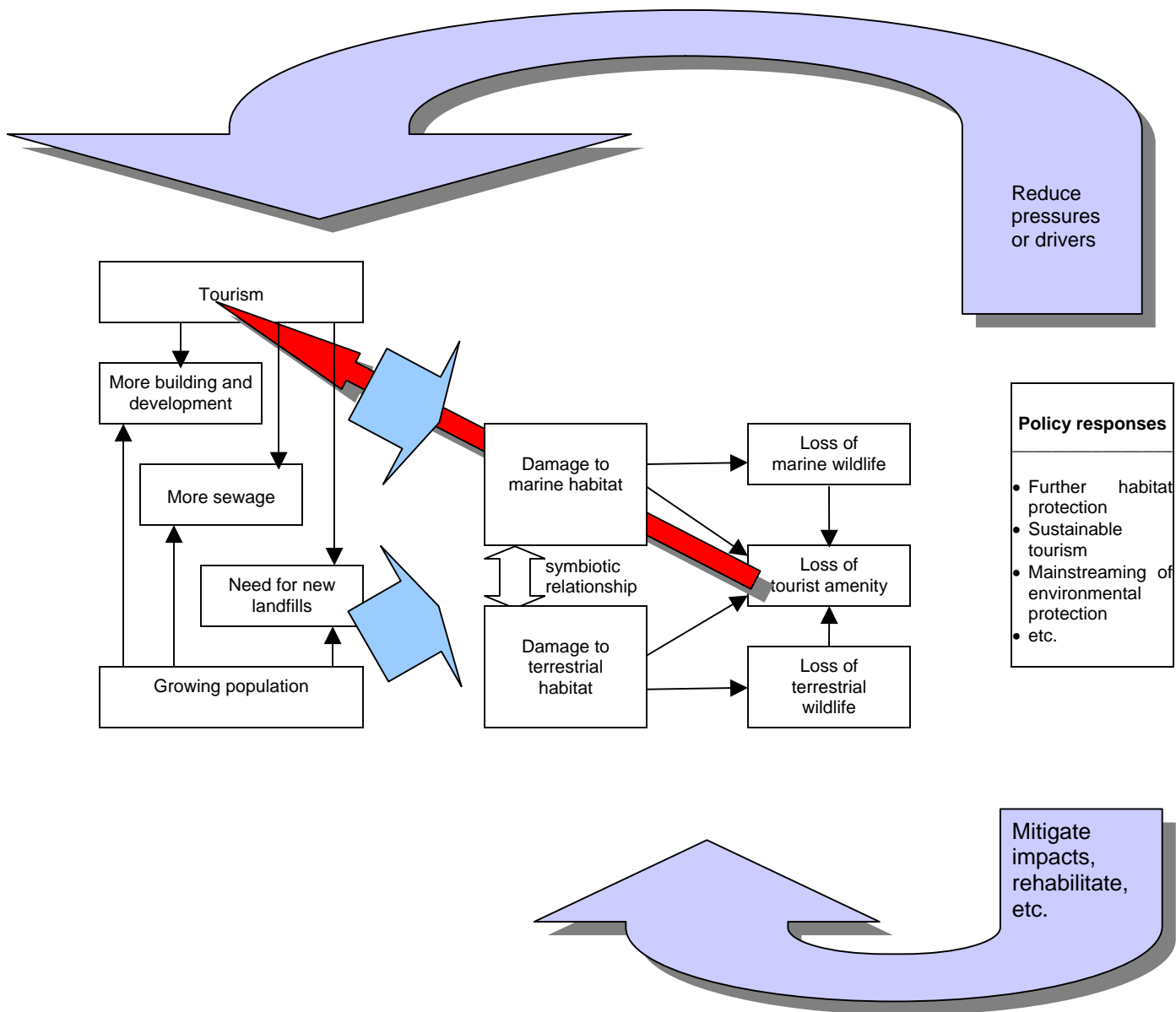
lagoons like Tahiti and Bora Bora and generates 25% of its national income from tourism, not counting the sale of cultivated black pearls.

The table below summarises the situation with regard to these territories

Overview of tourism in tourist-intensive OCTs				
	No of visitors	% GDP	Employment	Remarks
Caribbean				
Anguilla	50,000	60%	48%	Up-market, high standard, expensive hotels
Aruba	730,000 + 500,00 stop overs	50		Raw or partially treated sewage is presently being pumped into the sea with negative effects on coral and tourism
BVI	400,000	45%		The economy is closely tied to the larger and more populous US Virgin Islands to the west; Yacht charter and recreational boating services, cruise ships, and diving tourism.
Cayman	260,00	70%		Aimed at the luxury market, attracts about 1.8 million cruise arrivals (2005). Declined from 400,000 (before hurricane Ivan).
Montserrat		15%		Eco-tourism is being promoted. Contributed 33% to GDP before volcano eruption
NL Antilles	More than 1 mill 500,000 on St Maarten + 1.4 mill on cruise ships	? (5 islands) 85% on St Maarten, € 45 mill in 2005		The Sustainable Tourism policy paper, result of a NLA workshop, gives guidelines for environmental management of hotels, on public access to beaches. Saba and Bonaire have probably reached max. capacity in terms of the number of tourist facilities. Further growth must rely on longer season and wider range of tourist activities. St Maarten has larger airport to cope with expected 2.5 million passengers by 2019.
TCI	100,000 with more than half from USA	50%		Higher end of the tourist market.
Pacific				
French Polynesia	250,000	25% € 418 million or € 1,790 per inhabitant	7,500	Famous tourist sites like Tahiti and Bora Bora, with 80 % of tourism around lagoons. Actions for improved waste collection and water treatment in particular on Tahiti and Moorea. Bora Bora has now earned a Blue Flag for bathing water quality.

The rapid development and fast growing tourist industry has not been without environmental costs. To varying degrees they are all facing the dilemma of reconciling this rapid development with preserving the pristine beauty, natural resources and wildlife both terrestrial and marine, which are so important in attracting the tourists in the first place.

Development and tourism place multiple stresses on the fragile ecosystems found on these islands. This is illustrated in the diagram below.



Amongst the pressures placed on the environment by an expanding and increasingly affluent population and the growth in the tourist industry are:

- construction of buildings and infrastructure often involves clearance of mangroves, reclamation of wetlands, removal of beach sand (resulting in possible erosion), increased run off of silt and soil into the near-shore sea-water (damaging both coral and seagrass);
- the environment also come under direct pressures from tourists: scuba divers and snorkellers damage and trample coral reefs and sea grass, ships anchor on or close to reefs causing further damage. Oil spills from tourist vessels and tourist development on previously uninhabited islands is disturbing wildlife, e.g. on West Caicos.
- an increased sewage load, much of which is pumped either untreated or partially treated into the sea, leading to algae formation, de-oxygenation of the seawater and distress and destruction of coral reefs and sea-grass;
- increasing solid waste loads, requiring new waste treatment facilities and probably, increased discharge of contaminated leachates into the sea, or in some cases ending up in rivers, mangroves or wetlands;
- damage to the characteristic habitats of these islands - coral reefs, seagrass, mangrove stands - is directly affecting the fish which depend on them as well as other forms of wildlife, and impairs other services they render, including physical protection from rough seas and violent waves. According to

various sources,¹⁹ coral reefs in the Caribbean OCTs are the most degraded of the world, almost all 100% at risk. The Pacific reefs are degrading but in much better health.

These impacts threaten a comprehensive and progressive degradation of a sensitive environment already under threat from other sources (e.g. climate change). There is a danger, if this degradation is allowed to progress too far, that there will be negative feedback as indicated by the red arrow, i.e. that it will reduce the attractiveness of the destination concerned to tourists. This exemplifies the closeness of environment and economy in these islands.

As shown in the diagram, policy-makers have a number of responses they can make in order to strike the necessary balance, including protecting marine and terrestrial areas of special value, and environmental impact assessment, which should make sure that the impacts of all developments are well understood beforehand by all stakeholders (not just policy-makers) and that means of minimising impacts are incorporated into the development concept.

OCTs not subject to intensive tourism

The other Pacific OCTs have much less tourism, also the OCTs in other regions (too remote, small or cold). Many are however making plans to increase (eco) tourism. See the table below.

Overview of tourism in non-tourist-intensive OCTs		
	Nr of visitors	Remarks
Pacific		
New Caledonia	104,000	Presently 3% of GDP
Pitcairn	3,000 from cruise ships	No airport. Tourists are transported by longboat from cruise ships anchored offshore as there is no harbour.
Wallis & Futuna	few	Plans to diversify the economy and increase tourism.
North Atlantic		
Greenland	33,000	Increase of 25% in 6 years. Plans to improve infrastructure, education, branding. Access costly.
St Pierre & Miquelon	few	Plans to increase, but island is small and access is difficult/ costly.
Indian Ocean		
Mayotte	30,000	Island is hoping to attract eco-tourists that are in the region (Maldives, Reunion, Madagascar).
BIOT	none	Out of bounds because of nature reserve and military base
French Southern Territories	few	Very limited number of tourists are allowed to travel onboard of the Marion Desfresne to Antarctica.
South Atlantic		
Falkland Is.	40,000 from cruise ships	Tourism, especially eco-tourism, is increasing rapidly. The basic infrastructure now exists to support tourism. The Islands attract birdwatchers, wildlife enthusiasts, photographers and anglers.
St. Helena & Dep.	few, mainly cruise ships	Aiming to develop tourism with opening of new airport in 2010 (St H Island). Tristan would also like to attract more tourists
SGSSI	6,000	Small but increasing volume of tourists, mainly ship-based. Restricted entry
Br. Antarctic Territory	>> 10,000	Small but increasing volume of tourists, mainly ship-based. Restricted entry

While most of these destinations, with the possible exception of New Caledonia, will not become large-scale tourist destinations, the issue of ensuring that future tourists do not change the environment

¹⁹ ICRI (international Coral Reef Initiative), Reefbase, GCRMN (Global Coral Reef Monitoring Network) the Reefs at risk report (Bryant).

unacceptably, do not disturb the rich birdlife unacceptably and do not introduce exotic species which threaten native flora and fauna are major issues for these territories.

3.5 Illegal, unregulated and unreported fishing

Many areas in the world's oceans are suffering from depletion of fish stocks, partly or wholly attributable to overfishing. This problem is a widespread one, which is also affecting many OCTs (for example St Pierre & Miquelon, Montserrat, Wallis & Futuna and others). This is an issue which goes somewhat beyond the scope of these environmental profiles. In the Southern and South Atlantic Oceans, however, illegal, unregulated and unreported (IUU) fishing is difficult to separate from general wildlife conservation matters. This is because (1) all marine forms of life, including seabirds, depend on the krill lower down in the food-chain which is fished in the Southern Ocean, and because longline fishing (using baits), trawling and jigging are all killing seabirds, particularly albatrosses, most species of which are classified by the IUCN as endangered, but also petrels.

Albatrosses are attracted to fishing fleets because of the chance of a free meal. Around longline fleets the birds try to seize the bait from the tens of thousands of baited hooks from the longlines as they are paid out behind the vessels. Sometimes, the birds are caught on the hooks where they drown as the birds are dragged under water. There is increasing evidence that albatrosses are also dying around trawler fleets when the birds collide in substantial numbers with the trawl gear. It is estimated that more than 300,000 seabirds, including 100,000 albatrosses are lured onto baited hooks every year, either drowning or dying of their injuries.

40% of the world's albatrosses nest on 4 OCTs: the Falkland Islands, Crozet Island in the French Southern Territories, South Georgia and Tristan da Cunha. The Falkland Islands and South Georgia in particular have well regulated and policed fisheries, and have shown that it is possible to take measures which reduce bird bycatch to virtually nil. However albatrosses travel very large distances over the oceans and the problem cannot therefore be solved without international concertation. Particular problems are:

- The South Atlantic outside of territorial waters, especially on the Patagonian Shelf, are extensively fished by fishing boats from many nations. This is quite legal, but is unregulated because there is no effective regional fishery management organisation which covers the south-west Atlantic Ocean. Unregulated fishing vessels are less likely to voluntarily adopt the measures necessary to eliminate incidental seabird mortality.
- There is illegal fishing within the territorial waters of OCTs such as Tristan da Cunha which do not have the capacity to enforce their EEZ.
- The Southern Ocean is a very rich fishery which falls under the auspices of the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), set up under the Antarctic Treaty system. There are problems relating both to fishing in these waters by states, particularly Asian, which are not members of CCAMLR, and fishing by ships from states which are members but which do not comply with CCAMLR rules. Although CCAMLR and some of the South Atlantic islands have sophisticated systems for policing the fishing industry in these waters, enforcement in these inhospitable waters is difficult.

There are many steps which can be taken to improve matters, but these require international consultation and concertation, sharing of experience and best practice, etc. (see 5.3 Recommendations)

3.6 Waste

The issue of waste is not a glamorous or high-profile one, and waste is generally managed at the territorial or local (for example island) level. Issues related to the Basel Convention involving illegal international movements of waste, for example, do not appear to be a major issue for the OCTs. However this low profile means that it was difficult to gather comprehensive data on the state of waste management in the territories concerned. However it does appear that waste is a major problem in most of the 20 OCTs:

1. There is a general lack of data on waste volumes and trends, but waste volumes have almost certainly risen faster than the growth in population, reflecting increased living standards, increased tourism (which generates considerable waste) and packaging trends.
2. The composition of waste has also changed in many territories from mainly organic waste to waste containing larger proportions of plastics, aluminium, paper and cardboard packing cases. There is, in addition, a growing percentage of toxic and hazardous material in the waste stream.
3. In addition to locally generated waste, those territories which are the destination for cruise ships and yachts, for example in the Caribbean, have experienced an increase in the volume of waste at ports.
4. The main method of waste disposal is dumping the waste on waste dumps/landfill sites. Modern methods of sanitary landfill design and management generally do not apply. Exceptions to this are (i) Greenland, which has opted for small-scale local waste incinerators, (ii) the British Virgin Islands where there is a waste incinerator on Tortola, and (iii) local installations for the incineration of infectious clinical waste.
5. Existing waste dumps are full or nearly full in at least half the territories.
6. Informal, unauthorised dump sites have developed, often as a response to the unmet demand for waste disposal facilities. These are often in ditches, mangroves, rivers, streams or wetlands.
7. The absence of toxic waste disposal facilities in the region encourages the co-dumping of such wastes with normal municipal waste.
8. There is little or no monitoring of the impact which waste dumps and incinerators are having on the environment - in the case of waste dumps, monitoring of the leachate and run-off or of neighbouring groundwater, in the case of incinerators, of the emissions to the atmosphere which are likely to contain toxins such as dioxins and furans.
9. Hazardous wastes - used oils, batteries, asbestos, pesticide remnants, infectious hospital waste, and other difficult waste such as end-of-life vehicles and abattoir waste, pose a particular problem.
10. Very little concerted policy has been formulated to minimise or reduce waste arisings. Recycling initiatives have been limited.
11. Litter is often widespread, and anti-litter legislation is not enforced.
12. Lower-income areas and improvised settlements whose residents are unable to pay for collection services are particularly badly affected.

All this has had damaging effects on surface and groundwater sources, rivers, and the marine environment, and also on public health, especially of low income urban residents. Mangroves, salt ponds and marine and fresh water wetlands are among the ecosystems that have been especially degraded as a result of these practices.

Waste management poses difficult problems in all countries, but small island states face special problems in relation to waste management:

- lack of the critical size and therefore ability to benefit from the economies-of-scale needed to make modern waste management techniques - sanitary landfills, safe incinerators - economic. A rule-of thumb in industrialised countries is that a minimum waste catchment population of 50,000 is needed to make such facilities economic. Many OCTs face the fact not only that they do not have this minimum population, but there is further fragmentation between different islands, with inter-island transport of waste not being feasible.
- lack of facilities, critical size, markets to make recycling and composting feasible;
- lack of public awareness about waste, need for prevention and reduction;
- lack of facilities for dealing with hazardous waste including infectious clinical waste;

- on smaller, more densely populated islands, lack of suitable space for and resistance by local residents to new landfills;
- hurricanes can generate large volumes of waste and debris, which may be toxic, e.g. timber treated with preservatives (Cayman Islands), asbestos from damaged buildings (Tristan da Cunha).

Most continental coastal areas and many islands in the Wider Caribbean are forced to site solid waste disposal areas in highly porous soils which are hard to seal, leading to groundwater contamination.

Despite the difficulties there are some examples of good waste management practices, for example:

- On Curaçao and French Polynesia there is a tax on vehicles that is used to pay for their export when they reach the end of their life. This solves the car wreck problem which bedevils many OCTs and satisfies the 'polluter pays' principle.
- In Wallis and Futuna local associations are being mobilised to collect and return waste aluminium cans, for which they are paid.
- There have been various interesting initiatives on Cayman to recycle specific waste streams.
- In French Polynesia there is selective collection of household waste on Tahiti and Moorea. There is an installation where separation, recycling and export of waste is undertaken. More than 3,000 car wrecks were collected and are now being exported.

3.7 Water supply and sanitation

Central sewer systems are still the exception rather than the norm on most OCTs, and occur only in sections of some urban areas, and most of these discharge untreated sewage into the sea. Individual septic tanks and soakaways serve much of the remainder of the population. Hotels and modern developments often have packaged sewage treatment systems, but these are not usually subject to inspection, are sometimes poorly maintained and therefore deliver raw sewage into ground and surface waters.

In low-lying islands the problems are often compounded by the low absorptive capacity of the soil, since the water table is often very high. This heightens the risk of sewage pollution of coastal waters after heavy rainfall. Sewage outfall pipes are sometimes damaged or destroyed by hurricanes and rough seas, discharging raw sewage onto beaches and inshore marine areas.

The result is pollution of groundwater and the coastal area. This represents a health hazard, and is also harmful to coastal wetlands, coral reefs and seagrass beds. In Aruba, the pollution of groundwater by sewage effluent is one of the factors that necessitated the use of expensive desalinated water.

3.8 Habitat destruction

In all 20 OCTs, losses and destruction of natural habitat is occurring. These modifications are described in detail in the individual and in the regional profiles in Part 2 of this report, and in tabular form in the annexes to this (main) report. Causes of habitat destruction are socio-economic development (tourism, overfishing) but also climate change, in particular rising sea temperatures.

The habitats most seriously affected are: forests and coastal zones (in almost all OCTs), beaches, coral reefs, lagoons, mangroves, sea grasses and salinas in tropical OCTs, nesting grounds for birds in the colder OCTs, ice sheet "stepping stones" for polar bears, fishing grounds.

Habitat	Causes of destruction	Effect	Examples	Positive actions taken
Forests	Logging for export, for fuel, for building material, for handicrafts, deforestation to make space for other activities (buildings and infrastructure, cash crops), natural hazards (fire, wind, lava)	Soil erosion, Less water retention and catchment, water run-off after heavy rains, in particular in tropical OCTs, Sedimentation of lagoons, causing turbidity (lack of light for fish and growing coral) and smothering of coral and sea grasses.	W&F : Extensive deforestation through over-exploitation. Bonaire (NLA) : large scale deforestation in the 1950s for charcoal production for Curaçao. Later for aloe plantations. BIOT : deforestation for coconut plantation	In SP&M water management plan includes forestry management. Reforestation ongoing for 30 years on W&F , received €730,000 from 8th EDF.
Coasts	Sea level rise, waves due to hurricanes and earthquakes, coastal alteration (concrete reinforcement, land-fill for buildings and coastal roads), removal of sand for construction material, planting of non-native species for landscaping and gardens, especially in beach areas.	Change / destruction of habitats for birds and turtles. More erosion as natural systems are able to move landward and seaward. Less picturesque coastlines, collapse of buildings, threat to tourism. Higher population density on coastal zones increases social and economic vulnerability in case of sea level rise or more frequent storms.	ANG : some of the best beaches in the Caribbean suffered hurricane erosion, and property loss. More intense storms are a major concern. BIOT (Diego Garcia): reef material extraction and coastal reinforcement with concrete.	ANG : sand mining is now prohibited. MON : Beach Act and substantial beach monitoring FP : 70 eco-points / stations on beaches of Tahiti and Moorea to reduce waste
Wetlands, Salinas	Wetlands and salinas are destroyed by natural events (see above) Reclamation or dredging out wetlands for marina development or the construction of buildings and infrastructure	Wetlands are important habitats for many birds. Salinas are habitats for flamingos and other birds. Because of disappearance of salinas, the Greater Caribbean flamingo is endangered.	ANG : salt ponds are habitat for endangered roseate terns, least terns and red-billed tropic birds. MON : One site, Fox's Bay Bird Sanctuary, was proposed for Ramsar listing in 1986 but was largely destroyed by pyroclastic flows	NLA (Bonaire): The Flamingo Sanctuary is breeding/foraging ground for the endangered flamingo. Part of the salinas are also commercially exploited for salt. CAY : Booby Pond & Rookery formally approved as protected Ramsar site (international wetlands protection scheme)

Habitat	Causes of destruction	Effect	Examples	Positive actions taken
Coral reefs, lagoons, mangroves, sea grass beds	<p>Natural phenomena:</p> <ul style="list-style-type: none"> Wave-beat due to hurricanes, tsunamis Sea temperature; Sea level rise; Invasive species (acanthaster, giant starfish) <p>Anthropogenic:</p> <ul style="list-style-type: none"> Tourism (diving, anchoring, untreated wastewater); Removal of coral and fish for sale; Use of corals as construction material or land fill; Clearance of mangroves for new construction, Building on top of coral reefs, Overfishing and destructive fishing with rocks and poison; Pollution from households, tourists, mining, agriculture, (oil) industry; Sedimentation and turbidity due to soil erosion, traditional agricultural practices, deforestation; 	<p>Less coastal protection.</p> <p>Death of coral which is very sensitive to changes in temperature, light, nutrients, acidity and sea-level.</p> <p>Three habitats interrelated: Sea grasses stabilise sand and mud, keep water clear and are a habitat for fish, turtles and the endangered dugongs (sea cow). Corals and mangroves are habitat for reef fish. Mangroves and sea grasses provide safe breeding place for coral reef fish.</p> <p>Destruction means less tourism (less income, fewer jobs), less fishing and proteins for local consumption (90% of protein consumption in the Pacific comes from fish)</p>	<p>NC: open cast hill top mining of nickel → sedimentation of rivers and lagoon</p> <p>BVI: due to steep slopes and development, damaging of coral and seagrass</p> <p>MAY: lagoon very polluted, only 2% of the lagoon is protected area.</p> <p>ARU has giant corals and rays, barracudas and seahorses in the remote waters along the wild north coast.</p>	<p>NC has 2nd longest coral barrier reef in the world, monitoring and research as part IFRECOR (<i>Initiative française pour les récifs coralliens</i>) and of PNEC (the French Programme for coastal environment). Request made for world heritage status of coral reefs of NC.</p> <p>FP: Taiaro atoll is a UNESCO man and biosphere reserve. FP participate in IFRECOR and CRISP initiative (Coral Reefs in the South Pacific) initiated by WWF France and WWF Pacific, seeking to identify suitable areas to protect.</p>
Local vegetation	<p>Introduced rats, rabbits, goats, donkeys, reindeer, sheep, dogs, and livestock.</p> <p>Introduction of invasive new plants/ trees.</p>	<p>Reduced vegetation cover/ erosion of soils by rabbits, goats, etc.</p> <p>Diminished recovery potential</p> <p>Dominance of weedy species</p> <p>Disappearance of local vegetation, often breeding place for birds.</p> <p>Rats and cats attack birds and eat eggs.</p>	<p>PIT: introduction of invasive rose apple as source of fuel is threatening local vegetation.</p> <p>TAAF: introduction of livestock and grasses for pastures have modified local eco-system.</p> <p>NLA (Bonaire): free roaming donkeys, goats can be seen in many places incl. in Washington-Slagbaai National Park where they overgraze.</p>	<p>BIOT: successful eradication of rodents on some islands. Recovery of bird populations.</p> <p>TAAF: increased measures for biosafety.</p> <p>NLA (Klein Bonaire): the eradication of goats on Klein Bonaire is allowing recovery of the vegetation.</p>

Habitat	Causes of destruction	Effect	Examples	Positive actions taken
Arctic habitat	<p>Climate change, warming up of north pole</p> <p>Earlier break-up of annual ice in seas around GR.</p> <p>Less permafrost</p>	<p>Less habitat space for seals and other mammals using ice for resting, pup-rearing, and moulting.</p> <p>With earlier break-up of annual ice, bears' habitat gets fragmented and they have less access to seals, and may not survive. This disturbs indigenous livelihood as hunting seasons shorten.</p> <p>Instability of buildings built on permafrost.</p>	<p>GR: GR's ice sheet has thinned around its southern and eastern margins.</p> <p>Arctic sea-ice extent decreased by approximately 3% per decade between 1978 and 1996.</p>	<p>GR: very active in drawing international attention to climate change.</p>
Seas	<p>Pollution of seas by oil, plastics, rope, fishing nets and cargo-associated wastes incl containers).</p> <p>Illegal fishing</p> <p>Over fishing</p> <p>Destructive fishing methods</p>	<p>In central pacific, mass of floating plastic is six times greater than that of plankton.</p> <p>Plastic bags are eaten by turtles and other mammals who mistake them for prey (squid and jellyfish).</p> <p>Over fishing of Patagonian krill in the Antarctic seas is threatening the livelihood of species that depend on this resource like albatross and petrels.</p>	<p>GR: Pollution of Arctic Ocean (drain for rivers in Russia and Eastern Europe, Central Asia and North America. POPs (persistent organic pollutants) and heavy metals are bio-accumulating in the food chain.</p> <p>Health risks for animals and humans.</p>	<p>TAAF: French navy patrols the cold southern seas against illegal fishing.</p>

We see that in all OCTs and in all regions, habitats have been lost, as the counterpart of social and economic development. Physical planning and environmental impact assessment before new buildings and projects are undertaken respect valuable habitats and can safeguard the basis of welfare in the OCTs which are so much based on fishing and tourism.

