

## Life Project Policy Frameworks

**Table 1 European Matrix of Legislation, Policy and Guidance on the Management of Coastal Hazards (coastal erosion, flooding and landslides)**

	GREAT BRITAIN	FRANCE	ITALY	POLAND	IRELAND
<b>PHYSICAL CONTEXT</b>					
<b>Total area (sq km).*</b>	242,000	546,000	294,000	304,465	68,890
<b>Length of coastline (km). *</b>	11,000	4,700	8,000	500	1,448
<b>Regions most affected by instability.</b>	Coast of central southern England including Isle of Wight, north Norfolk coast, Yorkshire coast, Dorset, the Cotswolds, South Wales (Rhondda Valley), Bristol and Bath, the Midlands, historic mining areas, Ripon area of Yorkshire.	The Channel Coast, The Alps, Massif Central, Jura mountains.	The Alps, Abruzzo, the Apennines, Umbria, Basilicata, Campania, Capri, Ancona to Grottammare (Adriatic Coast), Sicily, Liguria, Emilia-Romagna, Lazio, Lombardia and Sarnio.		Major landslides in Poland are most characteristic of the Carpathian Mountains in the southeast part of the country
<b>Regions most affected by flooding.</b>	Essex estuaries, Holderness Coast, Humber estuary,				
<b>Regions most affected by coastal erosion.</b>	East coast of England: east Yorkshire, East Anglia e.g. Norfolk; Kent. Areas along the southern coast include the Wessex coast, South Downs in Sussex and the Isle of Wight.	Région Poitou-Charentes, Aquitaine, Haute-Normandie, Régions Provence-Alpes-Côte d'Azur and Languedoc-Roussillon, and Sables d'Olonne in Pays de la Loire.	Regione Campania, Province of Napoli; Giardini – Naxos in Sicilia; Veneto and Emilia Romagna Regions; Regione Autonoma della Sardegna; Province of Sassari; Toscana; Regione Emilia Romagna, Provincia di Ravenna; Regione Liguria; and Regione Lazio, Provincia di Roma	Hel Peninsula in Voivodship Province and Pomorskie Western Coast of Poland in Westpomeranian.Voivodship	Rosslare in Wexford County and Rossnowlagh in Donegal County
<b>POLICY FRAMEWORK</b>					
<b>International legislation/policy relevant to coastal hazards.</b>	The World Coast Conference (1993) promoted the ICZM policy. The international policy on Climate Change was strengthened by the signing of the Kyoto Protocol in 1997. Other relevant legislation and guidance include: UNCLOS (1982), Chapter 17 of Agenda 21 and the Rio Declaration on Environment and Development (1992), IMO Conventions, Ramsar Convention. In 2003 ISDR published a framework for disaster risk reduction for guidance and monitoring.				

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<b>EU legislation, policy and other regional agreements relevant to planning in the coastal zones in relation to coastal hazards.</b>	<p>Planning and development policies include: the European Spatial Development Perspective (1999), European Union Sustainable Development Strategy (2001); European Urban Environment Strategy; Structural Fund Guidelines; European Code of Conduct for Coastal Zones; and the Disaster Preparedness and Prevention Initiative (2000) and Declaration on Cooperation in Disaster Preparedness and Prevention in South Eastern Europe</p> <p>Relevant legislation to planning include: EIA Directive (97/11/EC); SEA Directive (2001/42/EC); Proposal for the Directive on Infrastructure for Spatial Information in Europe (INSPIRE) 2004; HELCOM Recommendation 15/1 (Helsinki Convention); CAP 2003; Rural Development Regulations (1257/99/EC); CFP 2003; EC Recommendation Concerning the Implementation of ICZM (COM/00/545); Habitats Directive (92/43/EEC); EU Birds Directive (79/409/EEC) and the Water Framework Directive (2000/60/EC). Of particular relevance to instability are: Ground Water Protection (80/68/EC); Waste Disposal (75/442/EC); and Health and Safety (89/391), (89/654) and (92/57EC).</p>				
<b>National legislation on the planning system.</b>	<p>Town and Country Planning Act 1990 (in Scotland the 1997 Act) amended by the Planning and Compulsory Purchase Act (PCPA) 2004. The Sea Fisheries &amp; Wildlife Conservation Act 1992 includes powers covering the inter-tidal zones. The EU Birds and Habitats Directives are implemented through the Conservation Regulations 1994 now amended 2000 (SI 192) encompassing SPAs and SACs.</p>	<p>The Code de l'Urbanisme is the Town and Country Planning Code. The Loi Littoral amends the Code de l'Urbanisme by inserting national provisions on coastal planning. Urban expansion is restricted to the vicinity of existing developments and within urban areas, a coastal strip extending 100 m from the landward limit of the shore is declared "la bande littorale non constructible" in which most construction is prohibited.</p> <p>The Loi de Décentralisation gives administrative powers at the different administrative levels.</p> <p>The SNADT (Territory Development and Planning National Scheme) strengthened the government policy. The DTA (Development Territorial Laws) apply the orientations of the SNADT at a regional level. State-Region Planning Contracts enable a decentralised approach to public policies centred on major planning and</p>	<p>Under Article 822 of the Civil Code of 1942, the sea shore, beaches, roadsteads, ports and rivers belong to the State as part of the public domain. This is repeated in Article 28 of the Navigation Code 1942, which regulates the grant of concessions for the occupation and use the public maritime domain. The extent of this area is not precisely defined, although there is a procedure for its administrative determination in particular a place. In addition Article 55 declares a 30m zone behind the public maritime domain, in which the consent of the MA must be obtained for the execution of new works. In 1977, a Presidential Decree required that any development on coastal land within 300 m of the waters edge must be authorised by the regional authorities and the agencies responsible for natural property belonging to the State (this was reinforced by the Galasso Decree 1985 and confirmed by the Galasso</p>	<p>The Act on Physical Planning 1994 regulates the goals and principles of spatial development and planning. The Act on Marine Areas of the Polish Republic and Maritime Administration 1991 established a protected coastal strip running the length of the Polish coastline, including internal marine areas. This strip comprises the Technical Belt and the Protective Belt which must be marked on all Land Use Plans. Other legislation includes: Act on Nature Conservation 1991, Act on Protection and Shaping of Environment 1980, Act on County self-government 1998, Act on Self-government in Voivodships 1998. The Act on Municipal Self-government, 1990, Construction Law 1995, General Building Regulations, 1997, and the Protected Belts Act, 1997. In general the spatial planning system in Poland is similar to the existing planning systems in other EU countries. However it should be stressed that the</p>	<p>The Foreshore Acts (1933 to 1992) deals with any development on the shore below the MHW. The Harbours Act, 1946 endows certain supervisory and regulatory powers upon Harbour Masters in their respective areas. However, development control remains with the Minister for the Marine, to whom the Harbour Master is directly responsible. Development may also be subject to LA planning controls. A foreshores licence is also required to place objects or structures on the foreshores, to use or occupy the foreshore, or to remove or disturb beach material from it. Under the Local Government (Planning and Development) Acts, 1963 to 1993, LAs must make a plan indicating the development objectives for their area. Other relevant legislation includes: Continental Shelf Act 1968; Environmental Protection Agency Act 1992; European Communities (EIA) Regulations 1989; European</p>

