OCEANS AND THE LAW OF THE SEA:
REPORT OF THE SECRETARY-GENERAL (2024)

CONTRIBUTION BY THE WORLD METEOROLOGICAL ORGANIZATION (WMO)

TO THE IMPLEMENTATION OF GA RESOLUTION 78/69
'OCEANS AND LAW OF THE SEA'

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Pursuant to United Nations General Assembly Resolution 78/69 of 5 December 2023, entitled "Oceans and the law of the sea", the information below represents the contribution of the World Meteorological Organization (WMO) to the report of the UN Secretary-General, between 1 September 2023 and 31 August 2024.

1. INTRODUCTION

The World Meteorological Organization (WMO) is the authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the land and ocean, the weather and climate it produces and the resulting distribution of water resources. The ocean provides essential natural resources to humankind and regulates the global climate. WMO contributes to ocean-related issues through the observation and monitoring of the ocean and climate; research on the climate and connected Earth systems; development and delivery of services including forecasts and early warnings for reducing the risk of disaster caused by marine hazards; capacity development and training; and the provision of science-based information and tools for decision-making, including for policymakers and the general public at national, regional and global levels.

PART A: ACTIVITIES, INCLUDING ADOPTION OF MEASURES, DEVELOPMENT OF PROGRAMMES ETC WHICH HAVE BEEN UNDERTAKEN OR ARE ONGOING IN THE IMPLEMENTATION OF SPECIFIC PROVISION OF GENERAL ASSEMBLY RESOLUTION 74/19

WMO is steadily striving to step up its capacities to advance and support the provision of weather, water, and climate knowledge and services, WMO programs are designed to advance Earth system prediction and projection capacities, support, disseminate, and expand ocean observation networks, develop and expand ocean and marine services on timescales of minutes to centuries. Of high global significance are the recent marked increase in ocean surface temperature, ongoing decrease of ice shelfs, and efforts to provide Early Warnings for All by 2027. It is estimated that more than 90% of the excess energy accumulating in the climate system as a result of increased concentrations of greenhouse gases goes into the ocean. The *WMO Annual Global Statement on Climate* for 2023 (WMO-No. 1347), released in March 2024, already indicated that:

- Ocean heat content reached its highest level in the 65-year observational record;
- Global mean sea level reached a record high in the satellite record (from 1993 to present), reflecting continued ocean warming as well as the melting of glaciers and ice sheets; The rate of global mean sea-level rise in the past 10 years (2014–2023) is more than twice the rate of sea-level rise in the first decade of the satellite record (1993–2002);

- Arctic sea-ice extent remained well below normal, with the annual maximum and annual minimum extents being respectively the fifth and sixth lowest in the 45-year satellite record; Antarctic sea-ice extent reached an absolute record low for the satellite era (from 1979 to present); and
- Sea-ice extent was at a record low for the time of year from June until early November, and the annual maximum in September was about 1 million km2 below the previous record low maximum.

Together with ocean acidification and an accompanying deoxygenation, ocean warming is leading to dramatic changes in marine ecosystems and the wellbeing of people that depend on them.

II Capacity Building

WMO continues to facilitate multiple capacity training and development capacity development opportunities for its Members across ocean services, observations and science.

In partnership with education and training providers, WMO has been working to strengthen the capability of meteorological services to provide better marine early warnings and forecasts, and to understand their customer needs for impact-based forecasting. With significant gaps in every region for marine service delivery, WMO has designed a unique course to help meteorological services self-assess their marine capabilities. The WMO Marine Services Course will be expanded globally over the next few years in various languages (Arabic, English, French, Spanish). For the last year in particular, countries in Africa and the Arabic world have benefited. In the coming year, the Caribbean and South America countries will be recipients. Additional to the Course, WMO has updated its marine weather competency framework to include ice forecasting services. In encouraging Members to improve the competency of their staff to deliver marine weather services that meet international quality management systems, WMO has also developed an online Toolkit available for Members to assist in their national assessments, and an online resource of marine weather training material. Further, WMO has been working with the International Maritime Organization (IMO) to focus on relevant marine weather training for mariners.

The WMO/IOC-UNESCO/ISC World Climate Research Programme (WCRP) Academy (https://wcrp-academy.org/) is the research training advisory and coordination arm of WCRP. Its mission is to equip current and future climate scientists with the knowledge, skills and attributes required to tackle the world's most pressing and challenging climate research questions. It is a hub which connects training providers and users of training, via a catalogue of climate science training. Inclusion within the Academy implies that the training is of high quality and, as such, is a legitimate source of training, and professional and capacity development platform, that is targeted to climate scientists.

