The Global Ocean Science Report-II Questionnaire

United Nations Educational, Scientific and Cultural Organization | Intergovernmental Oceanographic Commission

The Global Ocean Science Report II (GOSR-II) questionnaire seeks to gain information about current ocean science capacity in your country. Your response will be used for the production of the second edition of the IOC GOSR-II (cf. Global Ocean Science Report for more information on the Report) and the related Global Ocean Science Report Data portal.

Please note that each IOC Member State has only one focal point who is allowed to the online submission of the answers to the questions. Please further note, that this submission is expected to reflect a consolidated national authorized response. The IOC secretariat acknowledges, that providing information to each question of the questionnaire might be difficult, therefore please feel free to contact the IOC Secretariat if you have further questions. The answering fields further include comment sections, where you will have the possibility to state whether the data provided are estimates (please state the source on which these estimates are based) or only reflect part of the ocean science landscape (e.g. human capacity data for only one part of the national ocean science institutions).

Member States are encouraged to use the best information available, obtained via consulting colleagues in your country and the respective ocean science institutions. Part E for example focuses on data management and data services, therefore we encourage you to invite your national IODE focal point to help you filling in this part (if present in your country, as per List of IODE National Oceanographic Data Centres and Associated Data Units) when answering these questions.

In the online version of the questionnaire (https://gosr.ioc-unesco.org/en/survey), you will be able to save your answers throughout the data collection period without submitting it to the IOC Secretariat. The present PDF is an example of the online questionnaire of the Global Ocean Science Report (GOSR). Some questions have more interactive options in the online questionnaire. For example, the possibility to add multiple entries is represented by a “+” button. In other cases, more information to fill will pop-up if you answered yes to a question.

The questionnaire is divided into seven parts:

Part A Respondent details: Personal information about you, including address, institution and email address.

Part B Ocean science governmental organization and general information: Information about ocean science organization in your country, including governance within your country, ocean science institutions, ocean science strategies and focus areas.

Part C Ocean science spending: Information about actual expenses for ocean science made by your country. If they are not available, please provide estimated data calculated using budget allocations for ocean science or other methodologies and explain as a note. Ocean science spending should be reported in your national currency (preferably) or US Dollar (using the conversion rate for the respective year).

Part D National research capacity and infrastructure: Information about ocean science personal in general, including data about the age distribution and gender of researchers; ocean observation, vessels; emerging ocean science technologies engaged in ocean science.

Part E Oceanographic data and information exchange: Information about oceanographic data and information facilities, services, users provided in your country.

Part F Capacity development and transfer of marine technology: Information about ocean capacity development needs in your country, as well as related activities your country contributes to, benefits from.

Part G Sustainable development: Information about ocean science related actions related to the 2030 Agenda, in particular the Sustainable Development Goal 14 ‘Conserve and sustainably use the oceans, seas and marine resources for sustainable development’.

Please send an email to Ms. Kirsten Isensee (k.isensee@unesco.org) for further information and/or in case you have questions related to your submission.

Thank you very much.

PART A RESPONDENT DETAILS - PLEASE NOTE THAT THIS INFORMATION WILL BE USED TO FOLLOW UP WITH THE RESPONDENT IN CASE FURTHER QUESTIONS REGARDING THE INFORMATION PROVIDED ARISE. DATA AND INFORMATION PROVIDED ARE TREATED AS NATIONAL AUTHORIZED SUBMISSION:

1. Country:

2. Full name of respondent (First name, family name):

3. Organization:

4. Postal contact details (Address):

5. Email:

6. Telephone number:

7. OceanExpert ID (www.oceanexpert.net):

PART B: OCEAN SCIENCE GOVERNMENTAL ORGANIZATION AND GENERAL INFORMATION

8. Which ministry(ies) is/are involved in ocean science in your country? If in your country the ministry(ies) has/have several responsibilities, list it below in the comment box and tick the relevant boxes (e.g. ministry for culture, sports, and education) (multiple answers possible).