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		development objectives. The decree of the 5 <sup>th</sup> July 2001 includes the environment in the territorial part of the State Region Planning Contrats. Other legislation includes: 1979 Development Protection and Enhancement of the Coast Act; Mountain and Coast Acts 1986; Landscape Protection and Enhancement Act 1993.	Law, which requires the regions to prepare territorial and landscape plans limiting or prohibiting building in this zone). CAP launched the 1999 reform of community structural and rural development policy. Other legislation relevant to planning include: the yearly law decree " <i>Legge Comunitaria</i> " contains the transposition of SEA EC Directive. Law 183 of 1989 covers Land Protection	present planning system is not stable. A drawback of the Polish system is that planning, building and environmental protection issues are regulated by completely different acts.	Communities (Natural Habitats) Regulations 1997; Fisheries Acts 1959-1998; and Minerals Development Acts 1940-1995
<b>National Policy on the planning system.</b>	<p><b>In England</b></p> <ul style="list-style-type: none"> <li>-PPG12 Development Plans,</li> <li>-PPG20 Coastal Planning</li> <li>-PG25 Development and Flood Risk,</li> <li>-PPG14 Development on Unstable Land (Annex1: landslide and planning; Annexe 2: subsidence and planning);</li> <li>-PPG16 Archaeology and planning.</li> <li>-RPG e.g. RPG9 slope instability problems on clay soils (South East England).</li> </ul> <p><b>In Wales</b></p> <ul style="list-style-type: none"> <li>-TAN13 Coastal Planning;</li> <li>-TAN19 Development on Unstable Land.</li> <li>- Wales Spatial Plan 2004</li> </ul> <p><b>In Scotland</b></p> <ul style="list-style-type: none"> <li>-NPPG13 Coastal Planning;</li> <li>-PAN51 Planning and Environmental Protection.</li> </ul> <p>Under PCPA 2004</p>	<p>Three main urban planning documents:</p> <ul style="list-style-type: none"> <li>-strategic/sectoral plans;</li> <li>-Local Town Plan (PLU)</li> <li>- Concerted Planning Area (ZAC).</li> </ul> <p>Communes are responsible for preparing PLU which replaces the Use Land Plan (POS) since 2000 and the law Town Solidarity and Replenishment (SRU). Groups of communes, collaborate in the production of Territorial Coherence Scheme (SCT) which define planning objectives for a wider area, replacing the Schémas Directeurs (SRU law 2000) and gives basic guidelines for development. A system of Sea Exploitation Schemes (SMVM) is the main marine planning instrument.</p>	<p>CAP launched the 1999 reform of community structural and rural development policy.</p> <p>The National Institute of Town Planning (INU) has undertaken the promotion and organization of the Fifth National Review of Town Planning. The theme consists in the Agenda for territorial governance by the local institutions wishing to set forth their plans, projects, designs, programmes and policies. A Coastal Areas Integrated Management Plan has been prepared for the Regione Marche.</p>	<p>Local Land-use Plans and Plans of Protection (for nature reserves). The Technical Belt has been established for the whole Polish coastline and extends up to 200m inland, according to the type of coast. In dune areas it is up to 200m landward of the dune ridge; for cliffs it is up to 100 m landward of the upper edge of the cliff; and for the lagoons it is up to 200 m landward of the shore. The Protective Belt extends generally up to 2 km inland from the landward boundary of the Technical Belt but in some places it widens to 5 km. All local communes are obliged to prepare and approve a 'local comprehensive planning document', which formulates the preconditions and directions for physical development. National and</p>	<p>Under the Local Government Acts, 1963-1993, each LA must prepare a county development plan for its area at least every five years. Development plans are subject to public consultation, with a right to appeal through An Bórd Pleanála (the Planning Appeals Board), thus bringing the planning process on the landward side into the public domain.</p>

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	<p>-RSS (replace structure plans and Part 1 of UDP)            -PPS (Draft PPS on regional planning, forward planning, sustainable communities (Draft PPS12)),            -LDFs are portfolios of LDDs or SPD</p>			<p>regional goals and directions are to be taken into account when elaborating these plans. The detailed spatial plans are prepared as a legal instrument for the development permits. National Spatial Development Policy has been elaborated as a strategic document.</p>	
<p><b>National legislation relevant to coastal instability.</b></p>	<p>There is no legislation that addresses specifically ground instability problems, however, the Building Act, 1984, S1(1) provides a complementary mechanism to the planning system for addressing instability issues during the course of development. In addition the Building Regulations 1985 and 1991 are relevant. The Land Drainage Act 1991 provides the legislative framework for addressing coastal flooding. This Act gives powers to LAs to carry out flood protection works, in cases where landowners do not undertake necessary flood defence works the LAs can undertake the work and recharge costs.</p>	<p>Principal legislation includes the Code des Communes and the Code of Development and Town Planning as well as the Public Safety Act. The Environment Act 1982 is applicable in relation to natural disasters arising from coastal erosion and flooding by the sea. Powers are split between the Commune and the Government. The general statutory powers are defined under the Code des Communes and the Code of Development and Town Planning. The Act "Loi Littoral" (3/1/86) and the Public Safety Act 1987, provide powers for both Government and Communes in relation to coast protection and land at risk. Law Number 82.600 (13/7/82) makes provision for compensation for casualties of natural disasters. The Expropriation of Property Order 95 - 1115 (17/10/95) and the Law Barnier (2/2/95) cover</p>	<p>Each region in Italy has a Statute governing its functions as set out in Article 117 of the Constitution. This includes responsibility for the environment, planning, environmental protection, forests and soil management. The State has overall autonomy through legislation. Law 180 requires landslide hazard maps to be prepared by each Region. Law 183/1989 entrusts to the National Hydrographical and Marine Service: to monitor, update and publish climatic, hydrological and hydrographical data</p>		

