

REGULAR PROCESS FOR THE GLOBAL REPORTING AND ASSESSMENT OF THE STATE OF THE MARINE ENVIRONMENT, INCLUDING SOCIO-ECONOMIC ISSUES

A COMPREHENSIVE ANNOTATED OUTLINE OF THE THIRD WORLD OCEAN ASSESSMENT

The 18th meeting of the Ad Hoc Working Group of the Whole has been convened in accordance with the programme of work for the period 2021 to 2025 for the third cycle of the Regular Process. This programme of work was adopted by the Ad Hoc Working Group of the Whole on the Regular Process during its thirteenth meeting in October 2020 and endorsed by the General Assembly through its resolution 75/239 of 31 December 2020 on “Oceans and the law of the sea”.

The 18th meeting of the Ad Hoc Working Group of the Whole to be held from 27 to 28 March 2023 at the United Nations Headquarters in New York will consider the following documents:

- **The proposed scope of the next World Ocean Assessment(s);**
- **The comprehensive annotated outline of the World Ocean Assessment(s) containing a summary of content and format;**
- **The list of expertise needed for the writing teams;**
- **The assessment of potential gaps and overlaps in expertise and the way to manage them.**

This document provides a comprehensive annotated outline of the assessment that will form Output 1 of the programme of work for the third cycle.

Development of the comprehensive annotated outline

This annotated outline has been developed through a process of consultation facilitated through five regional workshops, where participants were asked to consider various elements of the structure, format and content of what would form the assessment(s) of the third cycle. The five regional workshops were held in:

- Tanzania, 25-27 July 2022, with a focus on the Indian Ocean (including the Arabian Sea and the Bay of Bengal), the Red Sea and Gulf of Aden and the ROPME/RECOFI area
- Jamaica, 12-14 September 2022, with a focus on the North Pacific and the Wider Caribbean area
- Argentina, 28-20 September, with a focus on the South Atlantic (between the African and American coasts) and the Wider Caribbean area
- The Kingdom of the Netherlands, 28-30 November, with a focus on the North Atlantic, the Baltic Sea, the Mediterranean Sea and the Black Sea region
- Indonesia, 13-15 December, with a focus on the Indian Ocean (including the Arabian Sea and the Bay of Bengal), the Red Sea and Gulf of Aden and the ROPME/RECOFI area and the North and South Pacific

In considering the extensive contributions provided by workshop participants, the Group of Experts undertook an in-depth series of brainstorming sessions aimed at identifying the key elements from the workshops that would form the basis of Output 1 of the programme of work (the assessment(s) of the third cycle). These key elements formed the basis for the formulation of this annotated outline. Further detail on the scoping process and the regional workshops is provided in the

document on the proposed scope of the next World Ocean Assessment, included in the documents provided to the 18th meeting of the Ad Hoc Working Group of the Whole.

Resounding feedback from the workshop was that previous formats of the World Ocean Assessment were challenging in terms of accessibility, searchability and therefore utility. These challenges resulted in many participants identifying that they had rarely, if ever, used the World Ocean Assessments. Workshop participants recommended that the Group of Experts explore mechanisms to improve the ability of stakeholders to access the assessment(s), find information within the assessment(s) and then utilise that information.

The workshops also identified that rather than providing information on pressures on the ocean and the human activities and responses to mitigating and managing those pressures as individual chapters, within separate sections of the assessment, it would be of greater use to present these in an integrated manner. This was identified as being useful in better understanding the various options of responses to individual pressures. Further, it was identified that the social components of the assessment were underdeveloped and there should be greater emphasis placed on these elements. Finally, workshop participants identified that any summaries developed from the assessment(s), whether they be in the form of the technical abstracts developed from the first World Ocean Assessment (WOA I) or the policy relevant briefs developed from the second World Ocean Assessment (WOA II), should be produced within the same cycle as the assessment, rather than waiting until the next cycle. This would ensure that the content of summaries produced in the third cycle were timely and relevant rather than being 2-3 years out of date once produced.

In response to the input provided via the regional workshops, the below comprehensive annotated outline has been developed. It will be produced as one assessment; however, this cycle will present most of the assessment in a web-based format that allows for digital linking to core datasets, repositories (including for scripts and code), data providers, literature databases etc., thereby improving accessibility to the content of each section of the assessment. It is noted that the multi-stage review process will require that the whole assessment be provided in a “hard” format, however the final assessment will not be printed as one document, as has been the case in previous cycles, and rather than being provided as a single compiled pdf on the Regular Process website, sections of the assessment will be provided in digital stand-alone, interactive formats. It has been identified that this will require the engagement of specific consultants and consulting agencies by the Secretariat and identification of potential external partners that might voluntarily contribute to the Regular Process. All content produced will be translated into the six official languages of the United Nations.

