# Reclassification request 14.1.1

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# Indicator 14.1.1

**Goal 14:**

Oceans

**Target 14.1:**

By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

**Indicator 14.1.1:**

14.1.1a Index of coastal eutrophication (ICEP)

14.1.1b Plastic debris density

# Approach:

**For SDG 14.1.1a and SDG 14.1.1b (separately)**

**Progressive monitoring approach**

- Level 1: Globally available data from earth observations and modelling
- Level 2: National data which will be collected from countries (through the relevant Regional Seas Programme, where applicable (i.e. for countries that are a member of a Regional Seas Programme)
- Level 3: Additional indicators which are suggested that countries might consider collecting (these are not discussed in this document)

**Global data will be used to estimate some sub-indicators for ABNJ (Areas Beyond National Jurisdiction)**

# Level 1: Global Data

# Level 1: Global Data collection

**Two sub-indicators for 14.1.1a:**

14.1.1a: Indicator for Coastal Eutrophication Potential (N and P loading) – every 5 years

14.1.1a: Chlorophyl-A deviations (of more than 50%) from the baseline – every year; including for ABNJ

**Two sub-indicators for 14.1.1b:**

14.1.1b: Global modelling of plastic originating from national land-based sources – every year

14.1.1b: Global modelling of plastic patches – annual, including for ABNJ

# Example: Chl-A deviations

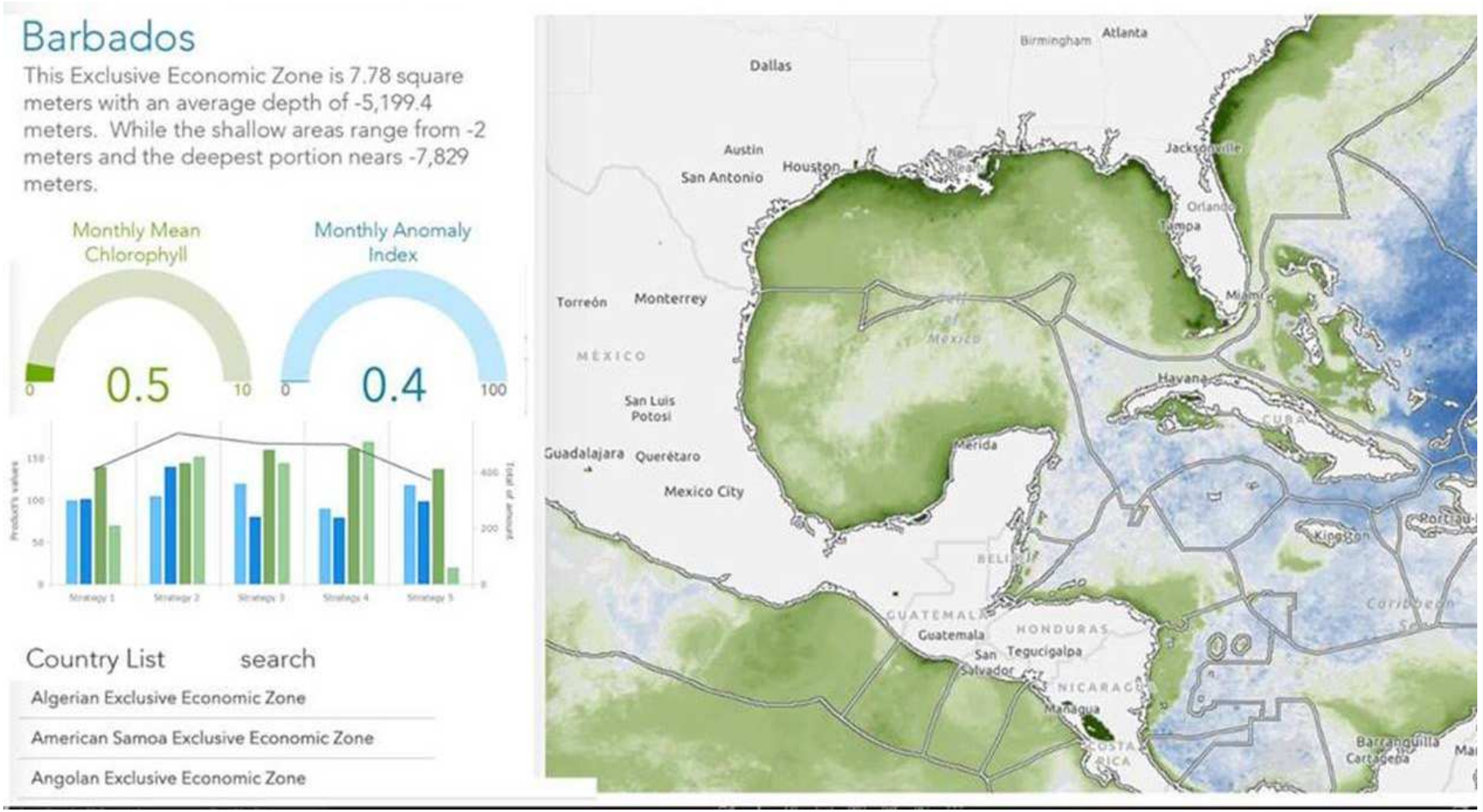
Magnitude of *Chlorophyll-a* Deviation $= (\gamma - \beta / \beta) \times 100$