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		expropriation and compensation by the Government for property affected by natural risks where remediation is too expensive.			
<b>National policy on coastal instability.</b>	<p>PPG14 Development on Unstable Land: (together with Annex 1: Landslides and Planning), TAN(Wales)19 Development on Unstable Land, AAPs are for areas of significant change and their relevance arises from propensity of coastal regeneration sites to be subject to flood risk. LAs may withdraw rights to develop if they believe serious harm may be caused by the permitted development by invoking a GDPO, which stipulates that LAs must state reasons for permitting development &amp; indicate what development plan policy was relevant to the decision. Coastal Fora, in England, Scotland, Wales and N. Ireland involve a wide range of stakeholders, and promote sustainable approaches to coastal management. Each of these have a secretariat and they are all linked through the Countryside Division of the DETR which is responsible for promoting effective coordination of policies for the coast.</p>	<p>Legislation is in force through the publication of Risk Prevention Plans and Particular Plans For Intervention (PPIs) - Law 95-1001 (2/2/95). In areas prone to instability problems POS support the local plans. As in Great Britain public bodies (the State and LAs) have no obligation to carry out or finance coastal defence work. They must however, ensure that adequate maintenance of coastal defence structures takes place. Larger projects will be subject to technical studies and a Public Inquiry before works can commence. The PLU should take into account the documents for the prevention of major natural hazards and the possible Natural Hazards Prevention Plan for the Commune concerned</p>			

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<b>National legislation relevant to coastal protection.</b>	The Coast Protection Act 1949 provides powers for coastal LAs to undertake works and studies to protect life and property from the effects of coastal erosion. LAs have powers to deal with civil emergencies including disasters under the Local Government Act 1972 (amended in 1999 and 2000). Planning permission by LAs is not granted where the EA raise objections to planning applications. There are two stages to consideration of flood risk issues: The sequential test and the FRA.				The Coast Protection Act 1963; Foreshore Acts (1933 to 1992) Harbours Act, 1946 are all relevant to coastal protection. A foreshores licence is also required to place objects or structures on the foreshores, to use or occupy the foreshore, or to remove or disturb beach material from it.
<b>National policy on coastal protection.</b>	PPG20 Coastal Planning 1992, TAN(Wales)13 Coastal Planning, NPPG13 (Scotland) Coastal Planning, PAN51 (Scotland) Planning and Environmental Protection, PPG25 Development and flood risk 2001. Defra have published a series of HLT for CDOA in 1999.				
<b>Other national legislation/policy relevant to the management of coastal areas.</b>	ICZM, EMPs, SMPs, LEAPs, CHaMPs, RBMPs and River Basin Districts, CFMPs and BAPs.		Law 183 of 1989, supplemented by Law 36 of 1994 deal with the management of water resources; Law 979 in 1982 covers marine environmental protection; and Law 394 of 1991 is a framework on protected areas,	Mining Law 1994, Water Law 1974, Energy Law 1997, Act on Inland Fishery 1985, Act on Forests 1991, Act on Protection of Agriculture and Forest Soil 1995, Act on Pollution of the Sea from Ships. The first Polish policy for coastal protection, " <i>Long Term Programme for Coastal Protection and Maintenance of Beaches</i> ", was developed in 1986 and revised in 1989.	A Draft national policy on Coastal Zone Management was published for consultation in 1997. Other legislation includes: Dumping at Sea Act 1996; Sea Pollution Act 1991; Marine Institute Act 1991; Oil Pollution of the Sea Acts; Waste Management Act, 1996; Water Pollution Acts 1977-1990.

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				A new policy, the “ <i>Strategy for Coastal Protection</i> ”, has been approved in 2001. The approach is selective managed realignment, which means that along about 35% of the coast the present position of the coastline will be dynamically preserved, and along the rest some retreat will be allowed. The Strategy has a 10, 25 and 50-year perspective. Other relevant policies to coastal management include: Sustainable Development Strategy for Poland up until 2025; Polish Biodiversity-Strategy; and National Wetland Strategy 1998.	
<b>ADMINISTRATIVE FRAMEWORK ON COASTAL HAZARDS</b>					
<b>National government departments involved in the planning system.</b>	DETR publishes advice in the form of NPPGs and MPGs as well as through circulars and White Papers. In Scotland NPPGs, Circulars and PANs are published whilst in Wales an all purpose document entitled 'Planning Guidance (Wales): Planning Policy' has been prepared. TANs provide additional advice and best practice. Responsibilities lie with County Councils and Unitary Authorities in terms of strategic planning and District Councils for local planning. Emergency planning is generally undertaken by	Ministère de l'Équipement, des Transports et du Logement supervises the planning law whose responsibilities also include the administration of navigable waters. The Ministère de l'Aménagement du Territoire et de l'Environnement is responsible for environmental protection and nature conservation and the Ministère de l'Agriculture et de la Pêche is responsible for agriculture and fisheries.	The Ministry of Public Works is in charge of planning, approving, and executing Public Works' projects. The Central Administration is divided into five central directorates and the High Council for Public Works. The decentralized administration is constituted by the Regional Departments of Public Works and the authorities for the waters of Venice, the Po river and the Tiber river. The Council is composed of six sections that advise on policy and planning matters and of a Central Technical Service	The main authorities are the Minister of Infrastructure – at national level, and the Directors of Maritime Offices – at regional level which are responsible for monitoring and measures against coastal erosion. The Housing and Urban Development Office is the governmental agency that is responsible for co-ordination of planning. The Government Centre for Strategic Studies is responsible for the national physical development policy and other kinds of planning at this level. Furthermore, the	DOELG is the agency with responsibility for policy formation and legislation relating to all matters environmental on the landward side of the Mean High Water Mark (MHW). DOMNR - seaward planning