The WMO-IOC joint Data Buoy Cooperation panel (DBCP) continues to conduct annual in-region capacity building workshop on ocean observations and data applications. These have been in action since 2010, attracting, some 500 participants either in-person or virtually, reaching to more than 70 coastal Members/Member States. A survey in early 2024 assessed impacts, good practices and space for improvements to better align with evolving needs and capacities at national, regional and global levels. DBCP has also been piloting deployment of instruments for the Solomon Islands on coastal wave observation, with a view to improving Members' infrastructures and services in disaster risk reduction and then scaling up for implementation of Early Warnings for All (EW4All) in coastal developing countries and Small Islands Developing States (SIDS). DBCP continues to lead efforts to reduce data buoy vandalism, including an annual reporting of vandalism events on data buoys to track progress toward implementation of the vandalism preventative measures. Some countries are working towards agreements with neighbouring countries to collectively act on vandalism event through law enforcement. Further, WMO continues to encourage Members to actively engage, support and collaborate in the efforts of DBCP to collect existing education and outreach materials related to national or regional mitigation of data buoy vandalism efforts.

VIII Maritime safety and security and flag State implementation

WMO continues its collaboration with IMO and the International Hydrographic Organization (IHO) for the dissemination of coordinated and standardized metocean[1] information, warning and forecast services for safety of life and property at sea, improved marine environment and sustainable management of natural resources, and with due focus on Polar Regions.

WMO continuously works with its partners relating to international shipping via its Worldwide Met-ocean Information and Warning Service (WWMIWS) as a contribution to the Global Maritime Distress and Safety System (GMDSS). WWMIWS ensures twice daily global maritime forecasts through the 21 METAREAs. This helps fulfil the obligations of WMO Members who are contracting parties to the SOLAS Convention. The next meeting of METAREA Coordinators will be in September 2024, hosted by the UK Government.

The 2nd *WMO-IMO Symposium on Extreme Maritime Weather* will be held in London in September 2024. WMO has continued working on recommendations from the first Symposium.

IX Marine environment and marine resources

WMO various scientific, observations, data and services activities support the understanding, improved state, and/or sustainable use of the marine environment and marine resources.

Such initiatives include the Global Atmosphere Watch (GAW), Global Climate Observing System (GCOS), Global Cryosphere Watch (GCW), Global Ocean Observing System (GOOS), WCRP, World Weather Research Program (WWRP); the technical activities within the WMO Commission for Weather, Climate, Hydrological, Marine and Related Environmental Services and Applications (SERCOM) and Commission for Observation, Infrastructure and Information Systems (INFCOM); advice provided the WMO Research Board, and Joint WMO-IOC Collaborative Board; Education and Training, Capacity Development activities; and Intergovernmental Panel on Climate Change (IPCC) (a body jointly created by WMO and UNEP for assessing the science related to climate change).

Some highlights of the past year include:

The WMO GAW continues its contribution on the latest trends and atmospheric burdens of the most influential, long-lived greenhouse gases (LLGHGs). Results are published in WMO/GAW Annual Greenhouse Gas (GHG) Bulletins. WMO and GAW have also been a long-time sponsor of GESAMP Working Group on the Atmospheric Input of Chemicals to the Ocean (WG 38). WG 38 has published numerous studies related to the impact of atmospheric deposition of anthropogenic nitrogen to the ocean. GESAMP has also produced a study related to deposition of atmospheric microplastic to the oceans.

The Polar Coupled Analysis and Prediction for Services (PCAPS) project follows from the Year of Polar Prediction (YOPP), spanning 2024–2028 under WWRP. It is dedicated to enhancing environmental forecasting in the Arctic and Antarctic regions for human and environmental well-being. PCAPS recognizes the complexity of interactions in polar socio-ecological systems and aims to enhance environmental forecasting services with diverse user contexts in mind by facilitating the provision of more accurate, reliable, and usable prediction services. Guided by user needs and service provision capabilities, PCAPS involves work to improve models, particularly in predicting small-scale processes essential for accurate forecasts in the context of improving the overall service provision. Emphasizing integration of social and natural scientific endeavours, along with transdisciplinary engagement, PCAPS aims to facilitate the exchange of knowledge at the science-policy-service-user interface to improve the fidelity, actionability and impact of environmental forecasting services. PCAPS will also follow the recommendations of the successful WWRP's Polar Prediction Project (https://www.polarprediction.net/).