Where $\beta$ = the average monthly pixel chlorophyll-a 2000-2004

Where $\gamma$ = the average monthly pixel chlorophyll-a for the reporting year

- Deviation will be calculated by pixel and deemed a high deviation if the magnitude is more than 50%.
- The percent of pixels with a high value will be calculated per month.
- The average monthly anomalies will be calculated as the average percent over 12 months (Jan-Dec).

# Example: Chl-A deviations



# Example: Indicator for Coastal Eutrophication Potential (N and P loading)

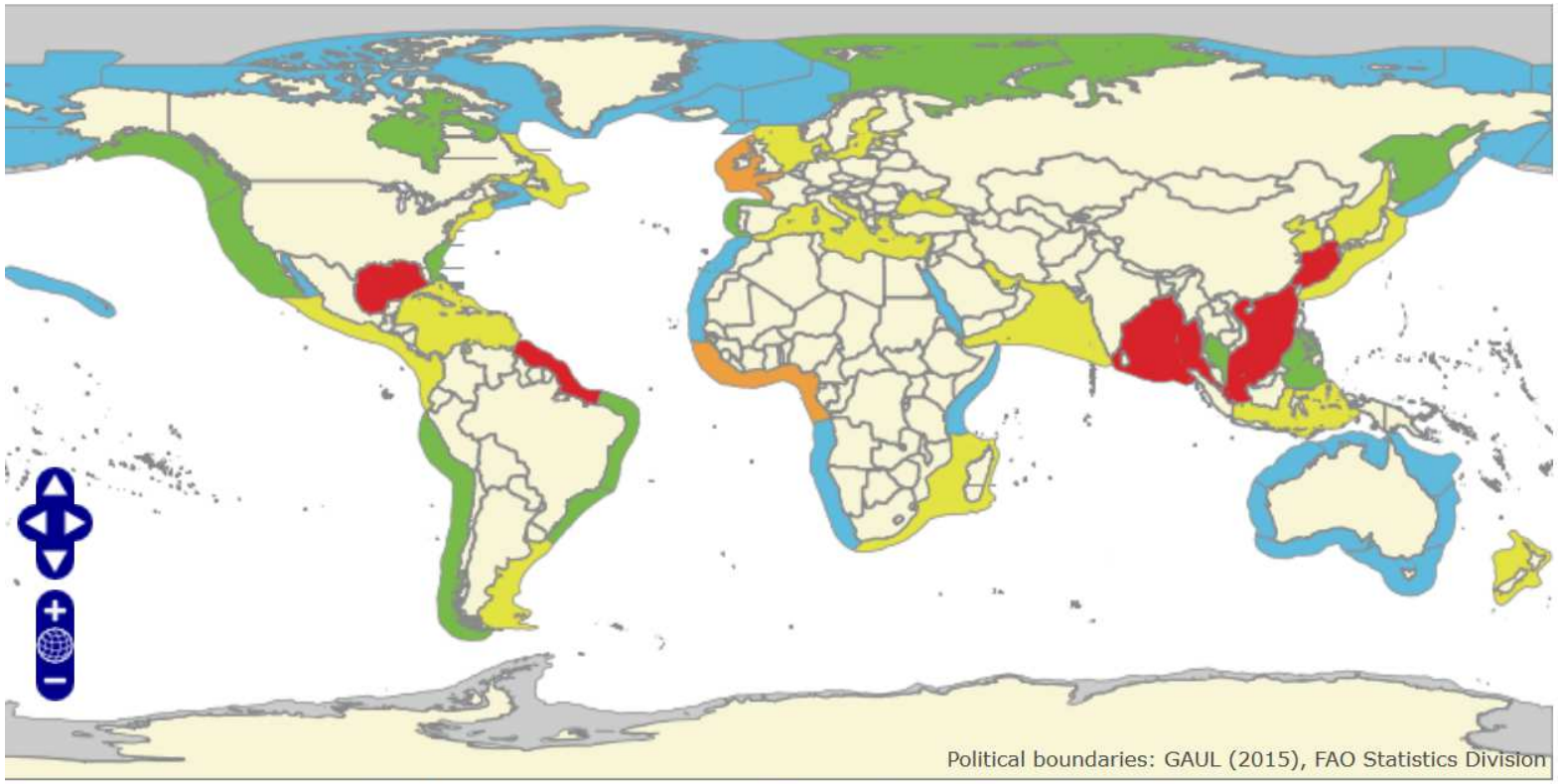
- Modelling of basin level N, P and Silca inputs to river mouths is a well established practice in terms of understanding coastal eutrophication.

- This have been done at the basin level, which is not particularly useful for national level decision making.

- A sub-basin level product is expected to be finished by early next year. For transboundary sub-basins, the N and P loading will be on a percentage basis using the socio-economic, land use and nutrient management data for each country.

- It is recommended that countries refine the ICEP model based on their own figures (such as land use, fertilizer use, livestock, wastewater treatment, etc.)