- [ ] Ministry for science and technology
- [ ] Ministry for research and development
- [ ] Ministry for education - higher education
- [ ] Ministry for fisheries
- [ ] Ministry for defense
- [ ] Ministry for environment
- [ ] Ministry for public works
- [ ] Ministry for planning
- [ ] Ministry for culture
- [ ] Ministry for the sea
- [ ] Ministry of transport
- [ ] Ministry of energy
- [ ] Ministry of health
- [ ] Ministry of agriculture
- [ ] Ministry of economy
- [ ] Office of the president
- [ ] Prime minister office
- [ ] Ministry for food security
- [ ] Others (Please name the respective ministry/ies): In the online version you can enter more than one ministry when you tick the **Others** box.

Comments

9. Please list research institutions and universities or university faculties/departments specialized in ocean science in your country. Please provide the name and full address or the OceanExpert institution ID (https://www.oceanexpert.net/) if available. One entry must be completed for each research institutions and universities or university faculties/departments.

10. Does your country have a national ocean science strategy?

- ( ) Yes If you answered yes, please provide the title and URL.
- ( ) No

11. Please rate each ocean science category individually with regard to relevance for your country (from 5 highest to 1 lowest).

Marine ecosystem's functions and processes ☆☆☆☆☆

Ocean and climate ☆☆☆☆☆

Ocean health	☆☆☆☆☆
Human health and wellbeing	☆☆☆☆☆
Blue growth	☆☆☆☆☆
Ocean crust and marine geohazards	☆☆☆☆☆
Ocean technology and engineering	☆☆☆☆☆
Overarching theme: Ocean observation and marine data	☆☆☆☆☆

12. Are the national ocean science activities, including human and technical capacities, published in a specialized report or part of national report since 2010, e.g. Canada - *Ocean Science in Canada: Meeting the Challenge, Seizing the Opportunity* (2013), Belgium - *Compendium for Coast and Sea 2015: An integrated knowledge document about the socio-economic, environmental and institutional aspects of the coast and sea in Flanders and Belgium* (2015)?

- ○ Yes If you answered yes, please provide the title and URL.
- ○ No

13. Does your country have a national communication strategy for ocean science, e.g. to ensure knowledge transfer among scienists, to the general public, politicians, policymakers and industries?

- ○ Yes If you answered yes, please provide the title and URL.
- ○ No

The questions 8 and 9 have the possibility to add multiple entries. Questions 8, 9, 10, 12 and 13 are interactive questions in the online questionnaire. When you have white stars in a question (as in question 11), in the online questionnaire, you will be able to colour the number of stars you want in yellow for the ranking of the topic in the question.

PART C: OCEAN SCIENCE SPENDING

The data requested in the Part C should relate to actual expenses for ocean science made by your country. If they are not available, please provide estimated data calculated using budget allocations for ocean science or other methodologies and explain as a note. Ocean science spending should be reported in your national currency (preferably) or US Dollar (using the conversion rate for the respective year).

14. Please specify the amount of money spent on ocean science by the respective ministries or the specific department and/or section involved in ocean science in each ministry identified in question 8 (Part B).

Year	Name of ministry	Monetary unit (i.e. millions, thousands)	Currency	Conversion rate applied (if data are provided in US$)
2017				
2016				
2015				
2014				
2013				

Type of period considered

- ◯ Calendar year
- ◯ Fiscal year; starting month:

One entry must be completed for each ministry.

Comments

More comments...

15. Please specify the amount of money spent by the respective institutions and universities or university faculties/departments identified in question 9 (Part B) for ocean science activities per year.

Year	Name of institution/university or university faculty/department	Monetary unit (i.e. millions, thousands)	Currency	Conversion rate applied (if data are provided in US$)
2017				
2016				
2015				
2014				
2013				

Type of period considered

- ◯ Calendar year
- ◯ Fiscal year; starting month:

One entry must be completed for each research institutions and universities or university faculties/ departments.