3.9 Loss of wildlife, biodiversity

A complete and comprehensive overview of all threatened species and the extent of loss of biodiversity is not possible in the framework of this study. The environmental profiles that were made for the individual OCTs and their regions give however clear information about the main threats and challenges to wildlife and biodiversity, in particular as it touches so often upon the livelihood of people and their economy. We here extract some of the most significant threats, the effect on ecosystems and people and examples of some of the responses encountered in OCTs.

Species	Threat	Effect	Examples	Positive actions
Coral *	<p>"Natural" causes: sea temperature rise, sea level rise, tropical storms, tsunamis, topography, disease, etc</p> <p>Direct anthropogenic causes:</p> <ul style="list-style-type: none"> • sewage and other off-land pollution • siltation and sedimentation • destruction for sale, use as building site or material, • breakage by divers and anchoring boats 	<p>Loss of habitats for coral fish and other species</p> <p>Loss of coastal protection against storms</p> <p>Loss of tourism income and jobs</p>	<p>MAY: 100% corals at risk due to pollution; 40% of fringing reefs affected by rise sea temperature 1982-83 and 1998.</p> <p>BIOT (Chagos Bank): 1999 survey showed that only 12% on seaward reefs was live coral due to El Niño and La Niña changes in water temperature.</p> <p>MON: Overfishing, hurricanes, natural run-off from land due to steep topography</p> <p>NC: relatively good except near capital and where impact of sedimentation from nickel mining</p>	<p>FP has built waste water treatment plant where there are many hotels near the coral rich lagoon of Bora Bora.</p> <p>BIOT: almost all islands are nature reserve (except DG a military base)</p> <p>MAY: action against the crown-of-thorns starfish has been affecting the reefs since 1983: a bounty system stimulated collection by fishermen and 8,000 starfish were collected in one year.</p> <p>W&F: baseline measurements made, trends are being estimated for coral reefs</p>
Fish *	<p>Unsustainable exploitation of resource: overfishing, illegal, unregulated and unreported fishing (IUU)</p> <p>Destructive fishing practices</p> <p>Excessive bycatch and discards</p> <p>Pollution</p> <p>Loss of habitat</p> <p>Modification of ecosystems</p>	<p>Reduced catches as age/ size of fish is reduced by overfishing</p> <p>Endangering and extinction of species</p> <p>Loss of income for fishermen</p> <p>Loss of tourism income and jobs</p> <p>Loss of food and livelihoods for hunters</p>	<p>SP&M: Overfishing of cod, haddock, redfish and major flatfish in the 1960s and 1970s led to fisheries collapses. Moratorium on cod fishing in 1992 lead to loss of major income source and jobs on SP&M (a total of 30,000 in the region).</p> <p>Pacific: big eye tuna is listed as endangered. In specific hot spots, overfishing of tuna, marlin and swordfish has reduced the abundance and variety of species by up to 50% in the last 50 years. Of the seventeen main tuna stocks, almost 60% are in need of population rebuilding and/or reduction of fishing pressure.</p> <p>TAAF: illegal fishing has endangered the Patagonian Toothfish.</p>	<p>Most OCTs have fishing laws and quotas. Where they have an interest in offshore fisheries, these are responsibly managed.</p>

Species	Threat	Effect	Examples	Positive actions
Birds	Over fishing and illegal, unregulated and unreported fishing (IUU)	Albatrosses and petrels are among the most threatened birds in the world.	TAAF: Endemic Amsterdam albatross endangered by introduced predators	TAAF: France plans to fund a 600,000 ha nature reserve mostly for birds, as part of a national biodiversity plan.
	Longline fishing (birds become hooked or entangled)	Albatross and petrel populations are continuing to decline.	FLK : Between 1995 and 2000, the population of the globally endangered black-browed albatrosses is estimated to have fallen by about 18% due to fishing practices. The population has fallen by 70% since the 1930s.	FLK: National Plans of Action written under FAO guidelines for both longline and trawl fisheries. Longline vessels now carry a dedicated seabird observer, and the finfish trawl fleet use bird scaring lines. The Ascension Frigatebird and the Red-footed Booby are endangered birds.
	Trawling activities (entanglement with trawl warps, netsonde cables, and the net itself)	The black-browed albatross, once one of the world's commonest albatrosses, has declined by more than 40% in the last 30 years.	SGSSI: Over fishing of the mackerel ice-fish in the 1960s led to the collapse of the stock. Ice-fish feed on krill. Seals, penguins and seabirds eat ice-fish. The collapse of the stock had a direct impact on the marine eco-system.	
	Introduced animals (rodents, cast)	An estimated 100,000 albatrosses, of 21 species, have been dying on longlines every year.	Pacific: illegal longline fishing kills over 300,000 seabirds, including 100,000 albatrosses.	STH: There are several ongoing projects to increase the habitat for the wirebird
	Loss of habitat like wetlands		PIT: globally important seabird populations (petrels) are threatened by Pacific rats on some islands.	
Turtles and sea mammals	Overfishing	Reduction of populations or danger of extinction	Ascension: recently introduced Mexican thorn bush provides food and cover for rats, and threatens Ascension's Green Turtle population.	SGSSI : South Georgia's fishing industry is now strictly regulated by the Convention on Marine Living Resources, agreed under the Antarctic Treaty, to protect animals like seals who live on fish.
	Longline fishing		SGSS: the explosion in fur seals population in South Georgia may be related to the decimation of the whale population that occurred in these waters until the whaling embargo in 1965.	
	Pollution	Loss of food for other animals	Pacific: Within less than three decades, the Pacific leatherback turtle may be lost if industrial longlining and other pressures are not curtailed.	MAY: Green and hawksbill turtles populations with about 300 females of each species nesting annually. Laws in place to protect turtles (and birds).
	Destruction of habitats (seagrass beds, beaches)	Loss of food and livelihoods for hunters	GR: Hunting quotas for beluga whale, narwhal, polar bear being set much higher than scientific advice	
	Disturbance of habitat (tourism on beaches)			
	Introduction of invasive flora and predatory fauna			
	Unsustainable hunting/harvesting			

Species	Threat	Effect	Examples	Positive actions
Flora	Introduction of invasive species	Loss of species	STH: Deliberate introduction of alien plants and animals caused decline of habitats and species. Only small patches of native vegetation remain. PIT: idem. More than half the flora of Pitcairn Island are either threatened or likely to become so.	PIT: The rose apple is being eradicated in places to allow the original vegetation to come back. NC: has 2,551 endemic plants and is a so called hot spot of biodiversity W&F and FP: have made biodiversity action plans
	Introduction of herbivores	Reduction of populations		
		Loss of habitats for other species		
		Loss of revenues		
Reptiles and Amphibians				

* For both corals and fish, there are evaluating tables (for state and importance) in the individual OCTS and in the regional profiles. Corals in the Caribbean are much more degraded and at risk in the Pacific. Indian Ocean corals suffered massive mortality after sea temperature changes in 1998.

The state of corals and of fish resources are the most relevant for the social well being and economic welfare of OCTs as the territories depend so much on these two resources for their income and jobs (fishing, tourism). The International Coral Reef Initiative (ICRI) estimates that fish catches from shallow coastal waters dominated by coral reefs, in Asia alone, are estimated to support 1 billion people. And the International Coral Reef Action Network (ICRAN) estimates that “one billion people currently depend on fish for food, income and livelihood, at least 85% of whom rely principally on fish as their major source of protein”.

A UK funded project on *Sustainable Coastal Livelihoods* Project in India, Bangladesh and Sri Lanka says a significant feature of the coastal areas studied is that they frequently ‘attract’ the poor as they offer a range of easily-accessible livelihood opportunities that are often not available in inland areas. Poorer groups living in coastal communities exploit a diverse range of resources from both land and sea and from the interface between the two. Many of these resources, such as marine fisheries, mangrove areas, coral reef resources, rivers and estuaries, are ‘open-access’ which means that the poor are able to make use of them, even when other opportunities are limited.

The GCRMN Coral Reef Status report 2004 estimates that 20% of all corals have been lost and that 25% of those now alive, are at extreme risk. The major climate shift in 1997-98 destroyed 16% of the world's coral reefs. The report says half of these damaged reefs are showing encouraging rates of recovery, especially those in well managed Marine Protected Areas and No-Take Reserves, or remote from human stresses. But the report says also that “Sadly, many predictions from coral reef scientists and the IPCC (Intergovernmental Panel on Climate Change) do not give cause for such optimism”.

4 ENVIRONMENTAL GOVERNANCE

4.1 Environmental management resources (people, money, assistance)

The following table summarises the data that it has been possible to assemble, partly through the questionnaire sent to the OCTs as part of the project and partly from other sources.

Environmental organisation				
	Specific environmental services	Integrated in other services	Staff	Remarks
Caribbean				
Anguilla	✗			But there is a Director of Environment within the Chief Minister's Office.
Aruba	✓		10	Environmental ministry has 10 people working on environmental policy.
BVI	✓		56	Department looks after environment and fisheries
Cayman	✓		22	Environment and tourism in the same ministry.
Montserrat		✓	8	A new Department of Environment being formed which will incorporate the Forestry and Fisheries Departments.
NL Antilles	✗	✓	4	Inside Ministry of Public Health and Social Development a small department responsible for Environment and Nature. Environmental management devolved to the islands.
TCI	✓	✓		Activities of Department of Environment and Coastal Resources focused on management of protected areas and fisheries.
Pacific				
French Polynesia	✓			Ministry for Sustainable Development with specific departments/ services for various environmental tasks. Budgets available and a fund for the Environment.
New Caledonia	✗	✓		Environment the responsibility of the (3) provinces. Budgets available.
Pitcairn		✓		2 part-time officers deal with the environment. No specific budget.
Wallis & Futuna	✓			There are specific services that deal with the environment, staff and small but specified budgets. There is monitoring and reporting.
North Atlantic				
Greenland	✓			There are specific services for environment, fisheries, agriculture and natural resources. The agency responsible for minerals and petroleum also has an environmental service
St Pierre & Miquelon		✓	2	Decentralised French governmental services for forestry, fisheries, etc. Specific (small) budgets. 2 officers for monitoring hunting.
Indian Ocean				
Mayotte	✓			There is also a Consultative Commission for the Environment and Protection of the National heritage. A surveillance service is operational.
BIOT		✓	1	Responsibility for nature conservation lies with a senior British naval officer stationed at Diego Garcia. One Conservation Adviser. A Marine Resources Assessment Group manages fisheries. Private company patrols the seas.

Environmental organisation				
	Specific environmental services	Integrated in other services	Staff	Remarks
Indian Ocean				
TAAF		✓	5	Staff based at Réunion. Committee for the Polar Environment and IUCN advices. Budget available.
S. Atlantic				
British Antarctic Territory	✗			Advice on environmental matters is provided by the British Antarctic Survey (BAS)
Falkland	✓		1.5	Also 15 scientists in the Fisheries Department. There is an Environment Committee with 2 two Councillors, gov't officials and stakeholders.
St Helena & Dependencies		✓		The environmental protection function on St H Island is rather fragmented between different departments.
SGSSI	✗	✗		Advice on environmental matters is provided by the British Antarctic Survey (BAS)

4.2 Environment and development: EIA, SEA

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made.

The process should involve an analysis of the likely effects on the environment, recording those effects in a report, undertaking a public consultation exercise on the report, taking into account the comments and the report when making the final decision and informing the public about that decision afterwards.

In principle, environmental assessment can be undertaken for individual development projects such as a dam, motorway, airport or factory (Environmental Impact Assessment, EIA) or for plans, programmes and policies (Strategic Environmental Assessment, SEA).

At its best, Environmental Impact Assessment (EIA) can be a powerful instrument in ensuring that development projects are not approved which have an unacceptable impact on the environment. At its worst it can be a rubberstamping operation which confers on the project an apparent environmental respectability which is not justified. EIA regulations need to be strong as development projects often involve strong vested interests or have powerful patrons.

In Europe EIA based on current best practice is regarded as an indispensable instrument in environmental management and in urban and country planning.

At present EIA is only mandatory in six of the 20 territories. In none of those is public consultation a requirement. And in some of those six the requirement appears not to be strictly enforced²⁰. This does not mean that EIA is not carried out in the other territories: it often is, but it is not mandatory, but at the discretion of the authorities. Or an EIA may be carried out because this is a requirement of a donor-funded project.

In the territories where EIA is a requirement, detailed regulations are often lacking. There may be no specification of the areas which need to be covered by an EIA. In a number of territories which have not yet enacted mandatory EIA there are legislative drafts in procedure or waiting enactment.

²⁰ For example in Wallis and Futuna EIA studies were carried out after projects had already started (airport in Futuna, harbour works at Halalo (Wallis)).

None of the territories have EIA legislation which meets current standards of best practice, for example:

- mandatory EIA for well-defined categories of development project;
- detailed regulations on the content of an EIA;
- provisions on qualifications and interests of those to whom EIA is entrusted;
- safeguards to ensure that the EIA process starts at the pre-feasibility stage, so that there is time for findings to be fed back into the project design;
- provision for peer review;
- provision for public consultation and actioning public responses;

The British Virgin Islands is the only OCT requiring SEA at present.

4.3 Legislation

The table below gives a summary of the environmental legislation in the OCTs. For more detailed data, look in the Annexes and Part 2 of this report.

	Basic legislation	Remarks	EIA ?
Caribbean			
ANG	No modern protected area legislation.	5 marine protected areas (MPAs) and 1 terrestrial protected area (owned by National Trust).	X
ARU	Nature Protection Ordinance not enacted yet. State Ordinance Spatial Development in final stages of ratification.	EIA can be requested but is not mandatory. In 2004 the EIA guidelines were extended to include health aspects	X
BVI	A number of marine protected areas have been declared. Legal mandate lacking to control activities in the protected areas.	National Environmental Action Plan not yet been formally approved. Active management of marine protected areas is limited.	✓
CAY	An extensive system of marine protected areas has been established and these are actively managed. National Conservation Legislation not yet enacted.	Terrestrial parks have been established through acquisition by National Trust. Legislation making EIA mandatory not yet enacted by the legislative assembly.	X
MON	Legislation enacted on protected areas, but this has not yet been implemented.	No protected areas have yet been designated.	✓
NLA	The island governments are responsible for the implementation of two ordinances: The National Nature Conservation Ordinance of 1999 and amended in 2001 and the future National Environment Ordinance, a draft since 2000. MINA, central department, facilitates and is responsible for implementing international environmental agreements.	Each island has its own legislation. This will change in the very near future as Curacao and St Maarten will become more autonomous (status aparte, like Aruba) while the other islands will become normal Dutch local administrations ("gemeentes").	X

	Basic legislation	Remarks	EIA ?
Caribbean			
TCI	TCI is in the process of developing a Protected Areas Policy. A number of protected areas both marine and terrestrial have been designated, and management plans have been drawn up for some of them, but there is not adequate back-up legislation at present and management plans are not fully implemented.	A detailed strategy for action for implementing the Environment Charter has been formulated, but this falls somewhat short of being an environment action plan.	X
Pacific			
FP	Environment Code, Planning Code and various laws on fisheries, authorisation scheme for all installations that may cause harm to the environment.	A service is responsible for EIAs, but new legislation is being made, among others to improve public information.	✓
NC	Territorial level deals only with obligations that are a consequence of international agreements. No information obtained on environmental legislation at provincial level, No clear overview of legal obligations.	There is currently no detailed EIA legislation in New Caledonia.	X
PIT	Laws implementing CITES, for fisheries and protection of wildlife incl certain species. Henderson island is a protected area.	EIA is not mandatory, but an EIA was carried out for the introduction of a new shipping route. EIAs also planned for the construction of a new breakwater and the introduction of wind turbines.	X
W&F	There are decisions on the protection of the environment and there is EIA legislation.	Most large infrastructural works have had an EIA since 2003. Due to lack of technical personnel some EIAs took place after the project had started already (Futuna airport, harbour at Halalo on Wallis).	✓
North Atlantic			
GR	Basic legislation in place for protected areas and protection of species. National Nature Protection Act adopted in 2003 making legal action possible. There are protected areas.	Protected areas not very actively managed. Basic legislation needs strengthening to meet MEA obligations. A general requirement for EIA for infrastructural projects is contained in the law, but there are no detailed regulations.	+/-
SP&M	Some legislation for fisheries, forestry, hunting, protection of birds. No EIA.	Legislation not related to MEAs. There are protected areas but on a voluntary basis.	X
MAY	Fishing regulation in place (protecting corals too). French rural code and French water laws apply.	No modern protected area plans nor legislation but study on how French law on regional nature parks can/ should be transposed.	X
BIOT	Laws in place to protect birds and turtles (not specific species). The whole territory is treated as if it where a World Heritage Site.	US military base on Diego Garcia applies US environmental rules.	X

	Basic legislation	Remarks	EIA ?
Caribbean			
TAAF	French Environmental code on protection of flora and fauna was adapted. Many other regulations: on manipulation of species, ban on hunting, fishing quotas. The Antarctic Treaty and Agreement on protection of Albatrosses and petrels apply.	Entire Antarctica is protected. National Parks (for certain species of birds and mammals) already in 1938, since 1985 14 areas have restricted access.	✓
S. Atlantic			
BAT	Environmental management is provided for through the Antarctic Treaty system together with agreements ratified by its members. These have been implemented in British law (which applies to British nationals throughout the Antarctic continent).		✓
FLK	Protected areas legislation and protected areas designated, but no requirement for active management. EIA legislation in place, particularly targeting petroleum activities, but EIA is not mandatory.	A 'National Plan of Action – Seabirds' has been adopted. No general environmental action plan or strategy, but there is a conservation and biodiversity strategy in draft form.	✓
STH	Protected areas legislation in place, and there is a draft National Plan of Protected Areas, but no protected areas have been designated. There is no legislation making EIA mandatory. Development and policy initiatives are subjected to 'environmental screening,	Environmental management function somewhat fragmented. There is also a strategy document for implementing the Environmental Charter made with the UK government.'	✗
SGSSI	Environment management plan currently being updated, and will provide for protected areas. No such areas yet designated, but 13 areas designated in draft new plan.	No EIA legislation, although the government claims it is committed to requiring EIA.	✗

4.4 MEAs

Multilateral Environmental Agreements (MEAs) are agreements between different countries to take action to protect the world's natural resources or promote environmental quality. MEAs may be international or regional. Some MEAs provide a general framework for action only, with more specific provisions being implemented in protocols or agreements.

Participation in an MEA is not only a way of marking solidarity with global or regional environmental objectives shared by the international community, it also often constitutes an excellent roadmap for achieving its conservation and environmental objectives at the national/territorial level. However it will only do so if the participant meets its obligations under the MEA

The participation of an OCT in an MEA involves cooperation between the territory and the state it is associated with. This is because, while the OCT is responsible for its environmental management, only sovereign states can sign MEAs. OCTs can take on the responsibilities of an MEA if the associated sovereign state (in this case the Netherlands or the United Kingdom) has signed the MEA and asks, at the request of the OCT, that the MEA is extended to the territory of the MEA.

There are a total of some 200 MEAs covering a variety of topics, but the most relevant ones for the overseas countries and territories are the following:

The Convention on Biological Diversity (CBD) was also concluded at the UN Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, and is the first treaty to provide a legal framework for biodiversity conservation. Its goals are the conservation and sustainable use of biological diversity and the fair sharing of the benefits arising from the use of genetic resources. It requires states to adopt and carry out conservation policies to maintain biological diversity. Among the specific commitments which participants take on are:

- to prepare national biodiversity conservation plans;
- to integrate conservation and sustainable use into plans and policies;
- to monitor components of biological diversity important for conservation and sustainable use;
- to prepare EIAs for projects that are likely to have a significant adverse impact on biodiversity;
- to establish protected areas to conserve biodiversity and prepare management plans;
- to promote the recovery of threatened species;
- to maintain legislation to protect threatened species;
- to protect customary uses of biological resources in accordance with traditional cultural practices, so long as these practices are in accordance with the principles of conservation and sustainable use.

Convention on Wetlands of International Importance (Ramsar)

The Ramsar convention provides for increased protection of wetlands, including shallow coastal and marine areas. Participating countries are required to designate at least one significant wetland site, which is subject to some form of sustainable management.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

This convention operates by a means of a system of import and export permits, designed to protect certain threatened species from over-exploitation. It prohibits international commercial trade in species considered endangered and listed in Appendix I, but permits such trade in a regulated manner in species listed in Appendix II, that could become endangered through international trade. Each Party to the Convention must designate a Management Authority to administer a CITES licensing system, and a Scientific Authority to advise the Management Authority on the effects of trade on the status of the species.

United Nations Framework Convention on Climate Change

The Climate Change Convention was also concluded at the UNCED. It concentrates on controlling the emission of greenhouse gases, such as carbon dioxide and methane. The developed countries will provide funding and technology to the developing countries to reduce such emissions. The Kyoto Protocol set specific reduction targets for greenhouse gases to be achieved by 2008-2012. No specific territorial legislation is required, but a commitment would have to be made by OCTs wishing to participate to cut greenhouse emissions by at least 5.2% below 1990 levels by the period 2008-2012.

Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)

This treaty, established through UNESCO, allows parties to nominate sites within their territory to the World Heritage Committee as natural and cultural sites of "outstanding universal value". Such designation entitles the country where the site is located to seek assistance from the World Heritage Fund for its protection. Parties are obliged to provide adequate legal and physical protection, establish management systems and develop scientific research programmes to counteract threats.