# Example: Indicator for Coastal Eutrophication Potential (N and P loading)



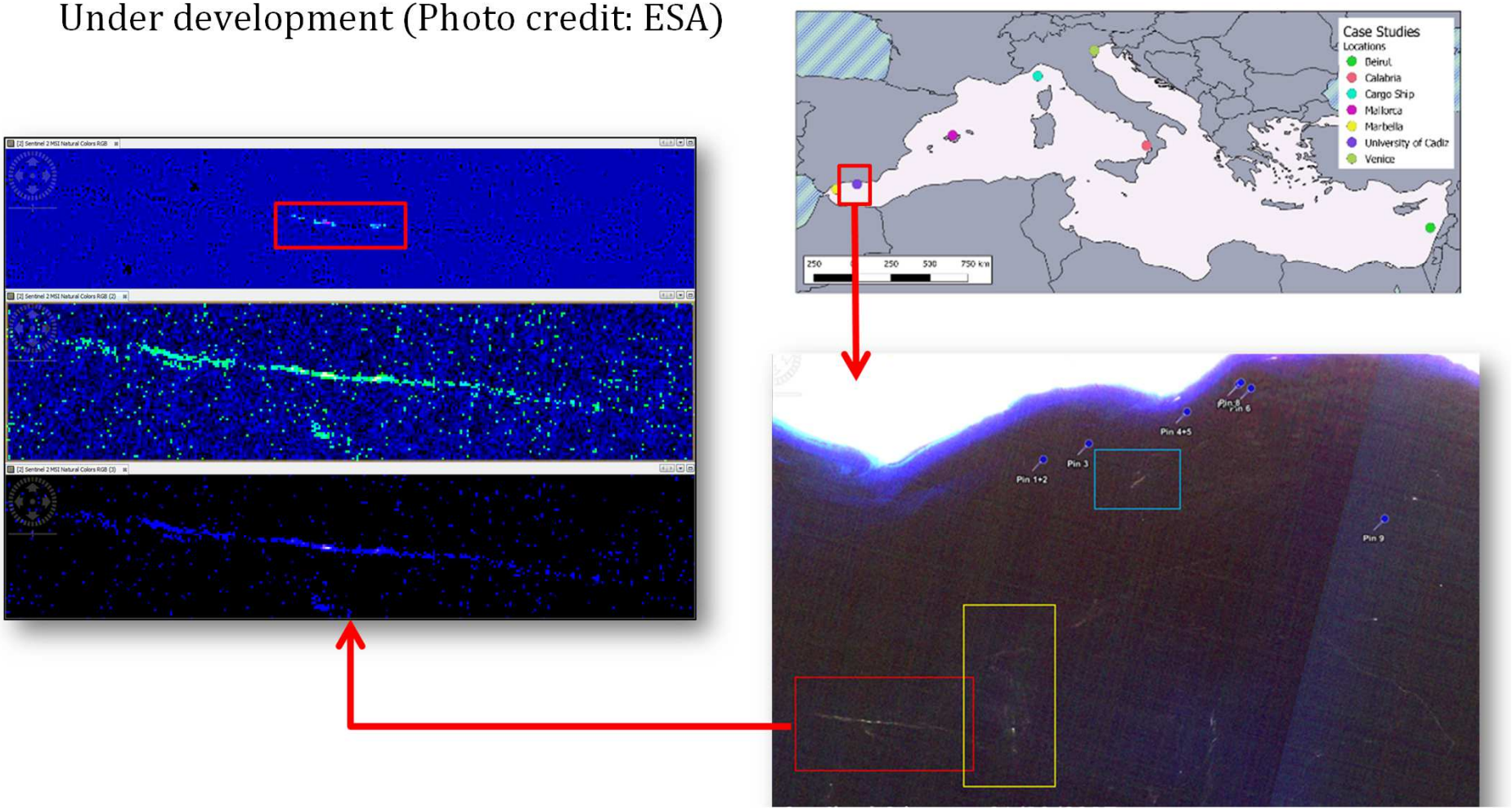

Nitrogen load, base year 2000, categorized from the lowest (1) to the highest (5) values

Risk level:

1: Lowest
2: Low
3: Medium
4: High
5: Highest
No data

# Example: Plastic patches

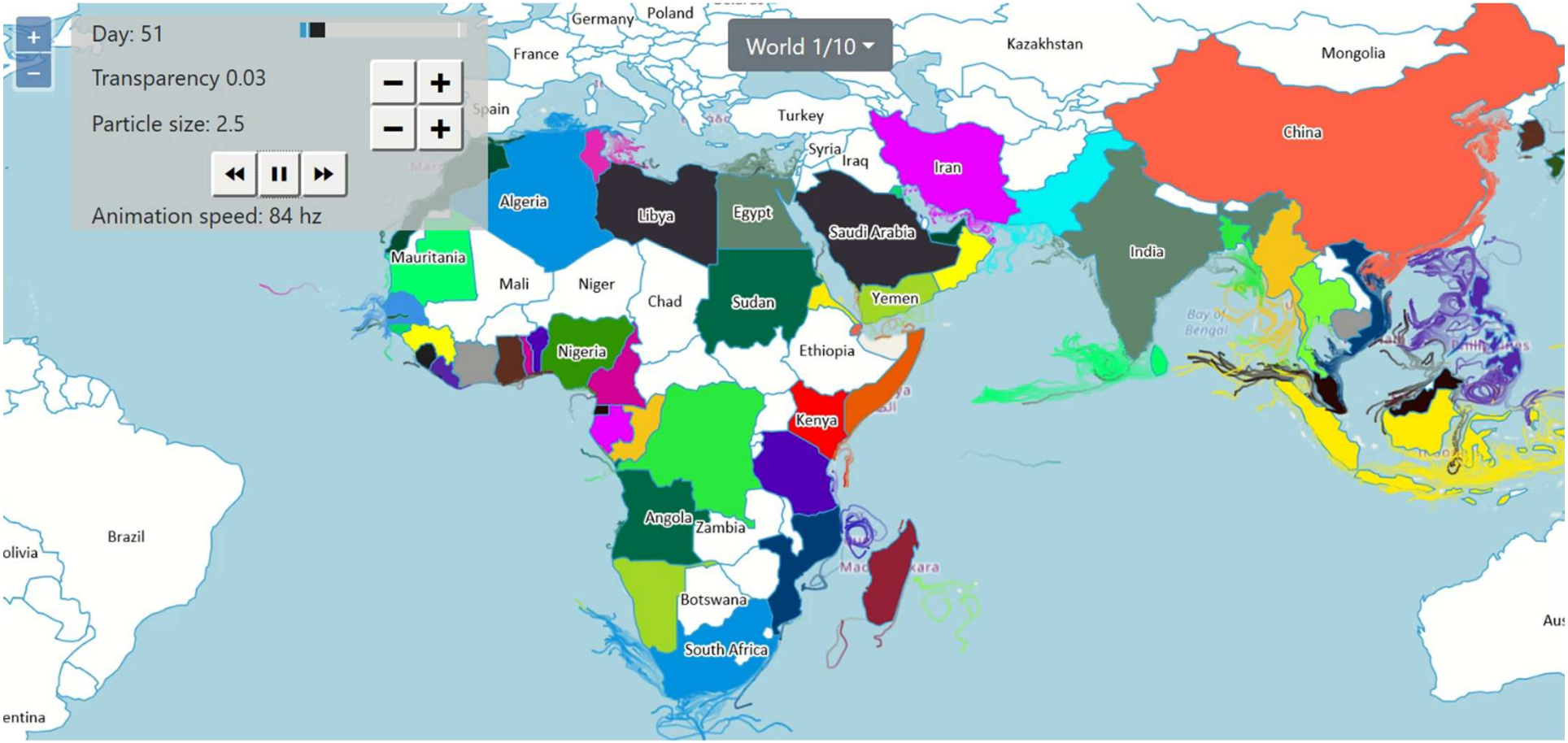
Under development (Photo credit: ESA)



# Example: Plastic flow

- Global model of marine litter using OceanParcels v2.0, a state-of-the-art Lagrangian Ocean analysis framework to create customizable particle tracking simulation using outputs from ocean circulation models. The ocean circulation model outputs used here are from the GOFS3.1, a global ocean forecast system based on the HYbrid Coordinate Ocean Model (HYCOM) and the Navy Coupled Ocean Data Assimilation (NCODA).
- As a simple example, for Kenya, based on this model, of the plastic which ends up on Kenya's beaches, 11% likely originated from Kenya, 60% likely came from countries in Africa and 29% likely came from outside the region. This model can be produced annually and updated as better waste emissions data becomes available for countries.