Comments

More comments...

16. Please provide the amount of money spent on ocean science in your country by governmental resources. Please also provide the breakdown of spending by level of government, if this information is available: central (or federal), regional (or state) and local (or municipal).

Year	Total governmental spending for ocean science (A+B)	Central (or federal) governmental spending for ocean science (A)	Regional (or state) and local (or municipal) governmental spending for ocean science (B)	Monetary unit (i.e. millions, thousands)	Currency	Conversion rate applied (if data are provided in US$)
2017						
2016						
2015						
2014						
2013						

Type of period considered

- ◯ Calendar year
- ◯ Fiscal year; starting month:

Comments

More comments...

17. Please provide the amount of money spent on ocean science in your country by institutions corresponding to private non-profit and business enterprise sectors.

Year	Private non-profit sector spending for ocean science	Business enterprise sector spending for ocean science	Monetary unit (i.e. millions, thousands)	Currency	Conversion rate applied (if data are provided in US$)
2017					
2016					
2015					
2014					
2013					

Type of period considered

- ◯ Calendar year
- ◯ Fiscal year; starting month:

Comments

More comments...

18. Does your country contribute financially to international (global, regional) ocean science funding regimes, e.g. Horizon 2020, Belmont Forum, JPI Oceans, WIOMSA, Global Environmental Facility, UN bodies, Asia Pacific Network, Pacific Alliance?

- ◯ Yes If you answered yes, please provide the title and URL.
- ◯ No
- ◯ I do not know

19. If you answered yes to question 18, please specify the amount of money contributed to the individual collaboration programmes for each year.

Year	Name of collaboration programme	Amount contributed to ocean science	Monetary unit (i.e. millions, thousands)	Currency	Conversion rate applied (if data are provided in US$)
2017					
2016					
2015					
2014					
2013					

One entry must be completed for each individual collaboration programs

Comments

More comments...

20. Do the scientists in your country receive financial support from international (global, regional) ocean science funding regimes, e.g. Horizon 2020, Belmont Forum, JPI Oceans, WIOMSA, Global Environmental Facility, UN bodies, Asia Pacific Network, Pacific Alliance?

- ◯ Yes If you answered yes, please provide the title and URL.
- ◯ No
- ◯ I do not know

21. If you answered yes to previous question, please specify the amount of money received from the individual collaboration programmes for each year.

Year	Name of collaboration programme	Amount received for ocean science	Monetary unit (i.e. millions, thousands)	Currency	Conversion rate applied (if data are provided in US$)
2017					
2016					
2015					
2014					
2013					

Comments

More comments...

One entry must be completed for each individual collaboration programs

In Part C, all questions are interactive questions in the online questionnaire.

PART D: NATIONAL RESEARCH CAPACITY AND INFRASTRUCTURE

Human Resource in Ocean Science

Researchers are professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques, instrumentation, software or operational methods.	**Technicians and equivalent staff** are persons whose main tasks require technical knowledge and experience in one or more fields of engineering, the physical and life sciences (technicians) or the social sciences, humanities and the arts (equivalent staff). They participate in R&D by performing scientific and technical tasks involving the application of concepts and operational methods and the use of research equipment, normally under the supervision of researchers.	**Other supporting staff** includes skilled and unskilled craftsmen, and administrative, secretarial and clerical staff participating in R&D projects or directly associated with such projects.

22. Ocean science personnel by function – Headcounts (HC).

Year	Total ocean science personnel (A+B+C+D)	Function			
		Researchers (A)	Technicians and equivalent staff (B)	Other supporting staff (C)	Not specified (D)
2017					
2016					
2015					
2014					
2013					

HC data cover the total number of persons who are mainly or partially employed in ocean science.

Comments

More comments...

23. Ocean science personnel by function – Full-time equivalents (FTE).

Year	Total ocean science personnel (A+B+C+D)	Function			
		Researchers (A)	Technicians and equivalent staff (B)	Other supporting staff (C)	Not specified (D)
2017					
2016					
2015					
2014					
2013					

FTE data measure the volume of human resources in ocean science.