The overall summary of the assessment will be printed, as will be the thematic summaries produced from the assessment and provided in the six official languages of the United Nations.

Elements of the third World Ocean Assessment - summary

The third World Ocean Assessment will comprise six core elements:

1. An overall summary
2. A detail of the approach to the assessment
3. An overview of global ocean governance
4. An update on the change since WOA2 (containing 5 chapters and 27 sub-chapters)
5. An overview of the socioecological system of the ocean comprising:

- i. A sustainable and inclusive ocean economy (containing 10 chapters and 8 sub-chapters)
 - ii. One health (containing 9 chapters)
6. Thematic summaries

These core elements will be supported by:

- Spatial maps
- Infographics
- Short videos
- Factsheets
- Quotes
- An interactive database of literature

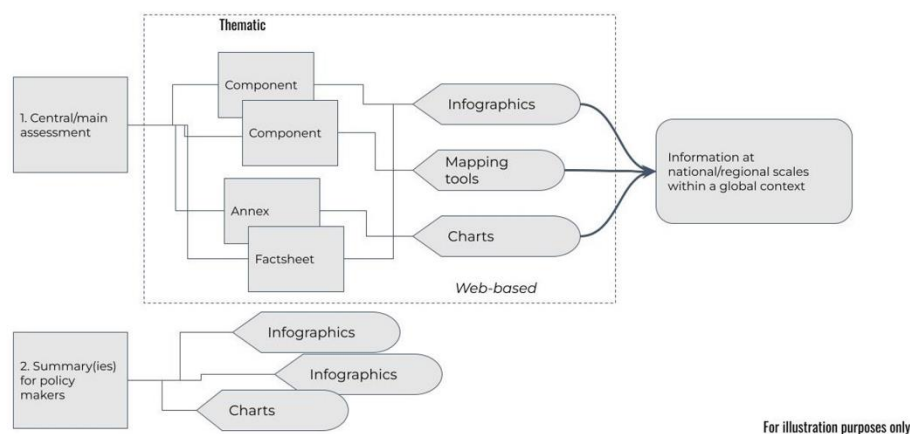


Figure 1. A schematic representation of the assessment with the core part of the assessment comprised of components (sections or chapters) which may have associated annexes where further details on core datasets, repositories (including for scripts and code), data providers, literature databases etc., could be digitally made available and from which factsheets could be produced. These components will integrate infographics, spatial maps and charts that can summarise information and provide details of regional content within a global context. Thematic summaries that also incorporate infographics, spatial maps and charts will be produced from the main assessment and provided in parallel with the publication of the assessment.

While the assessment provides a dedicated section focused on an update to the WOA II, the vast majority of updates on pressures (previously presented in chapters 9-21 of WOA II), human activities (presented in chapter 8 of WOA II) and management approaches (presented in chapters 26-28 of WOA II) are presented via an integrated approach presented in two sections of the assessment. The first of these sections focuses on human activities, associated economies and the data, knowledge and tools for facilitating sustainability and inclusivity in those economies (“A sustainable and inclusive ocean economy”) and the other focuses on the nexus between the physical and chemical components of the ocean, the organisms that live in the ocean and humans (“One health”). Where the individual chapters of these two sections provide updates to WOA II, they will be cross referenced accordingly.

The WOA II utilised the Drivers, Pressures, State, Impact, Response (DPSIR) framework to organise the chapters of the assessment. This framework will also be utilised in the assessment of the third

cycle however it will utilise this framework in a more integrated way within the individual chapters of the assessment, thereby providing direct linkages between pressures, impacts and responses.

Detailed annotated outline of the third World Ocean Assessment

Section 1: Overall summary

This section will summarise the whole of the assessment. The framing of this summary will take into account the knowledge needed to support:

- The evaluation of SDG 14 targets, specifically spatial conservation measures, marine spatial planning, fisheries subsidies and small-scale fisheries, especially in Small Island Developing States (SIDS);
- The Intergovernmental Panel on Biodiversity and Ecosystem Services and Intergovernmental Panel on Climate Change processes;
- The Convention on Biological Diversity post-2020 global biodiversity framework.