# Example: Plastic flow



# Level 2: National

# Level 2: National Data collection

**Aligning with the Regional Seas Programmes for data collection, of the 22 regional seas core indicators the below are relevant:**

1. Chlorophyll-A concentration (relevant for 14.1.1a)
2. Inputs of marine chemical pollution (relevant for 14.1.1a)
3. Quantification of beach litter (relevant for 14.1.1b)
9. Frequency of algal blooms (relevant for 14.1.1a)
10. Concentration of pollutants by type, including plastics (relevant for 14.1.1b)

**Working with Regional Seas to explore their willingness to collect additional data.**

**UNEP is designing an online data entry tool for other cases.**

# SDG 14.1.1: National Indicators (level 2)

## SDG 14.1.1a

| Monitoring parameters | Level 1 | Level 2 | Level 3 | Reporting Frequency |
|---|---|---|---|---|
| Chlorophyll-a concentration (*remote sensing and in situ*) | | X | | 4 years (aligned with Regional Seas) |
| National modelling of indicator for Coastal Eutrophication Potential (ICEP) | | X | | |
| Total Nitrogen of DIN (dissolved inorganic nitrogen) | | X | | |
| Total Phosphorus or DIP (dissolved inorganic phosphorus) | | X | | |
| Total silica | | X | | |

## SDG 14.1.1b

| Monitoring parameters (and methods) | Level 1 | Level 2 | Level 3 | Reporting Frequency |
|---|---|---|---|---|
| Beach litter (beach surveys) | | X | | 4 years (aligned with Regional Seas) |
| Floating plastics (visual observation, manta trawls) | | X | | |
| Water column plastics (demersal trawls) | | X | | |
| Seafloor litter (benthic trawls (e.g. fish survey trawls), divers, video/camera tows, submersibles, remotely operated vehicles) | | X | | |

# Information how the methodology has become a standard and who is the governing body

The methodology proposed is **built on existing internationally recognised standards and bodies.** Note that countries have an obligation to report for the regional multi-laterally agreed Regional Seas Programme core indicators. UNEP serves as the Secretariat for the Regional Seas coordination body and we have worked to ensure alignment.

**SDG 14.1.1a**

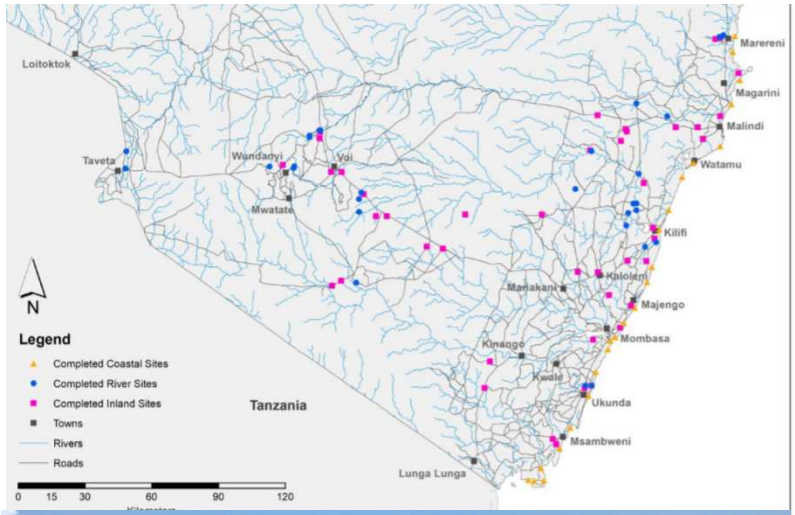
- UNEP is the Secretariat for the Global Partnership on Nutrient Management (GPNM) which directly links to a UN Environment Resolution on Nitrogen Management and is informed by a group of International Nitrogen Management System (INMS) experts. The development of the index on coastal eutrophication has been developed under guidance of this group.
- UNEP has formed a global partnership with GEO BluePlanet to operationalize a global product on chlorophyll-a concentrations which aligns with the Regional Seas indicator 1. This has been presented at the Global Ocean Observation Conference in September 2020 and reviewed by experts.