Comments

More comments...

24. Ocean science personnel by gender – Headcounts (HC).

Year	Total ocean science personnel			Ocean science Researchers		
	Total (A+B)	Female (A)	Male (B)	Total (C+D)	Female (C)	Male (D)
2017						
2016						
2015						
2014						
2013						

Comments

More comments...

25. Please provide information about the age distribution and gender of researchers engaged in ocean science – Headcounts (HC).

Year	Total (A+B+C+D+E+F) Total Female Male	Age class under 25 years (A)			Age class 25-34 years (B)			Age class 35-44 years (C)			Age class 45-54 years (D)			Age class 55-64 years (E)			Age class 65 years and more (F)		
		Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
2017																			
2016																			
2015																			
2014																			
2013																			

Comments

More comments...

26. Please provide information about the qualification and gender of researchers engaged in ocean science – Headcounts (HC).

Year	Total (A+B+C+D+E+F)	Doctoral or equivalent (ISCED 8) (A)			Master's or equivalent (ISCED 7) (B)			Bachelor's or equivalent (ISCED 6) (C)			Short-cycle tertiary (ISCED 5) (D)			All other qualifications (ISCED 4 and below) (E)			Not specified (F)		
		Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
2017																			
2016																			
2015																			
2014																			
2013																			

Comments

More comments...

27. Please provide the percentage of permanent employees of your country's current ocean science personal (overall).

- ◯ 0%
- ◯ 1-25%
- ◯ 26-50%
- ◯ 51-71%
- ◯ 72-100%

Comments

More comments...

Ocean Observation

28. Does your country have ocean observation programme(s)/activity(ies)?

- ◯ Yes If you answered yes, please provide the title and URL.
- ◯ No

29. Does your country's ocean observation include satellite observations?

- ◯ Yes, we conduct ocean satellite observation.
- ◯ Yes, we contribute to ocean satellite observation. If you answered yes, please provide the title and URL.
- ◯ Yes, we use ocean satellite observation information.
- ◯ No.
- ◯ I do not know.

Vessels

30. Does your country own and maintain research vessels?

- ◯ Yes
- ◯ No

31. Does your country own and maintain vessels partly used for ocean science?

- ◯ Yes
- ◯ No

32. Do ocean science institutions, universities and/or faculties/departments of universities in your country involved in ocean science participate in efforts related to ships of opportunity/voluntary observing ships ?

- ◯ Yes
- ◯ No

33. Do ocean science researchers have access to research vessels, which are not encompassed by questions 30-32?

- ◯ Yes
- ◯ No

34. Please provide information about the number of research vessels, vessels partly used for ocean science (e.g. navy ships used for ocean science), and ships of opportunity (commercial vessels equipped with ocean observation equipment.) are operated by your nation. Further, please specify their length (if information is available).

Vessel	Year	Number of vessels (A+B+C+D+E)	Length of the vessels				
			<10 m (A)	Local coastal ≥10 m <35 m (B)	Regional ≥35 m <55 m (C)	International ≥55 m <65 m (D)	Global ≥65 m (E)
Research vessels							
Vessels partly used for ocean science							
Ships of opportunity							

Please add rows for different years

Comments

More comments...

35. Please list the name and IMO number of research vessels bigger than 55 m.

Ship name | IMO number

One entry must be completed for each research vessels bigger than 55 m.

36. For research vessels, please specify the days at sea, distinguishing between Territorial Waters, the Exclusive Economic Zone and High Seas (days per year for 2017 or the last year with available data).

Vessel	Year	Days at sea			
		Territorial waters (A)	Exclusive Economic Zone (B)	High Seas (C)	Total (A+B+C)
Research vessels					
Vessels partly used for ocean science					
Ships of opportunity					

Please add rows for different years.
Comments

More comments...