Convention on the Conservation of Migratory Species of Wild Animals (CMS, Bonn Convention)

The Bonn Convention was established to protect species of wild animals migrating across and outside national borders. This includes marine animals such as sea turtles and sea birds. Parties to the convention agree to restrict harvesting, conserve habitats, and control other adverse factors. A Memorandum of Understanding was drawn up under the CMS on the Conservation and Management of

Marine Turtles and their Habitats of the Indian Ocean and South-East Asia. The MoU provides a framework through which States of the region, as well as other concerned States, can work together to conserve and replenish depleted marine turtle populations. An Agreement on the Conservation of Albatrosses and Petrels was also recently made.

Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (The Cartagena Convention) and its Protocols

The Cartagena Convention entered into force in 1986 for the purposes of the protection and management of the marine and coastal areas of the 'Wider Caribbean' Region (i.e. Caribbean islands plus littoral states of Central and South America). The convention has three associated protocols:

- The Oil Spills Protocol, which provides for regional co-operation when an oil spill threatens the coast of a participating state, and for the preparation and updating of contingency plans (in force).
- The Protocol Concerning Specially Protected Areas and Wildlife (SPA), which provides for the protection and management of marine areas and associated terrestrial areas, as well as wildlife. (adopted but not yet in force).
- The Land-based Sources and Marine Protocol (LBSMP) for dealing with environmental pollution reaching the marine environment from land-based sources.

Nairobi Convention for the Protection, Management, and Development of the Marine and Coastal Environment in Eastern Africa

Participants draw up an action plan for tackling threats to the marine and coastal environment.

The state of implementation of MEAs by the territories is summarised in the following table.

Participation of OCTs in MEAs		
MEA	Number of OCTs participating	Remarks
CBD	11	Probably few if any of the participating OCTs are yet meeting all their obligations under the CBD, particularly with regard to having a national biodiversity conservation plan, monitoring and legislation.
Ramsar	17/22	However not all of these have yet had a site listed, and not all those that have are managing them in the spirit of the Convention
CITES	17/22	Some have not yet adopted implementing legislation or established a certification system.
World Heritage	?	Quite a number participate. There are 4 world heritage sites within the OCTs Henderson Island (Pitcairn), Willemstad (Netherlands Antilles), Gough and Inaccessible Islands (Tristan da Cunha) and the Ilulissat ice fjord (Greenland). BIOT is treated as though it were a World Heritage site, and there is a proposal for world heritage status for the coral reefs of New Caledonia
Bonn ACAP	17/22 4/4	The four participant OCTs in the Southern Atlantic/Southern Ocean, i.e. Falkland, Crozet (French Southern Territories), SGSSI and Tristan da Cunha are breeding grounds for over 90% of the world's black-browed albatrosses (CR).
MoU on Indian Ocean Turtles	1/2	MoU not yet in force
Cartagena	4/7	Including the Oil Spills Protocol
Nairobi Convention	1/1 (Mayotte)	MCE Nairobi Convention for the Protection, Management, and Development of the Marine and Coastal Environment in Eastern Africa.
UNFCCC and Kyoto		The Falkland Islands assumed the Kyoto commitment in 2006. Aruba, the Netherlands Antilles, the BVI and the Cayman Islands have also signalled their interest in participating

Although the OCTs are participating to quite some extent in MEAs there is still quite a bit to be done to ensure that they are fully, and in some cases even partly, complying with their obligations under these

agreements. Full compliance would greatly enhance the level of protection given to habitats and species in the territories concerned.

4.5 Other instruments

Other environmental instruments	
Caribbean	
AN	Draft national environmental management strategy and action plan has been formulated (but agencies and resources not identified yet). There is a land use plan (in draft form for over 10 years).
ARU	National Development Plan has an environmental chapter. Nature and landscape and sustainable tourism policy papers in preparation.
BVI	National Environment Action Plan in draft.
CAY	National Environment Policy adopted in 2002.
MON	There is an Environment Action Plan.
NLA	At territorial level there is a nature and an environment plan. These plans need to be reflected in plans for each island (only Bonaire has both such plans). At the territorial level there is also a policy framework for waste and a policy paper on sustainable tourism. Interesting Trust Fund was set up to finance the NGO DCNA (Dutch Caribbean Nature Alliance) which receives funds from among others the Dutch National Lottery.
TCI	No National Development Plan but a detailed strategy for action to implement the Environment Charter, which has some components of an EAP
Pacific	
FP	There is an Action plan by Ministry for Sustainable Development, a Biodiversity Plan, a Waste plan, several Marine Management plans and an Action Plan on how to deal with climate change. Ministry of Seas and the Econ, Social and Cultural Council and Research programmes all integrate environment in their policy areas. Awareness raising campaigns and attractive educational material. Monitoring and reporting.
NC	Policy paper on Balanced growth with a section on natural resources. A lot of research is done (but popular information material on the environment not found).
PIT	A business plan for the territory was made by consultants in 2003. Environment Management Plan is being drafted. Henderson island (World Heritage site) has a management plan (not yet implemented).
W&F	There is a Policy Paper for Sustainable Development (not yet an action plan), a Biodiversity Action Plan, a Coral reefs Plan. There are decisions on the protection of the environment. There are environmental taxes and subsidies. Monitoring. Information material available for schools also. Interesting way of collecting aluminium beverage cans: the Environment Service pays local associations which collect these cans € 838 per ton.
North Atlantic	
GR	Attractive information material on the environment. A Institute of Natural Resources monitors various issues.
SP&M	There is a National Development Plan with a section on the environment, developed with various stakeholders. There is a Waste Plan. Once a year Environment week. Only the 2 local "Prefectures" have web sites. Volunteers help control/ inspect hunting. There is an Agency for economic development (SODEPAR).
Indian Ocean	
BIOT	There is an environmental management plan for Diego Garcia and a draft for BIOT as a whole. Routine monitoring, fisheries research and resource evaluations have been undertaken on fish stocks through catch and logbook monitoring and observer programmes since the current fisheries management regime in BIOT was introduced in 1991.

Other environmental instruments	
MAY	There is a sustainable development plan for the territory and a plan for the management of the lagoon. Observatories for three species exist (whales, corals, marine turtles). Several protected areas.
TAAF	Only 6 companies and 8 boats are allowed to fish in the EEZ. The French navy patrols the zone and arrests poachers. IUCN is a partner which is consulted on environmental matters.
S. Atlantic	
BAT	No EAP or strategy document for the territory
FLK	There is a conservation and biodiversity strategy in draft form. The FLK Plan 2002/2006 contains a specific environment chapter, reflecting the aims of the Environment Charter. There is also a National Plan of Action for Seabirds. The islands have not yet developed a general environmental action plan or strategy.
STH	A sustainable development plan is currently being drawn up. The key strategy document for environmental protection, nature and wildlife conservation is the Strategy for Action to Implement St Helena's Commitments under the Environment Charter (2004). For Tristan da Cunha there is a Biodiversity Action Plan. For Ascension, the Island Management Plan 2003-08 includes some commitments of the Environment Charter.
SGSSI	There is an environmental management plan for South Georgia (not for South Sandwich), currently being updated.

4.6 Civil society: role of consultation, NGOs, Aarhus

In many OCTs there are NGOs and businesses who are consulted as the territory makes plans. Examples are the National Development Plan for **SP&M** which is an all encompassing plan, prepared by the Prefect (after consultations) and adopted by the General Council on Jan 2006. On **NLA**, a Sustainable Tourism policy paper was made as a result of a national workshop on this subject.

In many OCTs, mainly linked to the Netherlands and the UK, private NGOs own and manage national parks. On **STH** a National Trust was launched in 2002, a statutory body including all environmental NGOs, whose mission is the natural, built and cultural heritage of St Helena. It is also active in information and awareness-building. On **NLA** the NGO DCNA manages various nature parks and is financed by a Trust Fund. On Curacao the NGO SMOC (Stichting Schoon Milieu Curacao) has launched a legal procedure against the government as the local oil refinery does not respect air quality norms. On **ANG, BVI, CAY, MON** and **TCI** there are National Trusts, statutory bodies with a conservation mission. Although non-governmental, they receive some government funding, manage parks, make awareness-raising material, etc.

In many French speaking OCTs, there are actions by French institutes, like the Conservatoire du Littoral who owns and manages two parks in **MAY**. **NC** and **FP** are active in the framework of IFRECOR (Initiative française pour les récifs coralliens) and other research networks.

On coral reefs there is already a link between OCTs in different regions. ICRI (international coral Reef Initiative) which is the global organisation set up by Al Gore after the UN Rio conference, the French IFRECOR and the Dutch NACRI (Netherlands Antilles Coral Reef Initiative) work together. Many coral reefs experts in the OCTs work together in Global Coral Reef Monitoring Network which makes Coral Reef reports every two years.

GIWA (Global International Waters assessment), a UNEP /GEF initiative, also brings together many researchers dealing with issues that most OCTs are experiencing, like marine pollution and unsustainable fishing.

5. RECOMMENDATIONS FOR MULTI-TERRITORY COOPERATION

5.1 Introduction

In the terms of reference the consultants are asked to make recommendations with regard to possible areas for cooperation between the EU and the OCTs. In fact cooperation is possible at three different geographical levels, as follows, and the recommendations for these different levels are found in different parts of the report:

- cooperation at the level of the individual territory: recommendations at this level can be found at the end of each territorial profile in Part 2 of this report;
- cooperation at the regional level: recommendations at this level can be found at the end of the regional sections in Part 2 of this report;
- cooperation involving all OCTs, or groups of territories with common problems extending beyond regions: these recommendations are listed below, in section 5.3.

This project was obviously not an identification or pre-identification mission, and it is only possible to provide general pointers within the framework of this project.

5.2 Advantages, disadvantages of regional / multi-territorial vs. territorial approach

Many of the environmental problems and challenges faced by OCTs in a given region (e.g. the Caribbean region, the Pacific region, the South Atlantic region), and indeed other island countries or territories in that region, are often essentially the same ones. In some cases the same solutions might apply. In some cases the commonalities might be global or they might be relevant for some territories and not for others, irrespective of region. This being the case, there are cases where it is sensible to set up multi-territory/country projects on a regional, pan-OCT or 'sectoral basis' to tackle these problems and find common solutions.

Learning through the exchange of best practice is a methodology applied in many EU programmes, e.g. INTERREG. OCTA has also been successful in building bridges between OCTs. Many international organisations like the International Tropical Timber Organisation have recognised that study visits of members to each other's countries and making reports/ educational videos help all members. Given the remoteness of many OCTs, a combination of visits and e-learning would be an effective way of learning from each other's best practices.

Certain diseconomies of multi-country projects must be taken into account.

- Geographical scatter means that there is a logistical and cost overhead involved in getting people together. Some of the OCT regions involve very large inter-territory distances (S. Atlantic), others involve severe logistical problems (N. Atlantic, S. Atlantic).
- Cultural, linguistic and administrative differences can be an obstacle but can also be good for learning from each other.
- Island to island differences, for example in legislation, in geology or in political choices may decrease the value of a regional approach. Even on a single-territory project, getting proper backing from all the relevant stakeholders can be very difficult, and the difficulties may multiply exponentially on a multi-territory projects.
- Unless well managed, there may be a loss of sense of ownership by individual territories.

In setting up projects the merits of the two alternative approaches need to be considered carefully as a function of the particular intervention being considered. In the case of a multi-territorial project it is essential that all the proposed partners fully support the approach.

A major benefit of a multi-territorial approach is that it can bring together people who spend a lot of time working in isolation and in difficult circumstances. This type of cooperation allows partners to exchange and benefit from each other's experiences, success stories, good practice, and build a network which can be very helpful to them in their work.

Three of the Caribbean territories, i.e. the Cayman Islands, BVI and Aruba, exceed the per capita GDP threshold for EDF funding, and therefore do not qualify for aid under the EDF territorial envelope. This makes possible regional level projects of particular interest for them.

All projects should look at other initiatives in the region or worldwide to ensure complementarity.

For convenience the recommendations below refer to OCTs. But there are many commonalities between OCTs and other small islands/archipelagos, which may be independent states or, for example EU outermost regions (e.g. Martinique and Guadeloupe in the Caribbean). Where possible, advantageous and permitted under EU funding rules, cooperation with such entities should not be excluded.

The EU regards St Helena, Ascension and Tristan da Cunha as a single UK Overseas Territory, although they have separate Councils, legislative procedures and budgets. One consequence of this is that cooperative projects between these islands do not qualify for EU regional funding. Given the sparseness of territories in the South Atlantic, this reduces possibilities for cooperation. The EU may be able to modify its rules so that cooperative projects between these islands have access to regional EDF funding.

5.3 Recommendations

The recommendations are arranged into two subgroups, a first group related to access to funding, delivery mechanisms and methodologies, and the second group dealing with specific technical areas.

The consultants were asked to prioritise the recommendations. We found this a difficult task. All of the recommendations below are important for some or all of the territories involved and priorities vary obviously between different territories. However the sequence in which the second group is arranged broadly corresponds to priorities as we see them.

Access to funding, delivery mechanisms and methodologies

Coverage: All OCTs

1. Simpler procedures for accessing funds

Because of the small size and limited capacity and resources of most OCTs lengthy and demanding procedures for applying for funding can be daunting. The European Commission might consider acknowledging the difficulty which OCTs have in this area by simplifying procedures for gaining access to (and indeed disbursing) funding for environmental projects for OCTs.

2. Fund-based financing

The European Commission might consider whether there is merit in moving partly to a more fund-based rather than project-based approach to funding environmental work. A fund would be established for environmental projects. The fund would be held and administered by an appropriate more local third-party organisation which would disburse funds for projects meeting specified criteria and which would be fully accountable to the Commission. This might operate along the lines of the funding by the Netherlands Ministry of Foreign Affairs and Kingdom Relations for the umbrella Dutch Caribbean Nature Alliance. This could have a number of advantages including a more cost-effective way of disbursing smaller grants and greater continuity for the funding of certain commitments.

3. Sources of donor funding

Many OCTs emphasise that they do not know what sources of funding are available for them for environmental projects. This includes both EU sources other than the EDF and sources other than the EU and relevant member states. A manual could be produced for all OCTs indicating the most appropriate sources of funds given that many of the territories have limited capacity, resources and experience of

drafting proposals for donor funding. Recommendations should take account of these limitations. The handbooks might also seek to give guidance on the writing of successful proposals.

4. More creative use of modern telecommunications and information technology to bridge the distance between OCTs

For example video-conferencing, e-learning, Internet-based databases such as that of the UK Overseas Territories Conservation Trust.

Technical areas for cooperation

5. Adaptation to climate change

Coverage: all tropical OCTs or regional sub-groups of tropical OCTs. See section 3.2.6/3.2.8

There are a number of studies and initiatives which have looked at ways in which small tropical islands can adapt to future climate change. Concrete measures and approaches to mainstreaming adaptation into the OCTs' planning processes might be considered. This is also considered at the regional level (see Part 2, different regions)

6. UNFCCC/Kyoto

Selected OCTs. See section 3.2.8

A project involving encouraging and supporting those OCTs which wish to participate in the UN Framework Convention on Climate Change / Kyoto Protocol process. The participants would commit to meeting the relevant Kyoto reduction targets. Assistance could be provided for inventory construction and planning. Joining the Kyoto process would leverage the efforts and influence of OCTs in cutting emissions and mobilising opinion. The Falkland Islands is already a participant, and Aruba, the Netherlands Antilles and BVI have expressed interest in joining.

7. EIA, SEA

Coverage: all OCTs or regional. See section 4.2

A problem which applies in all OCTs is the lack of an adequate system for ensuring that a proper environmental impact assessment or strategic environmental assessment is carried out prior to development projects (see section). EIA is an important tool in the environmental policy-maker's armoury to prevent environmental degradation due to over- or unplanned development . This is particularly important in those territories where rapid tourist development is taking place and creating environmental pressures, as these particularly involve strong vested interests.

Funding could be provided to address this problem, which might involve all OCTs, specific regions or for example those OCTs with a very important tourist industry (Caribbean OCTs, French Polynesia). This might involve:

- drawing up a manual of good EIA practice based on existing material, but tailored to the capacities and specific problems and circumstances of the OCTs;
- a workshop to provide practical feedback
- a gap analysis for each OCT identifying the further steps needed to implement best practice;
- further workshop for exchange of experiences.

8. Waste management and marine litter

Coverage: All OCTs or regional or other groups of OCTs. See section 3.6

Work tackling common problems in waste management, including:

- what measures can be taken to reduce waste volumes, from households the tourist industry and ships?
- for which waste streams is it realistic to attempt recycling, re-use, separate collection, with which instruments?

- devising standards which landfills should meet to ensure they are safe and do not pollute groundwater or coastal waters.
 - approaches for difficult waste streams: car wrecks, waste oils, other hazardous or clinical waste.
- sharing of successful projects (e.g. recycling, difficult waste streams), best practice.

9. Sustainable tourism

Coverage: Tourism-intensive OCTs, tourism-aspirant OCTs. See section 3.4

Tourism is an issue in almost all the OCTs.

French Polynesia, Anguilla, BVI, Cayman, Curaçao, Netherlands Antilles, TCI and Mayotte, for example, all have economies which are dependent on tourism, and where tourism is placing pressures on the environment of the territory.

Greenland, St Pierre & Miquelon, the Falkland Islands, St Helena, Tristan da Cunha, Pitcairn would all like to build up their tourism sector and attract more visitors, but need to ensure that this does not adversely affect their unique environment or culture.

The Antarctic and sub-Antarctic territories, again, may not necessarily want to increase tourism, but recognise that this will be a growing activity, and one which needs to be managed carefully to prevent damage to delicate ecosystems.

A project might be funded which tries to define indicators, or guidelines, for sustainable tourism. In the Caribbean the ACS Sustainable Tourism initiative, involving certification of countries adopting sustainable tourism, seems a very interesting one as it can give market advantage to those practising good environmental management, but the initiative appears to have stalled. It might be possible to re-energise this initiative or use the idea.

10. Opportunities for renewable energy in OCTs

Coverage: 'Homogeneous' groups of territories or regions (Caribbean, S. Atlantic, Pacific). See section 3.2.8

Single OCTs may not have the opportunity or capacity to think strategically about possibilities for renewable energy (wind, solar in particular). But the normal assumptions in industrialised countries that the fossil fuel option is the cheapest may not hold true in territories with low, sparse populations. Diesel generators are very inefficient, transport of diesel fuel may be a major additional cost in addition to the rising cost of oil.

11. Environmental management in hotel industry

Coverage: Tourism-intensive OCTs, Caribbean region, Pacific region. See section 3.4

There are various schemes for the environmental certification of hotels. Consider the merits of the various schemes, consider ways in which good schemes can be encouraged/promoted..

12. Full implementation of MEAs in OCTs

Coverage: OCTs who are interested. See section 4.4

There is a need to establish really robust protection for habitats and valuable wildlife. The OCTs participate in a number of MEAs (for example the Convention on Biological Diversity) but most are not fully meeting their obligations under these agreements. Compliance is important in terms of credibility and is a good way to achieving territories' conservation objectives. A project could provide technical assistance in doing this, and propagate the results in a workshop for all OCTs.

13. Cyclone- and seismic-proof building standards
Coverage: Caribbean, Pacific regions. See section 3.3

Experience shows that good building regulations, well enforced, save lives (e.g. Cayman). Individual OCTs have been successful with individual approaches to this problem, but it should be possible to reach a consensus across OCTs facing similar problems. It may be, however, that, for example the French, Dutch and British OCTs have different frameworks in this regard.

14. Research into climate change in Antarctica
Coverage: BAT + TAAF. See 3.2.5

Cooperation between French British Antarctica supported by the EU could provide an opportunity for the European Commission to get involved, either in global climate research of great importance (Antarctica is the major part of the Earth's cryosphere, crucial in the climate change equation), or in conservation of the important Antarctic fishery.

15. Coral reefs
Coverage: Tropical OCTs. See section 3.8

Research, protection and proper management of coral reefs, in particular concerning the impact of pollution and warmer seawater in the future, making use of the specific situations of the OCTs.

16. Marine protected areas
Coverage: Tropical OCTs. Pacific, Caribbean regions. See section 3.8

Support for creation, management and enforcement of terrestrial and marine protected areas.

17. Integrated coastal management
Coverage: Tropical OCTs. Pacific, Caribbean regions.

New initiative or align with existing initiatives.

18. Fishery issues in the Southern Ocean, South Atlantic
Coverage: S. Atlantic OCTs + TAAF. See section 3.5

A number of interrelated fishery issues:

- Lack of proper *enforcement* capacity in St Helena, Ascension and Tristan da Cunha to prevent illegal fishing in their EEZ represents a possible loss to those economies. The Falklands, SGSSI and TAAF seem to have developed fairly effective enforcement systems in their territorial waters, and have successful fisheries. There may be scope for a structured exchange of information and ideas or pooling of resources that would benefit all parties.
- More generally, an assessment needs to be made of fishing enforcement techniques and technologies, including use of licensees to assist with enforcement, use of earth observation technologies linked with notification of entry into EEZ, catch documentation schemes, making the presence of a fishing vessel without an operating automatic transmitting positioning system an offence, rather than having to prove fishing, etc. This might be done in conjunction with CCAMLR, for whom this is an important issue.
- Possibly prior to or in parallel with this, an assessment needs to be made of the fishery potential of the EEZs of St Helena and both of its dependencies. This would include the economic feasibility of a licensing and enforcement system similar to that developed in the Falkland Islands. In the case of Tristan da Cunha this would include the prospect of diversifying its fishery from its heavy dependency on rock lobster.
- There is no regional fishery management organisation (RFMO) in the south-west Atlantic at present. This is partly because of the poor relations between the UK and Argentina with regard to the Falkland

Islands. The EU could consider trying to support a fishing deal which would be beneficial to a number of states and territories in the region.

See Part 2 of this report for recommendations with regard to regional and territorial projects.

OVERSEAS COUNTRIES AND TERRITORIES
ENVIRONMENTAL PROFILE

ANNEX A:
TERMS OF REFERENCE

Terms of Reference

Overseas Countries Territories Environmental Profiles Terms of reference

Preamble: *The objective of promoting the concept of environment is to contribute to the efforts of the European Community to reduce, prevent and in the midterm - to eradicate poverty through the sustainable development of OCTs by integrating them progressively in the world and regional economy.*

The OCT 2002 Ministerial Declaration of Bonaire contains, inter_alia, the following resolution: "The OCTs affirm that poverty, under-development, environmental degradation and social and economic inequalities remain the most pressing challenges for the future. Therefore, social and economic development and the protection of environment are inseparable pillars of sustainable development. Moreover, the OCTs also emphasize that small island developing countries and territories are severely constrained by the adverse consequences of climate change on their fragile ecosystems. The OCTs, therefore call for urgent attention to be given to the special needs of OCTs in this regard."

This initiative, discussed during the 36th OCT/MS/EC meeting in Brussels of 07th September 2005 at the occasion of the launching of the Partnership Working Party process is in accordance with the principles earmarked within the OCTA Strategic Plan 2003-2006.

1. Context of the mission

An Environmental Profile is requested by OCT, by region and for all OCTs together, in order to assess OCTs general environmental trends and to feed discussions on environment, climate change, management and prevention of natural disasters and possible consequences these trends may have on OCTs socio economical development.

There are currently 21 OCTs associated with the European Community: eleven are linked to the UK, six to France, two to the Netherlands and one to Denmark (OCTs – Bermuda not being covered by the association regime – are listed in Annex II to the EC Treaty).

Constitutionally linked to Member States, they enjoy different forms of economy and in many cases legislative autonomy. The powers retained by central governments often relate only to foreign affairs, justice, the currency and defence.

They do not form part of the Community and Community legislation is not applicable to them, except when this is specifically foreseen.

Together, they have a population of just over a million. All are islands. Only three OCTs have more than 150 000 inhabitants (French Polynesia, New Caledonia, Netherlands Antilles): the great majority have very small populations, usually around 10 000 inhabitants.