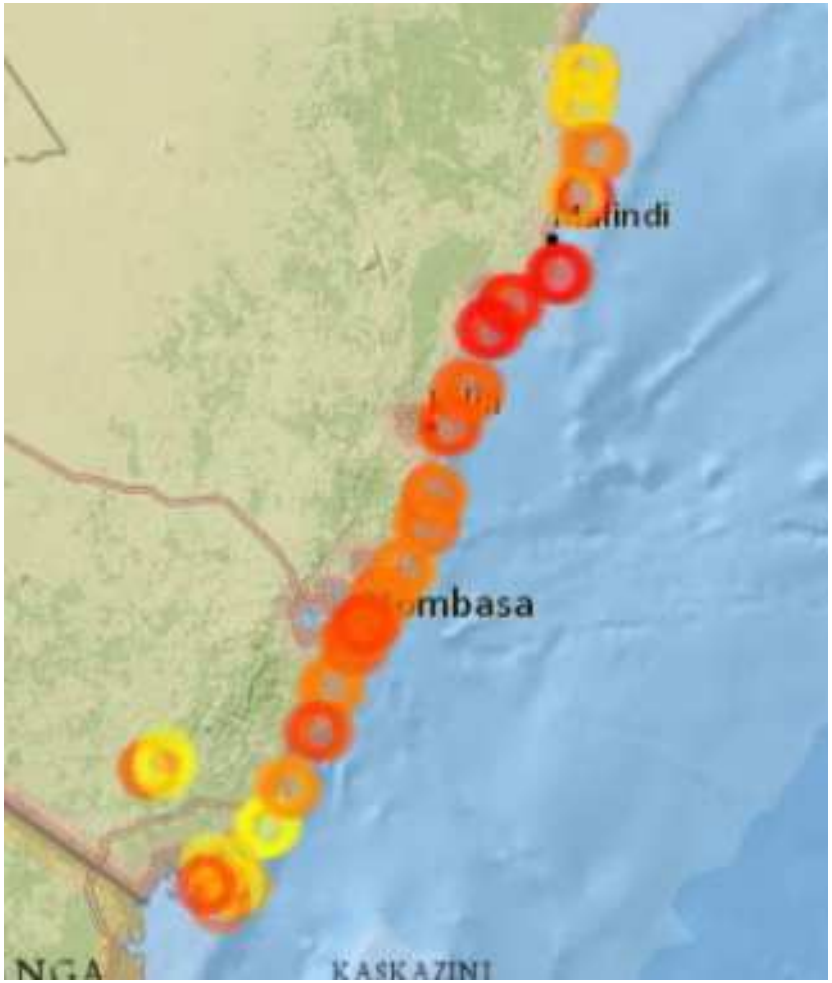
**SDG 14.1.1b**

- Under GESAMP, a global standards, entitled, Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean, was developed and adopted. This publication was launched in March 2019. The approach for SDG 14.1.1 has also been included in the work of the high-level Ad Hoc and Open Ended Expert Group on Marine Litter and Microplastics (which supports the GESAMP methodology).

