SUPPORT FOR MARINE PROTECTED AREA MANAGEMENT

DESCRIPTION

Advisory service designed to work with local stakeholders and marine experts to select EO-derived data relevant to their information requirements and support analysis of these in conjunction with avalable local data and information. .

USE

› Development of ecosystem-based options for planning MPA networks to protect biodiversity, fish stocks and key ecosystem services.

› Provide evidence-based feedback on efficacy of management measures as part of adaptive MPA management

› Improve understanding of ecosystem dynamics and interaction with management efforts.

› Development of measures to protect and/or restore habitats identified as important for natural defences agains marine hazards as part of ecosystem-based climate adaptation.

INPUT PRODUCTS

› Mapped data products from othe EO4SD-marine services.

› Additional satellite data from global archives as required.

SPATIAL RESOLUTION AND COVERAGE

› 10 m to 1 km, depending on data type.

BENEFITS

Improved strategy and decision making:

› More informed decision-making and improved planning and field management for decision-makers and interest groups.

› Evidence-based, adapative MPA management.

DELIVERY FORMAT

› Mapped data in GEOTIFF /NetCDF.
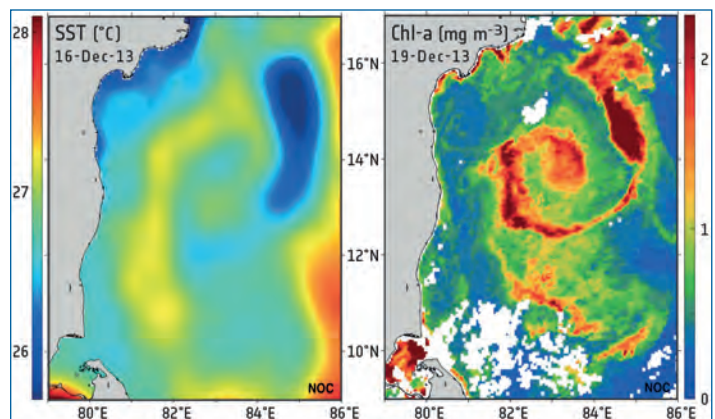
› Analysis support, reports and summary information.

FREQUENCY

› As agreed in consultation with stakeholders.

MPAs include marine parks, nature reserves and locally managed marine areas that protect biodiversity and fish stocks, and may include, for example reefs, seagrass beds, tidal lagoons, mudflats, saltmarshes, mangroves, rock platforms or coastal dunes. Planning and management of MPAs focuses on the need to protect marine flora and fauna, but it has to be considered in the context of other planning and management activities related to fisheries, aquaculture, transport, mineral extraction, tourism and other uses of marine space, as well as ecosystem-based adaptation to climate change.

Depending on the nature of and purpose of the MPA the information needed for planning and management may vary significantly. For example, managing an MPA to protect pelagic fish stocks may require time series analysis of sea surface temperature and chlorophyll-a concentration; while planning an ecosystem-based adaptation scheme to protect and restore natural coastal defences such as coral reefs, beaches, dunes or mangroves and other wetlands will requie coastal habitat maps, bathymetry and shoreline change information, and may also need information about temperature, water quality, currents, wind and waves.

The service will therefore advise on choice and analysis of data products on a case by case basis, working with stakholders and local experts.

Planning and implementing an MPA to protect fish stock in the open ocean may require time-series analysis of chlorophyll and sea surface temperature (SST) data as shown above for an eddy in the Bay of Bengal (above). Time series analysis of such data can provide information about ecosystem dynamics that sustain key species. Efforts to enforce protection measures may benefit from knowing the location of ocean fronts, where fish are found in greater abundance.

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Management of coastal habitats such as seagrass beds, corals, mangroves or coastal dunes will require habitat maps, and other data to help understand changes.

For more information, please contact:
ESA Technical Officer: Gordon Campbell — Gordon.Campbell@esa.int
Project Lead: Christine Sams — eo4sd-marine@noc.ac.uk