



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
COMMISSION OCÉANOGRAPHIQUE INTERGOUVERNEMENTALE
COMISIÓN OCEANOGRÁFICA INTERGUBERNAMENTAL
МЕЖПРАВИТЕЛЬСТВЕННАЯ ОКЕАНОГРАФИЧЕСКАЯ КОМИССИЯ

اللجنة الدولية الحكومية لعلوم المحيطات

政府间海洋学委员会

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(Available in English, French and Spanish)

IOC/VR/KI/KS
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To : IOC Member States (Official National Coordinating Bodies for liaison with the IOC)

cc. : Permanent Delegates/Observer Missions to UNESCO and
National Commissions for UNESCO in IOC Member States

**Subject: Annual Data compilation towards Sustainable Development Goal 14.3.1
Indicator: Average marine acidity (pH) measured at agreed suite of
representative sampling stations**

With this letter I would like to invite all IOC Member States for the second time after 2019 to contribute to the ocean acidification data collection in relation to the Sustainable Development Goal 14.3.1 Indicator: *Average marine acidity (pH) measured at agreed suite of representative sampling stations*. A similar invitation has been sent to National Oceanographic Data Centres (NODCs).

In 2015, the United Nations adopted the 2030 Agenda and a set of Sustainable Development Goals (SDG), including a goal dedicated to the ocean, SDG 14, which calls to 'conserve and sustainably use the oceans, seas and marine resources for sustainable development'. This constitutes an essential point of reference for IOC's engagement with its Member States, as well as for its programmes at the global, regional and country levels.

The IOC Executive Council at its 49th session (2016) through decision EC-XLIX/4.1(I) decided that IOC should 'provide normative support to countries to establish, implement, monitor and report on implementation of the 'Ocean' SDG-14 and its related targets'. On 6 March 2015, at its 46th session, the United Nations Statistical Commission created an Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) composed of Member States with the task to: (i) develop an indicator framework for the follow-up and review of the goals and targets of the 2030 Agenda at the global level; (ii) provide technical support for the implementation of the approved indicator and monitoring framework over the 15-year period leading up to 2030; and (iii) regularly review methodological developments and issues related to the indicators and their metadata.

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In 2016, the IAEG-SDGs agreed on a list of indicators for all SDGs, which was approved by the UN Statistical Commission. A tier classification was put in place in order to assess the degree of operability for each indicator of the SDGs, ranging them from Tier III (no internationally established methodology) to Tier II (Indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries) and Tier I (indicator conceptually clear, with internationally agreed methodology and data regularly collected for at least 50% of countries). IOC was identified as the custodian agency for two SDG-14 targets and related indicators, namely ocean acidification (Target 14.3) and marine scientific research (Target 14.a). As the custodian agency, IOC is tasked with developing the methodology for the SDG 14.3.1 Indicator, collecting relevant data towards the indicator from Member States and reporting to the United Nations.

[The SDG Indicator Methodology 14.3.1](#) provides the necessary guidance on how to conduct ocean acidification observation, using different types of technology and measuring different variables, including pH, carbon dioxide partial pressure [$p\text{CO}_2$], total dissolved inorganic carbon [CT/DIC], and total alkalinity [AT/TA], as well as salinity and temperature. It further provides support on how to and what kind of data sets to submit to IOC, to ensure the production of quality controlled global and possibly regional products, as requested by the Inter-agency Expert Group on SDG indicators (<https://unstats.un.org/sdgs/iaeg-sdgs/>). The Methodology was developed in collaboration with IOC's International Oceanographic Data and Information Exchange Programme (IODE), international ocean acidification experts (including data managers) and the Global Ocean Acidification Observing Network (GOA-ON) (See also web article '[Ocean acidification – What to measure and what to report](#)').

In July 2018, the IOC Executive Council at its 51st session endorsed the methodology, and with the upgrade to Tier II granted by the IAEG-SDG in November 2018, the Indicator is now recognized as 'conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries.'

Let me strongly encourage IOC Members States to submit the relevant data for the SDG 14.3.1 Indicator. The data submitted should be validated as "national data submissions from the Member States of IOC". All data submissions should follow the instructions and guidelines laid out in the SDG 14.3.1 Indicator Methodology and follow the format of the associated data and metadata files.

To facilitate the data submission, IOC has developed an online portal (<https://oa.iode.org/>) based on the SDG 14.3.1 Indicator Methodology and the associated data and metadata files, in cooperation with the International Oceanographic Data and Information Exchange (IODE). The online data submission interface allows for the uploading of the completed data and metadata files, with some additional information. All received submissions will be attributed a Digital Object Identifier (DOI), allowing for the tracing and correct citation of the data in derived products. Open data access is encouraged. It is expected that data and metadata contributions will be shared and used under one Creative Common license, as described in the Annex to this letter. The data submission process through the portal includes and explains all the steps outlined above.

