### Welcome!

At its 32nd session (21–30 June 2023), the IOC Assembly discussed the long-term sustainability and expansion of the IOC in view of the fast-evolving developments in ocean science and action. The Assembly called for a consultation on: "how IOC could on the basis of its purpose as defined in its Statutes optimally facilitate activities of Member States and other stakeholders in science-based sustainable ocean planning, ocean science support to implementation of UN environmental conventions and frameworks, and development of a sustainable ocean economy" (IOC Decision A-32/5).

In June 2024, the Executive Council of the IOC requested the Secretariat to proceed with a consultation to establish the underserved needs of IOC stakeholders in relation to (i) sustainable ocean planning; (ii) ocean science support to implementation of UN environmental conventions and frameworks; and (iii) development of a sustainable ocean economy (IOC/EC-57/3.1.Doc(4)).

This survey forms part of the consultation. It is being conducted independently by OpenCities on behalf of IOC. All data will be securely aggregated through Survey Monkey. The findings from the survey will inform the development of IOC's next Medium Term Strategy (2030-2037) and contribute to ongoing programme and budget development processes for future bienniums.

Respondents are encouraged to consult widely within relevant Ministries and organizations to ensure broad representation and input. Your survey responses will remain anonymous and confidential.

The survey will take approximately 15 minutes to complete, though this may vary depending on your responses. You can save your progress and return at any time. You may exit the survey at any stage if you wish.

We invite you to complete this survey before April 10, 2025.

For any questions, please feel free to contact:

• George Beardon (OpenCities) (george\_beardon@opencities.co.uk)

Thank you for taking the time to contribute to the future direction of IOC!

# **IOC Member State Needs Assessment Country Information** 1. Which IOC Member State do you represent?

### Ocean Science Needs

\* 2. Which of the following aspects of the different elements of the ocean science value chain are **most relevant** to your country or territory with respect to the management, protection, and sustainable development of the marine environment?

| You may select up to <b>TEN</b> aspects.  |
|---|
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems               |
| Ocean Dara and Observation - Remote Sensing and Satellite Systems                       |
| Ocean Data and Observation - Ocean Data Collection Systems                              |
| Ocean Data and Observation - Ocean Prediction and Forecasting                           |
| Ocean Data and Observation - Ocean Data Management                                      |
| Ocean Data and Observation - Ocean Data Repositories and Platforms                      |
| Ocean Data and Observation - Marine Data Dissemination                                  |
| Ocean Data and Observation - Data Reporting and Standardization                         |
| Ocean Data and Observation - Marine Scientific Research Support                         |
| Data, Scientific Research and Knowledge - Marine Biodiversity                           |
| Data, Scientific Research and Knowledge - Marine Genetic Resources                      |
| Data, Scientific Research and Knowledge - Marine Ecosystem Functioning and Connectivity |
| Data, Scientific Research and Knowledge - Biogeochemical Processes                      |
| Data, Scientific Research and Knowledge - Chemical Oceanography                         |
| Data, Scientific Research and Knowledge - Physical Oceanography                         |
| Data, Scientific Research and Knowledge - Biological Oceanography                       |
| Data, Scientific Research and Knowledge - Nutrient Cycles                               |
| Data, Scientific Research and Knowledge - Trophic Dynamics and Structure                |
| Data, Scientific Research and Knowledge - Primary Production                            |

| Data, Scientific Research and Knowledge - Sedimentation Processes   |
|---|
| Data, Scientific Research and Knowledge - Carbon Sequestration  |
| Data, Scientific Research and Knowledge - Marine Geology and Geophysics                                       |
| Data, Scientific Research and Knowledge - Hydrothermal Vent Systems   |
| Data, Scientific Research and Knowledge - Tectonic Movements and Seabed Dynamics                              |
| Data, Scientific Research and Knowledge - Marine Seismology   |
| Data, Scientific Research and Knowledge - Tsunamis  |
| Data, Scientific Research and Knowledge - Hurricanes and Extreme Coastal Weather Events                       |
| Data, Scientific Research and Knowledge - Coastal Flooding and Storm Surge                                    |
| Data, Scientific Research and Knowledge - Ocean Warming   |
| Data, Scientific Research and Knowledge - Ocean Acidification   |
| Data, Scientific Research and Knowledge - Ocean Deoxygenation   |
| Data, Scientific Research and Knowledge - Sea-Level Rise  |
| Data, Scientific Research and Knowledge - Other Ocean-Climate Interactions                                    |
| Data, Scientific Research and Knowledge - Ocean Stratification Changes  |
| Data, Scientific Research and Knowledge - Ocean Circulation Dynamics  |
| Data, Scientific Research and Knowledge - Air-Sea Interactions  |
| Data, Scientific Research and Knowledge - Habitat Loss and Ecosystem Alteration                               |
| Data, Scientific Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)        |
| ☐ Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                    |
| Data, Scientific Research and Knowledge - Alien and Invasive Species  |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics |

| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions                                    |
|--|
| Data, Scientific Research and Knowledge - Economic Values of Seabed Mining   |
| Data, Scientific Research and Knowledge - Economic Values of Ocean Drilling (Oil and Gas)  |
| Data, Scientific Research and Knowledge - Food Security and Nutrition Values of Marine Environments  |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  |
| Data, Scientific Research and Knowledge - Indigenous and Local Knowledge Systems   |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  |
| Applications, Products and Tools for Policy and Decision making - National Biodiversity Policy Support                                       |
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support  |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools                              |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products                                |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness                                   |
| Applications, Products and Tools for Policy and Decision making – Climate Projections  |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning              |
| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                               |
|  |

| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction |
|--|
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  |
| Cross-Cutting - Institutional Strengthening  |
| Cross-Cutting - Capacity Development for Individuals   |
| Cross-Cutting - Ocean Literacy for Societal Actors   |
| Cross-cutting - Best Practices and Standards   |
| Other (please specify)   |
|  |
|  |

### Relevance

3. How **relevant** to your country or territory are these aspects of the different elements of the ocean science value chain with respect to national activities and initiatives in **Sustainable Ocean Planning**?

|  | Not Relevant | Somewhat Relevant | Relevant   | Highly Relevant |
|--|--------------|-------------------|------------|-----------------|
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems      | 0            |                   | 0          | 0               |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems  | 0            |                   | $\bigcirc$ | 0               |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems         | 0            |                   | 0          | 0               |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting         | $\bigcirc$   | $\bigcirc$        | $\bigcirc$ | 0               |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                    | $\circ$      | $\bigcirc$        | 0          | 0               |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms | $\bigcirc$   |                   | $\circ$    | 0               |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                | $\circ$      | $\circ$           | $\circ$    | 0               |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and<br>Standardization    | $\bigcirc$   | 0                 | 0          | 0               |

| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                                  | $\bigcirc$ | 0          | $\circ$    |  |
|---|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity                                 |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources                            |            | 0          | 0          |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Ecosystem<br>Functioning and<br>Connectivity |            | 0          |            |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes                            | $\bigcirc$ | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography                               |            | $\bigcirc$ | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography                               |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography                             | $\bigcirc$ | $\circ$    | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles  | 0          | 0          | 0          |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Trophic Dynamics                                       | $\bigcirc$ | $\bigcirc$ | $\circ$    |  |