In 2024, WMO also revised and/or release several key marine related publications, useful for sustainable use of the marine environment and resources, including its Sea Ice Information and Services, (WMO-No. 574), the Manual on Marine Meteorology (WMO No. 558), Guide for Marine Meteorology (WMO No. 478), and Guide for Marine Emergency Response (MER) (WMO. No. 1348) available on the WMO e-Library.

The MER Guide provides guidance for Members to support emergency operations at sea, including environmental emergencies such as responses to oil and chemical spills in the ocean.

XI Marine science

Through the programs and initiatives mentioned above, WMO activities also continues to support the progress of marine science that supports Member's responsibilities, needs and/or concerns related to weather, climate and water.

Sustained oceanographic and marine meteorological observations and their free and unrestricted exchange are critical to address meteorological hazards, strengthen resilience in the face of climate change and variability, and build the scientific knowledge base for sustainable development.

WMO continues strengthening the global observing systems through implementation of the WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS) and observing networks with partners. Through three key co-sponsorship initiatives, WMO also contributes to climate and ocean observations, monitoring and research:

- The WMO-International Science Council (ISC)-Intergovernmental Oceanographic Commission (IOC)-UN Environment together co-sponsor the Global Climate Observing System (GCOS) and the Global Ocean Observing System (GOOS).
    - GCOS serves the requirements of Members for comprehensive, continuous, reliable climate data and information, for climate monitoring, research, projections and assessments, to provide climate information and to promote sustainable development
    - GOOS coordinates observations around the global ocean for three critical themes: climate, operational services (including numerical weather prediction), and marine ecosystem health
- The WMO-IOC-UNESCO-ISC World Climate Research Programme (WCRP) facilitates analysis and prediction of Earth system change – including the ocean - for use in a range of practical applications of direct relevance, benefit and value to society. Its priorities include examining the ocean's contributions to energy, heat, water and carbon budgets; the role of the ocean in transient climate sensitivity; physical and biogeochemical interactions in the coastal ocean; and changes to local sea level under a changing climate.

The joint WMO-IOC OceanOps supports the implementation of the global ocean observations. OceanOps strongly advocates for practical and multilateral solutions to facilitate the routine deployments of ~2500 ocean observations instrumentations per year, globally and regionally, and is ready to expand its support to keep enhancing the marine observations in Exclusive Economic Zones for Members benefits. Members can check the systems operating in their EEZ (past, present and future) through the online monitoring dashboard https://www.ocean-ops.org/board. OceanOps facilitates the international deployment of the Argo program - a masterpiece of the global ocean observing infrastructure with 4000 floats producing over 100 000 temperature and salinity profiles for climate analysis and short to long range weather forecasts. To further advance knowledge and modelling capacities an upgrade of the system to increase the coverage of floats with biogeochemical sensors, floats with deeper capacity and enhance the coverage in some regions is highly desired. These expansions are not firmly funded by Members and are done very slowly through flat budgets impacting the core mission.

The Integrated Global Greenhouse Gas Information System (IG^3IS)[2] expands the observational capacity for GHGs, extending it to the regional and urban domains, and develops the information systems and modelling frameworks to provide information about GHG emissions to society. The implementation of IG^3IS fundamentally relies on the globally harmonized observations of GHGs, including in the ocean, and will require the development of high resolution and complex observing systems, modelling tools and data assimilation techniques. The WMO IG^3IS Science Implementation Plan is guiding the work. IG^3IS is a

framework used by Subsidiary Body for Scientific and Technological Advice[3] (SBSTA) to improve estimates of GHG concentrations and fluxes. The WMO-UN Environment IPCC has also adopted refinements to the 2006 Guidelines[4] for National Greenhouse Gas Inventories.

Forecasting for navigation in the polar and marginalized regions (e.g. Great Lakes) requires, among others, reliable data and products on sea-ice. While sea ice concentration and extent have been monitored from space for several decades, and these products are generally accurate and robust, information on ice thickness and snow depth-on-sea ice are also critical to forecasting and navigation. This is due to their integrated measure of changes in the energy budget, while snow on sea ice adds a key insulating layer and, in the Antarctic, it contributes to sea-ice volume via snow-ice formation. WMO through its GCW has initiated an international coordinated effort to evaluate, intercompare and make recommendations on the available satellite products on sea ice thickness and snow on sea ice, that has taken place between 2020 and 2023. The project engaged and addressed individual end-user requirements and other data performance critical to their application (e.g., operational users are likely to require (near) real-time [(N)RT]; data assimilation and Numeric Weather Prediction (NWP) groups are likely to need NRT data. The project provided the framework for increased coordination and standardization of sea ice observing and data exchange best practices, recognizing the distribution of these activities across many communities, and the strong role played by the scientific communities.