Emerging ocean science technology

37. Do researchers in your country have access to the following new ocean science technologies (multiple choices possible):

Field Work Infrastructure

- [ ] Human Operated Vessel (Submersible)
- [ ] Surface Unmanned Vessel (SUV)
- [ ] Remotely Operated Vessel (ROV)
- [ ] Autonomous Underwater Vessel (AUV)
- [ ] Underwater Glider
- [ ] Wave Glider
- [ ] Marine Drone
- [ ] Mooring Buoy
- [ ] Underwater Cable System

Field Work Equipment (to be equipped on ship)

- [ ] Doppler Rader System
- [ ] Radiosonde Launcher
- [ ] Scientific Fish Finder.
- [ ] Single Channel Hydrophone Array (Streamer)
- [ ] Multichannel Hydrophone Array (Streamer)
- [ ] Multicable Multichannel Hydrophone Array
- [ ] Air Gun/ Water Gun
- [ ] Sub-bottom profiler
- [ ] Multi narrow beam bottom profiler
- [ ] Remotely operated Drilling equipment
- [ ] Remotely operated seafloor sampler
- [ ] Multinet plankton sampler
- [ ] Deep-Sea Camera System.
- [ ] Stereoscopic Deep-sea Camera System

- [ ] Equipment for bathymetric studies

Laboratory Equipment on Board

- [ ] Auto Analyzer for chemical analyses
- [ ] X-ray tomography
- [ ] Mass Spectrometer
- [ ] FITC
- [ ] Radio Isotope laboratory
- [ ] DNA sequencer
- [ ] Deep Freezer
- [ ] Liquid Nitrogen Generator
- [ ] others

Data Processing

- [ ] Supercomputer
- [ ] Satellite Communication Antenna

In Part D, questions 28, 29, 34, 35 and 36 are interactive questions in the online questionnaire.

PART E: OCEANOGRAPHIC DATA AND INFORMATION EXCHANGE (IF YOUR COUNTRY HAS AN IODE FOCAL POINT, PLEASE CONSULT THEM FOR THE FOLLOWING QUESTIONS, IN CASE NOT PLEASE CONSULT WITH RELEVANT COLLEAGUES)

38. Were the questions of Part E answered by or answered in consultation with an IODE focal point?

- ◯ Yes
- ◯ No

If you answered yes, please provide the full name (first name, family name) of the respondent, his organization, his postal contact details (address), his email, his telephone number and his OceanExpert ID.

39. Does your country have - (multiple answers possible).

- ☐ IODE National Oceanographic Data Centre(s) (NODC)? Please provide the name(s) and URL(s) of this (these) data centre(s).
- ☐ IODE Associate Data Unit(s) (ADU)? Please provide the name(s) and URL(s) of this (these) data centre(s).
- ☐ Regional OBIS (Ocean Biogeographic Information System) Node(s)? Please provide the name(s) and URL(s) of this (these) data centre(s).
- ☐ Marine Library(ies)? Please provide the name(s) and URL(s) of this (these) centre(s).

If you have a centre of these types, please provide the title and URL.

40. Is/are your county's (data) centre(s) involved in the following types of collaboration? (Multiple answers possible).

- ☐ National (between your centre and other national institutions)
- ☐ Regional (e.g. Europe, Africa, South East Asia)
- ☐ International (in addition to IODE)

Please provide more information on the collaborations (title, URL).

41. Is/are your country's data centre(s) collaborating with other IOC programmes, projects (in addition to IODE)? (Multiple answers possible).

- ☐ Ocean science (BCI, CCLME,GOA-ON, GO_2NE, GOSR, HABs, IGMETS, TrendsPO, WG40, WG41, WCRP.)
- ☐ Ocean Observations and Services (GOOS)
- ☐ Tsunami Unit
- ☐ Marine Policy (including marine spatial planning, large marine ecosystems, integrated coastal area management)
- ☐ I do not know

42. What observational data types are regularly collected and managed by your country's data centre(s)? (Multiple answers possible).