| and Structure   |   |            |         |   |
|---|---|------------|---------|---|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0 | 0          | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | 0 | $\bigcirc$ | $\circ$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                      | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | 0 | $\circ$    | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0 | 0          | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                         | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis                                     | 0 | 0          | 0       | 0 |
| Data, Scientific Research and Knowledge - Hurricanes and Extreme Coastal Weather Events         | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and  |   |            |         |   |

| Knowledge -<br>Coastal Flooding<br>and Storm Surge   | $\bigcirc$ | $\cup$  | $\cup$     | $\cup$ |
|--|------------|---------|------------|--------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                           | 0          | 0       | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                  | $\circ$    | $\circ$ | $\bigcirc$ | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                  | 0          | 0       | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                         | 0          | 0       | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions | 0          | 0       | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes      | 0          | 0       | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics           | 0          | 0       | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                   | 0          | $\circ$ | $\circ$    | 0      |
| Data, Scientific Research and Knowledge - Habitat Loss and Ecosystem Alteration            |            | 0       | 0          | 0      |
| Data, Scientific   |            |         |            |        |

| Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)                         |            |            |            |            |
|---|------------|------------|------------|------------|
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      |            |            | $\bigcirc$ |            |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ |            | $\bigcirc$ | $\bigcirc$ |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | 0          |            | 0          | 0          |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | 0          | 0          | 0          | 0          |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     |            |            | $\bigcirc$ |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | $\bigcirc$ | $\circ$    | $\circ$    | $\circ$    |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Ocean Drilling                       | $\circ$    | $\bigcirc$ | 0          | 0          |

| (Oil and Gas)  |            |            |            |   |
|--|------------|------------|------------|---|
| Data, Scientific Research and Knowledge - Food Security and Nutrition Values of Marine Environments  | 0          |            |            |   |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  |            |            |            |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | $\bigcirc$ | $\bigcirc$ | 0          | 0 |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |            |            |            |   |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  | 0          |            |            | 0 |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  |            |            |            |   |
| Applications, Products and Tools for Policy and Decision making - National   | 0          | $\bigcirc$ | $\bigcirc$ |   |

| Biodiversity<br>Policy Support  |            |   |   |  |
|---|------------|---|---|--|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                                 |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools                 |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products                   |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness                      | 0          |   |   |  |
| Applications, Products and Tools for Policy and Decision making – Climate Projections   | $\bigcirc$ | 0 | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning |            |   |   |  |
|   |            |   |   |  |

| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       |            | 0 |         |   |
|--|------------|---|---------|---|
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction |            |   |         |   |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0          | 0 |         | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0          | 0 |         | 0 |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     |            | 0 |         |   |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | $\bigcirc$ |   |         |   |
| Cross-Cutting -<br>Institutional<br>Strengthening  | $\circ$    | 0 | 0       | 0 |
| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals  | $\circ$    | 0 | $\circ$ | 0 |

| Cross-Cutting -<br>Ocean Literacy<br>for Societal<br>Actors  | 0            | 0                 | 0          | 0               |  |  |
|--|--------------|-------------------|------------|-----------------|--|--|
| Cross-cutting -<br>Best Practices<br>and Standards   | $\circ$      | 0                 | 0          | 0               |  |  |
| [Insert text from Other]   | $\circ$      | $\circ$           | $\circ$    | $\circ$         |  |  |
| 4. How <b>relevant</b> to your country or territory are these aspects of the different elements of the ocean science value chain with respect to the fulfilment of national commitments under <b>UN Conventions and Frameworks</b> ? |              |                   |            |                 |  |  |
|  | Not Relevant | Somewhat Relevant | Relevant   | Highly Relevant |  |  |
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems  | 0            | 0                 | $\circ$    | 0               |  |  |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems  | 0            | 0                 | $\bigcirc$ | 0               |  |  |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems   | 0            | 0                 | $\circ$    | 0               |  |  |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting   | 0            | 0                 | 0          | 0               |  |  |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management  | 0            | 0                 | 0          | 0               |  |  |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms   | 0            | 0                 | 0          | 0               |  |  |
| Ocean Data and<br>Observation -<br>Marine Data   | $\circ$      | $\circ$           | $\circ$    | 0               |  |  |

| Dissemination   |            |   |            |   |
|---|------------|---|------------|---|
| Ocean Data and Observation - Data Reporting and Standardization                         | 0          |   |            |   |
| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                | 0          | 0 |            | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity               | 0          | 0 |            |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources          | 0          |   |            | 0 |
| Data, Scientific Research and Knowledge - Marine Ecosystem Functioning and Connectivity | 0          |   |            | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes          | $\bigcirc$ |   | $\bigcirc$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography             | 0          |   | $\bigcirc$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography             | 0          |   |            | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography           | 0          | 0 | $\bigcirc$ | 0 |
| Data, Scientific<br>Research and  |            |   |            |   |
|   |            |   |            |   |

| Knowledge -<br>Nutrient Cycles  | O       | U | O          | O       |
|---|---------|---|------------|---------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Trophic Dynamics<br>and Structure            | $\circ$ | 0 | $\bigcirc$ |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0       | 0 | 0          |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | 0       |   |            | $\circ$ |
| Data, Scientific Research and Knowledge - Carbon Sequestration                                  | 0       | 0 | 0          |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | 0       | 0 | $\circ$    |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0       | 0 | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | 0       |   |            |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                         | $\circ$ | 0 | 0          |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis                                     | 0       | 0 | $\circ$    | $\circ$ |
| Data, Scientific  |         |   |            |         |
|   |         |   |            |         |

| Research and Knowledge - Hurricanes and Extreme Coastal Weather Events                     | 0          | 0 | 0 |            |
|--|------------|---|---|------------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Coastal Flooding<br>and Storm Surge     | $\bigcirc$ | 0 | 0 | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                           | $\circ$    | 0 | 0 | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                  | $\circ$    | 0 | 0 | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                  | 0          | 0 | 0 |            |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                         | $\bigcirc$ | 0 | 0 | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions |            | 0 | 0 |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes      |            | 0 |   |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics           |            | 0 | 0 |            |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                   | 0          | 0 | 0 |            |
|  |            |   |   |            |

| Data, Scientific Research and Knowledge - Habitat Loss and Ecosystem Alteration                               | 0          |         |         |            |
|---|------------|---------|---------|------------|
| Data, Scientific Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)        |            |         |         |            |
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      |            | 0       |         |            |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ |         |         |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 |            | 0       |         |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics |            |         |         |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     |            |         |         |            |
| Data, Scientific<br>Research and<br>Knowledge -   | $\bigcirc$ | $\circ$ | $\circ$ | $\bigcirc$ |

| Economic Values of Seabed Mining   |         |   |   |            |
|--|---------|---|---|------------|
| Data, Scientific Research and Knowledge - Economic Values of Ocean Drilling (Oil and Gas)  |         |   | 0 |            |
| Data, Scientific<br>Research and<br>Knowledge - Food<br>Security and<br>Nutrition Values<br>of Marine<br>Environments                        |         | 0 |   |            |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  |         |   |   |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  |         |   |   |            |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |         |   |   |            |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  |         |   |   |            |
| Applications, Products and Tools for Policy and Decision making - National   | $\circ$ | 0 | 0 | $\bigcirc$ |