This section of the assessment will be printed.

This section will be written by the Group of Experts.

Section 2: Approach to assessment

This section of the assessment contains a summary of methodologies, datasets etc., included in all of the sections and chapters of the assessment including:

- The approach to updating the second World Ocean Assessment (WOA II), including the methods used to evaluate trends and gaps
- How small-scale, medium-scale and large-scale components of fisheries and aquaculture are defined;
- The component parts, including the available scientific data, tools and knowledge that can be utilised for identifying and implementing sustainable pathways at local, regional and global scales. This will not prescribe specific use of these data, tools and knowledge for specific sectors or situations, but rather identify evidence-informed plausible scenarios of the future that incorporate the use of the data and knowledge currently available within the context of achieving the Sustainable Development Goals.
- The controlled vocabulary for the assessment
- The approach for developing other components of the World Ocean Assessment, including how the outputs from the regional workshops and any specific workshops held have been incorporated into the content of the chapters and sub-chapters of the assessment.

This section of the assessment will be web-based, thereby allowing for the provision of direct links to core datasets, repositories (including for scripts and code), data providers etc., thereby improving accessibility to the details of the methods used in each section of the assessment.

This section will be written by the Group of Experts

Section 3: A global overview of ocean governance

The section provides a high-level factual summary of overall change in conventions, associated resolutions, international agreements and regional treaties in place regulating aspects of the ocean, including the recent development of conventions and international agreements. It will also include the relevant organisations overseeing these conventions and international agreements. This section aims to provide a high-level overview of relevant international conventions and agreements and their linkages as broad background to international ocean governance.

This may include, noting the list of conventions, agreements and treaties will be a consideration of the writing team within the context of specific sectoral governance that will be included in Section 5 of the assessment:

- The United Nations Convention on the Law of the Sea (UNCLOS), associated implementing agreements and authorities mandated under UNCLOS (including the International Seabed Authority)
- The United Nations Framework Convention on Climate Change
- Those with a focus on biodiversity (including those associated with the Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals, The International Whaling Commission, Convention on International Trade of Species of Wild Animal)
- Those with a focus on underwater heritage (including the World Heritage Convention)
- Sectoral frameworks (legal and institutional elements) operating at global and regional scales
 - Fisheries (including those implemented by FAO, RFMO's, RFBs and others such as the Central Arctic Ocean Fisheries Agreement)
 - Shipping (including those implemented by the International Maritime Organisation)
- Conventions that are in development including: an agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction
- Other international agreements in place including the 2030 Agenda for Sustainable Development
- Regional Treaties and Seas Conventions and relevant bodies:
 - Abidjan Convention
 - Antarctic Treaty system (this could include consideration of Convention for the Conservation of Antarctic and Marine Living Resources and Convention for the Conservation of Antarctic Seals)
 - Arctic Council
 - Barcelona Convention
 - Bucharest Convention
 - Baltic Marine Environment Protection Commission (HELCOM)
 - International Council for the Exploration of the Sea (ICES)
 - Nairobi Convention
 - Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)
 - Permanent Commission of the South Pacific (CPPS)
 - Sargasso Sea Commission

This section will be a stand-alone section of the assessment, allowing for direct reference for those only interested in this part.

The section will be web-based, thereby allowing for the provision of direct links to core datasets, repositories, data providers, data metadata etc., thereby improving accessibility to detailed information referenced in the assessment.

The section will be written by a writing team.

Section 4: Change since the second World Ocean Assessment

This section will be specifically focused on providing detail of the changes that have occurred in the ocean since WOA II (i.e., over the period of 2018-2023) and therefore will directly relate to specific chapters in WOA II.

Chapter 1: Drivers (this chapter relates to chapter 4 of WOA II)

This chapter will cover the same drivers as WOA II to allow for consistency across assessments and direct comparison between assessments:

- Population demography and growth (including immigration and emigration, urbanization, megacities etc.)
- Economic activity (including new and expanding markets etc.)
- Technological advances (including digitalization, automation etc.)
- Governance structures and geo-political instability
- Climate change (high-level perspectives including overall trends in emissions, regulation, commitments etc.)

