
UNITED NATIONS
Office for Outer Space Affairs

SPACE4SDGS

implementing resilient agricultural practices that increase productivity and production, but help maintain ecosystems, in particular for Small Island Developing States (addresses SDG 14.2 and 14.4. relates to SDG 2).

7. The protection of endangered species, their habitats, and the management of protected coastal and marine areas remains an important challenge. (addresses SDG 14.2)

8. Earth observation (EO) data, particularly radar data, can be used to create maps to monitor the spread of oil spills and to provide data in near-real time to authorities involved in clean-up efforts.[1] These maps can be used to look at overlaps with spawning grounds of endangered species and protected areas (addresses 14.1).

9. Space technology is applied with the aim to detect microplastics on or near the surface of the ocean as well as larger pieces of plastic along shorelines[2] (addresses 14.1).

10. Increased on-board real-time processing capabilities of satellites bear the potential of a better and speedier detection of contamination sources (addresses 14.1).

11. EO satellite data is used to monitor changes in the marine environment, such as algae blooms. The identification of harmful algae blooms can assist communities in protecting local coastal ecosystems. (addresses 14.2).

12. Monitoring the sea by means of space technology allows to report on the level, wind, and waves[3]. Sea surface temperature and ocean-colours relating to biophysical parameters, such as the concentration of chlorophyll can be measured (near) real-time[4]. Such oceanographic information is, , indicative of water quality and the occurrence of specific fish species. Precipitation, vapor amounts, wind velocity above the ocean and sea water temperature are used to forecast, sea ice monitoring, and climate and water cycle studies.[5] Observing and understanding the mechanisms of global water cycles

17. EO applications for ocean monitoring are diverse and involve various types of stakeholders. Intermediate users include private actors from micro-companies to large companies, public authorities, scientific laboratories or research centres. End users are also both public entities and private actors such as fish farmers and cooperatives. The rapidly changing environment requires near-real-time EO data.

18. Member States have reported on various collaborative initiatives during COPUOS sessions between 2017 and 2019. Statements towards cooperation activities include:

    (a) The Surface Water Ocean Topography Mission (SWOT), which is a joint project of the space agencies of France, United States of America, the United Kingdom and Canada, to enable better mapping of inland waters and a better understanding of ocean dynamics.

    (b) During COPUOS in 2018 Canada endorsed the Charlevoix blueprint for healthy oceans, seas and resilient coastal communities and made a commitment to work with G7 partners to launch a joint initiative to deploy Earth observation technologies and related applications to scale up capacities for the integrated management of coastal zones.

    (c) During COPOUS in 2019, France reported on its cooperation in space oceanography with China,