| Climate Policy<br>Support   |   |   |   |   |
|---|---|---|---|---|
| Applications, Products and Tools for Policy and Decision making - National Biodiversity Policy Support          | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                 |   | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools |   |   |   |   |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products   |   | 0 | 0 |   |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness      | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making – Climate Projections                           |   | 0 | 0 | 0 |
| Applications, Products and Tools for Policy   |   |   |   |   |

| and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning  |   |   |   |   |
|--|---|---|---|---|
| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       | 0 |   |   |   |
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction |   |   |   |   |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       |   |   |   |   |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     |   | 0 | 0 |   |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | 0 | 0 | 0 | 0 |

| Cross-Cutting -<br>Institutional<br>Strengthening                      | 0            | $\bigcirc$        | $\bigcirc$ | 0               |
|--|--------------|-------------------|------------|-----------------|
| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals          | $\circ$      | $\bigcirc$        | $\bigcirc$ | 0               |
| Cross-Cutting -<br>Ocean Literacy<br>for Societal<br>Actors            | 0            | $\bigcirc$        | $\bigcirc$ | 0               |
| Cross-cutting -<br>Best Practices<br>and Standards                     | $\bigcirc$   | $\bigcirc$        | $\bigcirc$ | 0               |
| [Insert text from Other]   | $\bigcirc$   | $\bigcirc$        | $\bigcirc$ | $\bigcirc$      |
| Ocean Data and<br>Observation -  | Not Relevant | Somewhat Relevant | Relevant   | Highly Relevant |
|  | •            | Somewhat Relevant | Relevant   | Highly Relevant |
| Ocean Observation Infrastructure and Systems                           | 0            |                   |            | 0               |
| Ocean Dara and Observation - Remote Sensing and Satellite Systems      | $\circ$      | $\bigcirc$        | $\bigcirc$ | 0               |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems | 0            |                   | $\bigcirc$ | 0               |
| Ocean Data and   |              |                   |            |                 |
| Observation -<br>Ocean Prediction<br>and Forecasting                   | $\circ$      |                   | $\circ$    | 0               |
| Ocean Prediction   | 0            |                   | 0          | 0               |

| Observation -<br>Ocean Data<br>Repositories and<br>Platforms                            | $\circ$    | $\circ$    | 0       | 0 |
|---|------------|------------|---------|---|
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                         | $\circ$    | 0          | 0       | 0 |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and<br>Standardization             | $\circ$    | $\bigcirc$ | $\circ$ |   |
| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                | 0          | 0          | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity               | $\bigcirc$ | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources          | $\circ$    | 0          | 0       |   |
| Data, Scientific Research and Knowledge - Marine Ecosystem Functioning and Connectivity |            | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes          | $\bigcirc$ | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography             | $\bigcirc$ | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography             | $\circ$    | $\bigcirc$ | 0       |   |
|   |            |            |         |   |

| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography                   | $\bigcirc$ | 0       | 0          | $\bigcirc$ |
|---|------------|---------|------------|------------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles                              | 0          | 0       | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Trophic Dynamics<br>and Structure            | 0          | 0       | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0          | 0       | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | $\bigcirc$ | $\circ$ | $\bigcirc$ |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                      | 0          | 0       | 0          |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | $\circ$    | 0       | 0          | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0          | 0       | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | $\bigcirc$ | 0       | 0          | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine                                       | 0          | 0       | 0          | $\circ$    |

| Seismology   |            |         |         |            |
|--|------------|---------|---------|------------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis  | 0          | 0       | 0       | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hurricanes and<br>Extreme Coastal<br>Weather Events |            | 0       |         |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Coastal Flooding<br>and Storm Surge                 | $\bigcirc$ | 0       |         |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                                       | 0          | 0       | 0       | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                              | $\circ$    | 0       |         |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                              | $\circ$    | 0       |         | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                                     | 0          | 0       | 0       | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions             |            | 0       |         |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes                  |            | 0       |         |            |
| Data, Scientific<br>Research and<br>Knowledge -  | $\circ$    | $\circ$ | $\circ$ | $\bigcirc$ |

| Ocean Circulation<br>Dynamics  |            |        |        |            |
|--|------------|--------|--------|------------|
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions   | $\circ$    | 0      | 0      | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Habitat Loss and<br>Ecosystem<br>Alteration                           | 0          | 0      | 0      |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Pollution<br>(Plastic, Noise,<br>Light or other<br>Pollutants) |            | 0      | 0      |            |
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                                 |            | 0      | 0      |            |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species   | $\circ$    | 0      | 0      |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                            |            | 0      | 0      |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics            |            | 0      |        |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values   | $\bigcirc$ | $\cap$ | $\cap$ |            |

| of Marine  | $\cup$  |         | $\cup$  | $\cup$ |
|--|---------|---------|---------|--------|
| Renewable<br>Energy and<br>Energy Solutions  |         |         |         |        |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining   | $\circ$ | $\circ$ | $\circ$ | 0      |
| Data, Scientific Research and Knowledge - Economic Values of Ocean Drilling (Oil and Gas)  | 0       | 0       |         |        |
| Data, Scientific Research and Knowledge - Food Security and Nutrition Values of Marine Environments  | 0       |         |         |        |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  | 0       |         |         | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | 0       |         |         |        |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools | 0       | 0       |         |        |
| Applications, Products and Tools for Policy and Decision making - Marine   | 0       | 0       | 0       |        |

| Spatial Planning<br>(MSP)   |   |   |   |  |
|---|---|---|---|--|
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support               | 0 | 0 | 0 |  |
| Applications, Products and Tools for Policy and Decision making - National Biodiversity Policy Support          |   |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                 |   |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools |   |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products   | 0 | 0 |   |  |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness      |   |   |   |  |
| Applications, Products and Tools for Policy   |   |   |   |  |

| and Decision<br>making – Climate<br>Projections  | U | U | U | U |
|--|---|---|---|---|
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning      |   |   |   |   |
| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       |   |   |   |   |
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction | 0 |   |   | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0 | 0 |   | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       |   |   |   |   |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0 |   |   |   |

| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering | 0          | 0          | 0       |            |
|---|------------|------------|---------|------------|
| Cross-Cutting -<br>Institutional<br>Strengthening                                       | $\circ$    | $\circ$    | $\circ$ | $\bigcirc$ |
| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals                           | 0          | 0          | $\circ$ |            |
| Cross-Cutting -<br>Ocean Literacy<br>for Societal<br>Actors                             | 0          | 0          | 0       |            |
| Cross-cutting -<br>Best Practices<br>and Standards                                      | $\circ$    | $\circ$    | 0       | $\bigcirc$ |
| [Insert text from Other]  | $\bigcirc$ | $\bigcirc$ | 0       | 0          |

# Sustainable Ocean Planning

6. How would you classify the **extent to which your country or territory's needs in Sustainable Ocean Planning are being met** by IOC or other partners in relation to the following aspects?