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	<p>County Councils in liaison with District Councils. The Mayor has no specific powers in the UK, as policy/decision-making is currently collective through elected Councillor representation on County and District Councils. Parish/Town Councils fulfil a local advisory role and comment on development proposals.</p>		<p>(CTS). Relevant divisions include: Urban Development and Buildings Construction Technical Division; Environmental Protection Technical Division; Maritime works and ports Technical Division; and Hydrogeological adjustments and Basin plans. In Italy the shoreline is owned by the state and the private land owners pay rent to the state.</p>	<p>Ministry of the Environment has guiding and control tasks in respect to environmental issues of spatial planning. The regional self-government, headed by the Marshal of the Vovoidship, has full responsibility for strategic and spatial planning. The regional body for planning is the Marshal's Office and the Department of Strategy and Development. There are 1489 communes in Poland which have substantial planning responsibilities, however their enforcement potential is rather weak.</p>	
<p><b>National government departments involved relevant to coastal hazards and their roles and responsibilities</b></p>	<p>DEFRA is the government agency responsible for flood and coastal defence issues. County Councils may be involved with instability matters as the strategic planning and highway authority. Maritime District Councils and Unitary Authorities may also be Coast Protection Authorities (CPA) with powers to carry out coast protection works and to monitor the coastline. CPA also participate in informal/Regional 'Coastal Groups' to ensure a strategic approach is developed to shoreline issues. There are 250 Internal Drainage Boards with the responsibility to undertake flood defence</p>	<p>Lead National Government Departments involved in risk and planning issues include the DRIRE (Regional Management for Industry, Research and the Environment within the Ministry of Industry); the DIREN (Regional Management for the Environment within the Ministry of the Environment) manages scientific studies for PPR; the DDE (Departmental Management for Equipment); DRE (Regional Management for Equipment) may also be involved in coastal and geotechnical issues.</p>	<p>Government intervention takes place in the case of major civil disasters through the Department of Civil Defence under the President of the Council of Ministries. The General Direction for Maritime Work deals with coastal erosion issues. The General Direction for Protection of Land deals with drainage and soil protection. The Department of Civil Protection set up the Operational Unit 2.38, a component of the (GNDCI – National Group for the Prevention of Hydrogeological Catastrophes) at the Italian National Research Council (CNR). The twenty Regions have the key responsibilities for</p>	<p>The main authorities are the Minister of Infrastructure – at national level, and the Directors of Maritime Offices – at regional level which are responsible for monitoring and measures against coastal erosion.</p>	<p>In 1997 a Coastal Zone Administration Division was set up in the DOMNR. The principal functions of the division, detailed in the DOMNR Guide to the Functions of and Records held by the Department (1998) are to support the development of sustainable CZM through new policies, plans and legislation and through effective licensing arrangements for management of activities on the foreshore and at sea.</p>

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	works within Internal Drainage Districts under the provisions of the Land Drainage Act.		landslide mitigation and receive some limited funding to address instability problems on land, or affecting property and communications. The Municipalities are concerned with the layout of development projects which must be approved by the Provinces or Regions.		
<b>Other organisations relevant to coastal hazards.</b>	BGS, the Meteorological Office, the EA (flood risk) and EN are non-governmental organisations representing sectoral interests which may influence or advise on ground stability-related issues. Research organisations include the Building Research Establishment, NERC, CIRIA, Universities, Colleges and funding organisations. Additional research is contributed by developers, mining companies and LAs.	The Conservatoire de L'Espace Littoral et des Rivages Lacustres, is a public establishment that manages considerable areas of coastal land (established 10/7/75 by law). Scientific institutions including IFREMER, BRGM and universities and colleges commission/ undertake research.	Land Reclamation Syndicates operate in some catchment basins dealing with soil stability and ground instability problems. It is possible that their role will soon be transferred to the Regions. The Forest Rangers Corps also has soil defence responsibilities but they may also be incorporated into Regional Government or as a State Corps. NGOs (eg. National Research Council - IRPI), universities, consulting engineers and developers contribute to the information base on instability.	Other institutions involved in the formulation and implementation of regional plans include regional development agencies, NGOs, foundations, etc	The Marine Institute, the Environmental Protection Agency, Environmental Information Service (ENFO) is a service of the DOELG and provides a range of services to facilitate public access to information,
<b>Government policy on insurance and compensation for regions/individuals affected by instability and the role of insurance companies.</b>	There is no Government compensation arising from coastal instability problems. Property owners may take out their own insurance cover for instability. Although this does not cover coastal erosion or fluvial erosion, landslip may be covered. Cover is arranged by private insurance companies. The Government may provide emergency assistance to LAs under the	In France the 1982 Law requires that every property owner must be insured. There is a surcharge of 12% on property insurance to cover costs arising from natural hazards. Central Government (the State), has the responsibility to define risk zones.	There are various laws for insurance against catastrophes, but as yet no integrated solution. Insurance companies do not offer standard products to cover the risks of natural catastrophic events, even though they are available to consider such guarantees for large enterprises. Recently an insurance company (Allianz Subalpina - building insurance		

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	Bellwin Rules.		policy "Globalia") has offered to cover damage from earthquakes and floods with a maximum reimbursement of 250 million lira.		
<b>COASTAL EROSION MANAGEMENT AND MONITORING</b>					
<b>National centre for the study of coastal erosion</b>		Institut français de recherche pour l'exploitation de la mer (IFRMER) is the main research institute that deals with monitoring of the ocean and coastal zones. On a regional scale many regions undertake their own coastal monitoring and have set up coastal observatories. For example, SYSCOLAG: a regional observatory of the coastal environment in the "Languedoc-Roussillon" region. The coastal laboratories (DEL) constitute the Coastal Environment Division's local level of action.	National Hydrographical and Marine Service monitors, updates and publishes climatic, hydrological and hydrographical data related to: superficial and subterranean waters, maritime climates, coastlines, lagoons and sea- levels (using thermometric, pluvial, and hydrometric stations, tide gauges and wave meters). The Hydrographical Institute of the Navy has the duty of systematically surveying the Italian seas, producing the official nautical document and developing studies in the field of oceanography. Ongoing studies have been lead by Anacona University on sea wave climate, 2D numerical modelling, GIS etc.		Environmental Information Service (ENFO) is a service of the DOELG and provides a range of services to facilitate public access to information.
<b>Monitoring of coastal erosion.</b>	Defra and the EA sponsor strategic research into flood management as part of a user-oriented Joint Programme of Flood and Coastal Erosion Risk Management. The Channel Coastal Observatory is the data management centre for the Southeast Regional		On the Isle of Procida a beach monitoring programme is ongoing.		