Chapter 2: Scientific understanding (this chapter relates to chapter 3 of WOA II)

This chapter will cover:

- Improvements in:
 - o Ocean observing and monitoring programmes/networks
 - o Seabed mapping
 - o Ocean modelling including forecasting and predictions
 - o Understanding human-ocean interactions/relationships (including the role of social sciences and humanities in improving understanding)
 - o Marine genetics
 - o Transdisciplinarity including acknowledgement of Indigenous, Traditional and Local Community Knowledge and co-creation of science-based products and outputs
 - o Citizen science
 - o Community science
- Advancements in solution-based science
- It will also identify linkages with the IOC-UNESCO Global Ocean Science Report and the UN Decade of Ocean Science for Sustainable Development, particularly in terms of knowledge and capacity gaps.

Chapter 3: Trends in the physical and chemical state of the ocean (this relates to chapter 5 of the WOA II)

This chapter will provide an update on changes in the physical and chemical state of the ocean since WOA II including on those elements identified in WOA II such as:

- Ocean salinity
- Ocean temperature (including ocean heat content)
- Global ocean circulation patterns at all scales (including vertical and horizontal patterns such as stratification, boundary currents)
- Sea-level change
- Ocean chemistry (including acidification and changes to carbon and nutrients)
- Dissolved oxygen (including deoxygenation)
- Sea-ice

The chapter will provide high-level reference to relevant outputs from the Intergovernmental Panel on Climate Change, including the role of the ocean in the climate system as well as information produced via other processes (noting the offset of timing of cycles between processes generating global and regional assessments). It will not contain material on the impacts of changes in the physical and chemical state of the environment associated with pressures or the responses to these as these will be covered in chapter 6 of this section and Section 5.

Chapter 4: Biodiversity (this relates to chapter 6 of WOA II)

This chapter will provide an update on changes in the abundance, distribution and functional role of the following taxa groups across the period 2018-2024 (following the temporal period identified in the document outlining the scope of the assessment). This chapter will follow the chapters and sub-chapters included in WOA II. Context will be broadly provided referencing WOA I and WOA II assessment:

Sub-chapter 4a: Plankton

This sub-chapter includes:

- Phytoplankton (including harmful algal blooms)
- Zooplankton
- Microbes (including viruses, bacteria, fungi and others)
- Fungi

Sub-chapter 4b: Cephalopods

Note that cephalopods were included as an addendum to subchapter 6B in WOA II and so will be included as a distinct subchapter in this assessment.

Sub-chapter 4c: Marine benthic invertebrates

Sub-chapter 4d: Fishes

Sub-chapter 4e: Marine mammals

Sub-chapter 4f: Marine reptiles

Sub-chapter 4g: Seabirds

Sub-chapter 4h: Marine plants

Sub-chapter 4i: Algae other than phytoplankton

Chapter 5: Habitats (this relates to chapter 7 of the WOA II)

This chapter will provide an update on changes in the abundance, distribution and functional role of the following taxa groups across the period 2018-2024 (following the temporal period identified in the document outlining the scope of the assessment). This chapter will follow the chapters and sub-chapters included in WOA II. Context will be broadly provided referencing WOA I and WOA II assessment:

Sub-chapter 5a: Intertidal zone

Sub-chapter 5b: Biogenic reefs and sandy, muddy and rocky shore substrates

Sub-chapter 5c: Atoll and island lagoons

Sub-chapter 5d: Tropical and subtropical coral reefs

Sub-chapter 5e: Cold water corals and sponges

Sub-chapter 5f: Estuaries and deltas

Sub-chapter 5g: Seagrass meadows

Sub-chapter 5h: Mangroves

Sub-chapter 5i: Salt marshes

Sub-chapter 5j: Continental slopes and submarine canyons

Sub-chapter 5k: High-latitude ice

Including ice over the open ocean

Sub-chapter 5l: Seamounts and pinnacles

Sub-chapter 5m: Abyssal plains

Sub-chapter 5n: Pelagic domain

This subchapter is an extension of Chapter 7N of WOA II and will cover epipelagic, mesopelagic, bathypelagic zones

Sub-chapter 5o: Ridges, plateaus and trenches

Sub-chapter 5p: Hydrothermal vents and cold seeps

Sub-chapter 5q: Sargasso Sea

The chapter will also include a new sub-chapter on:

Sub-chapter 5r: Fjord systems

Chapter 6: Pressures (this chapter relates to chapters 13, 14, 22 and 25 of WOA II)

This chapter will provide an update on changes in pressures not covered explicitly in the chapters contained in section 5 including:

- Erosion and sedimentation
- Marine infrastructure (outside of coastal areas)
- Invasive species
- Cumulative effects

This is a stand-alone section of assessment, allowing for direct reference for those only interested in this part.