|  | Not Met at All | Somewhat Met | Mostly Met | Fully Met |
|--|----------------|--------------|------------|-----------|
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems      | 0              |              | 0          | 0         |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems  |                | $\bigcirc$   | $\bigcirc$ |           |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems         |                | 0            | 0          |           |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting         | $\circ$        | $\bigcirc$   | 0          | 0         |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                    | 0              | $\bigcirc$   | 0          | 0         |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms | 0              | $\bigcirc$   | 0          | 0         |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                | 0              | $\circ$      | 0          | 0         |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and<br>Standardization    | 0              | $\bigcirc$   | $\bigcirc$ | 0         |

| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                                  | $\bigcirc$ | 0          | $\circ$    |  |
|---|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity                                 |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources                            | $\bigcirc$ | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Ecosystem<br>Functioning and<br>Connectivity |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes                            |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography                               |            | $\bigcirc$ | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography                               |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography                             | $\bigcirc$ | $\circ$    | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles  | $\circ$    | 0          | 0          |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Trophic Dynamics                                       | $\bigcirc$ | $\bigcirc$ | 0          |  |

| and Structure   |   |            |   |   |
|---|---|------------|---|---|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0 | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | 0 | $\bigcirc$ |   | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                      | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | 0 | $\circ$    |   | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0 | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                         | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis                                     | 0 | 0          | 0 | 0 |
| Data, Scientific Research and Knowledge - Hurricanes and Extreme Coastal Weather Events         | 0 | 0          |   |   |
| Data, Scientific<br>Research and  |   |            |   |   |

| Knowledge -<br>Coastal Flooding<br>and Storm Surge   | $\bigcirc$ | $\cup$     | $\cup$     | $\cup$     |
|--|------------|------------|------------|------------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                           | 0          | 0          | 0          | $\circ$    |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                  | $\circ$    | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                  | $\circ$    | $\circ$    | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                         | $\circ$    | 0          | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions | 0          | 0          | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes      | $\bigcirc$ | $\bigcirc$ | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics           | $\circ$    | 0          | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                   | $\circ$    | $\bigcirc$ | $\circ$    | $\circ$    |
| Data, Scientific Research and Knowledge - Habitat Loss and Ecosystem Alteration            |            | $\bigcirc$ | 0          | 0          |
| Data, Scientific   |            |            |            |            |

| Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)                         |            |            |            |         |
|---|------------|------------|------------|---------|
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      |            |            | $\bigcirc$ |         |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |         |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | 0          |            | 0          | 0       |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | 0          | 0          | 0          | 0       |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     |            |            | $\bigcirc$ |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | $\bigcirc$ | $\circ$    | $\circ$    | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Ocean Drilling                       | $\circ$    | $\bigcirc$ | 0          | 0       |

| (Oil and Gas)  |            |            |            |  |
|--|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge - Food<br>Security and<br>Nutrition Values<br>of Marine<br>Environments                        |            |            |            |  |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  |            |            |            |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | $\bigcirc$ |            |            |  |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - National   | $\circ$    | $\bigcirc$ | $\bigcirc$ |  |

| Biodiversity<br>Policy Support  |            |   |   |  |
|---|------------|---|---|--|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                                 |            |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools                 |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products                   |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness                      | 0          |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Climate Projections   | $\bigcirc$ | 0 | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning |            |   |   |  |
|   |            |   |   |  |

| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       |            |         |         |            |
|--|------------|---------|---------|------------|
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction |            |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0          | 0       | 0       |            |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0          |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0          |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | $\bigcirc$ |         |         |            |
| Cross-Cutting -<br>Institutional<br>Strengthening  | 0          | $\circ$ | $\circ$ | $\bigcirc$ |
| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals  | 0          | 0       | $\circ$ | $\circ$    |

| Cross-Cutting - Ocean Literacy for Societal Actors  Cross-cutting - Best Practices and Standards  [Insert text from Other]  Tyou would like to expand on your response(s), please do so here. |  |
|---|--|
| Best Practices and Standards  [Insert text from Other]  |  |
| Other]  |  |
| f you would like to expand on your response(s), please do so here.  |  |
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# Sustainable Ocean Planning

7. How would you classify the **extent to which your country or territory's unmet need in Sustainable Ocean Planning** in relation to these aspects **is a problem in meeting national goals**?

|  | Highly<br>problematic | Problematic | Moderately problematic | Moderately unproblematic | Unproblematic | Highly<br>unproblematic |
|--|-----------------------|-------------|------------------------|--------------------------|---------------|-------------------------|
| Ocean Data and<br>Observation -<br>Ocean<br>Observation<br>Infrastructure<br>and Systems | 0                     | 0           | 0                      | 0                        | 0             | 0                       |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems            | $\circ$               | $\bigcirc$  | $\bigcirc$             | $\bigcirc$               | $\bigcirc$    | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems                   | 0                     | 0           | $\circ$                | 0                        | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting                   | $\circ$               | $\bigcirc$  | 0                      | $\bigcirc$               | $\bigcirc$    | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                              | 0                     | 0           | $\bigcirc$             | $\circ$                  | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms           | 0                     | 0           | 0                      | 0                        | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                          | 0                     | $\bigcirc$  | $\circ$                | $\bigcirc$               | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and                                 | 0                     | 0           | 0                      | 0                        | 0             | $\bigcirc$              |

| Standardization   |            |   |         |            |         |         |
|---|------------|---|---------|------------|---------|---------|
| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                | $\bigcirc$ | 0 | 0       | $\bigcirc$ | 0       | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity               | $\bigcirc$ | 0 | $\circ$ | 0          | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources          | $\circ$    | 0 | $\circ$ | 0          | 0       | 0       |
| Data, Scientific Research and Knowledge - Marine Ecosystem Functioning and Connectivity | 0          | 0 | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes          | 0          | 0 | 0       | $\circ$    | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography             | 0          | 0 | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography             | 0          | 0 | $\circ$ | $\circ$    | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography           | 0          | 0 | 0       | 0          | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles                      | $\bigcirc$ | 0 | $\circ$ | $\circ$    | 0       | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -   | $\bigcirc$ | 0 | $\circ$ | $\circ$    | $\circ$ | $\circ$ |

| Trophic Dynamics and Structure   |            |            |         |            |         |         |
|--|------------|------------|---------|------------|---------|---------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                               | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                          | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                             | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics                    | $\circ$    | $\circ$    | $\circ$ | $\circ$    | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                        | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics        | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                                | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis  | $\bigcirc$ | $\bigcirc$ | $\circ$ | $\bigcirc$ | 0       | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hurricanes and<br>Extreme Coastal<br>Weather Events | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific   |            |            |         |            |         |         |

| Research and<br>Knowledge -<br>Coastal Flooding<br>and Storm Surge                             | $\bigcirc$ | $\circ$    | 0          | $\circ$ | 0       | 0 |
|--|------------|------------|------------|---------|---------|---|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                               | $\bigcirc$ | 0          | 0          | $\circ$ | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                      | $\bigcirc$ | 0          | 0          | 0       | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                      | $\circ$    | 0          | 0          | 0       | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                             | $\bigcirc$ | $\bigcirc$ | $\circ$    | $\circ$ | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions     | 0          | 0          | 0          | 0       | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes          | 0          | 0          | $\bigcirc$ | 0       | $\circ$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics               | 0          | 0          | 0          | 0       | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                       | $\circ$    | 0          | 0          | $\circ$ | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Habitat Loss and<br>Ecosystem<br>Alteration | 0          | 0          | 0          | 0       | 0       | 0 |

| Data, Scientific Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)        | 0          | 0       | 0          | 0       | 0       |            |
|---|------------|---------|------------|---------|---------|------------|
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ | 0       | 0          | 0       | 0       | $\circ$    |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | 0          | 0       | 0          | 0       | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -   | 0          | $\circ$ | $\bigcirc$ | $\circ$ | $\circ$ | $\circ$    |