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	Coastal Monitoring Programme <a href="http://www.channelcoast.org">www.channelcoast.org</a> . A Sediment Transport Study was undertaken by SCOPAC (Standing Conference on the Problems Associated with the Coast) for the Southern coastal region of England between Lyme Regis (Dorset) and Shoreham-By-Sea (West Sussex).				
<b>Mapping system.</b>		The Interdepartmental Committee of the Sea (CIM) initiated the RGL ( <i>Referentiel Geographique Littoral</i> ~ Geographic Coastal Referential) which links the land geographical information, essentially produced by the IGN ( <i>Institut Geographique National</i> ~ National Geographic Institute), and the marine information, essentially produced by the SHOM ( <i>Service Hydrographique et Oceanographique de la Marine</i> ~ Hydrographical and oceanographic Marine Service).			
<b>National database.</b>	The Channel Coastal Observatory <a href="http://www.channelcoast.org">www.channelcoast.org</a> . SCOPAC <a href="http://www.scopac.org.uk">www.scopac.org.uk</a> .	IFREMER <a href="http://www.ifremer.fr">www.ifremer.fr</a> . Ifremer has also established the oceanographic database centre (SISMER); Processing and Archiving facilities (CERSAT); real-time data within the framework of the national programme <a href="http://www.ifremer.fr/cersat/en/general/general.htm">www.ifremer.fr/cersat/en/general/general.htm</a> ; (CORIOLIS)			

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		<p><a href="http://www.ifremer.fr/coriolis/">www.ifremer.fr/coriolis/</a>; and automated measurements for the coastal environment in the Bay of Seine (MAREL); and (QUADRIGE) database</p> <p>Others include:</p> <p>DEL:  <a href="http://www.ifremer.fr/anglais/org/del/lc.htm">www.ifremer.fr/anglais/org/del/lc.htm</a></p> <p>SYSCOLAG  <a href="http://www.ifremer.fr/syscolag">www.ifremer.fr/syscolag</a>.</p> <p>BOSCO (Base d' Observation pour le Suivi des Côtes ~ Observation Basis to Follow the Coastal evolution) is a national database on coastal erosion <a href="http://www.bosco.tm.fr">www.bosco.tm.fr</a>.</p>			
<b>National, regional and local strategies for coastal erosion (based upon natural coastal processes or for example administrative boundaries).</b>		<p>On a regional scale many regions undertake their own coastal monitoring and have set up coastal observatories. On a more local scale DEL ensures data-gathering and quality monitoring of the marine environment. They process requests for advice and expert' reports for decentralized State services, LAs and professional organizations, in compliance with coastal station assignments.</p>			
<b>COASTAL INSTABILITY MANAGEMENT AND MONITORING</b>					
<b>National centre for the study of coastal instability.</b>	A new web-based library covering the Joint Defra / EA flood and coastal erosion risk management R&D programme hosted by Defra at	One of the research activities of BRGM is Aménagement et risques naturels which deals with the landslides and ground instability. BRGM, with l'INERIS and l'INPL (LAEGO)	GNDCl ~ (National Group for the Prevention of Hydrogeological Catastrophes) at the CNR. The University of Naples is currently undertaking	Polish Geological Institute	It is not believed that any landslide hazard or risk assessment has been undertaken in Ireland.

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	<p><a href="http://www.defra.gov.uk/enviro/fcd/research">www.defra.gov.uk/enviro/fcd/research</a></p> <p>Isle of Wight Centre for the Coastal Environment</p>	is part of the GISOS (research Group on impact and the security works underground).	research on landslides, seismic zonation, pyroclastic soils.		
<b>Monitoring of coastal instability.</b>			A major study by the CNR-IRPI, Perugia, comprises a national landslide and flood database listing over 10,600 events since records began.		
<b>Mapping System.</b>			The GNDCl drafted a 'Preliminary Map of the Areas at Residual Risk' at 1:5,000 scale. Regional mapping and monitoring of landslides is being undertaken by the University of Naples.	The Polish Geological Institute (PGI) <a href="http://www.pgi.gov.pl">www.pgi.gov.pl</a> is developing a new project including registration of landslides in the Carpathians. The PGI has a Landslides inventory at the scale 1:10 000; Airphotos and satellite image analysis; Digital terrain models (DTM); Geophysical methods and georadar; GPS measurements (monitoring) of landslides; Map of landslides hazards; and Preparation of maps for territorial planning	
<b>National database.</b>		BRGM manages a database on the hazards of land movements. <a href="http://www.brgm.fr">www.brgm.fr</a>		PGI has a Landslides database.	
<b>National, regional and local strategies for coastal erosion (based upon natural coastal processes or for example administrative boundaries).</b>					
<b>COASTAL FLOODING MANAGEMENT AND MONITORING</b>					
<b>National centre for the study of coastal flooding.</b>	The EA is the main body for managing flood risk, and				

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	works with Defra and the National Flood and Coastal Defence Database (NFCDD).				
<b>Monitoring of coastal flooding (for 1 in 100 yrs etc).</b>	The EA is now able to provide flood warnings online 24 hours a day. The information is updated every 15 minutes. From this webpage you can view warnings in force in eight regions covering England and Wales. Local area and its current warning status can be viewed in internet				
<b>Mapping system.</b>	Material, maps, the flood risk response matrix and four technical guidance notes on flood risk assessment for different types of development in different types of location are available on the EA website as well as the National Flood and Coastal Defence Database (NFCDD). <a href="http://www.environment-agency.gov.uk">www.environment-agency.gov.uk</a>				
<b>National database.</b>	<a href="http://www.environment-agency.gov.uk">www.environment-agency.gov.uk</a>				
<b>National, regional and local strategies for coastal flooding (based upon natural coastal processes or for example administrative boundaries).</b>	The EA delegates responsibility for managing flood risks aspects of planning applications to LPAs where there is no or low flood risk. The EA is preparing standing advice and expects the LPAs to consult them on higher risk applications. Locations are classified as: within Main River bye-law distance; within the indicative flood plain i.e. falling into PPG25's zone 3, high flood risk; and outside				

	GREAT BRITAIN	FRANCE	ITALY	POLAND	IRELAND
	the high flood risk area as represented by PPG25's zones 1 and 2, no/low risk and low/medium risk. An EA matrix indicates how LPAs should proceed with advice to evaluate whether any flood risk has been mitigated.				
<b>CLIMATE CHANGE</b>					
<b>Responsible Government departments</b>	Defra and DETR				
<b>National scenarios for climate change</b>	<ul style="list-style-type: none"> <li>-average UK temperatures could increase by about 3° by 2100;</li> <li>-rainfall could increase by as much as 10% over England and Wales and 20% over Scotland by the 2080s;</li> <li>-sea-level rise by the 2050s could amount to 41cm in East Anglia and 21cm in the west of Scotland;</li> <li>-winters and autumns are likely to get wetter;</li> <li>-spring and summer rainfall patterns are likely to change, with the north west of England becoming wetter and the south east becoming drier;</li> <li>-the frequency of extreme weather events such as severe floods is expected to increase (though there is less clarity about the likely frequency of storms and high winds);</li> <li>-individual years and groups of years will continue to show considerable variation about the underlying trend.</li> </ul>				
<b>Impact studies</b>	Implications of Climate				

	GREAT BRITAIN	FRANCE	ITALY	POLAND	IRELAND
	Change for DETR. UKCIP's Integration Report will be produced in Spring 2005. SCOPAC is preparing for the Impacts of Climate Change, a strategy for long term planning and management of the shoreline in the context of Climate change predictions. Hadley Centre for Climate Prediction and Research				
<b>Incorporation into planning system</b>	The Government has begun to build climate change into many areas of mainstream policymaking. Planning guidance on development in areas at risk of flooding has been strengthened to advise a precautionary and risk-based approach (PPG25). Many other areas of policy now incorporate a climate change perspective, including building regulations, flood and coastal defence, water resources, and health.				