- ☐ Biological data (incl. taxonomic and physiological data, data about phyto- and zooplankton, benthos, pigments, fauna, flora, microorganisms,...)
- ☐ Physical data (waves, currents, hydrography, sea level, temperature, salinity, optics, acoustics)
- ☐ Geological and geophysical (sediments, bathymetry,...)
- ☐ Chemical (nutrients, pH, CO_2, dissolved gases, ...)
- ☐ Pollutant (monitoring)
- ☐ Fisheries data
- ☐ Socio-economic (ocean related)
- ☐ Real-time data
- ☐ Other data types

If you ticked Other box, please provide details.

43. What data/information products do(es) your country's data centre(s) provide to its/their clients? (Multiple answers possible).

- [ ] Online access to metadata
- [ ] Online access to data
- [ ] Online access to library catalogue
- [ ] Online access to e-documents and e-publications
- [ ] Published ocean data (e.g. "snapshots" of datasets as used for publications)
- [ ] Online access to communication and capacity development products : webinars, audiovisual products, photolibrary
- [ ] GIS products (maps, atlases)
- [ ] Portals
- [ ] Numerical model data
- [ ] CD-ROM products
- [ ] Other data/information products

If you ticked Other box, please provide details.

44. What services do(es) your county's data centre(s) provide to its/their clients? (Multiple answers possible).

- [ ] Metadata and data archival
- [ ] Personal data repository
- [ ] Cloud computing facilities
- [ ] Virtual research environment
- [ ] Web services (see http://www.webopedia.com/TERM/W/Web_Services.html)
- [ ] Provision of PIDs (persistent identify, e.g. DOI minting)
- [ ] Data analysis tools
- [ ] Data visualisation tools
- [ ] Data quality control tools
- [ ] Communication tools (hosting of web sites, mailing lists, group discussion support, project management tools...)
- [ ] Special tools (vocabularies, format descriptions, gazetteers,...)
- [ ] Access to documented methods, standards and guidelines
- [ ] Other services

If you ticked Other box, please provide details.

45. Does your country's data centre(s) apply a data (sharing) policy on the management and sharing of data/information?

- ( ) Yes, institutional
- ( ) Yes, national
- ( ) Yes, international
- ( ) No

If you answered yes, please provide the title, the URL and a contact email to find out more.

46. Do your country's data centre(s) comply with the FAIR data management criteria.

FAIR Criteria

Findable	Accessible	Interoperable	Reusable
F1. (meta)data are assigned a globally unique and persistent identifier.	A1. (meta)data are retrievable by their identifier using a standardized communications protocol.	I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.	R1. meta(data) are richly described with a plurality of accurate and relevant attributes.
F2. data are described with rich metadata (defined by R1 below).	A1.1. the protocol is open, free, and universally implementable.	I2. (meta)data use vocabularies that follow FAIR principles.	R1.1. (meta)data are released with a clear and accessible data usage license.
F3. metadata clearly and explicitly include the identifier of the data it describes.	A1.2. the protocol allows for an authentication and authorization procedure, where necessary.	I3. (meta)data include qualified references to other (meta)data.	R1.2. (meta)data are associated with detailed provenance.
F4. (meta)data are registered or indexed in a searchable resource.	A2. metadata are accessible, even when the data are no longer available.		R1.3. (meta)data meet domain-relevant community standards.

- ◯ Yes
- ◯ No
- ◯ I do not Know

47. Do(es) your country's data centre(s) restrict access to data/information?

- ☐ We do not restrict at all.
- ☐ We restrict access to certain data types.
- ☐ We restrict access to data collected in certain geographic areas.
- ☐ We restrict access during a certain period of time (embargo).
- ☐ Any other restrictions: If you ticked Any other restrictions box, please provide details.

Comments

Comments

48. Do(es) your country's data centre(s) apply the IOC Oceanographic Data Exchange Policy adopted as Resolution IOC- XXII-6?