| Economic Values<br>of Ocean Drilling<br>(Oil and Gas)  |            |   |   |            |            |   |
|--|------------|---|---|------------|------------|---|
| Data, Scientific Research and Knowledge - Food Security and Nutrition Values of Marine Environments  | 0          | 0 | 0 | 0          | 0          | 0 |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  | $\bigcirc$ | 0 | 0 |            | $\bigcirc$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | 0          | 0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |            | 0 | 0 |            |            | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  | 0          | 0 | 0 | 0          | 0          | 0 |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  | 0          | 0 | 0 | 0          | 0          | 0 |
| Applications,<br>Products and<br>Tools for Policy  |            |   |   |            |            |   |

| and Decision<br>making - National<br>Biodiversity<br>Policy Support  | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 |
|--|------------|---|---|---|---|---|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                        | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools        | 0          |   |   | 0 | 0 |   |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products          | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness             | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making – Climate Projections                                  | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation |            |   |   | 0 | 0 |   |

| Planning   |         |        |         |            |            |            |
|--|---------|--------|---------|------------|------------|------------|
| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       | 0       | 0      | 0       | 0          | 0          |            |
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction | 0       | 0      | 0       | 0          | $\bigcirc$ |            |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0       | 0      | 0       | 0          | $\circ$    | $\bigcirc$ |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0       | 0      | 0       | 0          | 0          |            |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0       | 0      | 0       | $\bigcirc$ | $\bigcirc$ |            |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | 0       | 0      | $\circ$ | 0          | $\circ$    | $\bigcirc$ |
| Cross-Cutting -<br>Institutional<br>Strengthening  | $\circ$ | 0      | 0       | $\circ$    | 0          | $\circ$    |
| Cross-Cutting -<br>Capacity  | $\cap$  | $\cap$ | $\cap$  | $\bigcap$  | $\cap$     | $\cap$     |

| Development for Individuals                                 | $\cup$     | $\cup$  | $\cup$     | $\cup$     | $\cup$     | $\cup$  |
|---|------------|---------|------------|------------|------------|---------|
| Cross-Cutting -<br>Ocean Literacy<br>for Societal<br>Actors | $\circ$    | $\circ$ | 0          | $\bigcirc$ | $\bigcirc$ | $\circ$ |
| Cross-cutting -<br>Best Practices<br>and Standards          | $\circ$    | 0       | $\circ$    | 0          | $\circ$    | $\circ$ |
| [Insert text from<br>Other]                                 | $\bigcirc$ | $\circ$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\circ$ |
|   |            |         |            |            |            |         |
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## Implementation of UN Conventions and Frameworks

8. How would you classify the **extent to which your country or territory's needs to support fulfilment of national commitments under UN Conventions and Frameworks are being met** by IOC or other partners in relation to the following aspects?

|  | Not Met at All | Somewhat Met | Mostly Met | Fully Met |
|--|----------------|--------------|------------|-----------|
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems      | $\bigcirc$     |              |            | 0         |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems  | $\bigcirc$     | $\bigcirc$   | $\bigcirc$ | 0         |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems         | $\bigcirc$     | $\bigcirc$   | 0          | 0         |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting         | $\bigcirc$     | $\circ$      | $\bigcirc$ | $\circ$   |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                    | $\circ$        | $\circ$      | 0          | 0         |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms | $\bigcirc$     | $\circ$      | $\circ$    | 0         |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                | $\circ$        | 0            | $\circ$    | 0         |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and<br>Standardization    | $\bigcirc$     | $\bigcirc$   | $\circ$    | 0         |

| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                                  | $\circ$    | 0          | $\circ$    |  |
|---|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity                                 |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources                            | $\bigcirc$ | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Ecosystem<br>Functioning and<br>Connectivity |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes                            |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography                               |            | $\bigcirc$ | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography                               |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography                             | $\bigcirc$ | $\circ$    | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles  | $\circ$    | 0          | 0          |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Trophic Dynamics                                       | $\bigcirc$ | $\bigcirc$ | 0          |  |

| and Structure   |   |            |   |   |
|---|---|------------|---|---|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0 | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | 0 | $\bigcirc$ |   | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                      | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | 0 | $\circ$    | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0 | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                         | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis                                     | 0 | 0          | 0 | 0 |
| Data, Scientific Research and Knowledge - Hurricanes and Extreme Coastal Weather Events         | 0 | 0          | 0 |   |
| Data, Scientific<br>Research and  |   |            |   |   |

| Knowledge -<br>Coastal Flooding<br>and Storm Surge   | O       | $\cup$     | $\cup$     | $\cup$ |
|--|---------|------------|------------|--------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                               | 0       | $\circ$    | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                      | $\circ$ | $\bigcirc$ | $\bigcirc$ | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                      | 0       | 0          | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                             | 0       | 0          | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions     | 0       | 0          | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes          | 0       | 0          | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics               | 0       | 0          | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                       | 0       | $\circ$    | 0          | 0      |
| Data, Scientific<br>Research and<br>Knowledge -<br>Habitat Loss and<br>Ecosystem<br>Alteration | 0       | $\circ$    | 0          | 0      |
| Data, Scientific   |         |            |            |        |

| Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)                         | $\bigcirc$ |   |   |  |
|---|------------|---|---|--|
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      | $\circ$    | 0 | 0 |  |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\circ$    | 0 |   |  |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | $\circ$    | 0 | 0 |  |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | $\bigcirc$ | 0 |   |  |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     | 0          | 0 | 0 |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | 0          | 0 | 0 |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Ocean Drilling                       | 0          | 0 | 0 |  |

| (Oil and Gas)  |            |            |            |  |
|--|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge - Food<br>Security and<br>Nutrition Values<br>of Marine<br>Environments                        |            |            |            |  |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  |            |            |            |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | $\bigcirc$ |            |            |  |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - National   | $\circ$    | $\bigcirc$ | $\bigcirc$ |  |

| Biodiversity<br>Policy Support  |            |   |   |  |
|---|------------|---|---|--|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                                 |            |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools                 |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products                   |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness                      | 0          |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Climate Projections   | $\bigcirc$ | 0 | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning |            |   |   |  |
|   |            |   |   |  |

| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       |            |         |         |            |
|--|------------|---------|---------|------------|
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction |            |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0          | 0       | 0       |            |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0          |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0          |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | $\bigcirc$ |         |         |            |
| Cross-Cutting -<br>Institutional<br>Strengthening  | 0          | $\circ$ | $\circ$ | $\bigcirc$ |
| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals  | 0          | 0       | $\circ$ | $\circ$    |

| Cross-Cutting - Ocean Literacy for Societal Actors  Cross-cutting - Best Practices and Standards  [Insert text from Other]  Tyou would like to expand on your response(s), please do so here. |  |
|---|--|
| Best Practices and Standards  [Insert text from Other]  |  |
| Other]  |  |
| f you would like to expand on your response(s), please do so here.  |  |
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Implementation of UN Conventions and Frameworks

9. How would you classify the **extent to which your country or territory's unmet needs in the Implementation of UN Conventions and Frameworks** in relation to these aspects **is a problem in the fulfilment of national commitments under these Conventions and Frameworks**?