The section will be web-based, thereby allowing for the provision of direct links to core datasets, data repositories, data providers, data metadata etc., thereby improving accessibility to detailed information referenced in the assessment.

The six chapters and associated sub-chapters of this section will be written by individual writing teams.

Section 5: Socio-ecological systems

This section provides an integrated view of the social and ecological systems (coupled human-environment systems) of the ocean and the interactions between them. In doing so, the section will consider the pressures that human activities are placing on the ocean, the social and economic conditions, including the demographic, institutional, and technological factors associated with these systems and the data, tools and information, including management approaches available for progressing sustainable pathways for human activities in the ocean. In considering social conditions, the section will include an overview of benefits and disbenefits, gender, equity and Indigenous, traditional owner and local community knowledge. Further it will include detail of sector specific governance.

The section comprises two sub-sections, the first on ocean economies and the second on the concept of one health and the relationship between the physical and chemical state of the ocean, the organisms that live in it and humans.

A. A sustainable and inclusive ocean economy

This sub-section will include chapters that focus on human activities in the ocean, with each chapter specifically including content relating to:

i. Pressures

Where relevant the following pressures will be considered by each chapter:

- Pollution including:
 - o eutrophication/nutrients
 - o noise
 - o litter/plastics
 - o traditional contaminants (including metals, organic compounds, oil spills)
 - o emerging contaminants (e.g., pharmaceuticals, microplastics)
 - o anti-fouling
 - o catastrophic events associated with spills (oils spills, chemical spills)

- Exploitation/extraction
- Alteration of coastal inputs (including that influenced by mega-droughts and mega-flooding, dams etc.)
- Alteration of habitats (including destruction)
- Alteration of oceanographic processes
- Illegal activities including:
 - dumping
 - illegal fishing
 - trafficking
 - crime
 - piracy
- Unintended consequences of policy (harmful subsidies)
- Cumulative effects
- Contribution to climate change

ii. Sustainability pathways

These forward-looking feasible pathways will identify the scientific data, tools and knowledge that could be utilized at local, regional and global scales to ensure that human activities are sustainable and inclusive, including those relating to:

- Governance,
- Economy/markets,
- Technology
- Management

They will also provide examples of where policy has been effective at enabling balance, restoring balance, adaptation etc.

iii. Social components

Where relevant chapters will include content on social aspects including

- Benefits and disbenefits
- Equity (including social license),
- Gender
- Indigenous, traditional owner and local community knowledge

iv. Sector relevant governance

Where relevant chapters will include aspects on:

- Conventions
- Commitments
- Goals

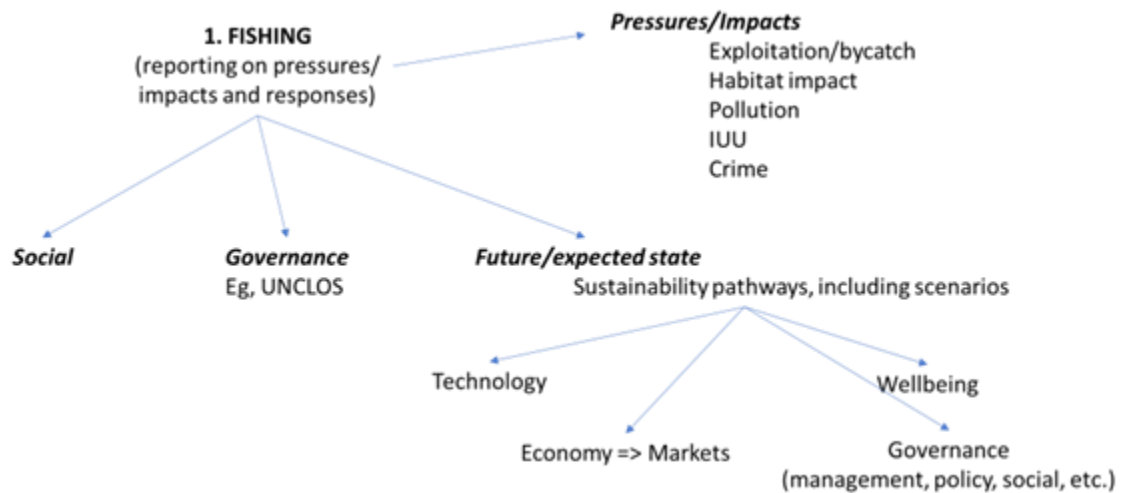


Figure 2. An example of the components that each chapter of the sub-section on a sustainable and inclusive ocean economy will provide content on. The example provided here is focused on fishing.