Scattered across the world (Caribbean, Pacific, Indian Ocean, South Atlantic, North Atlantic) they vary greatly in surface area, population, history, cultures, resources and GNP per capita.

The spread of per capita GNP is very wide, ranging from affluence to under-development. Four OCTs have a GNP of more than 75% of the Community average with a large group falling in the 30-75% bracket. Four have a GNP of less than 30% of the Community average.

All OCTs, however, whether rich or poor, are highly vulnerable. Handicaps include a great dependence on sectors sensitive to external forces, a frequent lack of natural resources, small markets, isolation and distance from major import and export markets, small populations that make infrastructure, administration or any repayments by a small tax base particularly costly, the extra costs imposed on any archipelago and the risk of natural disaster. All have a structural trade deficit (in some cases a considerable one).

List of OCTs and their respective regions:

Caribbean region :

Anguilla
Montserrat
Turks and Caicos islands
Netherlands Antilles (Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten)
Cayman Islands
Aruba
British Virgin Islands

Pacific region :

New Caledonia
French Polynesia
Pitcairn
Wallis & Futuna

North Atlantic region :

Saint Pierre & Miquelon
Greenland

South Atlantic region:

The Falklands
Saint Helena and dependencies (Ascension island, Tristan da Cunha)
South Georgia and South Sandwich islands
British Antarctic Territories

Indian Ocean region:

Mayotte
British Indian Ocean Territory
French Antarctic and Austral territories

2. Objectives and expected results of the mission:

The consultants will have to provide an environmental profile of OCTs containing the following information:

Background information

- Location
- Surface (land, free water, permanent ice in polar OCTs)
- Number of islands, main islands (with surface area, distance between islands)
- Main geographical features (coral reefs, lagoons, mountains, glaciers, coasts)
- Extreme altitudes (... m under and over sea level, location)
- Geology, soils, land degradation, volcanic and seismic activity
- Water resources (hydrogeology, surface waters, ice)
- Climate: rainfall, seasons, exposure to typhoons (in cold OCTs: area without ice in summer, area of ice pack)

Biogeography, endemism, importance for global biodiversity

- Vegetation
 - Population (number, densities, growth rate, rural exodus, urban pressure, education/employment)
 - Main characteristics of the exclusive economical zone (overfishing, governance capacity, ...)
 - High sea monitoring and governance
 - Main economic activities and social sectors
 - Major economic activities linked with the environment (including fisheries, tourism)
 - Potential and benefit for World Heritage
- State of the environment (OCTs, regions)

The consultants should provide an assessment of the state and trends of the environment and its relationship with the socio economical situation, including development and poverty, with a description of the main environmental problems (climate change, natural disasters,..) to solve or to avoid.

In addition the expert team will assess the main pressures on the environment, with an analysis of causal factors or driving forces (such as education and environmental awareness, poverty or lack of alternatives, population growth, incentives, land tenure systems, economic changes) and of the expected future changes (taking into account climate change, population growth, etc...):

- Industrial and domestic pollution
- Tourism
- Agriculture (clear water pollution)
- Forestry
- Fisheries (overfishing, ballast water, endangered species, invasive species,..)
- Mining
- Transport (public transports, number of cars, CFC emission,..)
- Water extraction and use
- Climate change
- Coast degradation due to demographic pressure
- Risk of natural disasters (climatic, geological)
- Energy (% of electricity produced from renewable energy, pressure of air conditioning, potential for green energy production, use of energy vs population growth,..)

State and (current or expected) trends in:

- Soil erosion, degradation, landslide, ..
- Earthquake, volcano and climatic risk
- Water resources (quantity, quality, access, cost,..)
- Forest and vegetation cover (part of protected area, FSC,..)
- Populations of endemic species
- Populations of invasive alien species and pests
- Habitats, including natural forests, coasts, mangroves, wetlands, coral reef (bleaching, ...) and other marine habitats
- Fishery resources
- Wastes and pollution (including persistent organic pollutants (POP), radio-activity, heavy metals)
- Environmental health factors
- Landscape, cultural and natural heritage

Socio-economic consequences of environmental changes:

- Economic income in environmentally sensitive sectors (fisheries, forestry, agriculture, tourism...)

- Availability and access to water and environmental commodities
- Human health
- Exposure to environmental disasters, including climate change
- Natural resource conflicts
- Changes in human practice due to environmental changes
- Other consequences such as migration, environment refugees, etc.

Overall OCT performances regarding environment and sustainable development, with reference to major indicators such as the MDG7 indicators.

Gaps in the knowledge and needs for more information.

Institutions and policies (*Questionnaire to be sent for answer to the OCTs*)

The purpose is to determine whether the institutional setting and environmentally related governmental policies are adequately supportive to sustainable development objectives.

Review of the current institutions and policies:

- Ministries in charge of Environment, Natural Resources (Forestry, Fisheries...) and Sustainable Development, transversal organization reinforcing sustainable development policies,...
- Regional institutions
- Environmental laws (including provisions for environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA); level of enforcement).
- Existing SEAs
- Level of environmental integration as a cross-cutting issue in main sector and development policies.
- Environmental policies, tools (legislative instruments, budgetary instruments per sectors, market based instruments, other...) and enforcement.
- Relations with or involvement in major Multilateral Environmental Agreements (MEA) and regional agreements.
- Protected areas (terrestrial and marine).
- Environmental monitoring system and scientific resources.
- Natural disaster – related or not to climate change – warning and protection system.
- Budgetary resources allocated to environmental institutions and activities.
- Role of NGOs, (including international NGOs) and civil society, already active on the environmental issues in OCTs. Their work so far should be briefly highlighted.
- Communication and incentive
- Private sector: classified sites, Environment Management system, Development of eco-industries, clean taxes,...

Short assessment of the role of current policies and institutions with regard to the environmental issues identified above.

The description of the main features of the institutional, policy and regulatory framework should lead to the identification of weaknesses and constraints. The capacity to address main areas of environmental concern should be assessed.

Some very detailed information already exists for some OCTs and regions. The consultants should not spend time in re-writing what is already available but rather produce a concise summary of the main trends, pressures and bottlenecks for the last ten years.

- Co-operation (at OCT, and regional levels) (Questionnaire to be sent for answer to the OCTs)

Short description of major international co-operation activities: (within the environment and natural resource sector)

- Within sectors (EC cooperation focal sectors included) that are particularly sensitive to the environment (fisheries, tourism...) or have a high potential impact (transport, industry, fisheries, mining ...)
- Summary of the EC instruments currently accessible to OCTs for fund
- Synergies and complementarities between donors.
- Local implementation of regional/global policy at the national level: constraints of OCTs in this respect: "global vision for local action"
- Access to financial resources, European network: location & mechanism,

This paragraph must go beyond simple description and highlight where are the main environmental problems related to the current cooperation activities, where the gaps are and conclude in recommending shortly possible priorities for EC cooperation per OCT and per region.

Recommendations (globally, per region, per OCT depending on the profile)

Main findings concerning key environmental issues (to be kept short).

Recommendations to be presented to the OCTs, MS and the EC should address, as appropriate, the following issues

- Needs for legislative or institutional reforms, including provisions for SEA and EIA
- Needs for an improved environmental monitoring system
- Needs for Strategic Environmental Assessments (SEA)
- Needs for regional or global coordination/participation.
- Suggested performance indicators.

Recommendations for mainstreaming environment and natural resources management in EC cooperation (incl. in EC focal sectors) should include:

- Suggested concrete actions to be taken by the OCT/EC cooperation in order to address the identified environmental problems.
- Suggested measures to be taken if actions or decisions that comprise risks for the environment are decided in the framework of OCT/EC cooperation.

This part is oriented to decision makers and should propose future EC supports, clearly linked to OCTs challenges. Proposed actions should be listed by order of importance and briefly described.

It is essential to present the exercise as fostering sustainable development for a better future in order to avoid statements criticizing environment actions as being an obstacle to development.

3. Expertise

The team: will be composed by two experts:

- One expert category I
- One expert category II

And the team will combine qualifications in the following thematic:

- environment/economists ; and
- environment /social

In addition the team should have relevant experience in :

- Environmental background.
- Sustainable development
- Linkages between environment and development.
- Policies and institution issues.
- Climate change and biodiversity (insular biogeography).
- Geographical experience in the different region's environments (cold and hot).

The two experts must be fluent in English and French, the two working languages.

4. Duration and execution of the mission.

The mission will start with a briefing at EuropeAid' building in Brussels and is expected to be carried out over 90 days, organised in three phases:

Literature inventory and networking : (first assessment phase)

- The purpose of this assessment is to collect a maximum of relevant information existing in publications, reports in order to avoid their collection during the missions to be undertaken in the OCTs and the Members States.
- The consultant will indicate in the draft final report the list of missing information in order to have them gathered via the Partnership Working Party on Environment.

The consultants will undertake an in-depth enquiry of existing literature, with the support of contact persons within the OCTs, the Member States and the related services of the Commission (Delegations included).

These contact persons will be identified with the support of the participants to the regular OCT/MS/EC meetings organized by DG/Dev/D1 in Brussels and the members of the Partnership Working Party (PWP) n°3. Literature includes the Caribbean Environment Outlook and the Pacific Environment Outlook (UNEP), as well as other available information (e.g. IUCN)

The complete network list will be communicated to the OCT/MS/EC meeting's participants, PWP members and related services of the Commission, Delegations included.

Based on the result of the literature inventory, the consultants will send, if necessary, requests for swift information to the contact persons in the OCTs, Member States and related services of the Commission in order to complete the first assessment phase.

A model of questionnaire (Institutions, policies, cooperation, ...) will be at first, presented by the consultant to the EC (EuropeAid) and OCTA executive committee before to be sent to the OCTs. The model of questionnaire should be set in a way to facilitate clear, short and comprehensive answers.

Missions (second assessment phase): tentatively 36 working days and 9 journeys maximum.

The expert team will meet the persons responsible at OCTA exco-Brussels, the related MS and possible OCTs in their EU capitals as services at the Commission's HQ in order to complete the assessment as follows (agendas of encounters will be prepared in advance, previous departure in mission):

Related EU Member States' HQ and possible OCTs: 1 x (3 working days / MS + 4 flights)

United Kingdom, France, The Netherlands, Denmark – to report on achievements and share available information on OCTs.

OCTA executive committee - Brussels: 2 x (3 working days)

to report on achievements and share available information on OCTs.

European Commission's Headquarters - Brussels: 2 x (4 working days + 1,5 flights)

DG Dev, DG Env, Aidco, DG Relex, Env. Help desk to report on achievements and share information on OCTs. Arrangements will be made for the consultants to participate if possible and if necessary to one monthly OCT/MS/EC meeting organized by DG Dev in Brussels.

Forum in Nuuk (Greenland) from 4th to the 8th of September 2006: 1 x (3 working days + 1 flight only)

The senior consultant will present, with power point means and relevant documents, the state of play and level of achievement of the consultancy.

UK Overseas Territories Conservation Forum (Jersey) from 5th to 12th October 2006: 1 x (7 working days and 1 flight only)

- The senior consultant will participate and include his conclusions in the main report.

Draft final report (third assessment phase):

The first part (*main report*: max 40 pages + executive summary, comprehensive bibliography and annexes) should include the overall profile of the OCT, presenting the information globally and per region. Annexes will include a set of specific data per OCTs, their region and globally for all OCTs (50 pages max.). This first part of the report will contain +- 90 pages in total.

The main report will assess the state and the trends of the environment and its relationship with the socio economical situation, with a description of the main environmental problems (climate change, natural disasters,...) to solve or to avoid.

This part is more oriented to decision makers and should propose future EC supports, clearly linked to OCTs challenges. Proposed actions should be listed by order of importance and briefly described.

The second part (*detailed report*: max 300 pages + technical executive summary) should include the full environmental profile of each OCT region (max 12 pages each) and per OCT (max 10 pages each), which may be presented in 5 separate documents-one per region.

Maps, diagrams and some didactic pictures may be added at the end of the documents (in annexes).

Among the different aspects indicated in Chap. 2 of these TOR, the Experts will provide a presentation of the main features of the institutional, policy and regulatory framework leading to the identification of weaknesses and constraints. The capacity to address main areas of environmental concern should be

assessed, and for all OCTs, recommendations should also be proposed, taking into consideration the possibility or the advantage to implement them at regional level.

This part is more established for technical purposes. The consultant will address environmental threats wherever this is possible rather than proposing only “environment” sector actions. It is essential to present options as fostering sustainable development for an improved future in order to avoid statements criticizing environment actions as being an obstacle to development.

5. Reports

The reports consist of a main report (Environmental Profile of OCTs) and another separate volume, detailing 20 individual environmental profiles and 5 regional profiles.

The main report (90 pages max with annexes) should identify the key environmental features and recommendations, globally for all OCTs and per regions, using comparative tables. Individual OCTs may be quoted as examples in the main text when appropriate and be covered by data sheets in an appendix.

The detailed reports (300 pages max) should identify the key environmental features and recommendations, for the region and per OCT.(12 pages per region, 10 pages per OCT).

The information should be presented as much as possible in short paragraphs, tables and columns. The systematic use of concise paragraphs, tables and columns should help, *inter alia*, in identifying possible gaps in knowledge or discrepancies in data. Maps, diagrams and didactic pictures should complete the assessment if presented in a friendly and comprehensive way.

A summary should identify the key environmental features and the main recommendations, globally for all OCTs and per regions.

The consultants will have to propose a model of reporting and a maximum of pages for the information related to the OCTs, the regions and globally for all OCTs.

An exhaustive bibliography and acronyms list will be included in the draft final report.

The main results of the mission will be presented, to the EC, using a power-point presentation during the debriefing that will be held in Brussels: Aidco bulding.

The draft reports will be made available on @line for cross discussions between the related parties and not later than 3 months from the signing of the contract.

The final reports will be established in English and French in 50 paper copies per language.

These reports will be made available on the website of the European Commission (DG Development) and OCTA exco after approval.

The consultancy should be finalized in five months from the signing of the contract.

All parties mentioned to contribute in providing/sharing existing information (EC,MS, OCTs) will work actively to mobilize the attention and collaboration of their related services.

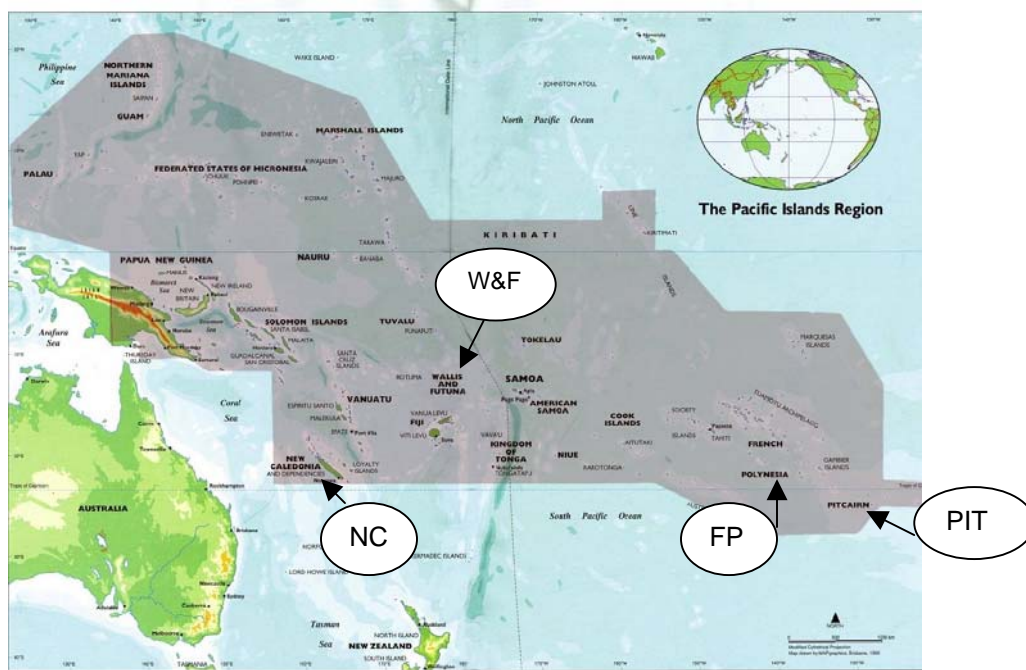
OVERSEAS COUNTRIES AND TERRITORIES ENVIRONMENTAL PROFILE

ANNEX B: PACIFIC REGION

1 The PACIFIC region - General

1.1 Description of region

We here regard the Pacific region as comprising Micronesia, Melanesia, Polynesia and the South Pacific.



1.2 The territories

There are 4 OCTs in the Pacific Ocean region, namely:

- French Polynesia (FP)
- New Caledonia (NC)
- Pitcairn (PIT)
- Wallis and Futuna (W&F)

Pitcairn is a UK overseas territory, the other three are linked to France.

1.3 Key facts and statistics

TABLE: Key facts and statistics for OCTs in the Pacific region						
OCT	Land area (km ²)	EEZ (km ²)	Population	inhab/km ²	GDP/cap (€)	Illiteracy rate
FP	3,660	5.5 million	256,000	70	16,300	2%
NC	18,600	1.35 million	235,000	12	20,000	6%
PIT	47	200 nm	47	1	*	0
W&F	215	266,000	16,000	77	3,200	n.a.

* Mostly barter economy

In the same region there are 13 independent island nations, 7 US territories and 2 associated with New Zealand. Larger countries, important for their role in regional organisations, are Australia and New Zealand. Japan and Indonesia also participate in some of the Pacific organisations.

2 Pacific region - ecosystems and biological resources

2.1 Coral reefs

TABLE: Extent and state of coral reefs in Pacific region			
Territory	Occurrence	State of reefs	Remarks
FP	●		Relatively good, measures are being taken to stop pollution
NC	●		Locally very degraded due to nickel mining
PIT	○		Large areas uninhabited and protected
W&F	●		Declining because of pollution

● Extensive
 ○ Some
 ○ None

Relatively good for region
 Declining
 Degraded

2.2 Other habitats

TABLE: Extent of other habitats in Pacific region						
	Man-groves	Seagrass	Wet-lands	Forest	Shrubl, grassl	Remarks
FP	○	?	●	●	○	100,000 ha forests, 26% of land area, limited mangrove stands.
NC	●	?	●	●	●	300,000 ha forests, 20 % of total land area, partly planted
PIT	○	?	●	●	●	Forests left only on ridge of central mountain Pitcairn.
W&F	●	●	●	●	●	4,000 ha of forests left following extensive deforestation

● Extensive ● Some ○ None

2.3 Wildlife and Biodiversity

TABLE: Endemism and other wildlife values in Pacific region						
Territory	Endemism					Other notable aspects of wildlife (threatened species, etc.)
	Birds	Reptiles, amphibs.	Insects	Plants	Fresh-water fish	
FP	22	?	>160	570	14	26 endemic birds and 19 plants are endangered and protected. Of 320 studied land snails, 100% are endemic.
NC	23	61	>197	2,551	21	NC is biodiversity hot spot. Only 4,000 of estimated 8,000 insects have been identified; high level of endemism.
PIT	5	3	3	10		More than half the flora of Pitcairn Isl. are either threatened or likely to become so. On Henderson less than 20% of the flora are threatened. Over 90% of the world's Murphy's petrels (over 200,000 breeding pairs) nest on Ducie island (Pitcairn)
W&F	6*	0	?	7	0	Not many scientific (marine) studies according to IUCN. One plant and one bird species on IUCN red list.

* sub-species

Sources: IUCN for French OCTs and JNCC for UK OCTs.

3 Pacific region - main environmental challenges/problems

TABLE: Main environmental challenges and problems in OCTs in Pacific region			
OCT	Challenge / problem	Severity	Short description
FP	Climate change	SEVERE	FP one of Pacific countries/ territories that will suffer most from sea-level rise as most islands are very low lying or have infrastructure on the coast. Impact of sea temperature rise on corals already identified. Cyclones causing devastation.
	Degradation of coral reefs and pollution of lagoon	SEVERE	Coral harvesting among others for use as construction material, overfishing, invasive species (starfish), pollution from households and tourists, black pearl cultivation and pig breeding (causes pollution of lagoon), urban sprawl (building of roads, etc on coral reefs).
	Waste	Attention required	120,000 t of waste per year, 90,000 t on Tahiti. New waste treatment plants are being built.
NC	Climate Change	SEVERE	80% mortality of coral near Noumea after sea water temperature rise in 1995. Also coral bleaching on outer side of reefs. Tropical cyclones have left many homeless, 3,500 in 2003. Coastal erosion and retreat due to cyclones.
	Pollution and sedimentation of rivers and lagoon	SEVERE	Opencast hilltop mining of nickel causes huge volumes of earth to be washed down to the lagoon with heavy tropical rains. Also extensive logging and traditional agricultural practises pollute and sediment the lagoon. Use of sand and coral reefs for construction material also severe.
	Threats to the rich biodiversity	SEVERE	New Caledonia's very high biodiversity, which includes large numbers of endemic species, is under multiple threats which include the mining industry, habitat loss, introduced predators and competing species and illegal hunting.
PIT	Invasive species and other threats to flora and fauna	SEVERE	Introduced Rose apple, rats and cats are threats to bird and original vegetation. An increase in visitors will mean a greater risk of introducing exotic and invasive species to the islands, and reducing biodiversity. Deforestation for use as fuel and construction material.
W&F	Soil erosion and loss of fertility due to poor agricultural practices	SEVERE	Deforestation and stubble-burning are removing surface cover. This causes soil erosion and loss of fertility.
	Pollution and sedimentation of the lagoon at Wallis	SEVERE	The run-off of soil from land leads to turbidity in the lagoon. Excrement from pigs and goats also washes into the lagoon, causing bacteriological contamination and eutrophication.
	Degradation of coral reefs	SEVERE	25% of corals are at risk and very degraded at Futuna. Coral harvesting for use as construction material. Over fishing and use of destructive fishing methods. Pollution of lagoon by households, agriculture and pig farming.
	Climate Change	SEVERE	Temperature rise affects coral reefs. Cyclones break and destroy coral cover and subsequent avalanches damage and stifle corals lower down the reef.

The environmental challenges facing the islands are fairly similar, particularly climate change as large parts are low lying, or because sea temperature rise will affect coral reefs and fishing. Collection and disposal of waste and waste water treatment is also an issue in the more populated areas.

4 Pacific region - Governance

4.1 Environmental management administration

TABLE: Summary of environmental management administration in Pacific OCTs		
OCT	Summary of government administrative capacity	NGOs
FP	There is a Ministry for Sustainable Development (SD) and specific departments/ services for various environmental tasks. Budgets available and a fund for the Environment, fed by hypothecated taxes.	Many
NC	No ministry for the Environment. Specific departments/ services have specified environmental tasks at three levels : territorial, provincial (there are 3 provinces) and at local level. Budgets available.	A consultative committee on the environment and expert groups on issues. Many NGOs are active.
PIT	2 part-time officers deal with the environment. No specific budget.	None
W&F	There are specific services that deal with the environment, staff and small but specified budgets. There is monitoring and reporting.	None for environment.

Only FP has a ministry that deals directly and solely with the environment and Sustainable Development. Wallis and Futuna services for the environment seem very well organised. No specific environmental services and multilevel structure in all other policy areas in NC, leads to lack of transparency on environmental issues. PIT very small and some officers have double tasks.