|  | Highly<br>Problematic | Problematic | Moderately<br>Problematic | Moderately<br>Unproblematic | Unproblematic | Highly<br>Unproblematic |
|--|-----------------------|-------------|---------------------------|-----------------------------|---------------|-------------------------|
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems      | 0                     | 0           | 0                         | 0                           | 0             | $\circ$                 |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems  | 0                     | 0           | 0                         | 0                           | 0             | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems         | 0                     | 0           | $\circ$                   | 0                           | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting         | 0                     | 0           | 0                         | $\bigcirc$                  | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                    | 0                     | 0           | 0                         | $\circ$                     | 0             | 0                       |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms | 0                     | 0           | $\bigcirc$                | 0                           | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                | 0                     | 0           | 0                         | $\bigcirc$                  | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Data Reporting                              | $\bigcirc$            | $\circ$     | $\circ$                   | $\bigcirc$                  | $\circ$       | $\bigcirc$              |

| and<br>Standardization  |            |         |         |            |            |         |
|---|------------|---------|---------|------------|------------|---------|
| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                | 0          | 0       | 0       | $\bigcirc$ | 0          | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity               | $\bigcirc$ | $\circ$ | $\circ$ | $\circ$    | $\bigcirc$ | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources          | 0          | 0       | $\circ$ | 0          | 0          | 0       |
| Data, Scientific Research and Knowledge - Marine Ecosystem Functioning and Connectivity | 0          | 0       | 0       | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes          | 0          | 0       | 0       | $\circ$    | 0          | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography             | 0          | 0       | 0       | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography             | 0          | 0       | 0       | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography           | 0          | $\circ$ | 0       | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles                      | 0          | 0       | 0       | 0          | 0          | 0       |
| Data, Scientific<br>Research and  |            |         | $\sim$  |            | $\sim$     |         |

| Knowledge -<br>Trophic Dynamics<br>and Structure  | $\bigcirc$ | $\cup$  | $\bigcirc$ | $\bigcirc$ | $\cup$  | $\bigcirc$ |
|---|------------|---------|------------|------------|---------|------------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0          | 0       | 0          | $\circ$    | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | $\circ$    | 0       | 0          | 0          | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                      | 0          | 0       | 0          | $\circ$    | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | 0          | $\circ$ | $\circ$    | $\bigcirc$ | $\circ$ | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0          | 0       | 0          | 0          | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | 0          | 0       | $\circ$    | $\circ$    | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                         | $\circ$    | 0       | 0          | 0          | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis                                     | 0          | 0       | 0          | $\bigcirc$ | 0       | $\circ$    |
| Data, Scientific Research and Knowledge - Hurricanes and Extreme Coastal Weather Events         | $\circ$    | 0       | 0          | 0          | 0       |            |
|   |            |         |            |            |         |            |

| Data, Scientific<br>Research and<br>Knowledge -<br>Coastal Flooding<br>and Storm Surge | 0          | 0       | 0 | 0          | 0          | 0       |
|--|------------|---------|---|------------|------------|---------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                       | $\bigcirc$ | $\circ$ | 0 | $\bigcirc$ | $\circ$    | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification              | 0          | 0       | 0 | $\circ$    | $\bigcirc$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation              | 0          | 0       | 0 | $\circ$    | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                     | $\bigcirc$ | $\circ$ | 0 | $\bigcirc$ | $\circ$    | $\circ$ |
| Data, Scientific Research and Knowledge - Other Ocean- Climate Interactions            | 0          | 0       | 0 | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes  | 0          | 0       | 0 | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics       | 0          | 0       | 0 | 0          | 0          | 0       |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions               | $\bigcirc$ | $\circ$ | 0 | $\bigcirc$ | 0          | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Habitat Loss and<br>Ecosystem       | 0          | 0       | 0 | 0          | 0          | 0       |

| Alteration  |            |   |            |         |   |            |
|---|------------|---|------------|---------|---|------------|
| Data, Scientific Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)        | 0          | 0 | 0          | 0       | 0 |            |
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      | 0          | 0 | 0          | 0       | 0 |            |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ | 0 | 0          | $\circ$ | 0 | $\circ$    |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | 0          | 0 | 0          | 0       | 0 |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | 0          | 0 | 0          | 0       | 0 |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     | 0          | 0 | 0          | 0       | 0 |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | 0          | 0 | $\bigcirc$ | 0       | 0 | $\bigcirc$ |
| Data, Scientific  |            |   |            |         |   |            |

| Research and<br>Knowledge -<br>Economic Values<br>of Ocean Drilling<br>(Oil and Gas)   | 0 | 0 | 0       | 0 | 0       | 0          |
|--|---|---|---------|---|---------|------------|
| Data, Scientific<br>Research and<br>Knowledge - Food<br>Security and<br>Nutrition Values<br>of Marine<br>Environments                        | 0 | 0 | $\circ$ | 0 | $\circ$ | 0          |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  | 0 | 0 | 0       | 0 | 0       | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | 0 | 0 | 0       | 0 | 0       | $\bigcirc$ |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools | 0 | 0 |         | 0 | 0       |            |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  | 0 | 0 | 0       | 0 | 0       | 0          |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  | 0 | 0 | 0       | 0 | 0       | $\circ$    |
| Applications,  |   |   |         |   |         |            |

| Products and<br>Tools for Policy<br>and Decision<br>making - National<br>Biodiversity<br>Policy Support         | 0 | 0 | $\circ$ | 0       | 0 | 0 |
|---|---|---|---------|---------|---|---|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                 | 0 | 0 | 0       | 0       | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools | 0 | 0 |         | 0       |   |   |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products   | 0 | 0 | 0       | 0       | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness      | 0 | 0 | 0       | $\circ$ | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making – Climate Projections                           | 0 | 0 | 0       | 0       | 0 |   |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience                  | 0 | 0 | 0       | $\circ$ | 0 | 0 |

| Analyses and<br>Adaptation<br>Planning   |         |   |         |   |            |   |
|--|---------|---|---------|---|------------|---|
| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       | 0       | 0 | 0       | 0 | $\bigcirc$ | 0 |
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction | 0       | 0 | 0       | 0 |            | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | $\circ$ | 0 | 0       | 0 | 0          | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0       | 0 | 0       | 0 | 0          | 0 |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0       | 0 | 0       | 0 | 0          | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | 0       | 0 | 0       | 0 | 0          | 0 |
| Cross-Cutting -<br>Institutional<br>Strengthening  | $\circ$ | 0 | $\circ$ | 0 | $\circ$    | 0 |

| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals | 0            | 0             | 0               | 0        | 0          | 0       |
|---|--------------|---------------|-----------------|----------|------------|---------|
| Cross-Cutting -<br>Ocean Literacy<br>for Societal<br>Actors   | 0            | 0             | 0               | 0        | $\circ$    | 0       |
| Cross-cutting -<br>Best Practices<br>and Standards            | 0            | $\circ$       | $\circ$         | 0        | 0          | 0       |
| [Insert text from Other]                                      | $\bigcirc$   | $\bigcirc$    | $\circ$         | $\circ$  | $\bigcirc$ | $\circ$ |
| If you would like to e  | expand on yo | ur response(s | s), please do s | so here. |            |         |
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# Sustainable Ocean Economy

10. How would you classify the **extent to which your country or territory's needs in Sustainable Ocean Economy are being met** by IOC or other partners in relation to the following aspects?