The sub-section will comprise the following chapters:

Chapter 1: Food systems

This chapter will provide an introduction to the topic of ocean food systems, and contain a wholistic overview of each component of these systems. It will comprise the following sub-chapters (with each containing four subsections as detailed above):

Sub-chapter 1a: Medium and large-scale fishing

Pressures and impacts
Sustainability pathways
Social components
Governance

Sub-chapter 1b: Small-scale fishing including subsistence fishing

Pressures and impacts
Sustainability pathways
Social components
Governance

Sub-chapter 1c: Medium and large-scale aquaculture

Pressures and impacts
Sustainability pathways
Social components
Governance

Sub-chapter 1d: Small-scale aquaculture

Pressures and impacts
Sustainability pathways
Social components
Governance

Sub-chapter 1e: Food processing

Pressures and impacts
Sustainability pathways
Social components
Governance

Sub-chapter 1f: Trade

Pressures and impacts
Sustainability pathways
Social components
Governance

This sub-chapter will include specific content on block-chain technologies, eco-labelling, certification etc.

Chapter 2: Recreational fishing

Pressures and impacts
Sustainability pathways
Social components
Governance

Chapter 3: Energy

This chapter will provide an introduction to the topic of ocean energy systems, and contain a wholistic overview of the renewable and non-renewable components of these systems. It will comprise the following sub-chapters (with each containing four subsections as detailed above):

Chapter 3a: Renewables

Pressures and impacts
Sustainability pathways
Social components
Governance

This sub-chapter will cover all forms of renewable energy therefore including specific content on wind, wave and tidal energy and any emerging forms of renewable energy.

Chapter 3b: Non-renewables

Pressures and impacts
Sustainability pathways
Social components
Governance

This sub-chapter will specifically include content on marine hydrocarbons and hydrates.

Chapter 4: Tourism

Pressures and impacts
Sustainability pathways
Social components
Governance

This chapter will specifically include content on activities associated with travel and cover large-scale tourism as well as smaller scale tourism such as community-based tourism that is important for local communities and small island states.

Chapter 5: Use of genetic resources and biotechnology

Pressures and impacts
Sustainability pathways
Social components
Governance

Chapter 6: Shipping

Pressures and impacts
Sustainability pathways
Social components
Governance

This chapter will include all forms of shipping, including coastal shipping and ferries and offshore shipping and all associated infrastructure, services and activities, including decommissioning.

Chapter 7: Mineral resources

Pressures and impacts
Sustainability pathways
Social components
Governance

This chapter will include specific content on shallow and deep-sea resources and activities associated with those resources.

Chapter 8: Desalination and salt production (liquid salt)

Pressures and impacts
Sustainability pathways
Social components
Governance

This chapter will include specific content on the production of freshwater from saltwater and the production of salt.

Chapter 9: Coastal development

Pressures and impacts
Sustainability pathways
Social components
Governance

This chapter will include specific content on all forms of coastal development and associated infrastructure, services and activities, not captured by other chapters (including urbanisation, coastal protection and associated nature-based solution and/or ecosystem approaches).

Chapter 10: Geoengineering

Pressures and impacts
Sustainability pathways
Social components
Governance

This chapter will include specific content all ocean-related and atmospheric interventions (including fertilisation, carbon sequestration and storage etc.)

B. One Health

This sub-section will include chapters that focus on the concept of “one health”. One health encompasses three main components:

- The physical and chemical marine environment
- The organisms that live in the marine environment
- People

It involves undertaking an integrated, unified approach to balancing the health of these three components. It is recognized by the World Health Organisation as being particularly relevant for food and water safety, nutrition, the control of zoonoses, pollution management, and combatting antimicrobial resistance. The concept is based on several fundamental principles including equity, inclusivity, equal access, parity, socio-ecological equilibrium, stewardship, and transdisciplinarity.

The sub-section will comprise the following chapters:

Chapter 1: The role of ecosystems in the carbon cycle

This chapter will include content that details how various marine ecosystems, and abiotic and biotic components of ecosystems, contribute to carbon cycles in the ocean. It will consider carbon biogeochemical cycles and include content associated with the concept of “blue carbon”.

