Protecting our coasts

UNESCO-IOC is involved in a number of initiatives, particularly in Africa, focusing on developing measures that enable coastal communities to adapt to climate change. The IOC approach focuses on restoring natural coastal ecosystems that are threatened by the impacts of climate change (e.g. sea level rise, coastal erosion). These coastal ecosystems include mangroves, sea grasses, wetlands and sand dunes that have been depleted or destroyed, often through unsustainable development initiatives for housing, aquaculture, tourism, etc. Restoring these ecosystems brings several simultaneous benefits, including natural protection against sea level rise, storm surges and erosion, protected biodiversity – mangroves are spawning grounds for fish – and even absorption of atmospheric CO₂, as well as sustainable local livelihoods, such as fishing, or eco-tourism.

IOC also promotes risk and vulnerability assessments and works with local communities to integrate these into the planning cycle. In addition to the adaptation measures, IOC is involved in developing community zoning plans for coasts.

Coastal World Heritage Sites

IOC is also working with UNESCO World Heritage Centres and Marine Heritage Sites, developing a management approach to conservation and protection.

The recent creation of an in-house biodiversity liaison group, which assembles representatives of all parts of UNESCO with an interest and a mandate to conserve biodiversity, has set the foundation for more systematic cooperation between specialised UNESCO entities. For example, currently 74 Biosphere Reserves overlap with World Heritage sites and share similar challenges. Fortunately they can also share solutions towards better management of sites, promoting sustainable livelihoods and linking science to management.

Out of a total of over 800 World Heritage Sites, about 34 currently include marine areas. In addition, some 30 sites are limited to coastline. Meanwhile, UNESCO’s Small Island Developing States (SIDS) Programme works closely with the Organization’s World Heritage Marine programme and Sustainable Tourism Programme. It coordinates and develops World Heritage-related activities, both natural and cultural, on islands in the Caribbean, the Atlantic, Indian and Pacific Oceans.

Marine spatial planning

Given the global trend for migration from rural areas to cities, and the overwhelming tendency for larger cities to be on the coast, it is going to be essential to plan development of marine and coastal spaces in a sustainable way, rather than try to stop it at all costs. A relatively new approach to planning, called marine spatial planning (MSP), takes whole maritime ecosystems, and provides tools to assess how the resources can be exploited sustainably – or not – alongside competing human demands on local resources, be they for recreation and tourism, offshore oil and gas exploitation, marine transportation, gravel mining, marine aquaculture, etc.
The marine spatial planning process usually results in a comprehensive plan or vision for a marine region. Marine spatial planning is one element for managing the use of the ocean or sea, while zoning plans and regulations are one of a set of management measures for implementing marine spatial planning. Zoning plans can then guide the granting or denial of individual permits for the use of marine space.

The purpose of this initiative, then, is to help countries operationalize ecosystem-based management by finding space for the conservation of biodiversity and sustainable economic development in marine environments.

The development and implementation of MSP involves a number of steps, including:

1. Identifying need and establishing authority
2. Obtaining financial support
3. Organizing the process through pre-planning
4. Organizing stakeholder participation
5. Defining and analyzing existing conditions
6. Defining and analyzing future conditions
7. Preparing and approving the spatial management plan
8. Implementing and enforcing the spatial management plan
9. Monitoring and evaluating performance
10. Adapting the marine spatial management process

IOC’s approach to Marine Spatial Planning has focused on:

- Developing a step-by-step approach for implementing marine spatial planning;
- Documenting marine spatial planning initiatives around the world;
- Analyzing good practices of marine spatial planning;
- Collecting references and literature on marine spatial planning;
- Increasing understanding about marine spatial planning through publications;
- Developing capacity and training for marine spatial planning.

http://www.unesco-ioc-marinesp.be/

Coastal hazards
An international group of experts, working under the auspices of the IOC, has compiled a series of guidelines to assist policy makers and managers to reduce the risks to coastal communities, their infrastructure and service-providing ecosystems, from a spectrum of coastal hazards. The group included specialists in the fields of sea-level related hazards, marine meteorology, vulnerability and risk in respect of natural hazards, early warning and preparedness, risk mitigation, and coastal zone management. Each step is described – including its purpose, its key considerations, the management challenges that it poses and its anticipated outputs.
The hazards described make a distinction between **rapid-onset hazards** (e.g. tsunamis, storm surges, extreme wind-forced waves) and **cumulative, progressive or ‘creeping’ hazards** (e.g. long-term sea-level rise and coastal erosion).

A key aspect of the guidelines approach is to assess the vulnerability of those exposed to a given hazard – the coastal community and their buildings, industrial and utilities infrastructure and the integrity of their local ecosystems. Vulnerability assessments also take account of deficiencies in preparedness at the institutional level.

The ultimate aim is to enhance public awareness of the risks and to improve the resilience of coastal communities in coping in emergency situations. The guidelines also describe options for structural and non-structural responses for the mitigation of the assessed risks using strategic management.

Whatever a coastal community’s physical or developmental situation, there are ways of reducing risk in respect of these hazards which are sustainable and can be embedded in the culture of that community – this is one of the prime goals of the Guidelines.