

Earth Observations for Water Action

UN 2023 Water Conference

SDG Indicators 14.1.1 (a) Index of coastal eutrophication; (b) plastic debris density

Introduction

- One of the largest pressures on coastal environments is eutrophication, resulting primarily from land-based nutrient input from agricultural runoff and domestic wastewater discharge
- Plastic pollution is the most widespread problem affecting the marine environment. It also threatens ocean health, food safety and quality, human health, coastal tourism, and contributes to climate change

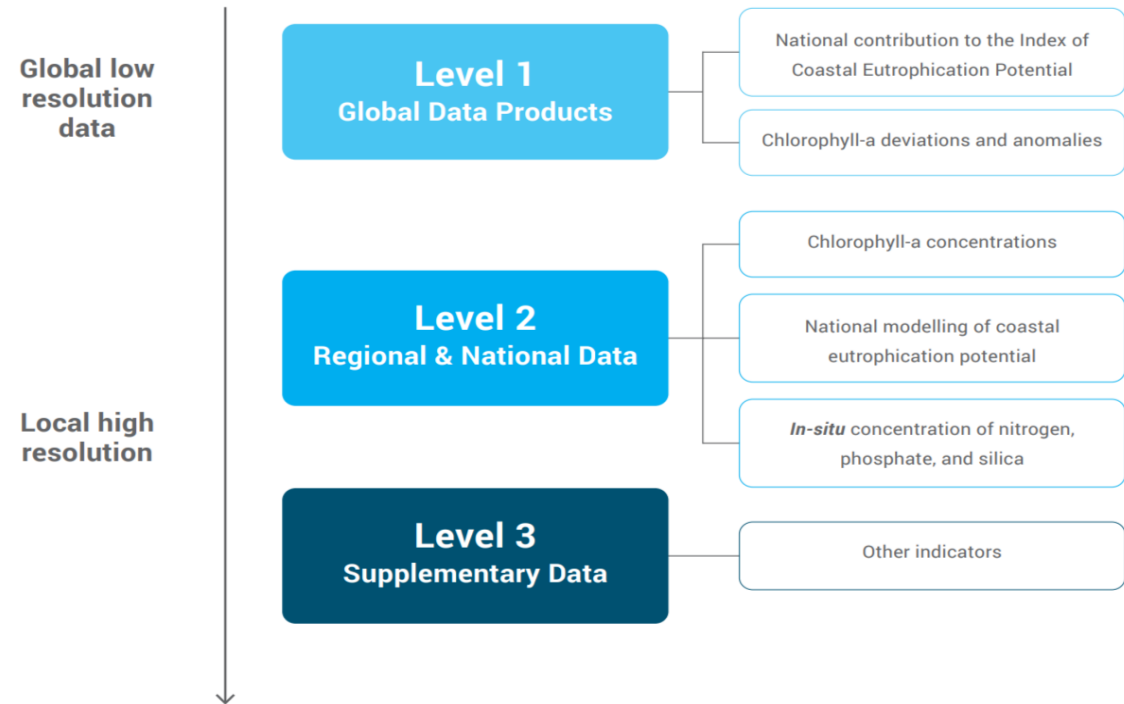
Definition

- **Eutrophication** – excess nutrient loading into coastal environments from anthropogenic sources, resulting in excessive growth of plants, algae and phytoplankton.
- **Marine litter** – any persistent, manufactured or processed solid material which is lost or discarded and ends up in the marine and coastal environment

SDG Indicator 14.1.1

Methodology

Two levels of indicators are recommended with an optional third level for relevant countries



[Understanding the State of the Ocean: A Global Manual on Measuring SDG 14.1.1, SDG 14.2.1 and SDG 14.5.1](#)

Sustainable Development Goals (1/2)

Global Data Products

14.1.1 (a) Index of coastal eutrophication

- **Chlorophyll-a deviation:** Satellite-based assessments of ocean colour, data coming from multiple sensors and creating a consistent, merged ocean colour product (e.g., surface ocean chlorophyll-a concentration). The ESA Ocean Colour CCI (OC-CCI) project, led by Plymouth Marine Laboratory (PML), has produced a consistent, merged chlorophyll-a product from SeaWiFS, MODIS, MERIS and VIIRS. 4 km spatial resolution per pixel Monthly mean product of the OC-CCI project product for each pixel within a country's EEZ and territorial seas.
- **chlorophyll-a anomalies:** chlorophyll-a concentration anomalies in each Exclusive Economic Zone (EEZ) using the NOAA VIIRS chlorophyll-a ratio anomaly product produced daily for the globe at 2 km spatial resolution. The daily global VIIRS Chlorophyll-a concentrations are produced from the NOAA Multi-Sensor Level 1 to Level 2 (MSL12) processing of the VIIRS sensor on the Suomi SNPP satellite

Sustainable Development Goals (2/2)

Global Data Products

14.1.1 (b) plastic debris density

- Plastic patches greater than 10 meters (for Areas Beyond National Jurisdiction or Total Oceans): Satellite-based global data products make up the statistics for this indicator. NASA and ESA both contribute satellite images to construct information on the plastic patches greater than 10 meters throughout the world's oceans. ESA's Sentinel-2 satellite has an ocean colour imager that is potentially detecting unique signatures or large agglomerations of plastic

Access the indicator and resources

SDG Indicators Database

<https://unstats.un.org/sdgs/dataportal/database>

World Environment Situation Room [Data, Information and Knowledge on the Environment](#)

National Scorecard

[Assists UN Country Teams and national stakeholders in their Common Country Analysis \(CCA\) and the SDG Voluntary National Reviews \(VNR\)](#)

The screenshot displays the UN SDG Indicators Database search interface. It features several filter sections:

- Data Series (Selected 9 of 606):** A search bar containing "14.1.1" and a "+ Select" button.
- Geographic Areas (0 of 238):** A dropdown menu with "All Groupings" selected and "Countries" as an alternative. Below it, a list of selected areas includes "World (total) by SDG regions", "World (total) by continental regions", and "Land Locked Developing Countries (LLDC)". A note states: "By default Regional Groupings is selected. You can select a different geographic area".
- Period:** A dropdown menu with "Range" and "Years" options. The "Years" option is selected, showing a list of years from 2000 to 2011, plus a "+ 10 ..." option. A note states: "You can select single year or multiple years".

At the bottom of the filter section, it shows "10,537 observations" and a "Show Results" button. Below the filters, a list of results is shown:

- EN_MAR_CHLDEV
- EN_MAR_CHLANM
- EN_MAR_BEALITSQ
- EN_MAR_PLASDD
- EN_MAR_BEALIT_BP
- EN_MAR_BEALIT_BV

Two specific results are highlighted in light blue boxes:

- + Indicator 14.1.1, Series : Chlorophyll-a deviations, remote sensing (%) EN_MAR_CHLDEV
- + Indicator 14.1.1, Series : Chlorophyll-a anomaly, remote sensing (%) EN_MAR_CHLANM

Thank you!



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