|  | Not Met at all | Somewhat Met | Mostly Met | Fully Met  |
|--|----------------|--------------|------------|------------|
| Ocean Data and Observation - Ocean Observation Infrastructure and Systems      | 0              |              | 0          | 0          |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems  | $\circ$        |              | $\bigcirc$ | $\bigcirc$ |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems         | 0              |              | 0          |            |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting         | $\bigcirc$     | $\bigcirc$   | $\circ$    | $\circ$    |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                    | 0              | $\bigcirc$   | 0          | 0          |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms | $\bigcirc$     |              | $\circ$    | 0          |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                | 0              | $\circ$      | $\circ$    | 0          |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and<br>Standardization    | $\bigcirc$     | $\bigcirc$   | $\bigcirc$ | $\bigcirc$ |

| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                                  | $\circ$    | 0          | $\circ$    |  |
|---|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity                                 |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources                            | $\bigcirc$ | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Ecosystem<br>Functioning and<br>Connectivity |            | 0          | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes                            |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography                               |            | $\bigcirc$ | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography                               |            | 0          | $\circ$    |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography                             | $\bigcirc$ | $\circ$    | $\bigcirc$ |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles  | $\circ$    | 0          | 0          |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Trophic Dynamics                                       | $\bigcirc$ | $\bigcirc$ | 0          |  |

| and Structure   |   |            |         |   |
|---|---|------------|---------|---|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                        | 0 | 0          | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                   | 0 | $\bigcirc$ | $\circ$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                      | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics             | 0 | $\circ$    | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                 | 0 | 0          | 0       | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                         | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis                                     | 0 | 0          | 0       | 0 |
| Data, Scientific Research and Knowledge - Hurricanes and Extreme Coastal Weather Events         | 0 | 0          | 0       |   |
| Data, Scientific<br>Research and  |   |            |         |   |

| Knowledge -<br>Coastal Flooding<br>and Storm Surge   | $\bigcirc$ | $\cup$     | $\cup$     | $\cup$     |
|--|------------|------------|------------|------------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                           | 0          | 0          | 0          | $\circ$    |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                  | $\circ$    | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                  | $\circ$    | $\circ$    | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                         | $\circ$    | 0          | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions | 0          | 0          | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes      | $\bigcirc$ | $\bigcirc$ | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics           | $\circ$    | 0          | 0          | 0          |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                   | $\circ$    | $\bigcirc$ | $\circ$    | $\circ$    |
| Data, Scientific Research and Knowledge - Habitat Loss and Ecosystem Alteration            |            | $\bigcirc$ | 0          | 0          |
| Data, Scientific   |            |            |            |            |

| Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)                         |            |            |            |         |
|---|------------|------------|------------|---------|
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      |            |            | $\bigcirc$ |         |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |         |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | 0          |            | 0          | 0       |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | 0          | 0          | 0          | 0       |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     |            |            | $\bigcirc$ |         |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | $\bigcirc$ | $\circ$    | $\circ$    | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Ocean Drilling                       | $\circ$    | $\bigcirc$ | 0          | 0       |

| (Oil and Gas)  |            |            |            |  |
|--|------------|------------|------------|--|
| Data, Scientific<br>Research and<br>Knowledge - Food<br>Security and<br>Nutrition Values<br>of Marine<br>Environments                        |            |            |            |  |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  |            |            |            |  |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | $\bigcirc$ |            |            |  |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  |            |            |            |  |
| Applications, Products and Tools for Policy and Decision making - National   | $\circ$    | $\bigcirc$ | $\bigcirc$ |  |

| Biodiversity<br>Policy Support  |            |   |   |  |
|---|------------|---|---|--|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                                 |            |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools                 |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products                   |            |   |   |  |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness                      | 0          |   | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Climate Projections   | $\bigcirc$ | 0 | 0 |  |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation Planning |            |   |   |  |
|   |            |   |   |  |

| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       |            |         |         |            |
|--|------------|---------|---------|------------|
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction |            |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0          | 0       | 0       |            |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0          |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0          |         |         |            |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | $\bigcirc$ |         |         |            |
| Cross-Cutting -<br>Institutional<br>Strengthening  | 0          | $\circ$ | $\circ$ | $\bigcirc$ |
| Cross-Cutting -<br>Capacity<br>Development for<br>Individuals  | 0          | 0       | $\circ$ | $\circ$    |

| Cross-Cutting - Ocean Literacy for Societal Actors  Cross-cutting - Best Practices and Standards  [Insert text from Other]  Tyou would like to expand on your response(s), please do so here. |  |
|---|--|
| Best Practices and Standards  [Insert text from Other]  |  |
| Other]  |  |
| f you would like to expand on your response(s), please do so here.  |  |
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## **IOC Member State Needs Assessment**

Sustainable Ocean Economy

11. How would you classify the **extent to which your country or territory's unmet need in Sustainable Ocean Economy** in relation to these aspects **is a problem in meeting national goals**?

|  | Highly<br>Problematic | Problematic | Moderately<br>Problematic | Moderately<br>Unproblematic | Unproblematic | Highly<br>Unproblematic |
|--|-----------------------|-------------|---------------------------|-----------------------------|---------------|-------------------------|
| Ocean Data and<br>Observation -<br>Ocean<br>Observation<br>Infrastructure<br>and Systems | 0                     | 0           | $\bigcirc$                | 0                           | 0             |                         |
| Ocean Dara and<br>Observation -<br>Remote Sensing<br>and Satellite<br>Systems            | 0                     | 0           | $\circ$                   | 0                           | 0             | 0                       |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Collection<br>Systems                   | 0                     | 0           | $\circ$                   | $\circ$                     | 0             | $\circ$                 |
| Ocean Data and<br>Observation -<br>Ocean Prediction<br>and Forecasting                   | $\circ$               | $\circ$     | $\circ$                   | $\bigcirc$                  | $\circ$       | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Management                              | 0                     | 0           | 0                         | $\bigcirc$                  | 0             | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Ocean Data<br>Repositories and<br>Platforms           | $\circ$               | $\circ$     | $\bigcirc$                | $\bigcirc$                  | $\circ$       | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Marine Data<br>Dissemination                          | 0                     | 0           | 0                         | $\bigcirc$                  | 0             | $\bigcirc$              |
| Ocean Data and<br>Observation -<br>Data Reporting<br>and                                 | 0                     | 0           | 0                         | $\circ$                     | $\circ$       | 0                       |

| Standardization   |            |   |         |            |         |         |
|---|------------|---|---------|------------|---------|---------|
| Ocean Data and<br>Observation -<br>Marine Scientific<br>Research Support                | $\bigcirc$ | 0 | 0       | $\bigcirc$ | 0       | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Biodiversity               | $\bigcirc$ | 0 | $\circ$ | 0          | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Genetic<br>Resources          | $\circ$    | 0 | $\circ$ | 0          | 0       | 0       |
| Data, Scientific Research and Knowledge - Marine Ecosystem Functioning and Connectivity | 0          | 0 | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biogeochemical<br>Processes          | 0          | 0 | 0       | $\circ$    | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Chemical<br>Oceanography             | 0          | 0 | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Physical<br>Oceanography             | 0          | 0 | $\circ$ | $\circ$    | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Biological<br>Oceanography           | 0          | 0 | 0       | 0          | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Nutrient Cycles                      | $\bigcirc$ | 0 | $\circ$ | $\circ$    | 0       | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -   | $\circ$    | 0 | $\circ$ | $\circ$    | $\circ$ | $\circ$ |