# The process of development and testing of the methodology

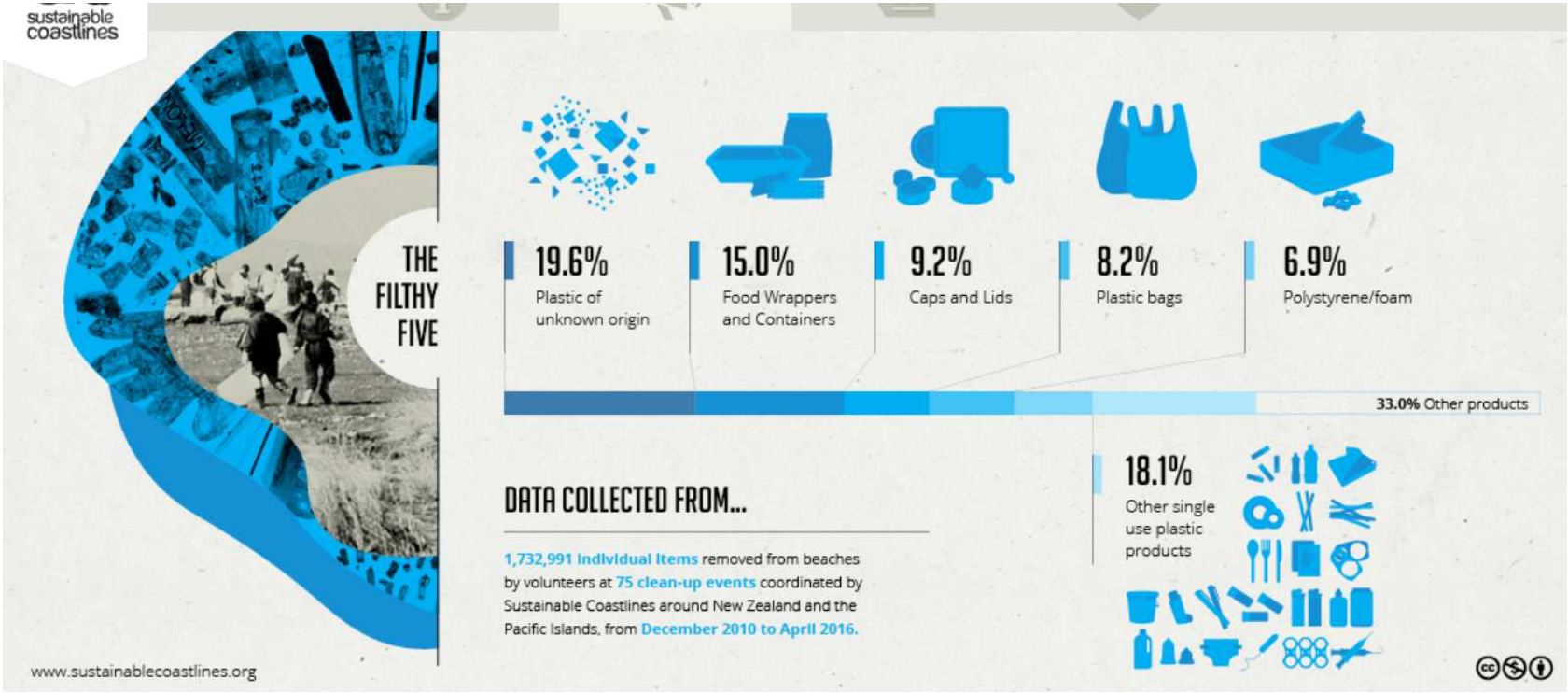
- ✓ In-country pilot testing of the draft methodology in various countries. For the SDG, this was done in Fiji, Colombia, Kenya and Seychelles. Through the GESAMP and GPA, other country experiences have also been compiled.



# Recommendation for combining traditional and non-traditional data

- ✓ We are continuing to look to better use citizen science for these SDGs, particularly for SDG 14.1.1b. In New Zealand, the Sustainable Coastlines' Litter Intelligence initiative is a data source used officially by the NSO. UNEP will be publishing additional guidance on this topic in the upcoming months.



# Confirmation of joint submission with other partner and co-custodian agencies

**Custodians:**

*UNEP*

**Custodians:**

IOC-UNESCO and the Regional Seas programmes are the primary partners for this methodology. Additionally, it has been developed in cooperation with GEO BluePlanet.

- We established an online Community of Practice for this methodology with more than 100 members.
- Two in-person expert consultations were held (in September 2019 in Paris and in March 2019 in Nairobi)
- A wide-range of experts were involved in the development process.

# Summary of the rationale for indicator reclassification

- The methodology has been **developed in a consultative manner**, involving a wide range of international and national experts.

- The national compilation proposed in the methodology has been **agreed through international processes** and is already being used by countries and Regional Seas Programmes.

- Oceans are essential for life. Ensuring that we have data for the world, including ABNJs is important for our future. This methodology provides a balance between global modelling and data which is officially generated by national statistical offices.