4.2 Environmental (action) plans, strategies

TABLE: Summary of environmental management administration in Pacific OCTs	
OCT	Environmental action plans / strategies in place?
FP	Action plan by Min of SD, Biodiversity Plan, Waste plan, several Marine Management plans and Action Plan on how to deal with climate change. Ministry of Seas and the Econ, Social and Cultural Council and Research programmes all integrate environment in their policy areas. Awareness raising campaigns and attractive educational material. Monitoring and reporting.
NC	Policy paper on balanced growth with a section on natural resources. A lot of research is done but popular information material on the environment not found.
PIT	Environment Management Plan being drafted. Henderson island (World Heritage site) has management plan.
W&F	There is a Policy Paper for Sustainable Development (not yet an action plan), a Biodiversity Action Plan, a Coral reefs Plan. There are decisions on the protection of the environment. There are environmental taxes and subsidies. Monitoring. Information material available for schools also.

4.3 Legislation

TABLE: Summary of environmental management administration in Pacific OCTs	
OCT	State of environmental management legislation
FP	Environment Code, Planning Code and various laws on fisheries, authorisation scheme for all installations that may cause harm to the environment.
NC	On legislation at provincial level: no information given. No clear overview of legal obligations.
PIT	Laws implementing CITES, for fisheries and protection of wildlife incl. certain species. Henderson island is a protected area.
W&F	There are decisions on the protection of the environment and there is EIA legislation.

4.4 Environmental Impact Assessment, Strategic Environment Assessment

TABLE: Status of EIA, SEA				
	EIA		SEA?	Remarks
	Mand-atory?	Mandatory public consult ⁿ ?		
FP	✓	+/-	✗	A service is responsible for EIAs, but new legislation is being made, among others to improve public information.
NC	✗	✗	✗	There is currently no detailed EIA legislation in New Caledonia.
PIT	✗	✗	✗	EIA is not mandatory, but an EIA was carried out for the introduction of a new shipping route, to address risks from the import of produce from the tropics. EIA is also planned for the construction of a new breakwater and the introduction of wind turbines.
W&F	✓	✗	✗	Most large infrastructural works have had an EIA since 2003. Due to lack of technical personnel in Wallis and Futuna, some studies took place after the project had started already (case of the airport in Futuna, part of the harbour at Halalo (Wallis)).
✓ = yes ✗ = no				

Only FP and W&F have **mandatory** EIA, but EIA is normally carried out for infrastructural development projects on PIT.

4.5 Implementation of protected areas

TABLE: Implementation of protected areas in OCTs in Pacific region				
	Terrestrial		Marine (no.)	Remarks
	no.	ha.		
FP	5	20,000	2	Taiaro atoll is a UNESCO Man and Biosphere reserve. Two uninhabited atolls (Scilly and Bellinghausen) are nature reserves. Many sites identified as potential Ramsar sites.
NC		60,000		There are 42 protected areas.
PIT				Henderson island is a UNESCO World Heritage site. Two low-lying atolls are being considered for protection under the Ramsar.
W&F				No protected areas, partly because of local tribal rights.

The only other UNESCO sites in the region is East Rennell on Solomon islands. In the whole Pacific, NC and FP have the largest “strict nature reserves” and “habitat/species protected areas”.

4.6 Participation in Multilateral Environmental Agreements (MEAs)

MEAs, if properly implemented, can be powerful instruments in assisting countries to conserve habitats, protect biodiversity or specific species. But since they are international agreements, OCTs cannot ratify them in their own right. The procedure is that the European sovereign country/member state with which they are associated must have ratified the treaty or convention, and the OCT must then request that state to have the ratification extended to the territory of the OCT.

A number of relevant MEAs have been extended to the OCTs. However in some cases these have not been properly implemented: the required legislation has not been enacted, management plans have not been enacted or other requirements are not being properly met. The situation with regard to some of the most relevant MEAs is summarised in the table below.

TABLE: Participation of OCTs in MEAs in Pacific region						
OCT	CBD	Ram-sar	CITES	CMS	WH	Remarks
FP	✓	✓	✓	✓	✓	FP attended the last CoP for the UNFCCC as an observer. Taiaro atoll is a man and biosphere reserve.
NC	✓	✓	✓	✓		NC has agreed to comply with all MEAs signed by France, except the Kyoto Protocol on Climate Change and the Aarhus Convention.
PIT		✓	✓	✓	✓	Henderson Island is a World Heritage site. Ramsar sites have been proposed
W&F	✓		✓			A biodiversity Action plan has been prepared for 2006-2010, in compliance with the CBD.

CBD = Convention on Biological Diversity

Ramsar = Ramsar Convention on Wetlands

CITES = Convention on International Trade in Endangered Species of Wild Flora and Fauna

CMS = Bonn Convention on the Conservation of Migratory Species of Wild Animals (i.a. birds, whales)

WH= Paris Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage)

OVERSEAS COUNTRIES AND TERRITORIES
ENVIRONMENTAL PROFILE

ANNEX C:
CARRIBEAN REGION

1 The CARIBBEAN region - General

1.1 Description of region

We here regard the Caribbean region as loosely comprising the archipelago of islands which bound or lie within the Caribbean Sea together with the islands immediately to the North of the archipelago, but not the littoral states of Central and South America.



1.2 The territories

There are 7 OCTs in the Caribbean region, namely:

- Linked to the Netherlands: Aruba, Netherlands Antilles

Linked to the UK: Anguilla, British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands

1.3 Key facts and statistics

TABLE: Key facts and statistics for OCTs in Caribbean. region						
OCT	Land area (km ²)	EEZ (nm)	Population	inhab./km ²	GDP/cap (€)	Illiteracy rate
Anguilla	100	200	13,000	130	7,000	N.a.
Aruba	193	2200 km ²	100,000	518	21,800	3%
BVI	153	200	23,000	150	31,000	2%
Cayman	262	200	52,000	198	32,300	2%
Montserrat	102 (44 habitable)	200	4,800	47	5,000	3%
NL Antilles	802	12	222,000	277	13,300	2%
Turks&Caicos	500	200	33,000	66	10,500	N.a.

The Netherlands Antilles is the largest and most populous OCT in the Caribbean but Aruba is the most densely populated. The two Dutch OCTs between them account for nearly three-quarters of the population. *Per capita* GDP covers quite a range, varying from €5000 (Montserrat) to over €32,000 in the Cayman Islands.

2 The CARIBBEAN region - Main ecosystems and biological resources

2.1 Coral reefs

TABLE: Extent and state of coral reefs in Caribbean region			
	Occurrence	State of reefs	Remarks
Anguilla	●		
Aruba	●		
BVI	●		
Cayman	●		
Montserrat	●		Overfishing, hurricanes, natural run-off from land due to steep topography
NLA (Saba, Saba Bank, Statia, St M)	●		St M exhibits bleaching and smothering
NLA (Curacao, Bonaire)	●		Curacao suffering disease
Turks and Caicos	●		Some reefs degraded
● Extensive ● Some ○ None		Relatively good for region Declining Degraded	

Summary for region

The coral reefs of Aruba are the most unspoiled of the seven Caribbean OCTs. Those in the Netherlands Antilles and the Cayman Islands are also in a relatively good state, although they have undergone some local damage. The coral reefs in Anguilla have suffered degradation and are continuing to be threatened as a result of overfishing, anchor damage, coastal development and sewage discharge.

2.2 Other habitats

TABLE: Extent of other habitats in Caribbean region						Remarks
	Mang-groves	Sea-grass	Wet-lands	Dry forest	Polar habitat	
Anguilla	●	●	●	○		Anguilla's salt ponds are of great importance. These wetlands are a habitat for various bird species. Woodland is sparse and degraded.
Aruba		●	●	○		Arid terrain, shallow coastal lagoons
BVI	●	●	●	●		Steep-sided rugged topography (except Anegada)
Cayman	●	●	●	●		Unique geomorphology with a large central swamp. Significant loss of forest as a result of development and hurricanes
Montserrat	○	○	○	○		Southern hill forests destroyed by volcanic eruptions
NL Antilles	●	●	●	○		Remaining forests mainly on Windward Islands
Turks&Caicos	●	●	●	●		Extensive but degraded forest
● Extensive ● Some ○ None						

2.3 Wildlife and Biodiversity

TABLE: Endemism and other wildlife values in Caribbean region						
	Endemism					Other notable aspects of wildlife (threatened species, etc.)
Territory 1	Birds	Reptiles, amphibs.	Insects	Plants	Fresh- water fish	
Anguilla		2	> 40	1		Anguilla's salt ponds are a habitat for many birds, including the endangered roseate terns, least terns and red-billed tropic birds
Aruba	1 owl (+ 1 bat)	1 (snake)				The rare, endemic cacabel rattlesnake is threatened with extinction, as are a number of species of tree. Green turtle nests on coastal lagoons, seagrass beds. Climate favours succulents, cacti
BVI		7		>20 (with Puerto Rico)		Roseate flamingos hunted to extinction here (along with greater flamingo, the West Indian whistling duck and the white-crowned pigeon), but they have been reintroduced. The Anegada rock iguana, endemic to Anegada, is 'critically endangered', as is the Montserrat galliwasp. Major problem with introduced species. Great variety of reef fish. Possesses a number of globally significant plant species, some of which occur only on Anegada. Some of the endemic plants are threatened.
Cayman	16	18 30 land snails	>>40	28	2 (+ 1 marine)	Species and sub-species. Home to the rare and endangered blue iguana.
Montserrat	2 (+ 1 bat species)	7		3		The Montserrat oriole is critically endangered, largely bas a result of volcano. The rare 'mountain chicken' (an edible frog) is endangered. Trees include endangered American mahogany. Island is nesting site for the green, hawksbill and leatherback turtles
NL Antilles	21	66	many			Other endemic: 2 mammals, 57 marine snails, 28 crabs. Home to several endangered species, such as queen conch, greater Caribbean flamingo. Many of these are on life support systems. Saba Bank is particularly rich in marine life.
Turks&Caicos		≥3 lizards 2 snakes	≥ 3 butterfl.	≥ 8		Other endemic: at least 4 cave dwelling arthropods Two threatened species of wetland bird are found on the islands: the non-breeding Kirtland's warbler (VU) and the breeding West Indian whistling duck (VU).

Given the small size of the territories they are home to a disproportionately high volume of important wildlife, including critically endangered endemic species The territories also contain important breeding grounds for turtles.

3 The CARIBBEAN region - main environmental challenges and problems

TABLE: Main environmental challenges and problems in OCTs in Caribbean region			
OCT	Challenge / problem	Severity	Short description
Anguilla	Climate change	Severe	Particularly: low-lying territory vulnerable to rising sea, tourist economy vulnerable to beach erosion; more intense hurricanes
	Environmental degradation due to development	Severe	Conflict between development, particularly of tourist industry, and conservation of the pristine nature and wildlife values of the island.
	Beach erosion	Moderate	Safeguarding beaches against many natural and anthropogenic pressures
	Water supply and sanitation	Moderate	Shortage of water resources. Lack of sewage system. Contamination of groundwater and seawater.
	Solid waste	Moderate	
	Natural disasters	Moderate	Mainly hurricanes, but also earthquake and tsunami risk
Aruba	Pollution of air and water, waste	Severe	Oil refinery, traffic, inadequate sewage treatment, .
	Climate change and natural hazards	Severe	Particularly: low-lying territory vulnerable to rising sea, tourist economy vulnerable to beach erosion; more intense hurricanes
	Lack of protected areas leg ⁿ .	Attention reqd.	
	Implementation of Cartagena and Ramsar	Attention reqd.	This will require major investment programme.
BVI	Environmental degradation due to development	Severe	Trying to achieve development, particularly of tourist industry, without degradation of nature and wildlife
	Climate change	Severe	Particularly: low-lying territory vulnerable to rising sea, tourist economy vulnerable to beach erosion; more intense hurricanes
	Conserving endangered wildlife	Moderate	Due to habitat loss and introduced predators
	Erosion and sedimentation	Attention reqd.	Due to steep slopes and development, damaging coral and seagrass
	Oil spills	Attention reqd.	
Cayman	Climate change	Severe	Particularly: low-lying territory vulnerable to rising sea, tourist economy vulnerable to beach erosion; more intense hurricanes
	Natural disasters	Severe	Hurricanes a major threat, particularly given the lowness of the islands, but also seismic and tsunami risk
	Waste	Moderate	
	Pressures on habitat and biodiversity	Moderate	Multiple threats
Montserrat	Multiple natural hazards	Severe	Particularly volcanic but also hurricane and seismic risk
	Pressures on habitat and biodiversity	Moderate	Threats from volcano and introduced predators
	Waste	Moderate	Plastic bottles, styrofoam containers, industrial waste, oils, abandoned cars
	Climate change	Moderate	Loss of beaches, loss of habitat
NL Antilles	Pollution from oil refinery	Severe	Poor air quality around refinery, tar lake, soil contamin ⁿ .
	Climate change	Severe	Particularly: low-lying territory vulnerable to rising sea, tourist economy vulnerable to beach erosion; more intense hurricanes
	Pressures on habitat and biodiversity	Moderate	Trying to achieve development, particularly of tourist industry, without degradation of nature and wildlife

TABLE: Main environmental challenges and problems in OCTs in Caribbean region			
OCT	Challenge / problem	Severity	Short description
	Water supply and sanitation	Moderate	Shortage of water resources. Lack of sewage system. Contamination of groundwater and seawater.
	Waste		Landfills are reaching capacity, increasing risks of groundwater contamination
TCI	Climate change	Severe	Particularly: low-lying territory vulnerable to rising sea, tourist economy vulnerable to beach erosion; more intense hurricanes
	Environmental degradation due to development	Severe	Conflict between development, particularly of tourist industry, and conservation of the pristine nature and wildlife values of the island
	Waste	Moderate	

Many of the islands suffer the same problems. The main environmental challenges are:

- climate change;
- environmental degradation and loss of habitat and wildlife due to development, particularly of the tourist industry;
- problems with waste management - waste dumps reaching capacity, difficulties in reduction and recycling, hazardous and awkward waste;
- scarce water supply, lack of adequate sewage treatment, contamination of ground- and seawater.

4 The Caribbean region - Governance

4.1 Environmental management administration

TABLE: Environmental management administration in OCTs in Caribbean region		
OCT	Summary of government administrative capacity	NGOs, etc.
Anguilla	No environmental department but there is a Director of Environment within the Chief Minister's Office.	Anguilla National Trust is a statutory body with a conservation mission. Although non-governmental it receive some government funding and works closely with government. Schools active in awareness-raising.
Aruba	Environmental ministry has 10 people working on environmental policy.	There are a number of NGOs which do awareness-raising, litter clearance, etc.
BVI	There is a well-staffed (56 people) department which looks after environment and fisheries	National Parks Trust is a statutory body with a conservation mission. Although non-governmental it receive some government funding and works closely with government and runs national parks. One other US-based NGO active in BVI.
Cayman	Environment and tourism in the same ministry. 22 people in Department of Environment.	National Trust is a statutory body which acquires land for conservation. Also has environmental education and awareness-building activity.
Montserrat	A new Department of Environment is being formed with a staff of 8 which will incorporate the Forestry and Fisheries Departments.	National Trust is a statutory body, with a mandate to manage and preserve natural resources. It is also involved in education and awareness campaigns and trail development.
NL Antilles	Decentralised structure, with environmental management devolved to the islands. Priority for environment varies.	Several active NGOs. NGOs have taken an active lead in campaigning for cleanup of the refinery on Curaçao

TABLE: Environmental management administration in OCTs in Caribbean region		
OCT	Summary of government administrative capacity	NGOs, etc.
TCI	Activities of Department of Environment and Coastal Resources focused on management of protected areas and fisheries.	National Trust is a statutory body with a conservation mission. Receives no budgetary funding from government. Manages some protected areas, does education and public awareness

The environment is generally recognised as a responsibility in its own right, but the function is in some cases part of a ministerial portfolio which includes other responsibilities, such as tourism. Civil society is not generally very well mobilised with regard to the environment, except in the Netherlands Antilles and Aruba where NGOs are more active. The British territories have statutory National Trusts which may be more or less close to government, which generally acquire land for conservation purposes and carry out education and awareness campaigns.

4.2 Environmental (action) plans, strategies

TABLE: Environmental management administration in OCTs in Caribbean region	
OCT	Environmental action plan (EAP)/ strategy in place?
Anguilla	No EAP. Draft national environmental management strategy and action plan has been formulated, but agencies responsible for implementing and resources needed were not identified. The land use plan has remained in draft form for over 10 years.
Aruba	National Development Plan has an environmental chapter. Nature and landscape and sustainable tourism policy papers in preparation.
BVI	National EAP not yet approved.
Cayman	National Environment Policy was adopted in 2002.
Montserrat	There is an Environment Action Plan
NL Antilles	At national level there is a nature and environment plan. This national plan needs to be reflected in plans for each island. But only Bonaire has both a Nature Plan and an Environment Plan. At the national level there is also a national policy framework for waste and a policy paper on sustainable tourism.
TCI	No EAP, but a detailed strategy for action to implement the Environment Charter has been drawn up, which has some components of an EAP

Only the Cayman Islands and Montserrat have actually adopted EAPs.

4.3 Legislation

TABLE: Environmental management administration in OCTs in Caribbean region	
OCT	State of environmental management legislation. Laws implemented on:
Anguilla	marine parks, protection of wild animals, wild birds, fisheries, beaches, physical planning incl. EIA
Aruba	general nuisance (territorial level), EIA. Nature Protection Ordinance not yet enacted.
BVI	national parks and protected areas, planning (incl. EIA), fisheries and marine habitat,
Cayman	protection of birds and animals, marine conservation. Still awaiting national conservation legislation and protected areas legislation
Montserrat	planning (incl. EIA), enabling legislation for CITES, protected areas, beach protection, enabling legislation for CMS, protection of turtles, of wild birds
NL Antilles	At national level there is a National Nature Conservation Ordinance which implements CITES, Ramsar, the CBD. The islands are supposed to enact their own environmental legislation, and indeed they have done so, but the position is somewhat fragmented.
TCI	protected areas, protection of coastal zone, fisheries, plants, wild birds, CITES

Quite a bit remains to be done, particularly in terms of modern legislation to establish protected areas and to implement EIA based on best practice.

4.4 Environmental Impact Assessment, Strategic Environment Assessment

TABLE: Status of EIA, SEA				
	EIA		SEA?	Remarks
	Mandatory?	Mandatory public consult ⁿ ?		
Anguilla	✗	✗	✗	EIA is discretionary: no specific requirements laid down
Aruba	✗	✗	✗	EIA can be requested but is not mandatory
BVI	✓	✗	✓	Mandatory EIA for major developments.
Cayman	✗	✗	✗	Legislation making EIA mandatory not yet enacted by the legislative assembly
Montserrat	✓	✗	✗	EIA mandatory under Physical Planning Act
NL Antilles	✗	✗	✗	No EIA legislation
Turks&Caicos	✗	✗	✗	No adequate legislation
✓ = yes ✗ = no				

Although an environmental impact assessment is often carried out (for example as a requirement of foreign-funded development projects) this is often not a legal requirement or not mandatory. The legal requirements are missing to ensure that EIAs are of a proper quality, or go out to public consultation. There is a legal requirement for strategic environmental assessment of government policy documents in only one case (BVI).

4.5 Implementation of protected areas

TABLE: Implementation of protected areas in OCTs in Caribbean region				
	Terrestrial		Marine (no.)	Remarks
	no.	ha.		
Anguilla	1		5	Terrestrial PA owned by National Trust. No modern protected area legislation. No effective national parks and protected areas system. No Ramsar site yet.
Aruba	1	18% of island		Although Aruba has a large national park (Arikok), it still lacks a modern legal instrument for designating and managing protected areas.
BVI	17	300	A number	Terrestrial and marine national parks and protected areas. Each park has a plan outlining how it is to be developed, but active management and enforcement is limited. Resources and legal mandate lacking. An extensive system of marine protected areas has been established and are actively managed. Terrestrial parks have been established through acquisition by National Trust..
Cayman	6	National Trust owns 800 ha	Extensive system	Marine parks well protected. No legislation for terrestrial protected areas. Environmental Protection Fund may be used to acquire land for conservation, e.g. proposed Barker's National Park
Montserrat	0	0	0	Legislation enacted on protected areas, but this has not yet been implemented. No protected areas have yet been designated.
NL Antilles	A number of marine and terrestrial protected areas, many rather small			Fragmented legislation at individual island level. Large marine park around Saba.

TABLE: Implementation of protected areas in OCTs in Caribbean region				
	Terrestrial		Marine (no.)	Remarks
	no.	ha.		
TCI	33 (incl. marine)	1/3 of total land area,	large prop ⁿ of inshore waters and reefs	Large number of protected areas both marine and terrestrial have been designated, and management plans have been drawn up for some of them, but there is not adequate back-up legislation at present and management plans are not fully implemented.

Although most islands have some elements of protected areas policy, none of them has a really robust system. Often adequate legislation is still missing, or where the legislation is in place the resources are not available to actively manage the area. Terrestrial protected areas are a particular difficulty because of the land ownership issue.

4.6 Participation in Multilateral Environmental Agreements (MEAs)

MEAs, if properly implemented, can be powerful instruments in assisting countries to conserve habitats, protect biodiversity or specific species. But since they are international agreements, OCTs cannot ratify them in their own right. The procedure is that the European sovereign country/member state with which they are associated must have ratified the treaty or convention, and the OCT must then request that state to have the ratification extended to the territory of the OCT.

A number of relevant MEAs have been extended to the OCTs. However in some cases these have not been properly implemented: the required legislation has not been enacted, management plans have not been enacted or other requirements are not being properly met. The situation with regard to some of the most relevant MEAs is summarised in the table below.

TABLE: Participation of OCTs in MEAs in Caribbean region						
OCT	CBD	Ram-sar	CITES	CMS	Carta-gena	Remarks
ANG		✓				No Ramsar site has yet been officially confirmed.
ARU		✓				Aruba plans to participate in Cartagena from 2007 and is also considering the Climate Change Convention and Kyoto Protocol
BVI	✓	✓	✓	✓	✓*	A biodiversity action plan has not yet been developed.
CAY	✓	✓	✓	✓	✓*	A biodiversity action plan has not yet been developed. Enactment by the CI of the National Conservation Law is required for full implementation of CBD, and before UK ratifies SPAW. There are plans to extend the Kyoto Protocol commitments to the Cayman Islands.
MON		✓	✓	✓		No Ramsar sites yet listed.
NLA	✓	✓	✓	✓	✓*	The Cartagena Convention and its Oil Spills Protocol have been extended to NLA, but will not actually be implemented until (i) the National Nature Protection Ordinance is passed and (ii) there is legislation at the island level. The same applies to the CBD and the CMS. NLA is also considering participating in the Climate Change Convention and Kyoto Protocol
TCI		✓		✓	✓*	Government intends to join CITES. Considering extending Specially Protected Areas for Wildlife (SPAW) Protocol of Cartagena, but further species legislation will be required.

* including Oil Spills Protocol

Apart from the MEAs indicated explicitly in the table above, Aruba, the BVI, the Cayman Islands and the Netherlands Antilles have all expressed an interest in having the UN Framework Convention on Climate Change extended to their territory.

Very few of the territories are properly meeting their commitments under the MEAs in terms of developing the necessary legislation, designating protected areas, annual reporting, or drawing up of management plans. For example although three of the seven territories are participating in the Convention on Biological Diversity, none of them has prepared a biodiversity action plan.

OVERSEAS COUNTRIES AND TERRITORIES
ENVIRONMENTAL PROFILE

ANNEX D:
SOUTH ATLANTIC REGION

1 The SOUTH ATLANTIC region - General

1.1 Description of region

We here regard the South Atlantic region as comprising the islands lying in the Atlantic ocean South of the equator, in the Atlantic sector of the Southern Ocean, and the Antarctic continent, but not the littoral states of Africa and South America.

1.2 The territories

There are four OCTs in the South Atlantic region, namely

- St. Helena and Dependencies,
- the Falkland Islands,
- South Georgia and South Sandwich Islands (SGSSI), and
- the British Antarctic Territories.