- ◯ Yes
- ◯ No
- ◯ I do not Know

49. Who are the clients and end users of the data, products or services provided by your country's data centre(s)? (Multiple answers possible).

- ☐ Only users in my own institution
- ☐ National researchers in my own country

- [ ] Researchers in any country
- [ ] Policy makers of my own ministry
- [ ] Policy makers in other ministries of my country
- [ ] Policy makers in any country (eg through UN commitments)
- [ ] Military
- [ ] Civil protection
- [ ] Private sector (eg fisheries, hotels, industry,...)
- [ ] School children
- [ ] Undergraduate students
- [ ] General public
- [ ] Print/TV press
- [ ] Social media
- [ ] Service providers, e.g. weather forecast organizations/institutions
- [ ] Other clients and end users If you ticked Other box, please provide details.

50. Are data and information from your country's data centre contributing to international systems (meaning that you actively send data, or make data and metadata available, to e.g. the ICSU World Data System, GDACs, WMO Global Telecommunication System (GTS) or other such international systems?

- ( ) Yes If you answered yes, please provide the title and URL.
- ( ) No

51. What are the URLs of the section of your country's data/information centre(s) web site(s) that deal(s) with your online products and services (enter 1 to 5): You can add up to 5 URLs.

URL

In Part E, questions 38, 39, 40, 42, 43, 44, 45, 47, 49, 50 and 51 are interactive questions in the online questionnaire.

PART F: CAPACITY DEVELOPMENT AND TRANSFER OF MARINE TECHNOLOGY

52. Please rank your country's top five specific capacity (development) needs (from 5 highest to 1 lowest).

- Academic (higher) training basic training in ocean science ☆☆☆☆☆
- Specialized technical (advanced) training in certain topics, training, short term courses ☆☆☆☆☆
- Human capacity, increase the number of ocean science personnel ☆☆☆☆☆
- Sampling and analysis equipment (e.g. for water, geological, biological, chemical samples) ☆☆☆☆☆
- Observation facilities and equipment (e.g. remote sensing equipment, buoys, tide gauges, shipboard and other means of ocean observation) ☆☆☆☆☆
- Equipment for in situ and laboratory observations, analysis and experimentation ☆☆☆☆☆
- Computer and computer software, including models and modeling techniques ☆☆☆☆☆
- Opportunities to share our experience at conferences ☆☆☆☆☆
- Networking (community building) with colleagues ☆☆☆☆☆
- Funding ☆☆☆☆☆
- Internet connectivity ☆☆☆☆☆

You can also add other needs if the ones provided do not correspond to the needs of your country.

53. Please rank the following types of technical training courses with respect to your national capacity development needs (from 5 highest priority to 1 lowest priority).

- Technical training for ocean science related to research activities, e.g. climate change, ocean acidification, eutrophication ☆☆☆☆☆
- Technical training for ocean science related to ocean observation ☆☆☆☆☆
- Technical training for ocean science data management ☆☆☆☆☆
- Technical training for ocean science related to sustainable management ☆☆☆☆☆
- Technical training for ocean science communication ☆☆☆☆☆

54. How would you rank your countries access to national and international scientific literature and information (e.g. peer reviewed journals, data bases)?

- ◯ Poor
- ◯ Fair
- ◯ Good
- ◯ Very good
- ◯ Excellent

55. How many peer reviewed journals in national languages not indexed in Web of Science are published in your country?

- ◯ <5
- ◯ 5-10
- ◯ 10-50
- ◯ >50

56. Does your country have special national efforts and mechanisms to absorb and keep graduates in ocean science related positions and activities (e.g. PhD programmes, young scientist funding resources, exchange programmes, early career support)?

- ◯ Yes If you answered yes, please provide the title and URL.
- ◯ No

57. Does your country have special national efforts and mechanisms to support female graduates and scientists in ocean science related positions and activities?

- ◯ Yes If you answered yes, please provide the title and URL.
- ◯ No

58. What are the mechanisms that are in place to facilitate the participation of outside national experts in your country's ocean science projects and policymaking?