With regards to space-based observations of the ocean, the WMO Space Programme interfaces with relevant discussions in the Coordination Group for Meteorological Satellites (CGMS) and with the Committee on Earth Observation Satellites (CEOS).

The joint WMO-IOC Marine Climate Data System (MCDS) coordinates the activities of existing ocean data systems, to have compiled coherent met-ocean climate datasets of known quality, extending beyond the GCOS Essential Climate Variables (ECVs). The data will be of known quality collected from multiple sources to be served on a free and unrestricted basis to the end users through a global network of data centres covering different data domains. During the period September 2023 through August 2024 the Coriolis data centre was approved to operate a Global Data Assembly Centre for drifting buoys as part of the MCDS.

Operational Earth system data, including oceanographic and marine meteorological data, is exchanged in real time by WMO Members using the WMO Global Telecommunication System (GTS) and the WMO Information System (WIS). WIS is being upgraded to version 2 (WIS 2.0), with WIS 2.0 entering a pre-operational phase during 2024. Once declared fully operational the GTS system will be retired. As part of the preoperational phase the Lagrangian Drifter Laboratory, hosted by Scripps Institute of Oceanography, became the first ocean focused WIS 2.0 node to be registered and start exchanging drifting buoy data. During this period the United States National Weather Surface and the Meteorological Service of Canada also started exchanging surface marine meteorological observations on the WIS 2.0, exchanging data from voluntary observing ships and buoys respectively. To aid WMO Members migrate from GTS/WIS to WIS 2.0 the Japanese Meteorological Agency and the German Deutscher Wetterdienst agencies have set up bridging services, enabling data exchanged on the GTS to be discovered and accessed via the WIS 2.0. Comprehensive data catalogues, providing discovery, access and retrieval metadata, will be key to the success of the WIS 2.0. To aid the discovery of ocean data on the WIS 2.0, and discovery of meteorological data in the Ocean Data and Information System (ODIS), there are ongoing collaborations between the ODIS developers and the WMO Expert Teams managing the WIS 2.0 metadata, including metadata standards.

The WMO Integrated Processing and Prediction System (WIPPS), formally known as the Global Data-processing and Prediction System (GDPFS), is composed of three types of centres distributed around globe providing information at global, regional and national level. These centres include World Meteorological Centres (WMCs), WIPPS Designated Centres (WIPPS-DCs) (also referred as Regional Specialized Meteorological Centres (RSMCs)) including Regional Climate Centres (RCCs) and National Meteorological Centres (NMCs). The standards for data-processing and forecasting are represented in the *Manual on the WIPPS* (WMO-No. 485) which is considered as the single source of technical regulation for all operational

data-processing and forecasting systems operated by WMO Members, including designation of specialized centres. In this context, there are 24 WIPPS-DCs/RSMCs for marine meteorological services covering METAREAs, six WIPPS-DCs/RSMCs for numerical ocean wave prediction, two WIPPS-DCs/RSMCs for global numerical ocean prediction, and six WIPPS-DCs/RSMCs for tropical cyclone forecasting, including marine-related hazards. In addition, two new WIPPS activities are being established regarding marine emergency response and global storm surge prediction.

The next step is to designate Centres carrying these activities. WMO has embraced an Earth System Modelling and Prediction (ESMP) approach, which implies more integration of ocean parameters into WIPPS. This responds to various ocean users' needs (coastal issues, shipping, fishing and etc.) and will improve the access to and use of marine products for protection of life and property at sea and along the coast.

XIII Regional Cooperation

Highlights from selected programs and projects are detailed below:

Tropical cyclones – occurring in tropical regions and fuelled by warm ocean temperatures - are recognized as one of the major hazards addressed by the Early Warning for All Initiative (EW4All), a flagship of WMO. Lessons learnt from responding to 4 Tropical Cyclone/Hurricane events in 2023 (TC *Freddy* (Southwest Indian Ocean,), TC *Gabrielle* (South Pacific)), TC *Mocha* (Bay of Bengal)) or Hurricane *Otis* (Northeast Pacific) were addressed during annual sessions of the respective regional bodies. The WMO Hurricane Committee for the American and Caribbean region, discussed the relevance of the ocean during a Panel session, where emphasis was placed on fostering collaborations, developing regional strategies and research activities, and strengthening international partnerships to enhance ocean and coastal observations for improved forecasting and early warning services.