However St. Helena and its Dependencies Ascension Islands and Tristan da Cunha, although regarded for convenience as a single OCT, are more like three separate territories, and are treated as such where possible in this regional section.

These OCTs are all UK overseas territories.




1.3 Key facts and statistics

TABLE: Key facts and statistics for OCTs in S. Atlantic region						
OCT	Land area (km ²)	EEZ (nm)	Population	inhab/km ²	GNP/cap (€)	Illiteracy rate
Ascension	90	200	1000	11	3500*	3%*
BAT	1.7 million	none	no permanent	not applicable	not applicable	not applicable
Falkland	12,200	200	2700	0.2	40,000	0%
SGSSI	3750	200	no permanent	not applicable	not applicable	not applicable
St Helena	122	200	4300	35	3500*	3%*
TDC	201	200	300	1.5	3500*	3%*

* Overall average for St Helena and Dependencies

2 S. ATLANTIC region - ecosystems and biological resources

2.1 Coral reefs

TABLE: Extent and state of coral reefs in the South Atlantic region			
	Occurrence	State of reefs	Remarks
Ascension	●		No information
BAT	○		Too cold for coral
Falkland	○		Too cold for coral
SGSSI	○		Too cold for coral
St Helena	●		No information
TDC	○		Too cold for coral
● Extensive ● Some ○ None		 Relatively good for region  Declining  Degraded	

Only vestiges of coral reef left in Ascension and St Helena

2.2 Other habitats

TABLE: Extent of other habitats in S. Atlantic region						
	Mang-groves	Sea-grass	Wet-lands	Dry forest	Polar habitat	Remarks
Ascension	○	○	○	●	○	Originally barren, devoid of trees. Now cloud forest of introduced species in high zone.
BAT	○	○	○	○	●	
Falkland	○	○	○	○	○	Few trees.
SGSSI	○	○	○	○	●	
St Helena	○	○	○	●	○	Isolated patches of semi-natural forest, <1% cover
TDC	○	○	○	○	○	
● Extensive ● Some ○ None						

2.3 Wildlife and Biodiversity

TABLE: Endemism and other wildlife values in S. Atlantic region							
	Endemism						Other notable aspects of wildlife (threatened species, etc.)
Territory	Birds	Reptiles, amphibians	Insects	Plants	Fresh-water fish	Terrest. invert.	
Ascension	1			12	(9 marine)	>20	Home to Ascension frigatebird (endemic) and the red-footed booby (EN). Very important breeding green turtle population.
BAT	0			0			
Falkland	17		250	14 vascular 25 mosses			Breeding ground of more than 70% of the world population of black-browed albatross (EN) and 75% of the world population of the southern form of rockhopper penguins (VU). Another 8 bird species which nest on the island are of global conservation concern, including the Macaroni Penguin, the southern giant and white-chinned petrels and the Cobb's wren.
SGSSI	1 (5 now extinct)			45			10 species of global conservation concern breed here, including the black-browed albatross (EN), wandering albatross, grey-headed albatross, macaroni penguin, southern giant-petrel and white-chinned petrel (all VU)
St Helena	1	-	140	49		400	5 other endemic land birds have become extinct.
TDC	2	-		20 fern, 34 flower ^g . plants	-		Gough Island and Inaccessible Island are a Natural World Heritage Site.

TABLE: Main environmental challenges and problems in OCTs in S. Atlantic region			
OCT	Challenge / problem	Severity	Short description
BAT	Climate change	Moderate	This is an uninhabited region, and the physical changes are expected to be less dramatic than in the Arctic region. Nevertheless there may be major impacts on marine fauna and therefore on the Antarctic fisheries. Warming may allow the penetration of exotic species.
	Unregulated fishing and seabird bycatch	Moderate	Unregulated fishing in the area can have major impacts on ecosystems, since all Antarctic life depends on marine life lower in the food chain. Incidental mortality in the longline fishing and trawling is a major factor in declines of albatross and petrel populations.
	Marine debris	Moderate	Debris discarded or lost by fishing other vessels disfigures coasts and endangers wildlife.
	Pressures due to tourism	Attention reqd.	Tourism is increasing very rapidly. Impacts need monitoring and managing
Falkland	Threats to biodiversity	Moderate	Include fishing bycatch, introduced predators and other invasive species, disturbance, habitat loss
	Unregulated fishing	Moderate	There is thought to be little unregulated fishing in FI waters, but important target species are migratory, and are therefore affected by illegal and unregulated activities outside the FI EEZ.
	Impacts from future oil industry		No oil has yet been pumped in commercial quantities in the Falklands, either from land or offshore. Nevertheless if commercialisable resources are discovered, the territory will need to make sure that the potential environmental impacts are minimised.
	Marine debris	Attention reqd.	As for BAT
	Waste	Attention reqd.	Current waste management legislation and practice is inadequate. There is little policy for recycling. Few of the recommendations of a recent study have been adopted.
	Sewage	Attention reqd.	Currently 2/3 of the sewage waste from Stanley is pumped out into the harbour without any treatment. The remainder is currently being re-routed away from Stanley Harbour to the open sea on the other side of Stanley. The environmental impact of this is not known. No monitoring is currently performed on a regular basis.
St Helena & Dependencies	Threats to biodiversity	Moderate	Include introduced predators and other invasive species, disturbance, habitat loss
	Illegal fishing	Moderate	No capacity to enforce fishery regulations
	Waste	Attention reqd.	
	Sewage	Attention reqd.	
SGSSI	Introduced species	Severe	Predation on seabirds by rats, overgrazing of native vegetation by reindeer, degradation of vegetation and soil erosion caused by fur seals, and the introduction of alien plants and insects are altering the native flora and fauna of large areas of the territory.
	Illegal fishing and seabird bycatch	Moderate	IUU fishing, particularly for toothfish, is a major factor in the Antarctic Ocean. This results in high seabird mortality.

The environmental challenges facing the islands are fairly similar, particularly: proper regulation of fisheries, conservation of declining populations of seabirds and other fauna and flora, but also solid and liquid waste. Although significant melting of the Antarctic ice-sheet could ultimately have very grave consequences for the entire planet, in this century climate change is not expected to be a major issue to these territories

4 The S. ATLANTIC region - Governance

4.1 Environmental management administration

TABLE: Summary of environmental management administration in S. Atlantic OCTs		
OCT	Summary of government administrative capacity	NGOs
ASC	Environment is the responsibility of the Ascension Island Works & Services Agency	
BAT	Advice on environmental matters is provided by the British Antarctic Survey (BAS)	None
FALK	Executive responsibility lies with Environment Planning Officer. Environmental matters are considered by an Environment Committee, comprising two Councillors, the EPO and a range of business interests and NGOs.	A variety of NGOs. Falklands Conservation (10 staff) promotes nature conservation in the islands, provides support to external researchers and landowners, owns 17 offshore island nature reserves, and gives specialist conservation advice to the government. It raises its own funds. Falklands Conservation is supported by FIG, and accounts for 63% of the environmental spend of FIG.
SGSSI	Advice on environmental matters is provided by the BAS	None
ST H	The environmental protection function is rather fragmented between different departments	National Trust: a statutory body including all environmental NGOs, launched in 2002. Its mission is to preserve natural environment and historical monuments. Also active in information and awareness-building.
TDC	Main responsibility lies with the Conservation Officer	

There are limited resources available on these sparsely populated islands. The National Trust or equivalent on St Helena and the Falklands play an important role.

4.2 Environmental (action) plans, strategies

TABLE: Summary of environmental management administration in S. Atlantic OCTs	
OCT	Environmental action plans / strategies in place?
Ascension	The Ascension Island Management Plan 2003-08 includes some commitments of the Environment Charter.
BAT	No EAP or strategy document for the territory. Agenda set by the Antarctic Treaty.
Falkland	The islands have not yet developed a general environmental action plan or strategy, but there is a conservation and biodiversity strategy in draft form. The FI Plan 2002/2006 contains a specific environment chapter, reflecting the aims of the Environment Charter. There is also a National Plan of Action – Seabirds'.
SGSSI	There is an environmental management plan for South Georgia (not for SS), currently being updated.
St Helena	A sustainable development plan is currently being drawn up. The key strategy document for environmental protection, nature and wildlife conservation is the Strategy for Action to Implement St Helena's Commitments under the Environment Charter (2004).
TDC	Has formulated a Biodiversity Action Plan.

Broadly speaking given the small size of these territories they are making progress in developing an appropriate policy framework needed to manage their environment

4.3 Legislation

TABLE: Summary of environmental management administration in S. Atlantic OCTs	
OCT	State of environmental management legislation
Ascension	There are ordinances for the protection of species and habitats
BAT	The Antarctic Treaty and agreements of the contracting members form the legal basis. These have been enacted in the Antarctic Act 1994 and Antarctic Regulations 1995, at least in relation to British subjects.
Falkland	There is legislation for creating national parks, protecting birds, marine mammals and plants, bio-security, designating national nature reserves, protection from impacts of offshore hydrocarbons, fisheries conservation
SGSSI	There is legislation (partly dating back to when SGSSI was a Falkland Islands dependency) which protects mammals, birds and plants, and provides for specially protected areas. Also fisheries legislation.
St Helena	There is legislation which provides for protected areas, protects birds, implements CITES and establishes a fisheries regime
TDC	There is legislation for regulating fishing in territorial waters, protecting native plants and listed birds and mammals and implementing the CBD and ACAP.

4.4 Environmental Impact Assessment, Strategic Environment Assessment

TABLE: Status of EIA, SEA				
	EIA		SEA?	Remarks
	Mand-atory?	Mandatory public consult ⁿ ?		
Ascension	✗	✗	✗	
BAT	✗	Not applicable	✗	An agreement was made within the Antarctic Treaty with regard to EIA for certain types of activity. However this has not yet been fully implemented in British legislation.
Falkland	✓	✗	✗	EIA regulations included in Planning Ordinance (2005) based on European Directive
SGSSI	✗	Not applicable	✗	
St Helena	✗	✗	✗	Not yet mandatory, but there is a requirement for environmental screening of development and policy initiatives.
TDC	✗	✗	✗	
✓ = yes ✗ = no				

Of these territories only the Falklands Islands appear to have legislation establishing mandatory EIA, although EIA is normally carried out for infrastructural development projects in all the territories.

4.5 Implementation of protected areas

TABLE: Implementation of protected areas in OCTs in S. Atlantic region				
	Terrestrial		Marine (no.)	Remarks
	no.	ha.		
Ascension	??	??	0	
BAT	Entire Antarctica is protected			In a sense the entire territory is a protected area, since a licence is needed from one of the contracting parties to enter Antarctica. However the Antarctic Treaty system and the Antarctic Act also allow for the designation of specially protected areas (SPAs) and sites of special scientific interest (SSSIs).
Falkland	27	40,000	0	Those listed are national nature reserves. However Falklands Conservation also owns 18 islands and associated islets (7.5 km ²), which are nature reserves, and about 45 other islands (65 km ²) are treated as reserves by their owners though they have no official status. In all about 4% of the territory is protected.
SGSSI	13	??	1	Like BAT, the entire area is protected. Two areas are designated Areas of Special Tourist Interest and are open for tourism and recreation. All other parts of South Georgia are closed to access other than by permit. However there is provision for specially protected areas, of which there are at present none, but the draft updated Environment Management Plan proposes the sites indicated. The Government is also considering declaring the whole area within 12 nm of the coastline of South Georgia a Marine Protected Area; commercial fishing is already prohibited in this zone.
St Helena	0	0	0	To date no areas have been designated as protected areas, but there is a draft National Plan of Protected Areas.
TDC	7	40% of the territory is protected		Gough and Inaccessible Islands are a World Heritage site.
* Specially protected areas proposed in draft SG Environment Management Plan				

Two of the territories, the British Antarctic Territory and the South Georgia and South Sandwich Islands are intrinsically protected because access is restricted and conditions can be and are imposed on visitors. However they also allow a further degree of protection to be imposed. The other territories all have legislation for creating protected areas. Biosecurity is a major issue, i.e. the prevention of the further spread of rats and other introduced predators.

4.6 Participation in Multilateral Environmental Agreements (MEAs)

MEAs, if properly implemented, can be powerful instruments in assisting countries to conserve habitats, protect biodiversity or specific species. But since they are international agreements, OCTs cannot ratify them in their own right. The procedure is that the European sovereign country/member state with which they are associated must have ratified the treaty or convention, and the OCT must then request that state to have the ratification extended to the territory of the OCT.

A number of relevant MEAs have been extended to the OCTs. However in some cases these have not been properly implemented: the required legislation has not been enacted, management plans have not been enacted or other requirements are not being properly met. The situation with regard to some of the most relevant MEAs is summarised in the table below.

TABLE: Participation of OCTs in MEAs in S. Atlantic region						
OCT	CBD	Ram-sar	CITES	CMS	ACAP	Remarks
Ascension	✓		✓	✓		Biodiversity management plan not yet prepared as required under CBD. CITES not yet fully implemented??
BAT						
Falkland		✓	✓	✓	✓	A biodiversity action plan has not yet been developed. There are two Ramsar sites and a further 18 have been proposed. CITES is strictly applied. The Falkland Islands accepted the obligations of the FCCC and the Kyoto Protocol in 2006.
SGSSI	✓	✓	✓	✓		No official Ramsar site yet, but two sites have been proposed: effectively the whole of SG and the whole of SS. Biodiversity management plan not yet prepared as required under CBD. CITES implementing legislation in 2003.
St Helena		✓	✓	✓	✓	No official Ramsar site yet, but three sites have been proposed. CITES has not yet been fully implemented.
TDC	✓		✓	✓	✓	Biodiversity management plan not yet been prepared as required under CBD. ACAP effective in April 2006. CITES not yet fully implemented??

The territories are not all properly meeting their commitments under the MEAs in terms of developing the necessary legislation, designating protected areas, annual reporting, or drawing up of management plans. For example none of the three territories which participate in the Convention on Biological Diversity has yet prepared a biodiversity action plan.

OVERSEAS COUNTRIES AND TERRITORIES
ENVIRONMENTAL PROFILE

ANNEX E:
NORTH ATLANTIC REGION

1 The NORTH ATLANTIC region - General

1.1 Description of region

The North Atlantic region here refers to two OCTs (Greenland and St Pierre & Miquelon) in the Northern Hemisphere between the continents of North America and Europe. These OCTs are geographically and geologically part of North America, but politically linked to Europe. The Caribbean OCTs form a distinct regional group.



Other territories in the North Atlantic region are

- Iceland
- Faroe Islands (linked to Denmark)
- Canary Islands
- Madeira
- Azores
- Cape Verde Islands

1.2 The territories

The two OCTs in the in the North Atlantic region are:

- Greenland (linked to Denmark)
- St. Pierre and Miquelon (linked to France)

2/3 of Greenland lies within the Arctic circle. SP&M lies 25 km south of Canada's Newfoundland.

1.3 Key facts and statistics:

TABLE: Key facts and statistics for OCTs in N. Atlantic region						
OCT	Land area (km ²)	EEZ (nm)	Population	inhab/km ²	GDP/cap (€)	Illiteracy rate
GR	410,000 *	200	56,000	0.03	22,600	0
SP&M	242	200	7,000	29	6,800	1%

* Ice free. Total area: 2,2 mill km²

Greenland is the largest OCT and SP&M is one of the smaller ones. 80% of GR population is Inuit, population on SP&M came from Europe (Basque and Breton fishermen). Territories dependent on marine natural resources (and oil/ gas drilling).

2 N. ATLANTIC region - ecosystems and biological resources

2.1 Coral reefs

TABLE: Extent and state of coral reefs in N. Atlantic region			
Territory	Occurrence	State of reefs	Remarks
GR	○		Too cold for coral
SP&M	○		Too cold for coral
<ul style="list-style-type: none"> ● Extensive ◐ Some ○ None 		<ul style="list-style-type: none"> Relatively good for region Declining Degraded 	

2.2 Other habitats

TABLE: Extent of other habitats in N. Atlantic region						
	Mang-groves	Scrub-land	Wet-lands	Forest	Polar habitat	Remarks
GR	○	●	○	●	●	80% of GR covered by ice. Dwarf trees in southern coast areas. In sunniest valleys birch trees, forest-like brush in many areas.
SP&M	○	●	●	●	○	1,000 ha wetlands between the two islands. 1,200 ha pine trees in valleys and 4,800 ha smaller trees where beaten by winds.
● Extensive ● Some ○ None						

2.3 Wildlife and Biodiversity

TABLE: Endemism and other wildlife values in N. Atlantic region							
Territory	Endemism						Other notable aspects of wildlife (threatened species, etc.)
	Birds	Reptiles, amphibians	Insects	Plants	Fresh-water fish	Terrest. invert.	
GR	0	0	0	0	0	0	Many mammals like beluga whales, common seals, walruses, polar bear are on IUCN 'vulnerable' species list.
SP&M	0	0	0	0	0	0	Due to proximity to Canada, no endemic species. 4 plants and one bird species on IUCN red list. Silver fox has disappeared because of hunting. Cod over fished. Two bird species are being monitored

Around GR and SP&M, cold and warm ocean streams mingle, making waters rich in fish. The Grand Banks near Newfoundland have suffered overfishing.

3 N. ATLANTIC region - main environmental challenges / problems

TABLE: Main environmental challenges and problems in OCTs in N. Atlantic region			
OCT	Challenge / problem	Severity	Short description
GR	Climate change	SEVERE	Greenland's ice sheet has thinned around its southern and eastern margins. Arctic sea-ice extent decreased by approximately 3% per decade between 1978 and 1996. Many effects on ecosystem dynamics, habitats and species and therefore on the livelihood of Inuits.
	Transboundary pollution of the Arctic environment	Moderate	The Arctic Ocean drains many rivers in Eastern Europe, Central Asia and North America. There is contamination by POPs (persistent organic pollutants) and heavy metals which enter the food chain. Health risks to marine mammals and inhabitants with a heavy dietary dependence on hunted animals.
	Conservation and sustainable use of Arctic Fauna	Moderate	Quotas for beluga and narwhal are set at levels several times higher than recommended by the relevant scientific body. Enforcement of conservation policy is extremely difficult. There is concern for example, about the populations of narwhal, beluga, polar bear, some seals and some birds.

	Waste	Attention reqd.	Low density and physical fragmentation of the population makes modern waste management difficult. The chosen solution (incinerators in various communities) can contaminate local environment (dioxins, heavy metals, etc.).
SP&M	Nature conservation	SEVERE	Important nature areas are only protected on a voluntary basis.
	Climate change	Moderate	Climate change may have effects on the size and composition of fish stocks, very important for economy and way of life. More frequent and energetic storms and a rising sea-level may mean further erosion of coasts and the submergence of low-lying lands.
	Waste	Attention reqd.	10,000 t per year. Existing waste management system is unsatisfactory, and the existing waste dumps are full. Plans to implement new waste management appear to be stalling. The hydrocarbons depot for used oil is being upgraded. Waste from fish processing is posing a problem.
	Water consumption	Attention reqd.	High levels of water consumption. Improved water catchment, management of rivers, dam renewal needed. Loss of water as pipes freeze, break and leak.
	Impacts from (future) oil and gas industry	Attention reqd.	Possible seismic effect and risk of spills. No oil spill contingency plan despite the fact that the islands are in an area of oil tanker movement.

The environmental challenges facing these OCTs are fairly similar in the sense that they are very dependent on natural resources (marine) and their conservation.

4 The N. ATLANTIC region - Governance

4.1 Environmental management administration

TABLE: Summary of environmental management administration in N. Atlantic OCTs		
OCT	Summary of government administrative capacity	NGOs
GR	There are specific services (department of environment, fisheries and agriculture, institute of natural resources.	
SP&M	Decentralised (French governmental) services deal with aspects of the environment, but there is not a specific service for ecology and sustainable development. Specific (small) budgets. 2 officers plus volunteers monitor hunting.	No environmental NGOs.

4.2 Environmental (action) plans, strategies

TABLE: Summary of environmental management administration in N. Atlantic OCTs	
OCT	Environmental action plans / strategies in place?
GR	National Nature Protection Act adopted in 2003. There are protected areas, not very actively managed. Good information on the environment. Monitoring by Institute of Natural Resources.
SP&M	There is a National Development Plan with a section on the environment but no timetable or budgets. Once a year Environment week. No territorial (General Council) website, no regular information material on more local government sites.

Both OCTs are making progress in developing an appropriate policy framework needed to manage their environment although clear environmental policy frameworks with budgets and allocated responsibilities have not yet been established in either territory.

4.3 Legislation

TABLE: Summary of environmental management administration in N. Atlantic OCTs	
OCT	State of environmental management legislation
GR	Basic legislation in place for protected areas and protection of species but needs strengthening to meet MEA obligations.
SP&M	Some legislation for fisheries, forestry, hunting, protection of birds, but not specifically related to MEAs. No EIA. There are protected areas but on a voluntary basis.

4.4 Environmental Impact Assessment, Strategic Environment Assessment

TABLE: Status of EIA, SEA				
	EIA		SEA?	Remarks
	Mandatory?	Mandatory public consult ⁿ ?		
GR	+/-	no	no	A general requirement for EIA for infrastructural projects is contained in the law, but there are no detailed regulations.
SP&M	no	no	no	
✓ = yes ✗ = no +/- = general requirement but no detailed regulations				

Neither of the territories have legislation establishing **mandatory** EIA. Detailed provisions make EIA an effective tool in safeguarding the environment.

4.5 Implementation of protected areas

TABLE: Implementation of protected areas in OCTs in N. Atlantic region				
	Terrestrial		Marine (no.)	Remarks
	no.	ha.		
GR	7*	9,600		Largest national Park in the world + 6 other protected areas
SP&M		950		170 ha on St P and 780 ha on Miquelon. The lagoon Le Grand Barachois has been listed to become a Ramsar site.
* marine and terrestrial				

4.6 Participation in Multilateral Environmental Agreements (MEAs)

MEAs, if properly implemented, can be powerful instruments in assisting countries to conserve habitats, protect biodiversity or specific species. But since they are international agreements, OCTs cannot ratify them in their own right. The procedure is that the European sovereign country/member state with which they are associated must have ratified the treaty or convention, and the OCT must then request that state to have the ratification extended to the territory of the OCT.

A number of relevant MEAs have been extended to the OCTs. However in some cases these have not been properly implemented: the required legislation has not been enacted, management plans have not been enacted or other requirements are not being properly met. The situation with regard to some of the most relevant MEAs is summarised in the table below.

OCT	CBD	CITES	Ramsar	World H	UN-ECE	Whales	Oslo	Remarks
GR	+/-	+/-	+/-	✓	✓	+/-	✓	GR participates in some MEAs but in many cases the agreement has not been fully implemented in terms of enacting the necessary legislation, making the necessary management plans, carrying out the necessary research. Until recently Greenland was issuing CITES permits for export of specimens from designated animals without being able to certify the export was non-detrimental. This is now changing however, and as a result, work has been carried out on the export of narwhal and resulted in a ban on export of narwhal products from Greenland in 2006.
SP&M	?	?	+/-	+/-	?	?	no	St Pierre & Miquelon says it "follows" France in all French environmental obligations, including MEAs, but no mention of such obligations in national plan or in legislation. The lagoon Le Grand Barachois has been listed to become a Ramsar site.

CBD = Convention on Biological Diversity

CITES = Convention on International Trade in Endangered Species of Wild Flora and Fauna

Ramsar = Ramsar Convention on Wetlands

World H= UNESCO World Heritage sites

UN-ECE= Long-Range Transboundary Air Pollution Protocols on Persistent Organic Pollutants and Heavy Metals, in the framework of the United Nations Economic Commission for Europe.

Whales= International Whaling Commission

Oslo= Oslo Convention on Polar Bears

+/- = participates, but not fully implemented / compliant

The territories are not meeting all their commitments under the MEAs in terms of developing the necessary legislation, designating protected areas, annual reporting, or drawing up of management plans.