\* Source: CIA 2005

**Table 2 European Matrix of Legislation, Policy and Guidance on the Management of Coastal Hazards (coastal erosion, flooding and landslides)**

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
<b>PHYSICAL CONTEXT</b>						
<b>Total area (sq km).*</b>	41,526	42,394	304,473	63,589	504,782	449,964
<b>Length of coastline (km).*</b>	451	7,314	1,250	531	4,964	3,218
<b>Regions most affected by instability.</b>				Costa brava, Mallorca, and Vallcebre north of Barcelona		Ystad and Scania in Skanelän county; Vagnhärad in the Södermanland province
<b>Regions most affected by flooding.</b>	The majority of the Netherlands coastline	Køge Bay, south of Copenhagen; Western Coast of Jutland		Gulf of Riga	Valencia Autonomous Community, Castellón Province	Ystad in Skanelän county
<b>Regions most affected by coastal erosion.</b>	The majority of the Netherlands coastline	Hyllingbjerg on the North Zealand (Sjælland) coastline; Køge Bay, south of Copenhagen; Western Coast of Jutland	Due to the absence of any significant tide, relative sea level decline (due to land uplift) and moderate wave climate, coastal defence is not an issue in Finland. The occurrence of erosion of the coastal dunes does not threaten the safety of the hinterland, buildings or recreational possibilities. The eroded areas are mostly desolate and enough safety is preserved because the coastal dunes are very wide.	Gulf of Riga	Illes Balears (Isle of Mallorca); Valencia Autonomous Community, Castellón Province; Catalunya Autonomous Community, Tarragona province; Canarias Autonomous Community Santa Cruz de Tenerife Province; Vasque Country; Autonomous com. of Murcia; Catalonia autonomous community, Barcelona province	Scania in Skanelän county
<b>POLICY FRAMEWORK</b>						
<b>International legislation/policy relevant to coastal hazards.</b>	The World Coast Conference (1993) promoted the ICZM policy. The international policy on Climate Change was strengthened by the signing of the Kyoto Protocol in 1997. Other relevant legislation and guidance include: UNCLOS (1982), Chapter 17 of Agenda 21 and the Rio Declaration on Environment and Development (1992), IMO Conventions, Ramsar Convention. In 2003 ISDR published a framework for disaster risk reduction for guidance and monitoring.					

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
<b>EU legislation, policy and other regional agreements relevant to planning in the coastal zones in relation to coastal hazards.</b>	<p>Planning and development policies include: the European Spatial Development Perspective (1999), European Union Sustainable Development Strategy (2001); European Urban Environment Strategy; Structural Fund Guidelines; European Code of Conduct for Coastal Zones; and the Disaster Preparedness and Prevention Initiative (2000) and Declaration on Cooperation in Disaster Preparedness and Prevention in South Eastern Europe Relevant legislation to planning include: EIA Directive (97/11/EC); SEA Directive (2001/42/EC); Proposal for the Directive on Infrastructure for Spatial Information in Europe (INSPIRE) 2004; HELCOM Recommendation 15/1 (Helsinki Convention); CAP 2003; Rural Development Regulations (1257/99/EC); CFP 2003; EC Recommendation Concerning the Implementation of ICZM (COM/00/545); Habitats Directive (92/43/EEC); EU Birds Directive (79/409/EEC) and the Water Framework Directive (2000/60/EC). Of particular relevance to instability are: Ground Water Protection (80/68/EC); Waste Disposal (75/442/EC); and Health and Safety (89/391), (89/654) and (92/57EC).</p>					
<b>National legislation on the planning system.</b>	<p>The <u>Spatial Planning Decree</u> prescribes consultations between spatial planning bodies and water management bodies in preparation of zoning plans. The <u>Spatial Planning Act</u> was amended in 2004 to improve policy implementation and enforcement powers and changes the current planning structure; regional and zoning plans are replaced by the strategic policy document .The <u>General Administrative Law Act</u> (amended 2004) introduces new regulations for information provision and coordination to improve the permit procedure.</p>	<p>The Coast Protection Act, Consolidated Act No.243/1994 empowers regional authorities, i.e. the county, to take their own initiatives or to respond to requests brought forward from local citizens or authorities. This ensures that co-ordination with physical planning is established at the appropriate administration level at an early stage of the project. At the same time the local municipalities and landowners are involved.</p> <p>The Planning Act of 1992, which was revised in 1994 and 2000, adopted measures ensuring that special planning and function justifications are required for permitting building projects and the designation of new areas for development in the coastal zone. If such justifications exist, the</p>	<p>A new Land Use and Building Act (132/1999) and Land Use and Building Decree (895/1999) came into force in 2000 replaced the Building Act of 1958. The main aims of the new act are to create a sustainable basis for the development of public participation in area development, to delegate decision-making to local authorities and to improve building quality. Planning and building in coastal areas follows the guidelines laid down in 1997 legislation. Revisions made to the Land Use and Building Act in 2003 oblige landowners who benefit significantly from changes in local detailed plans to contribute towards the costs of redrawing the plans concerned. Finnish legislation on land use and building includes</p>	<p>The Law on Territory Planning promotes sustainable development using effective territorial planning system and regulates the National Spatial Plan. The Spatial Planning Law was adopted on 2002 (superseding the Territory Development Planning Law, <i>Latvijas Republikas Saeimas un Ministru Kabineta Ziņotājs</i>, 1998, No. 23). The Construction Law was adopted in 1995</p>	<p>National Shores Act 1988 (amended 1991), Constitution of Spain 1978, Ports &amp; merchant Navy Act 1992 (amended 1997), Royal legislative Decree on EIA 1986, Land Law Urban Planning 1985 (amended 1998),</p>	<p>Planning and Building Act 1987, Exclusive Economic Zone Act 1993, Environment Code 1998 (amalgamates all the previous Acts referring to the coast: Nature Conservation Act 1974, Environment Protection Act 1969, Marine Dumping Act 1971, Environmental Damage Act 1986, Natural Resources Act 1987 and Water Act 1983.</p>