Alternative submissions using appropriate data formats (e.g. .csv or .xls) are also accepted. For that purpose, templates for the data and metadata files for the required information can be found at the online portal (<https://oa.iode.org/>). These data files, once completed, can be sent directly to the IOC Secretariat at the email addresses listed below.

Following this letter, we look forward to receiving your national contributions from the relevant agencies in your country via the above-mentioned SDG 14.3.1 data portal (<https://oa.iode.org/>) by 15 January 2021.

Please feel free to contact the IOC Secretariat, namely Ms Kirsten Isensee (k.isensee@unesco.org) and Ms Katherina Schoo (k.schoo@unesco.org), for further information.

Yours sincerely,

[signed]

Vladimir Ryabinin
Executive Secretary

Enclosure: Information on national data submissions towards SDG 14.3.1 Indicator

National Data Submissions towards SDG 14.3.1 Indicator

Data submitted towards the SDG 14.3.1 Indicator must be validated as national data submissions from the Member States of IOC. To ensure this, the data should be submitted through a relevant national agency such as a national Oceanographic Data Centre (NODC), or a similar agency officially designated by the country, which will then submit the data to the IOC as an official national data submission. Due to the novelty of collecting ocean acidification data on a global scale, the pathways and infrastructure required for this data collection may not always be in place. Data originators may be unaware of the relevant data managers and the NODCs responsible for handling their data. NODCs may not be equipped to manage the data or may be altogether absent.

For this reason, data originators are encouraged to enquire about the relevant data centres in their countries. The International Oceanographic Data and Information Exchange (IODE) of the IOC has a list of national data centres available on its [website](#)¹. For those countries not listed, data originators can contact the IODE to receive further guidance or get in contact with their [national IOC focal point](#)². In those cases where countries do not have a National Oceanographic Data Centre, the IODE can assist with the establishment of an Associated Data Unit (ADU), which, once it has been authorized by the country in question, can also submit official national data.

Simultaneously, data managers may not be aware of the researchers collecting the relevant ocean acidification observation data in their country (data originators). Therefore, data generated by data originators may not be submitted to the relevant data centres and thus ultimately not be submitted towards the Indicator. One of the sources data managers can use to connect to data originators with relevant data in their country is the Global Ocean Acidification Observing Network ([GOA-ON](#)³) and its [data portal](#)⁴. GOA-ON has members in over 100 countries, and many have listed their observation assets on the data portal. Additionally, contacting national and regional research institutes, universities and agencies can help connect data managers with data originators.

To facilitate data submission, the IODE hosts a [data portal](#)⁵ for the SDG 14.3.1 Indicator. The portal consists of a web-based interface, which will enable data providers (both originators and managers) to submit the data and metadata sheets online. The data portal will also serve to store the data and make the data accessible to all. All data submitted towards the SDG 14.3.1 Indicator will be stored on a server hosted by the International Oceanographic Data and Information Exchange (IODE) of the IOC. The server will include a data portal for the submission (see above), storage, quality control and sharing of the data. To submit data, please follow the [Instructions](#) on the data portal page. For additional guidance about the submission process, please refer to the 'Frequently Asked Questions' tab on the data portal page.

All of the data will be freely available, in accordance with the [FAIR data principles](#)⁶ and the [IOC Oceanographic Data Exchange Policy \(IOC resolution XXII-6\)](#)⁷. All received submissions will be attributed a Digital Object Identifier (DOI), allowing for the tracing and correct citation of the data in derived products. Open data access is encouraged and it is expected that data and metadata contributions will be shared and used under one of the following Creative Commons licenses: data sets which can be freely shared without restrictions (CC0, CC-BY); with restrictions for commercial use (CC-NC); as well as those which only allow for IOC-UNESCO to derive products used for the

¹ The list of national data centres can be found here:

https://www.iode.org/index.php?option=com_content&view=article&id=61&Itemid=100057

² The list of IOC national focal points is available here: [http://www.ioc-](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=17716)

[unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=17716](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=17716)

³ GOA-ON website: <http://goa-on.org/home.php>

⁴ The GOA-ON data explorer portal is here: <http://portal.goa-on.org/Explorer>

⁵ SDG data portal: <https://oa.iode.org>

⁶ FAIR data principles: <https://www.nature.com/articles/sdata201618>

⁷ The text of IOC resolution XXII-6: [http://www.ioc-](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=338)

[unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=338](http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=338)

purpose of the SDG 14.3.1 Indicator reporting. The data submission process on the portal includes and explains all the steps outlined above.

Alternative submissions using appropriate data formats (e.g. .csv or .xls) are also accepted. For that purpose, templates for the data and metadata files for the required information can be found at the online portal (<https://oa.iode.org/>). These data files can be downloaded and, once completed, can be sent directly to the IOC Secretariat at the following email addresses: Ms Kirsten Isensee (k.isensee@unesco.org) and Ms Katherina Schoo (k.schoo@unesco.org).