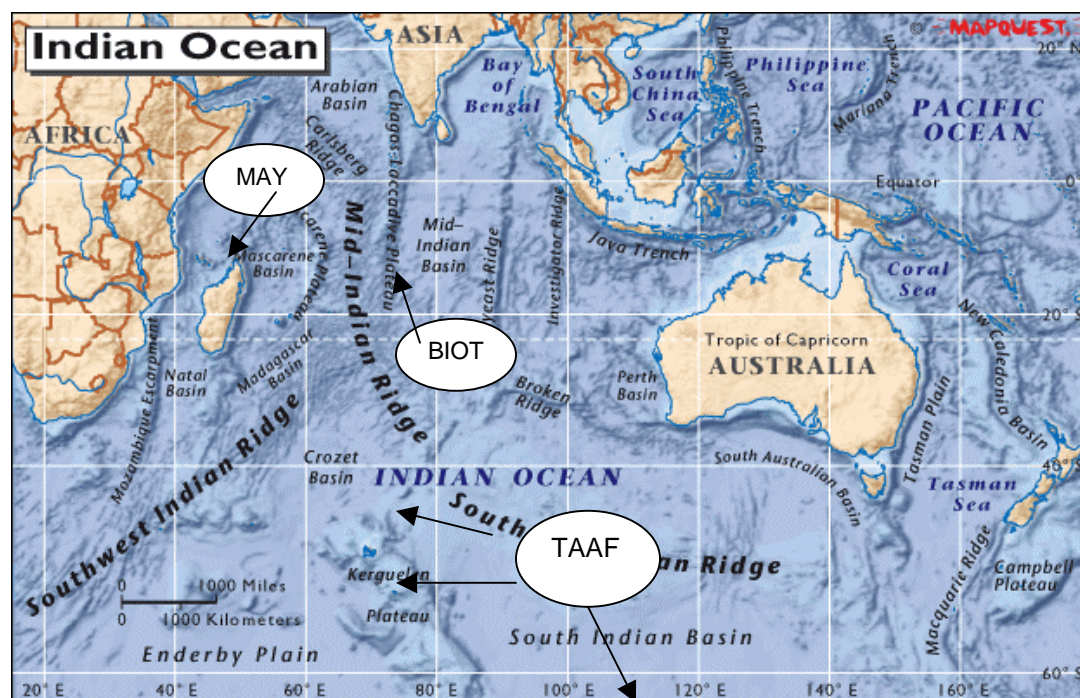
**OVERSEAS COUNTRIES AND TERRITORIES
ENVIRONMENTAL PROFILE**

**ANNEX F:
INDIAN OCEAN REGION**

1 The Indian Ocean region - General

1.1 Description of region

We here regard the Indian Ocean region as the area being bounded to the north by the Asian continent, to the west by Africa, to the east by the Malay Peninsula and Australia, but including Antarctica.



1.2 The territories

There are 3 OCTs in the Indian Ocean region, namely

- Linked to France: Mayotte (MAY) and French Southern and Antarctic Territories (TAAF)
- Linked to the UK: British Indian Ocean Territory (BIOT)

Part of TAAF lies in Antarctica and not recognised by all nations as being French territory. Mayotte is claimed by Comoros and BIOT by Mauritius.

1.3 Key facts and statistics

TABLE: Key facts and statistics for OCTs in Indian Ocean region						
OCT	Land area (km ²)	EEZ (nm)	Population	inhab/km ²	GDP/cap (€)	Illiteracy rate
BIOT	60 km ² incl. Diego Garcia (44 km ²)	200	3,500 only on Diego Garcia	77 on Diego Garcia		
MAY	375	200	200,000	440	2,200	14%
TAAF	432,000 incl. 424,000 in Antarctica	200	300 temporary researchers	0,04		

This region includes one OCT with very high density (Mayotte) and two OCTs with no population or only temporary (UK-USA military basis on Diego Garcia and researchers on TAAF).

2 Indian Ocean region - ecosystems and biological resources

2.1 Coral reefs

Coral reefs:	Occurrence	State of reefs	Remarks
Mayotte	●		100% of reefs at risk due to pollution, deforestation, sedimentation, over fishing. 40% of fringing reefs affected by rise sea temperature 1982-83 and 1998 ²¹ .
BIOT	●		Chagos reefs were heavily impacted by the mass coral bleaching which occurred in 1998 as a result of the El Niño event. A 1999 survey showed that only 12% on seaward reefs was live coral. In lagoon: 30% living coral. . ²² Three years later juvenile corals were abundant, though mostly on eroding or unstable substrates, and were of less robust species. ²³ However the reefs have undergone considerable recovery since then, with many sites regaining their status as thriving reef communities.
TAAF	○		Too cold for coral

● Extensive
● Some
○ None

Relatively good for region
 Declining
 Degraded

2.2 Other habitats

TABLE: Extent of other habitats in Indian Ocean region						Remarks
	Mang-groves	Sea-grass	Wet-lands	Forests	Polar habitat	
BIOT	○	○	●	●	○	Forests replaced by coconut plantations, small patches of virgin forest remain.
MAY	●	●	●	●	○	Only 7 km ² of mangroves. 200,000 ha of forests remain.
TAAF	○	○	○	○	●	Breeding ground for birds, penguins

● Extensive ● Some ○ None

2.3 Wildlife and Biodiversity

TABLE: Endemism and other wildlife values in Indian Ocean region							Other notable aspects of wildlife (threatened species, etc.)
	Endemism						
Territory	Birds	Reptiles, amphibians	Insects	Plants	Fresh-water fish	Terrest. invert.	
BIOT	0	0	4	0	3	0	Chagos archipelago has 10 sites with Important Bird Area status. Uninhabited islands are breeding ground for birds and turtles. Coconut crab on many islands. Chagos has high marine diversity, with the 220 species of hard corals being among the highest recorded

²¹ Reefbase.

²² See Cordio (1999), chapter on BIOT by C. Sheppard.

²³ Sheppard et al (2002): article on erosion vs. recovery of Chagos Reefs after 1998 El Niño.

TABLE: Endemism and other wildlife values in Indian Ocean region							
	Endemism					Other notable aspects of wildlife (threatened species, etc.)	
							in the Indian Ocean. Nearly 800 species of fish and 400 molluscs have been identified, including 4 endemic species.
MAY	4	3	6				Endemic lemur and fruit bat. Many turtles, sea cows and different species of coral. Many flowering plants among them the aromatic ylang-ylang.
TAAF	3		68	24			Population of black-browed albatross has declined by more than 40% in last 30 years due to introduced predators, over fishing, non-selective fishing gear, etc. Almost extinguished elephant and fur seals in the 19 th century have come back to Kerguelen. Endemic Kerguelen cabbage almost extinct due to rabbits.
Main sources: IUCN (Gargominy 2003) for French OCTS and for UK OCTs: JNCC (1999) and Sanders (2006).							

3 Indian Ocean region - main environmental challenges / problems

TABLE: Main environmental challenges and problems in OCTs in Indian Ocean region			
OCT	Challenge / problem	Severity	Short description
BIOT	Climate change	Severe	Massive coral morbidity after sea water temperature rise in 1998. Maximum elevation of islands on Chagos bank and northern atolls is 2-3 m only plus concave form of many islands makes them extra vulnerable to inundation. On Diego Garcia (only inhabited island) coastal erosion.
	Conserving biodiversity	Attention required	Flora and fauna (mainly birds) have suffered from human activities. Protected areas and management plans but possibly too late and too little.
MAY	Nature conservation, management of waste and water	Severe	Lagoon and coasts polluted by lack of waste water treatment. Sedimentation of lagoon by agricultural practices and soil run-off due to deforestation. Current waste management practice is inadequate.
	Climate change	Severe	Temperature rise of sea water caused bleaching and death of corals. Coastal zones are narrow and populated. Sea-level rise would mean loss of infrastructures and relocation of population.
TAAF	Nature conservation	Severe	Many endemic species do not have defence mechanisms against introduced predators and invasive plants / grasses. Programmes for eradication of some of the introduced species (cows, rats, rabbits). Over fishing of krill has had negative effect on populations of birds and seals which feed on krill.
	Climate change	?	Many studies in the Antarctic lands are taking place, but not specifically on the effects for TAAF itself.

The environmental challenges facing Mayotte and BIOT are in part similar, particularly concerning the effect of temperature rise on coral reefs and the effect of sea level rise, while on Mayotte more populations will be affected than on BIOT. For the southern OCTs invasive species and conservation of declining populations of seabirds and other fauna and flora are important issues.

4 The Indian Ocean region - Governance

4.1 Environmental management administration

TABLE: Summary of environmental management administration in Indian Ocean OCTs		
OCT	Summary of government administrative capacity	NGOs
BIOT	One Conservation Adviser. Local responsibility for nature conservation lies with a senior British naval officer stationed at Diego Garcia. Marine Resources Assessment Group (private company) manages the fisheries and patrols the seas.	Chagos Conservation Trust
MAY	Specific services deal with the environment. Consultative Commission for the Environment and Protection of the National heritage in place. A surveillance service is operational. Good information material for the general public.	6 listed by IUCN and several websites for Francophone Indian ocean, including on nature and tourism and private companies dealing with environment (Espace, Kwale).
TAAF	Staff of 5 for environmental issues based at Réunion. Committee for the Polar Environment and IUCN advices. Budget available. Good informational material (e.g. website, film).	none
(Questionnaire not returned by administration of Mayotte).		

4.2 Environmental (action) plans, strategies

TABLE: Summary of environmental management administration in Indian Ocean OCTs	
OCT	Environmental action plans / strategies in place?
BIOT	Policy statement says BIOT is to be treated as if it were a World Heritage site. There is an environmental management plan for Diego Garcia and a draft for the Chagos as a whole. USA base at Diego Garcia is responsible for the environment on its territory.
MAY	There is a sustainable development plan and a plan for the management of the lagoon. Observatories for three species exist (whales, corals, marine turtles). Several protected areas.
TAAF	Lack of action plans but legislation in place.

Broadly speaking the OCTs in this region are either very populated and have few administrative resources (Mayotte) or are uninhabited and have practically no staff dealing with the environment. This does not mean there are no policies in place.

4.3 Legislation

TABLE: Summary of environmental management administration in Indian Ocean OCTs	
OCT	State of environmental management legislation
BIOT	Laws in place to protect birds and turtles (not specific species).
MAY	Fishing regulation in place (protecting corals too). French rural code and French water laws apply.
TAAF	French Environmental code on protection of flora and fauna was adapted. Many other regulations: on manipulation of species, ban on hunting, fishing quotas. The Antarctic Treaty and Agreement on protection of Albatrosses and petrels apply.

4.4 Environmental Impact Assessment, Strategic Environment Assessment

TABLE: Status of EIA, SEA				
	EIA		SEA?	Remarks
	Mandatory?	Mandatory public consult ⁿ ?		
BIOT	X	X	X	
MAY	X	X	X	
TAAF	✓	Not applicable	X	EIA required for new buildings and infrastructures.
✓ = yes , X = no				

None of the territories appears to have legislation establishing **mandatory** EIA, although EIA is normally carried out for infrastructural projects on TAAF.

4.5 Implementation of protected areas

TABLE: Implementation of protected areas in OCTs in Indian Ocean region				
	Terrestrial		Marine	Remarks
	no.	ha.		
BIOT	1		5	The entire territory is restricted area, either a military base or nature areas for which visiting permits are required. More or less half of Diego Garcia is nature reserve. The whole territory is treated as if it were a World Heritage Site. A Ramsar site has been proposed.
MAY	2	?	30 km ² or 2% of the lagoon	Three protected coastal areas by the French Conservatoire du Littoral and several other territorial reserves (dry forests, lac Dziani). No modern protected area plans nor legislation but study on how French law on regional nature parks can/ should be transposed. 5 other areas could apply to Ramsar.
TAAF	14	4,240	0	All of Antarctica is protected. National Parks (for certain species of birds and mammals) since 1938; since 1985, 14 areas have had restricted access.

4.6 Participation in Multilateral Environmental Agreements (MEAs)

MEAs, if properly implemented, can be powerful instruments in assisting countries to conserve habitats, protect biodiversity or specific species. But since they are international agreements, OCTs cannot ratify them in their own right. The procedure is that the European sovereign country/member state with which they are associated must have ratified the treaty or convention, and the OCT must then request that state to have the ratification extended to the territory of the OCT.

A number of relevant MEAs have been extended to the OCTs. However in some cases these have not been properly implemented: the required legislation has not been enacted, management plans have not been enacted or other requirements are not being properly met. The situation with regard to some of the most relevant MEAs is summarised in the table below.

TABLE: Participation of OCTs in MEAs in Indian Ocean region								
OCT	CBD	Ramsar	CITES	CMS	ACAP	ANTARCT	NAIROBI	Remarks
BIOT	✗	+/-	✓	+/-	✓			Proposed Ramsar site. CMS not effective yet. World Heritage site rules applied voluntarily,
MAY	+/-	✓	✓	✓			✓	All French OCTs are reporting on their biodiversity, as part of France's implementation plan under CBD.
TAAF	+/-		✓		✓	✓		All French OCTs are reporting on their biodiversity. Antarctica areas protected under Antarctica Treaty. Proposal to include sites as Ramsar site for Eaton Duck.
✓ = yes ✗ = no								

CBD = Convention on Biological Diversity

Ramsar = Ramsar Convention on Wetlands

CITES = Convention on International Trade in Endangered Species of Wild Flora and Fauna

CMS = Bonn Convention on the Conservation of Migratory Species of Wild Animals (i.a. turtles, birds, whales)

CMS = Bonn Convention on the Conservation of Migratory Species of Wild Animals

ACAP = Agreement on the Conservation of Albatrosses and Petrels

Antarctica Treaty including Madrid Protocol designating Antarctica as a natural reserve, and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

Nairobi = MCE= Convention for the Protection, Management, and Development of the Marine and Coastal Environment in Eastern Africa (Nairobi Convention)

The territories are not all properly meeting their commitments under the MEAs in terms of developing the necessary legislation, designating protected areas, annual reporting, or drawing up of management plans.

OVERSEAS COUNTRIES AND TERRITORIES
ENVIRONMENTAL PROFILE

ANNEX G:
LIST OF REFERENCES CONSULTED

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Organisation	Website address	Remarks
ACOR- French Coral Reefs Association	http://www.univ-perp.fr/ephe/acorweb/francais/menu.html	Association Française pour les Récifs Coralliens
ADEME- French energy conservation Agency	http://www2.ademe.fr/servlet/getDoc?id=11433&m=3&cid=96	Agence de l'Environnement et de la Maîtrise de l'Energie
Caribbean Development Bank	http://www.caribank.org/Publications.nsf/EReview2005_turkscaicos/\$File/ECReview2005_turkscaicos.pdf?OpenElement#search=%22pier%20construction%20turks%20caicos%22	
CEDRE- French documentation centre for accidental water pollution	http://oceanprevention.free.fr/cedre2.htm	Centre de documentation, de recherche et d'expérimentations sur les pollutions accidentelles des eaux
CIA	www.cia.gov/cia/publications/factbook/index.html	Info per OCT
CITES or Washington Convention on trade in endangered species (1973)	www.cites.org	
Coalition of legal toothfish operators	http://www.colto.org	Fisheries, particularly Southern Hemisphere
CRED- Centre for Research on the Epidemiology of Disasters	http://www.em-dat.net/disasters/country.php	Interesting database on disasters
EU- Indicative programmes VIII EDF	http://ec.europa.eu/comm/development/oct/ind_prog_en.htm	
EU- on all OCTS	http://ec.europa.eu/comm/development/oct/index_en.htm	
EU- on individual OCTs	http://ec.europa.eu/comm/development/oct_new/oct_en.cfm	
EU- Regional strategy papers:	http://ec.europa.eu/comm/development/body/csp_rsp/rsp_en.cfm	
EU- Single programming documents IX EDF	www.ec.europa.eu/comm/development/body/csp_rsp/spd_en.cfm	
European Commission	http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_en.pdf (English) http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_fr.pdf (French)	Summary of EDP
FAO regional fisheries bodies	http://www.fao.org/fi/body/rfb/index.htm	

Organisation	Website address	Remarks
French Centre for Biodiversity Convention	http://biodiv.mnhn.fr/	Centre d'Echange français pour la Convention sur la diversité biologique. Portail de la biodiversité en France pour la Convention sur la diversité biologique
French Fund for the global environment	http://www.ffem.net/jahia/Jahia/lang/fr/pid/224	Fonds Français pour l'environnement mondial
French Ministry Ecology and SD	www.ecologie.gouv.fr general site On overseas: http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=970	Ministère de l' Ecologie et Développement durable
French National Inventory of Species	www.inpn.mnhn.fr general site http://inpn.mnhn.fr/inpn/fr/inpn/diversity_DT.htm on biodiversity overseas	Inventaire National du patrimoine naturel (INPN)
French Overseas Ministry	http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer http://www.outre-mer.gouv.fr/outremer/front	Ministère de l'Outre-Mer on Overseas countries and territories and 2007 budget
French Prime minister's office	http://www.premier-ministre.gouv.fr/information/actualites_20/transferts_fonds_europeens_collectivites_57080.html	Transfer of EU funds to French OCTS
Futura Sciences	http://www.futura-sciences.com/comprendre/d/index.php	Dossier on coral reefs
GIWA- Global assessment of international waters	www.giwa.net	A UNEP/ GEF / Kalmar university project
Global Ocean Ecosystem Dynamics	http://www-cger.nies.go.jp/cger-e/db/info-e/InfoDBWeb/prog/globec.htm	Global Ocean Ecosystem Dynamics
ICRI	http://www.icriforum.org	ICRI international coral reef initiative
IFEN- French institute for the environment	http://www.ifen.fr	
IFREMER Institut français de recherche pour l'exploitation de la mer	http://www.ifremer.fr/francais/index.php http://oceanprevention.free.fr/ifremer2.htm	
Info on cities threatened by hurricanes	http://www.hurricanecity.com	Info on hurricanes by country
Innovation Centre, University of Exeter	http://www.innovation.ex.ac.uk/imm/Disaster_management.htm	Climate change and the poor
Innovation Centre, University of Exeter	http://www.innovation.ex.ac.uk/imm/PovertyAndReefsProgress.htm	Poverty and Reefs
Inventaire National du patrimoine naturel (INPN)	http://www.inpn.mnhn.fr	
IPIECA	www.ipieca.com	On oil spills
IRD- French research institute for development	www.ird.fr	Institut de recherche pour le développement

Organisation	Website address	Remarks
Island Resources Foundation	http://www.irf.org/	Foundation is dedicated to solving the environmental problems of development in small tropical islands
Island vulnerability	http://www.islandvulnerability.org	Good data on all territories except Greenland
IUCN	www.iucn.org	International Union for the Conservation of Nature
London Convention on prevention of marine pollution by dumping of waste and other matter	http://www.londonconvention.org/	
NOAA	http://www8.nos.noaa.gov/biogeopublic/reef_photos.aspx http://www.oceanservice.noaa.gov/education/kits/corals/coral09_humanthreats.html	Centre for coastal monitoring and assessment of coral reefs
NOAA- National Oceanic and Atmospheric Administration	http://www.noaa.gov	General site
OCTA	www.octassociation.org	Organisation of OCTs
POLMAR	http://oceanprevention.free.fr/polmar2.htm www.polmar.com	French institute and rules for action in case of pollution of seas
Reefbase	On reefs in all countries: http://www.reefbase.org/global_database/default.aspx?section=s1	
Reefbase	http://www.reefbase.org/references/ref_Literature.asp?searchactive=yes&ID=13887	Search facility reefs database
Reefbase	http://www.reefbase.org http://www.reefbase.org/references/ref_Literature.asp?searchactive=yes&ID=13887	Search facility reefs database
Relief Web	www.reliefweb.int	On disasters
RFO	www.rfo.fr	Radio site for French OCTs (Reseau France Outre –mer) with info on OCTs
Scientific Committee on Oceanic Research (SCOR)	http://www.scor-int.org	
Smithsonian Institute volcano site	http://www.volcano.si.edu	
UK DFID (Department for International Development)	http://www.dfid.gov.uk/countries/allcountries.asp?view=region	Country Profiles
UK FCO (Foreign and Commonwealth Office)	http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1013618138295	On overseas territories
UN Millenium Developmentt Goals	http://mdgs.un.org/unsd/mdg/Data.aspx	Situation per country and territory
UN-ECE	http://www.unece.org/	
UNEP	http://www.unep.net/profile/ http://www.un.org/esa/sustdev/natlinfo/natlinfo.htm	Country profiles (not on OCTS)

Organisation	Website address	Remarks
UNEP	http://www.unep.ch/	Register international environmental conventions secretariats based in Geneva
UNEP on sustainable tourism	http://www.uneptie.org/pc/tourism/policy/about_principles.htm	
UNEP on waste management	http://www.unep.fr/pc/pc/waste/waste.htm	
UNEP World Conservation Monitoring Centre	www.unep-wcmc.org	for instance on coral reefs, mangroves and sea grasses, etc.
World Resources Institute	http://reefsatrisk.wri.org/casestudy.cfm http://earthtrends.wri.org/features/view_feature.php?theme=1&fid=12	On reefs at risk- country reports
World resources institute	http://www.wri.org/	General site
World Resources Institute	http://earthtrends.wri.org/select_action.php?tool=3	Statistical data per country and territory, on biodiversity, energy, coastal and marine ecosystems, economics, population, etc.

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Organisation	Website address	Remarks
Island Resources Foundation	http://www.irf.org/	Foundation is dedicated to solving the environmental problems of development in small tropical islands
Pan-American Health Organization	http://www.paho.org/english/sha/prflcay.htm	Updated for 2001. Description of solid waste and sanitation
UNEP	http://www.cep.unep.org/publications/Techreports/tr40en/chapter2.html	Interesting report on waste water treatment in Caribbean
World Resources Institute	http://reefsatrisk.wri.org/casestudy.cfm	On refs in the Caribbean

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Organisation	Website address	Remarks
Anguillian online newspaper	http://www.anguillian.com	
CIA	https://www.cia.gov/cia/publications/factbook/print/av.html	
Pan-American Health Organization	http://www.paho.org/english/HIA1998/Anguilla.pdf	Interesting but rather old info about waste management, water and sanitation
Reefbase	http://www.reefbase.org/global_database/default.aspx?section=s1	On ANG
Waste disposal in ANG	http://www.gov.ai/statistics/images/Waste%20Disposal.pdf	
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3328	Coral reefs in ANG

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Organisation	Website address	Remarks
Aruba government	http://www.arubaeconomicaffairs.aw	
Aruba government	http://dutch.aruba.com/pages/faqs.htm	
CIA	https://www.cia.gov/cia/publications/factbook/print/aa.html	
Dutch Ministry of Interior and Kingdom Relations	www.minbzk.nl	
Multianual development projects	http://www.nieuwsbank.nl/inp/2002/03/11/E106.htm	
Representation in the Netherlands	http://www.vertegenwoordiging-aruba.nl/algemene_onderdelen/persberichten/overeenstemming_over	Dutch- Aruba relations
UNEP	http://www.cep.unep.org/cartagena-convention/plonearticlemultipage.2005-12-01.7401488329/plonearticle.2005-12-01.9920296981	on waste in the Caribbean protocol LBS
	http://www.vliz.be/vmdcdata/marbound/details.php?area=128	On EEZ
IPIECA	http://www.ipieca.org/downloads/oil_spill/oilspill_reports/English/Vol3_Corals_1000.47KB.pdf#search=%22%20toxic%20waste%20aruba%22	Impact of oil on corals

Organisation	Website address	Remarks
	www.aruba.com	
SIDS	www.sidsnet.org/eco-tourism/arikok.html	
DCNA	www.dcn.org	
	http://www.nciucn.nl	
Valero	http://www.valero.com/About+Valero/	
	http://www.nieuwsbank.nl/inp/2002/03/11/E106.ht	
	http://netserver1.net/waterforum/template_c1_print.asp?pagina=8	
	http://www.centrogeo.org.mx/unep/documentos/Ceo/CEOurbanamb.pdf#search=%22toxic%20waste%20%22Energy%20Resources%22%20aruba%22	
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3330	Coral reefs on ARU

British Virgin Islands Burke, L. and J. Maidens and contributing authors: M. Spalding, Ph. Kramer, E. Green, S. Greenhalgh, H. Nobles, J. Kool, 2004: Reefs at Risk in the Caribbean. Available at http://marine.wri.org/pubs_description.cfm?PubID=3944.