| Trophic Dynamics and Structure   |            |            |         |            |         |         |
|--|------------|------------|---------|------------|---------|---------|
| Data, Scientific<br>Research and<br>Knowledge -<br>Primary<br>Production                               | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Sedimentation<br>Processes                          | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Carbon<br>Sequestration                             | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine Geology<br>and Geophysics                    | $\circ$    | $\circ$    | $\circ$ | $\circ$    | $\circ$ | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hydrothermal<br>Vent Systems                        | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tectonic<br>Movements and<br>Seabed Dynamics        | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Marine<br>Seismology                                | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific<br>Research and<br>Knowledge -<br>Tsunamis  | $\bigcirc$ | $\bigcirc$ | $\circ$ | $\bigcirc$ | 0       | $\circ$ |
| Data, Scientific<br>Research and<br>Knowledge -<br>Hurricanes and<br>Extreme Coastal<br>Weather Events | 0          | 0          | 0       | 0          | 0       | 0       |
| Data, Scientific   |            |            |         |            |         |         |

| Research and<br>Knowledge -<br>Coastal Flooding<br>and Storm Surge                             | $\bigcirc$ | $\circ$    | 0          | $\circ$    | 0 | 0 |
|--|------------|------------|------------|------------|---|---|
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Warming                               | $\bigcirc$ | 0          | 0          | $\circ$    | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Acidification                      | $\bigcirc$ | 0          | 0          | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Deoxygenation                      | $\circ$    | 0          | 0          | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge - Sea-<br>Level Rise                             | $\bigcirc$ | $\bigcirc$ | $\circ$    | $\bigcirc$ | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Other Ocean-<br>Climate<br>Interactions     | 0          | 0          | 0          | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean<br>Stratification<br>Changes          | 0          | 0          | $\bigcirc$ | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Ocean Circulation<br>Dynamics               | 0          | 0          | 0          | 0          | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge - Air-<br>Sea Interactions                       | $\circ$    | 0          | 0          | $\circ$    | 0 | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Habitat Loss and<br>Ecosystem<br>Alteration | 0          | 0          | 0          | 0          | 0 | 0 |

| Data, Scientific Research and Knowledge - Marine Pollution (Plastic, Noise, Light or other Pollutants)        | 0          | 0       | 0          | 0       | 0       |            |
|---|------------|---------|------------|---------|---------|------------|
| Data, Scientific Research and Knowledge - Eutrophication and Harmful Algal Blooms (HABs)                      | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific<br>Research and<br>Knowledge - Alien<br>and Invasive<br>Species                              | $\bigcirc$ | 0       | 0          | 0       | 0       | $\circ$    |
| Data, Scientific Research and Knowledge - Economic Values of Marine Fisheries and Mariculture                 | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Bioresources, Pharmaceuticals & Cosmetics | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific Research and Knowledge - Economic Values of Marine Renewable Energy and Energy Solutions     | 0          | 0       | 0          | 0       | 0       |            |
| Data, Scientific<br>Research and<br>Knowledge -<br>Economic Values<br>of Seabed Mining                        | 0          | 0       | 0          | 0       | 0       | $\bigcirc$ |
| Data, Scientific<br>Research and<br>Knowledge -   | 0          | $\circ$ | $\bigcirc$ | $\circ$ | $\circ$ | $\circ$    |

| Economic Values<br>of Ocean Drilling<br>(Oil and Gas)  |            |   |   |            |            |   |
|--|------------|---|---|------------|------------|---|
| Data, Scientific Research and Knowledge - Food Security and Nutrition Values of Marine Environments  | 0          | 0 | 0 | 0          | 0          | 0 |
| Data, Scientific Research and Knowledge - Social and Cultural Values of Marine Environments  | $\bigcirc$ | 0 | 0 |            | $\bigcirc$ | 0 |
| Data, Scientific<br>Research and<br>Knowledge -<br>Indigenous and<br>Local Knowledge<br>Systems  | 0          | 0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 |
| Applications, Products and Tools for Policy and Decision making - Planning for Marine Protected Areas (MPAs) and Area Based Management Tools | 0          | 0 | 0 |            |            | 0 |
| Applications, Products and Tools for Policy and Decision making - Marine Spatial Planning (MSP)  | 0          | 0 | 0 | 0          | 0          | 0 |
| Applications, Products and Tools for Policy and Decision making - National Climate Policy Support  | 0          | 0 | 0 | 0          | 0          | 0 |
| Applications,<br>Products and<br>Tools for Policy  |            |   |   |            |            |   |

| and Decision<br>making - National<br>Biodiversity<br>Policy Support  | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 |
|--|------------|---|---|---|---|---|
| Applications, Products and Tools for Policy and Decision making - Other National Policy Support                        | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Other Spatial or Temporal Visualisation Tools        | 0          |   |   | 0 | 0 |   |
| Applications, Products and Tools for Policy and Decision making - Knowledge Synthesis and Assessment Products          | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making - Ocean Hazard Prediction and Preparedness             | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making – Climate Projections                                  | 0          | 0 | 0 | 0 | 0 | 0 |
| Applications, Products and Tools for Policy and Decision making – Vulnerability and Resilience Analyses and Adaptation |            |   |   | 0 | 0 |   |

| Planning   |         |        |         |            |            |            |
|--|---------|--------|---------|------------|------------|------------|
| Applications, Products and Tools for Policy and Decision making – Other Projections, Modelling and Forecasting                       | 0       | 0      | 0       | 0          | 0          |            |
| Applications, Products and Tools for Policy and Decision making – Early Warning Systems and Disaster Risk Preparedness and Reduction | 0       | 0      | 0       | 0          | $\bigcirc$ |            |
| Applications, Products and Tools for Policy and Decision making - Marine Engineering   | 0       | 0      | 0       | 0          | $\bigcirc$ | $\bigcirc$ |
| Applications, Products and Tools for Policy and Decision making - Marine Innovation and Technology Development                       | 0       | 0      | 0       | 0          | 0          |            |
| Applications, Products and Tools for Policy and Decision making - Ocean Exploration Technologies                                     | 0       | 0      | 0       | $\bigcirc$ | $\bigcirc$ |            |
| Applications, Products and Tools for Policy and Decision making - Marine Geoengineering  | 0       | 0      | $\circ$ | 0          | $\circ$    | $\bigcirc$ |
| Cross-Cutting -<br>Institutional<br>Strengthening  | $\circ$ | 0      | 0       | $\circ$    | 0          | $\circ$    |
| Cross-Cutting -<br>Capacity  | $\cap$  | $\cap$ | $\cap$  | $\bigcap$  | $\cap$     | $\cap$     |

| Development for Individuals                                 | $\cup$     | $\cup$     | $\cup$     | $\cup$     | $\cup$     | $\cup$     |
|---|------------|------------|------------|------------|------------|------------|
| Cross-Cutting -<br>Ocean Literacy<br>for Societal<br>Actors | $\circ$    | $\circ$    | 0          | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| Cross-cutting -<br>Best Practices<br>and Standards          | $\circ$    | 0          | $\circ$    | 0          | $\circ$    | $\circ$    |
| [Insert text from Other]                                    | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|   |            |            |            |            |            | <u> </u>   |
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