- ☐ Guest positions
- ☐ Exchange programmes
- ☐ Board memberships
- ☐ Advisory capacity
- ☐ Others
- ☐ There are none

Comments

More comments...

59. Does your country take part in bilateral support / training to increase scientific in particular ocean science related capacities, e.g. Fullbright scholarships, EEA and Norway Grants (EØS-midlene) , Fish for Development and civil society 2018-2022 ?

- ◯ Yes If you answered yes, please provide the title and URL.
- ◯ No
- ◯ I do not know

60. Does your country take part in regional/international support/training programmes, such as POGO, SCOR, OT (Ocean Teacher), Regional Network of Training and Research Centers (RTRC), ICES, PICES, IOC to increase scientific in particular ocean science related capacities?

- ○ Yes — If you answered yes, please provide the title and URL.
- ○ No
- ○ I do not know

In Part F, questions 52, 56, 57, 59 and 60 are interactive questions in the online questionnaire. When you have white stars in a question (as in questions 52 and 53), in the online questionnaire, you will be able to colour the number of stars you want in yellow for the ranking of the topic in the question.

PART G SUSTAINABLE DEVELOPMENT

61. Does your country have a national strategy to achieve the goals of the Agenda 2030 in particular the Sustainable Development Goal 14 (https://sustainabledevelopment.un.org/sdg14) and related targets?

- ◯ Yes
- ◯ Yes, specific SDG 14
- ◯ No

If you answered yes, please provide the title and URL.

62. Does your country have a national focal point for the Sustainable Development Goal 14 (https://sustainabledevelopment.un.org/sdg14) and related targets?

- ◯ Yes
- ◯ No

If you answered yes, please provide the name, the URL and the email address of the focal point.

63. Does your country have reporting mechanisms for the individual SDG 14 targets and indicators in place?

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

☐	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	14.1.1 Index of coastal eutrophication and floating plastic debris density.
☐	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.	14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches.
☐	14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.	14.3.1 Average marine acidity (pH) measured at agreed suite of representative sampling stations.
☐	14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.	14.4.1 Proportion of fish stocks within biologically sustainable levels.
☐	14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information.	14.5.1 Coverage of protected areas in relation to marine areas.
☐	14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.	14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.
☐	14.7 By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.	14.7.1 Sustainable fisheries as a proportion of GDP in small island developing States, least developed countries and all countries.

☐	14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.	14.a.1 Proportion of total research budget allocated to research in the field of marine technology.
☐	14.b Provide access for small-scale artisanal fishers to marine resources and markets.	14.b.1 Progress by countries in the degree of application of a legal/regulatory/policy/institutional framework which recognizes and protects access rights for small-scale fisheries.
☐	14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of “The future we want”.	14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources.

64. Please select 5 ocean services and rank the below marine and coastal ecosystem services (adopted from Liquete et al. 2013) by their importance for your country (from 5 highest priority to 1 lowest priority).

Provisioning:

Food provision ☆☆☆☆☆

Water storage and provision ☆☆☆☆☆

Biotic materials and biofuels ☆☆☆☆☆

Regulating and maintenance:

Water purification ☆☆☆☆☆

Air quality regulation ☆☆☆☆☆

Coastal protection ☆☆☆☆☆

Climate regulation ☆☆☆☆☆

Weather regulation 

Ocean nourishment 

Life cycle maintenance 

Biological regulation 

Cultural:

Symbolic and aesthetic values 

Recreation and tourism 

Cognitive effects 

65. Does your country have specific activities contributing to economies related to the sustainable use of ocean resources and/or developed a blue/ocean economy strategy?

- ◯ Yes — If you answered yes, please provide the name and URL.
- ◯ No

In Part G, questions 61, 62 and 65 are interactive questions in the online questionnaire. When you have white stars in a question (as in question 64), in the online questionnaire, you will be able to colour the number of stars you want in yellow for the ranking of the topic in the question.