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Organisation	Website address	Remarks
BVI Government	http://www.bvi.gov.vg	
CIA	https://www.cia.gov/cia/publications/factbook/geos/vi.html	
Development Planning Unit	http://www.dpu.gov.vg	Contains NIDS
Island Resources Foundation	http://www.irf.org	NGO operating in Virgin Islands and US
Pan-American Health Organization	http://www.paho.org/english/sha/prflvik.htm	Updated for 2001. Description of solid waste and sanitation
Virgin Islands Daily News	http://www.virginislandsdailynews.com	On-line newspaper
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3335	Reefs on BVI

Cayman Islands

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Organisation	Website address	Remarks
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Cayman Department of Environment	http://www.doe.8m.com/doewebsite/doe.html	
Cayman NetNews	http://www.caymannetnews.com	Online news service
Caymanian Compass	http://www.caycompass.com/cgi-bin/CFPnews.cgi?ID=1009275	Interesting article on coral
Caymans govt site	http://www.gov.ky	
CIA	https://www.cia.gov/cia/publications/factbook/print/cj.html	
Hurricanes website	http://www.hurricanecity.com/city/caymanislands.htm	Hurricanes in Cayman
Johngrayrecyclers	http://www.johngrayrecyclers.org	
Mother Jones	http://www.motherjones.com/news/special_reports/coral_reef/cayman.html	
National Hurricane Committee	http://www.caymanprepared.ky/portal/page?_pageid=1143,1708627&_dad=portal&_schema=PORTAL	Cannot copy
National Hurricane Committee	http://www.caymanprepared.ky/portal/page?_pageid=1143,1482366&_dad=portal&_schema=PORTAL	Material on tsunamis
Reefbase	http://www.reefbase.org/global_database/default.aspx?section=s1	
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3336	On coral reefs in Cayman

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Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/print/mh.html	
Montserrat Development Unit	http://www.devunit.gov.ms	Sustainable Development Plan and budget speeches available
Pan American Health Organisation	http://www.paho.org/English/sha/prflmon.htm	Country Health Profile
Proceedings of the 'Montserrat 2020: Building a Disaster Resilient Future' Conference	http://www.montserrat2020.org	
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3351	Coral reefs on MON

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Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/print/nt.html	
NLA Ministry of Health and Environment		
	http://www.mina.vomil.an/policy/plans/nepp20042007.php	National Environmental Policy Plan
	http://www.mina.vomil.an/policy/other/sustainable_development.php	Workshop SD
	http://www.mina.vomil.an/biodiversity/nature_fora/nature_forum2005_decl.php	On biodiversity
Reefbase	http://www.reefbase.org/global_database/default.aspx?section=s1	
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3352	Coral reefs in NLA
	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3353	

Turks & Caicos Islands

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TCIG, UKOTCF, UKFCO, 2003: Guidelines for the development of a strategy for action to implement an environment charter.

Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/print/tk.html	
Mother Jones	http://www.motherjones.com/news/special_reports/coral_reef/turks.html	
TCI Department of Economic Planning and Statistics	http://www.depstc.org/ , e.g. http://www.depstc.org/stat/economic/ecopdf/envt/National%20Parks_Sanctuaries_Natural%20Reserves.pdf	Data on national parks and protected areas
TCI Department of Environment and Coastal Resources	http://www.environment.tc/fisheries/index.htm	Info on Department, laws and regulations, national parks. etc.
TCI Government	http://www.turksandcaicosislands.gov.tc/	

Organisation	Website address	Remarks
TCI National Trust	http://www.tcimall.tc/nationaltrust	
WRI	http://reefsatrisk.wri.org/casestudy_text.cfm?ContentID=3361	Reefs on T&CI
Pan American Health Organisation	http://www.paho.org/english/sha/prflituc.htm	Country Health Profile, with data on water and waste

INDIAN OCEAN REGION

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Organisation	Website address	Remarks
Antarctic Treaty	www.ats.aq	
IOC- Indian Ocean Commission	www.coi-info.org	
IOTC- Indian Ocean Tuna Commission	http://www.iotc.org/English/index.php	
The Agreement on the conservation of Albatrosses and petrels	www.acap.aq	Accord pour la conservation des albatros et des pétrels
Unesco	http://ioc3.unesco.org/indotsunami/	Indian Ocean Tsunami website

British Indian Ocean Territory (BIOT)

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Wilkinson, Clive (editor), 2004: Coral Reef Report 2004: Status of Coral Reefs of the World: 2004, written by the Global Coral Reef Monitoring Network GCRMN, and the International Coral Reef Initiative ICRI. In particular: Chapter 8 – Status of coral reefs in South Asia.

Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/geos/io.html	
Daily telegraph	http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/05/12/wchag12.xml&sheet=/news/2006/05/12/ixnews.html	On Diego Garcia law suits

Organisation	Website address	Remarks
Foreign and Commonwealth Office	http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1018952687077	
Mind bit	http://great-chagos-bank.mindbit.com/ http://chagos-archipelago.mindbit.com/	
Reefbase	http://www.reefbase.org/global_database/default.aspx?section=s1	
The free dictionary	http://columbia.thefreedictionary.com/British+Indian+Ocean+Territory	
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Mayotte

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Organisation	Website address	Remarks
ACOR	http://www.univ-perp.fr/ephe/acorweb/francais/mayotte.html	Association Française pour les Recifs Coralliens
CIA	https://www.cia.gov/cia/publications/factbook/geos/mf.html	
Espaces (Consultancy)	http://perso.orange.fr/espaces/flore.htm http://perso.orange.fr/espaces/faune.htm	INGENIERIE DE L'ENVIRONNEMENT
French Centre for Biodiversity Convention	http://biodiv.mnhn.fr/information/outre_mer/foI088503/07_Mayotte.pdf	Centre d'Echange français pour la Convention sur la diversité biologique
French Ministry (Ecology and SD):	www.ecologie.gouv.fr/article.php3?id_article=767 www.ecologie.gouv.fr/article.php3?id_article=765 http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=335 http://www.ecologie.gouv.fr/article.php3?id_article=770	Ministère Ecologie et Développement durable
French Overseas Ministry	http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/mayotte&region=8	Ministère de l'Outre-Mer
INSEE	http://www.insee.fr/Fr/insee_regions/reunion/zoom/mayotte/	Statistical office Mayotte
Malango	http://www.malango-mayotte.com/ http://www.malango-mayotte.com/nature-flore-.htm http://www.malango-mayotte.com/nature-faune-.htm	Popular island's site
Mayotte online	www.mayotte-online.com	Popular island's site
Observatoire du Littoral:	http://www.conservatoire-du-littoral.fr/front/process/Content.asp?rub=8&rubec=146	On two nature reserves on Mayotte
Reefbase	http://www.reefbase.org/global_database/default.aspx?section=s1	Data base on state of reefs, page for Mayotte
RFO- Radio France Outre-Mer	http://mayotte.rfo.fr/article7.html	Article on Islam on Mayotte
UNEP		
WIKIPEDIA	http://en.wikipedia.org/wiki/Mayotte#Geography http://fr.wikipedia.org/wiki/Mayotte	

French Antarctic and Austral Territories (TAAF)

Paul Carroll on www.btinternet.com all islands. On Kerguelen:
http://www.btinternet.com/~sa_sa/kerguelen/kerguelen_islands.html

Organisation	Website address	Remarks
Antarctica Treaty	www.ats.aq	
CCAMLR – Convention on the conservation of Antarctic Marine Living Resources	www.ccamlr.org	
CIA	https://www.cia.gov/cia/publications/factbook/geos/fs.html	

Organisation	Website address	Remarks
Comité de l'environnement polaire	http://www.legifrance.gouv.fr/texteconsolide/UPH3Q.htm	
Discover France	http://www.discoverfrance.net/Colonies/Crozet.shtml http://www.discoverfrance.net/Colonies/Kerguelen.shtml	
Emile Victor Polar Institute (IPEV)	http://www.ifremer.fr/ifrtp/pages/institut_polaire.html	
French Center for Biodiversity Convention	http://biodiv.mnhn.fr/information/outre_mer/foi088503/10_TAAF.pdf	Centre d'Echange français pour la Convention sur la diversité biologique
Quid france	http://www.quid.fr/departements.html?mode=detail&dep=984&style=fi che	
TAAF official site	http://www.taaf.fr/rubriques/environnement/patrimoineBiologique/envi ronnement_patrimoineBiologique_introduction.htm http://www.quid.fr/departements.html?mode=detail&dep=984&style=fi che	

NORTH ATLANTIC REGION

ACIA- Arctic Climate Impact Assessment (2004), Arctic Council. An assessment made by 300 leading Arctic researchers, indigenous representatives and other experts from fifteen nations.
<http://nmml.afsc.noaa.gov/PolarEcosyst/arctic.htm>, <http://www.amap.no/acia/index.html>

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Organisation	Website address	Remarks
AFSC	http://www.afsc.noaa.gov/NMML/education/pin nippeds/arcticseals.htm	On Arctic Seals
AMAP-	http://www.amap.no/	Arctic Monitoring and Assessment Programme
Arctic Council	http://www.arctic-council.org	
CCC- Cod and Climate Change	http://codresearch.org/Relevant_Publications/I CES_CM_2003-C-11_WG_CCC.pdf http://www.globec- canada.mun.ca/globec/index.html www.codresearch.org	On cod in the North Atlantic

Organisation	Website address	Remarks
ICCAT-	http://www.iccat.es/	International Commission for the conservation of tuna-like fishes in the Atlantic Ocean
ICES-	www.ices.dk	International Council for the Exploration of the Sea
NAFO-	http://www.nafo.int/	North West Atlantic Fisheries Organisation
NAMMCO-	http://www.nammco.no/	North Atlantic Marine Mammal Commission
NASCO-	http://www.nasco.int/	North Atlantic Salmon Conservation Organization
Newfoundland – Labrador shelf	http://na.nefsc.noaa.gov/lme/text/lme9.htm http://www.edc.uri.edu/lme/text/newfoundland-shelf.htm	
News Areas on the Net	http://www.providence.edu/net/newsarec.htm	Overview news sites for Greenland, St-Pierre & Miquelon and Canada
UN-ECE	http://www.unece.org/env/lrtap/welcome.html	On long range transboundary air pollution
UN-ECE	http://www.unece.org/env/water/welcome.html	On the Protection and Use of Transboundary Watercourses and International Lakes

Greenland

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Pedersen, S.A., Madsen, J. and Dyhr-Nielsen, M., 2004: Global International Waters Assessment (GIWA) - Regional assessments: 1b – Arctic Greenland, 15 – East Greenland Shelf, 16 – West Greenland Shelf. UNEP/ GEF/ Kalmar University, Kalmar, Sweden.

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Organisation	Website address	Remarks
AMAP-	http://www.amap.no/	Arctic Monitoring and Assessment Programme
CIA	https://www.cia.gov/cia/publications/factbook/geos/gl.html	
General info	http://www.thearctic.is/articles/overviews/changing/enska/kafli_0200.htm	a website of human-environment relations in the Arctic
GIWA	http://www.giwa.net/areas/area16.phtml	On West GR shelf
GIWA	http://www.giwa.net/areas/area15.phtml	On East GR shelf
GIWA- Global International Waters Assessment	http://www.giwa.net/areas/area6.phtml	On north east shelf
Greenland's Bureau of mineral law and petroleum	www.bmp.gl	
On Inuit Circumpolar Conference	http://www.icc.gl/index.asp?lang=eng&num=280	

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Organisation	Website address	Remarks
Academic site	http://www.ac-st-pierre-miquelon.education.fr/	Site academique de St P et Miq
Chez noo	http://www.cheznoo.net/portaildata/home/index.php	Popular site
CIA	http://www.faq.s.org/docs/factbook/geos/sb.html	On St Pierre & Miquelon
French Overseas ministry on St Pierre & Miquelon	http://www.outremer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/st_pierre_miquelon	
GIWA on Newfoundland shelf	http://www.giwa.net/areas/area9.phtml	
IEDOM	http://www.iedom.fr/dom/spierre/publications.asp	Institut d'emission des departements d ' outre-mer
IUCN	http://biodiv.mnhn.fr/information/outre_mer/foi088503/06_St_Pierre_et_Miq.pdf	On Biodiversity in SpM
Le Grand Colombier	http://www.grandcolombier.com/ http://www.grandcolombier.com/institut.html	General site on St Pierre & Miquelon and page on institutions
Le Mathurin	http://www.mathurin.com/	News
Milenium development goals	http://mdgs.un.org/unsd/mdg/Data.aspx	Data on SpM
Political site	http://www.capsurlavenir-expression.net/ds_pages/page2.html http://www.gerardgrignon.com/	
Quid France	http://www.quid.fr/departements.html?mode=detail&dep=975&style=map	
Regional Committee for Tourism	http://www.st-pierre-et-miquelon.info/	Cte regional du tourisme
RFO	http://Spierremiquelon.rfo.fr/	Radio France Outre- Mer
SODEPAR- Development Agency	http://www.sodepar.com/	Societe de developpement et de promotion de l'archipel
Sources site	http://www.st-pierre-et-miquelon.com/	
SP&M local government	http://www.St-pierre-et-miquelon.pref.gouv.fr/	Prefecture
SP&M local government	http://www.mairie-spierre.fr/	Mairie St Pierre
Wikipedia	http://en.wikipedia.org/wiki/St_Pierre_and_Miquelon	

SOUTH ATLANTIC

Organisation	Website address	Remarks
South Atlantic Remote Territories Media Association	http://www.sartma.com	Interesting World and South Atlantic News site

Falkland Islands

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Organisation	Website address	Remarks
Official website of the Falkland Islands	http://www.falklandislands.com	
Falkland Islands government	http://www.falklands.gov.fk	
Falklands Conservation	http://www.falklandsconservation.com/index2.html	
Sub-Antarctic Foundation for Ecosystem Research (SAFER)	www.subantarctic.com	
CIA	https://www.cia.gov/cia/publications/factbook/print/fk.html	
	http://www.subantarctic.com	

South Georgia and South Sandwich Islands

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South Georgia and the South Sandwich Islands. February 2006.

Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/print/sx.html	
International Association of Antarctica Tour Operators	http://www.iaato.org	
South Georgia Island Online Environmental Resources	http://www.sgisland.org/pages/sghome.htm	

St. Helena

Government of St. Helena, 2004: Strategy for Action to Implement St Helena's Commitments under its Environment Charter.

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<http://www.sainthelena.gov.sh/government/policys/TourismMain2draftpart1.htm>

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Organisation	Website address	Remarks
Ascension Island government	http://www.ascension-island.gov.ac/	
CIA	https://www.cia.gov/cia/publications/factbook/print/sh.html	
St Helena government	http://www.sainthelena.gov.sh/	
St Helena government	http://www.sainthelena.gov.sh/	
The Islander (on-line edition) Ascension	http://www.the-islander.org.ac	
Tristan Times Online Newspaper	http://www.tristantimes.com	All kinds of interesting articles
Tristan Times Online Newspaper	http://www.tristantimes.com	All kinds of interesting articles

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wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187511&theSitePK=523679&entityID=000160016_20060209164511&searchMenuPK=64187511&theSitePK=523679

Organisation	Website address	Remarks
AOSIS	http://www.sidsnet.org/aosis/members.html	Alliance of Small Island States
APEC- Asia Pacific Economic Cooperation	http://www.apec.org/	
Asia-Pacific network	http://www.ap-net.org/index.html http://www.ap-net.org/database/library/09.html	
CBDAMPIC	http://www.sprep.org.ws/climate/documents/First_Six_Monthly_Report-CBDAMP.pdf	Capacity Building for the Development of Adaptation Measures in Pacific Island Countries
IUCN regional	http://www.iucn.org/places/oceania/	
PICCAP (Pacific Islands Climate Change Assistance Programme)	http://www.gefweb.org/Outreach/outreach-Publications/Project_factsheet/Asia_Pacific-paci-3-cc-undp-eng.pdf	
Protocol for the Prevention of Pollution of the South Pacific Region by Dumping	http://sedac.ciesin.columbia.edu/entry/register/reg-146.rrr.html http://sedac.ciesin.columbia.edu/entry/texts/pollution.dumping.south.pacific.protocol.1986.html	
Secretariat Pacific Community	http://www.spc.org.nc/	
SIDS	http://www.sidsnet.org http://www.sidsnet.org/MIM/followup-pacific.html	Small developing island states (Pacific)
SOPAC- South Pacific Applied Geoscience Commission	www.sopac.org	
SPREP	www.sprep.org.ws http://www.sprep.org.ws/climate_change/index.asp	South Pacific Regional Environment Programme
UN- Economic and Social Commission for Asia and Pacific	http://unescap.org/publications/index.asp http://unescap.org/about/special_pacific.asp	
UNEP	http://www.unep.org/regionalseas/	on regional seas

Organisation	Website address	Remarks
Western and central pacific fisheries commission	http://www.oceansatlas.org/unatlas_gifs/offsiteframe.jsp?url=http%3A%2F%2Fwww.fao.org%2Ffi%2Fbody%2Fbody.asp&ctn=2014&kot=web-sites http://www.wcpfc.org/pdf/Map.pdf http://www.wcpfc.org/pdf/Rules_of_Procedure.pdf	

French Polynesia

Gargominy, O. (ed.), 2003: Biodiversité et conservation dans les collectivités françaises d'outre-mer. Collection Planète Nature. Comité français pour l'UICN, Paris. Chapter on FP.

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Polynésie Française, 2004: Document Unique de Programmation (9eme FED).

Organisation	Website address	Remarks
BRGM, Bureau de Recherches Géologiques et Minières	www.brgm.fr	French Geological Institute
CIA	https://www.cia.gov/cia/publications/factbook/print/fp.html	
FP - CESC Council	http://www.cesc.pf/	Conseil économique, social et culturel
FP Assembly	http://www.assemblee.pf/	Assemblée PF
FP Ministry for Economic Affairs	http://www.finances.gov.pf/	
FP Ministry for SD	www.environnement.gov.pf general site with several pages on different issues Page on environment (among others on waste) : http://www.environnement.gov.pf/environnement.php	Ministère du développement durable PF
FP Presidency	http://www.presidence.pf/	
French Center for Biodiversity Convention	http://biodiv.mnhn.fr/information/outre_mer/fo1528725 on FP	Centre d'Echange français pour la Convention sur la diversité biologique
French Ministry Ecology and SD On FP	http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=342 Bibliography on FP http://www.ecologie.gouv.fr/article.php3?id_article=816	Ministère de l'Ecologie et Développement durable
French Overseas Ministry on FP	http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/polynesie_francaise&region=6	Ministère de l'Outre-Mer

IRD- French research institute for development	http://www.com.univ-mrs.fr/IRD/atollpol/irdpoly/acirdpol.htm http://www.com.univ-mrs.fr/IRD/atollpol/irdpoly/progsird.htm#ATOLL%20et%20CYEL http://www.com.univ-mrs.fr/IRD/atollpol/irdpoly/progsird.htm#PGRN http://www.com.univ-mrs.fr/IRD/atollpol/irdpoly/progsird.htm#TYPATOLL	Institut de recherche pour le développement Research on coral reefs
IUCN	http://biodiv.mnhn.fr/information/outre_mer/foi088503/13_Polynesie_francaise.pdf	On FP
On black pearls	http://www.perle-de-culture-tahiti.com/tahiti.php	on black pearl cultivation
Quid France	http://www.quid.fr/departements.html?mode=detail&dep=987&style=fiche	On FP
Reefbase	http://www.reefbase.org/global_database/default.aspx?section=s1 http://www.reefbase.org/download/reference_image.aspx?filename=StatusCR_FrPolynesia_2004_Table1h.gif	Info on coral reefs in FP
SOPAC- South Pacific Applied Geoscience Commission	http://www.sopac.org/tiki/tiki-index.php?page=French+Polynesia+SOPAC+and+Sustainable+Development http://www.sopac.org/tiki/tiki-browse_categories.php?parentId=7	On FP
UPF-University	http://www.upf.pf/	Universite de la Polynesie

New Caledonia

Gargominy, O. (ed.), 2003: Biodiversité et conservation dans les collectivités françaises d'outre-mer. Collection Planète Nature. Comité français pour l'IUCN, Paris. Chapter on NC.

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République Française /Nouvelle Calédonie, gouvernement de la Nouvelle-Calédonie, 2004:, Document unique de programmation pour le 9eme fonds européen de développement.

Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/geos/nc.html	On NC
Conservation International	http://www.biodiversityhotspots.org/xp/Hotspots/new_caledonia/index.xml	Impact of mining etc. on wildlife
French Center for Biodiversity Convention	http://biodiv.mnhn.fr/information/outre_mer/foi250019 on NC	Centre d'Echange français pour la Convention sur la diversité biologique.
French Ministry Ecology and SD	www.ecologie.gouv.fr general site	
French Ministry Ecology and SD	On NC: http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=337	Ministere de l' Ecologie et Développement durable

Organisation	Website address	Remarks
French Overseas Ministry on NC	http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/nouvelle_caledonie&region=10	Ministère de l'Outre-Mer
IUCN	http://biodiv.mnhn.fr/information/outre_mer/foi088503/11_Nouvelle_Caledonie.pdf	On NC
Quid France	http://www.quid.fr/departements.html?mode=detail&dep=988&style=fiche	On NC
Reefbase	http://www.reefbase.org/resources/res_overview.asp?changearea=true&Region=0&country=NCL	On coral reefs in NC
SOPAC- South Pacific Applied Geoscience Commission	http://www.sopac.org/tiki/tiki-index.php?page=New+Caledonia	On NC

Pitcairn

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Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/print/pc.html	On PIT
CSL- central science laboratory	http://www.csl.gov.uk/sitemap.cfm	
Educational site	http://library.puc.edu/pitcairn/pitcairn/index.shtml	
Island website	http://www.lareau.org/pitc.html	
Pitcairn web site	http://www.government.pn/	
UK DFID	http://www.dfid.gov.uk/countries/caribbean/pitcairn.asp	On Pit

Organisation	Website address	Remarks
UK Foreign and Commonwealth Office	On PIT: http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1018965247336	On Pitcairn as an Overseas Territory

Wallis and Futuna

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Organisation	Website address	Remarks
CIA	https://www.cia.gov/cia/publications/factbook/geos/wf.html	On W&F
French Centre for Biodiversity Convention	http://biodiv.mnhn.fr/information/outre_mer/foi919404 on W&F	Centre d'Echange français pour la Convention sur la diversité biologique.
French Ministry Ecology and SD	www.ecologie.gouv.fr general site On W&F: http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=341	Ministere de l' Ecologie et Développement durable
French Overseas Ministry on W&F	http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/wallis_futuna&region=5	Ministère de l'Outre-Mer
IUCN	http://biodiv.mnhn.fr/information/outre_mer/foi088503/12_Wallis_et_Futuna.pdf	On W&F
Quid France	http://www.quid.fr/departements.html?mode=detail&dep=986&style=fiche	
Reefbase	http://www.reefbase.org/resources/res_overview.asp?changearea=true&Region=0&country=WLF	On coral reefs W&F