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
		<p>main rule is to locate behind already existing settlements. The designation of new areas for summerhouses is not allowed, Summer Cottage Act 1972. Marine Environment Protection Act 1993, Nature Protection Act 1992, Environment Protection Act 1991, Harbour Act 1999, Crown Estate Decree 1983, Continental Shelf Act 1971.</p>	<p>certain general minimum requirements and conditions for building permits. More detailed building regulations are set out in the National Building Code for Finland. In 2000, the Finnish Council of State set the first 'EG93 Finland's National Land Use Guidelines.</p>			
<p><b>National Policy on the planning system.</b></p>	<p>Third Coastal Policy Document 2000; Towards an integrated coastal zone policy 2002; 5th National Policy Document on Spatial Planning; and Line of Policy for the Dutch Coast 2003.</p>	<p>Regional Plans, Municipal Plans,</p>	<p>Development Programmes; Environmental Programmes; Municipal development Programmes; Detailed Plan; Shore Plan Building Orders; Finland 2017 Vision of the Spatial Structure, the Land Use and the National Environment Policy Programme 2005; Since 1997, building has not been permitted along shorelines unless they have been specifically designated for building in previously approved by Shoreline Master Plans.</p>	<p>National Spatial Plan sets out all national interests and requirements for the utilisation and development of the territory of the State, in accordance with the State Regional Policy Guidelines, the National Development Plan and a national or sectoral development programmes. A planning region spatial plan specifies the development possibilities, directions and restrictions of the planning region territory are specified. The district local government spatial plan specifies the development possibilities, directions</p>	<p>Regional Guidelines for the Coastal Zone 1992, Andalucia</p>	<p>Regional plans/guidelines, Comprehensive plans, Development plans.</p>

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
				and restrictions of the district local government territory, the present and planned (permitted) utilisation of the district local government territory, as well as details of the requirements, territories and objects specified in higher level spatial plans.		
<b>National legislation relevant to coastal instability.</b>						The Civil Protection Act (2003:778) replaced the Swedish Rescue Services Act.
<b>National policy on coastal instability.</b>	Third Coastal Policy Document 2000; Towards an integrated coastal zone policy 2002; 5th National Policy Document on Spatial Planning; and Line of Policy for the Dutch Coast 2003.		Due to the absence of any significant tide, relative sea level decline (due to land uplift) and moderate wave climate, coastal defence is not an issue in Finland. The occurrence of erosion of the coastal dunes does not threaten the safety of the hinterland, buildings or recreational possibilities. The eroded areas are mostly desolate and enough safety is preserved because the coastal dunes are very wide. Therefore, some erosion of these coastal dunes is not considered a problem and no measures are taken to stop the erosion.			
<b>National legislation</b>	Flood Defence Act	The Coast Protection Act				

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
<b>relevant to coastal protection.</b>	determines which interested parties should be involved in flood defence structure activities.	(Act no. 243, 5 April 1994) empowers the counties (regional authorities) to protect the coastal areas against flooding and erosion. It also provides improved co-ordination of coastal protection and development schemes within a coastal environment perspective. In case the counties lack expertise, they can involve the Danish Coastal Authority at an early stage for assistance in further examination of a project.				
<b>National policy on coastal protection.</b>	Third Coastal Policy Document 2000; Towards an integrated coastal zone policy 2002; 5th National Policy Document on Spatial Planning; and Line of Policy for the Dutch Coast 2003	The integrated process of coastal erosion management leads to local plans with a few prerequisites: coherence with the planning system; set back and no building regulations.				
<b>Other national legislation / policy relevant to the management of coastal areas.</b>		Fishery Act 1999, Raw Materials Act 1991, Water Supply Act 1978, Forest Act 1989, Action Plan for Aquatic Environment 1987, implementation HELCOM Recommendation 15/1 (Helsinki Convention) concerning the protection of the coastal strip. Denmark, together	The project Coastal Planning on the Gulf of Finland is one of the EU Demonstration Programmes on ICZM. The project comprised several municipalities regional councils and also the Uusimaa and Southeast Finland Regional Environment Centres drawing up master plans for their	The Law on Protected Belts prescribes types of protected belts and stipulates business activity limitation and prohibitions in protected belts and the dune zone of the Baltic Sea and Riga Bay. Other legislation includes the Law on the Protection of Species and Habitats and the Law on Specially	National Pollution Control Plan 1992, Law on Natural Area Wild Flora & Fauna protection 1989 (amended 1997), Water Law 1985,	Environmental Bill 1998

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
		with Germany and the Netherlands, is a member of the Trilateral Co-operation on the protection of the Wadden Sea and has designated (in 1982, with further amendments) the whole of its part of the Wadden Sea (Vadehavet) as a nature and wildlife reserve.	coastal zones. The master plans were to follow the new Nature Conservation Act 1996, the new Forest Act 1996 and the new rules about planning and building in coastal areas in the Building Act and in the Water Act 1961. At this moment the master plans have already been approved in each municipality and the administrative processes. Other legislation relevant to coastal management include: Forest Act 1996, Fishing Act 1982, EIA Act 1994 and Wilderness Act 1991. In 1990, a Shore Protection Programme was established with the aim of creating a network of protected areas. HELCOM Recommendation 15/1 (Helsinki Convention) concerning the protection of the coastal strip.	Protected Nature Territories. Additional policy documents include the National Program on Biological Diversity 2000; Nature protection plans for individual nature reserves; the National Environment Policy Plan for 2004-2008 has to adopt the ICZM Plan in 2005.		
<b>ADMINISTRATIVE FRAMEWORK ON COASTAL HAZARDS</b>						
<b>National government departments involved in the planning system.</b>	The main administrative bodies dealing with coastal hazards are: the Ministry of Transport, Public Works and Water Management, the	The Ministry of Environment and Energy is responsible for planning policy. It is supported by specialist agencies including the	The land use planning system operates on regional and municipal levels. National land use goals set by the Finnish Government additionally			The National Board of Housing, Building and Planning,

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	<p>Ministry of Housing, Spatial Planning and the Environment, the Ministry of Agriculture, Nature Management and Fisheries, and the Ministry of Economic Affairs.</p>	<p>Danish Environmental Protection Agency. Regional planning is undertaken by the counties and the municipalities carry out local planning.</p>	<p>cover key infrastructure networks as well as natural areas and built-up areas of national significance. National and regional goals are expressed in regional land use plans, which are the only plans that need to be submitted for government approval. These regional plans are prepared by the 19 regional councils, which consist of the representatives of local authorities. On the local level, land uses and the locations of land uses and activities are controlled in Local Master Plans (LMP) Municipalities may also decide to co-operate on the drafting of joint master plans. There is no definitive setback line policy in Finnish law. Guidelines issued by the Ministry of Environment stipulate that development should be controlled by a planning requirement on a 100 m strip along the coastline, which can be increased to 200 m. The LMP determines how near to the shore development can take place. This can include building closer</p>			