Chapter 2: The ocean and human health

This chapter will cover the impacts of coliforms, faecal matter, marine pathogens and food toxins on human health and the mitigation/management responses available. It will also consider the role of the ocean in sustaining good mental health, the nutritional value of marine-sourced food and its relationship with human health, noting potential overlaps with the food systems chapters and potentially other chapters in Section 5A.

Chapter 3: Human well-being

This chapter will include specific content on:

- Recreational activities that are not associated with the economy such as swimming
- Cultural values associated with the ocean
- Spiritual values associated with the ocean
- Subjective well-being associated with the ocean (life satisfaction)
- The benefits for communities at large (individuals, communities, humanity), including economic benefits, noting potential overlaps with the chapters of Section 5A.

Chapter 4: Ocean hazards of natural origin

This chapter will include coverage of pressures associated with natural ocean hazards that may cause minor to major impacts or disasters, their impacts on humans and mitigation/management/adaptation responses available. This chapter will include specific content on:

- Tsunamis
- Earthquakes, volcanic eruptions etc.
- Storm surge (including that associated with spring tides)
- Cyclones/hurricanes/typhoons
- How climate change and other climate extremes are exacerbating these
- The atmospheric driven change in sea height

Chapter 5: Equity

This chapter will provide specific content on global aspects of equity that does not repeat content covered in the chapters and sub-chapters of Section 5A including:

- A high-level overview of the flow of benefits and disbenefits
- Human rights
- Environmental and social justice
- The role of equity in achieving the Sustainable Development Goals

Chapter 6: Gender

This chapter will provide specific content on high-level global aspects of gender that does not repeat content covered in the chapters and sub-chapters of Section 5A including:

- The role of gender in achieving the Sustainable Development Goals
- Gender issues in ocean science and ocean governance systems and the importance of the collection of gender disaggregated data in these systems
- Consideration of how the gender lens has been incorporated into ocean science and technology to strengthen science-based approaches for addressing marine issues (inter alia: fisheries, aquaculture, climate change, shipping, marine conservation).

Chapter 7: Pandemics including COVID-19 Impacts

This chapter will cover a global overview of issues associated with the COVID-19 pandemic, noting that the WOA II identified that impacts were occurring across many sectors within the ocean, but given its timing, was unable to provide a full evaluation of those impacts.

This chapter will include coverage of the following aspects:

- The impacts of an increase in mask use within the context of pollution
- The impact of lockdowns and human activities in the ocean on animal behaviour
- Changes in shipping and port activities and impacts on seafarers and port workers
- The impacts on ocean science and observing
- The decrease in fisheries and aquaculture observing systems
- The decrease in compliance and associated increase in illegal activities
- The impact on trade and supply chains

Chapter 8: Indigenous, Traditional owner and Local community Knowledge

This chapter will provide specific content on high-level approached to acknowledging and considering Indigenous, traditional owner and local community knowledge that does not repeat content covered in the chapters and sub-chapters of Section 5A including:

- Acknowledgement, consideration and integration of knowledge within western systems including the concept of the two-eyed seeing approach
- Approaches and guiding principles for working with knowledge holders
- Community supported observation of the ocean

This section is a stand-alone component of the assessment, allowing for direct reference for those only interested in this part.

The section will be web-based, thereby allowing for the provision of direct links to core datasets, repositories, data providers etc., thereby improving accessibility to detailed information referenced in the assessment.

The chapters and associated sub-chapters of the two parts of this section will be written by individual writing teams.

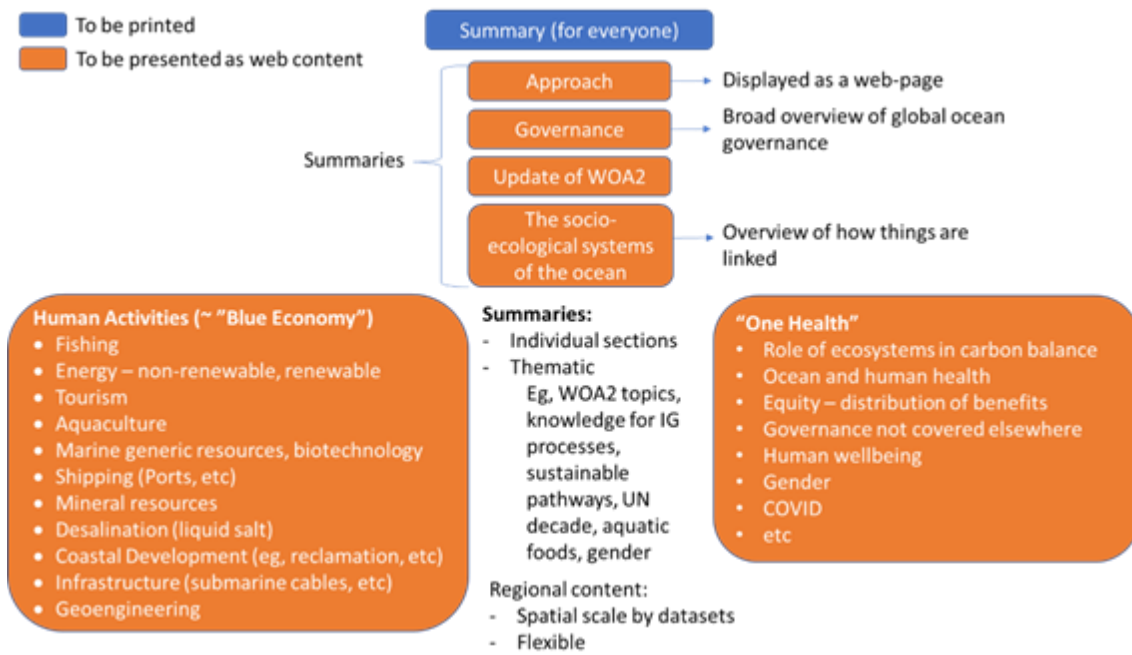


Figure 2. A figurative summary of the components of the third world ocean assessment.

Thematic summaries of the assessment

Thematic summaries will be produced that summarise the content of the third World Ocean Assessment via cross cutting themes and will be similar to the policy-relevant briefs that summarised the content of WOA II and the technical briefs that summarised WOA I. These thematic summaries will be printed. They will be compiled/written by the Group of Experts.

Specific topics for the thematic summaries will be identified through a process similar to that conducted in the early stage of the third cycle used to identify the themes of the policy relevant briefs summarising WOA II. They will therefore be developed in consultation with UN bodies and relevant ocean-related intergovernmental organisations to ensure that the summaries provide information of relevance and use to a broad range of stakeholders. As per the process undertaken with previous policy-relevant briefs and technical abstracts, outlines will be developed and provided for review by the Ad Hoc Working Group of the Whole with the draft full thematic summaries then reviewed by member states.

Supporting elements of the assessment

Several supporting elements will be produced to summarise content, improve understanding of complex information contained in the assessment and improve accessibility to content. These include:

1. Spatial maps
 - Individual maps that provide regionally disaggregated information within the global context will be incorporated into chapters where information is available.
 - These will be web-based thereby allowing for the provision of direct links to datasets, repositories and data providers.

- These will be produced through engagement of specific consultants and consulting agencies by the Secretariat and potential external partners voluntarily contributing content to the assessment.
2. Infographics
 - Individual infographics will be developed in support of the thematic content of chapters to summarise complex information and provide that information in more easily understandable formats
 - These will be web-based thereby allowing for the provision of direct links to the detail they are representing (e.g., papers, reports, etc.)
 - These will be produced through engagement of specific consultants and consulting agencies by the Secretariat and potential external partners voluntarily contributing to the Regular Process.
 3. Short videos
 - Individual videos will be produced summarizing the content of thematic components, sections or chapters of the assessment to facilitate broader outreach to various communities, including marginalized communities such as the visually and hearing impaired.
 - These will be produced as part of the outreach and engagement strategy outlined in the programme of work for the third cycle.
 - These will be produced through engagement of specific consultants and consulting agencies by the Secretariat and potential external partners voluntarily contributing to the Regular Process as part of the outreach and engagement strategy outlined in the programme of work for the third cycle
 4. Factsheets
 - Individual factsheets will be produced summarizing the content of thematic components, sections or chapters of the assessment.
 - These will be produced through engagement of specific consultants and consulting agencies by the Secretariat and potential external partners voluntarily contributing to the assessment.
 5. Quotes
 - Quotes associated with thematic content of the assessment will be produced for use in social media campaigns as part of the outreach and engagement strategy outlined in the programme of work for the third cycle.
 6. A web-based interactive database of literature used in assessment
 - This interactive database of literature will be produced as an extension of the database of recent and ongoing global and regional assessments that the Secretariat has been identified as producing under the programme of work for the third cycle.
 - This will provide easy access to the literature used in the assessment, improving accessibility to specific content for broader global use.