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
			than 100m to the sea.			
<b>National government departments involved relevant to coastal hazards.</b>	The <i>Rijkswaterstaat Rijksinstituut voor Kust en Zee</i> (RIKZ ~ National Institute for Coastal and Marine Management) is one of the six specialist services of the Directorate General of Public Works and Water Management.	The Coast Protection Act empowers regional authorities to protect against flooding and erosion.	.	The major stakeholders concerning the natural Baltic Sea coastal hazards and climate change are the: Ministry of Regional Development and Local Governments; Ministry of Environment; and Latvian Environmental Protection Fund Administration.		The Swedish Rescue Services Agency ( <i>Räddningstjänstlagen</i> ) is the government authority responsible for safety against accidents in society; Tasks include risk assessment and management. The Government provides general assistance in urban areas to identify zones that are susceptible to landslides and floods. In 1986 the Government introduced an appropriation of 2.5 million Euros per year for preventative measures.
<b>The roles and responsibilities of regional and local governments relevant to coastal hazards.</b>	the RIKZ is the main supplier of knowledge, particularly sustainable use of coasts and seas and protection of the land against tidal flooding.	The Coast Protection Act empowers regional authorities to protect against flooding and erosion. In the case that the regional authority does not have enough expertise, the Act makes it possible to involve at an early stage the Danish Coastal Administration (DCA) for assistance in further examination of the project. The DCA also has a management task for the coastal zone. The DCA consists of four major sectors: monitoring, analysis and design, contracting, legal		Latvian Hydrometeorological Agency		Municipalities in Sweden are responsible for carrying out risk inventories within their own borders, taking preventative measure, establishing emergency plans and taking measure in the event of accidents. Municipalities with areas that have been built up without conducting sufficient surveys can apply for a grant from this appropriation to take preventative measures.

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
		and regulatory activities.				
<b>Other organisations relevant to coastal hazards.</b>						Swedish Geotechnical Institute ( <i>Statens geotekniska institute</i> , SGI), and the National Board of Accident Investigation.
<b>Government policy on insurance and compensation for regions/individuals affected by instability and the role of insurance companies.</b>	There is a lack in clarity with regard to areas outside defence structures, in the erosion zone for which no legal safety standards apply. Individual and administrators are left to wonder who is liable. In principle the owner of the property is liable for damage caused by erosion in areas outside dykes (defence structures). The government is liable for damages where the government has acted unlawfully and negligent in the performance of its tasks which could have prevented the damage. The <u>Netherlands Civil Code</u> stipulates that it has acted unlawfully and must fully compensate for damages.					Provisions for compensation for municipalities and individuals is given under the Civil Protection Act.
<b>COASTAL EROSION MANAGEMENT AND MONITORING</b>						
<b>National centre for the study of coastal</b>	RIKZ is the main supplier of knowledge,	The DCA undertakes monitoring, analysis and				

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
<b>erosion</b>	particularly sustainable use of coasts and seas and protection of the land against tidal flooding.	design, contracting, and legal and regulatory activities.				
<b>Monitoring of coastal erosion.</b>						
<b>Mapping system.</b>						
<b>National database.</b>						
<b>National, regional and local strategies for coastal erosion (based upon natural coastal processes or for example administrative boundaries).</b>						
<b>COASTAL INSTABILITY MANAGEMENT AND MONITORING</b>						
<b>National centre for the study of coastal instability.</b>	RIKZ is the main supplier of knowledge, particularly sustainable use of coasts and seas and protection of the land against tidal flooding.				The International Centre for Coastal Resources Research (CIIRC) is a public consortium created by the Government of Catalonia, Spain, to initiate and co-ordinate studies related with the coastal zone and the coastal resources and to support the LIM/UPC (Laboratori d'Enginyeria Marítima of the Universitat Politècnica de Catalunya). The LIM/UPC has been undertaking research projects on: the study of the Ebro delta coastal stability; MEDDELT; and FANS - Fluxes Across the	Swedish Geotechnical Institute ( <i>Statens geotekniska institute</i> , SGI), the National Board of Accident Investigation and SRV. <a href="http://www.swedgeo.se">www.swedgeo.se</a> .

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
					Narrow Shelves	
Monitoring of coastal instability.					A study of landslide hazard using integrated DEM, orthophotography and Landsat ETM imagery was undertaken in S. E. Spain	
Mapping System.						The Swedish Rescue Services Agency has the responsibility of making general stability survey maps.
National database.					The International Centre for Coastal Resources Research (CIIRC) and LIM/UPC (Laboratori d'Enginyeria Marítima of the Universitat Politècnica de Catalunya) <a href="http://lim-ciirc.upc.es/eng/index.htm">http://lim-ciirc.upc.es/eng/index.htm</a> .	
National, regional and local strategies for coastal erosion (based upon natural coastal processes or for example administrative boundaries).						
<b>COASTAL FLOODING MANAGEMENT AND MONITORING</b>						
National centre for the study of coastal flooding.	RIKZ is the main supplier of knowledge, particularly sustainable use of coasts and seas and protection of the land against tidal flooding.					
Monitoring of coastal flooding (for 1 in 100 yrs etc).						

	THE NETHERLANDS	DENMARK	FINLAND	LATVIA	SPAIN	SWEDEN
<b>Mapping system.</b>						
<b>National database.</b>						
<b>National, regional and local strategies for coastal flooding(based upon natural coastal processes or for example administrative boundaries).</b>						
<b>CLIMATE CHANGE</b>						
<b>Responsible Government departments</b>	Technical Advisory Committee for Flood Defence Structures			The Ministry of Environment is involved in the national climate change mitigation policy, accomplishing monitoring on geological processes of the seacoast annually, developing nature protection plans and individual protection and management regulations for nature reserves in the coastal belt cover alongshore of 234km. A proposal for Climate Change Mitigation Programme is currently under preparation.		
<b>National scenarios for climate change</b>	Low scenario: 20cm/century. Median scenario:60cm/century. High scenario:85cm/century and a 10% increase in wind					
<b>Impact studies</b>						
<b>Incorporation into planning system</b>						

\*Source: CIA 2004