The WMO has been engaged as an expert service provider by the Green Climate Fund (GCF) to enhance the use of scientific methodologies for adaptation planning and vulnerability assessment in climate sensitive sectors. In response to the Paris Agreement call for "Strengthening scientific knowledge on climate in a manner that informs climate services and supports decision-making (Article 7, paragraph 7 (c))", GCF initiated an integrated approach to facilitate the generation and use of climate information in decision-making. Under the service contract, WMO is developing the concept, scientific methodology, data, tools and associated technical resources for enhancing the climate science basis for GCF funded projects, activities and National Adaptation Plans (NAPs). The project aims to facilitate the formulation of a capacity development programme at the country and local level(s) to support the application of methodology, data and tools. As part of this. WMO organized workshops with key stakeholders (national, regional and international) in Saint Lucia, Cabo Verde and Congo DRC and analysed climate and ocean data for coastal management and fisheries. The climate science basis methodology and its constituent materials were field tested in these countries during the workshops and produced the following outcomes: 1.Case study reports on fisheries and coastline management for further use in a NAP or a GCF project in the country context; 2.Feedback and lessons learnt to inform GCF/WMO guidelines methods, data and support needed for further climate rationale preparation globally; 3.Expanded understanding and knowledge of climate rationale requirements and preparation within the region.

XV Coordination and Cooperation

Various areas where WMO is involved in coordination and cooperation related to ocean activities are below:

UN Ocean Decade: WMO is participating in the Ocean Decade. WMO was an inaugural a member of the Decade Advisory Board until April 2024, and thereafter an Observer. WMO presence at the UN Ocean

Decade Conference included representation on panels and side events. The 2nd WMO and IMO *International Symposium on Extreme Maritime Weather – Safety of Life at Sea and Sustainable Blue Economy* is an officially endorsed Decade event, being held in London at IMO HQ in September 2024. Various WMO publications and communications over the last year have also been endorsed officially as Decade activities.

UN Conferences: WMO is engaged in the early preparations for the 3rd UN Ocean Conference co-hosted by France and Costa Rica, to be held in 2025. It has also participated in the UN SIDS Conference in May 2024. WMO participated in COP 28, held in December 2023 hosted by UAE in Dubai where the provisional Annual Global Climate Statement for 2023 was released, and which includes several ocean indicators. WMO has contributed to ocean related climate discussions at the SBSTA in June 2024 and is preparing for COP 29, in November, in Azerbaijan.

UN Early Warning for All and MHEWS: WMO is one of the lead implementers of the UN EW4All initiative (2022–2027). The importance of early warnings reaching those at sea, and along the coast have been emphasized and WMO is progressing activities to ensure that these early warning systems are strengthened, for example, in Africa, an Action plan on early warning has been developed and actions identified to support early warning to maritime communities. Also, several publications and videos have been released, focusing on early warnings reaching to maritime and coastal stakeholders including for marine and coastal hazards, and marine emergency response. WMO also works extensively on engaging interested stakeholders, partners and organizations to develop and facilitate the International Network for MHEWS (IN-MHEWS).

International Days: WMO celebrates several international days with relevance to its ocean work, including the World Meteorological Day 2023 (theme '*the future of weather, climate and water across generations'*), World Oceans Day. For World Maritime Day on 28 September 2023 with the theme '*MARPOL at 50 – Our commitment goes on*', WMO released a new public awareness animation , officially endorsed as an Ocean Decade activity, explaining how National Meteorological and Hydrological Services, and WMO, support Marine Emergency Response.

Resource Mobilization: The Climate Risk and Early Warning Systems Secretariat is hosted by WMO and contributes to the global development agenda, and of note, funding for the early warning in SIDS has been increased in June 2020. WMO carries out its work within the context of the Sendai Framework for DRR (2015). WMO with multiple stakeholders in the UN system and beyond advocated to substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments, including for marine hazards, by 2030.

2. ACRONYMS

CEOS	Committee on Earth Observation Satellites
CG	World Meteorological Congress
CGMS	Coordination Group for Meteorological Satellites
CIFI	Coastal Inundation Forecasting Initiative
COP	Conference of Parties

CREWS	Climate Risk & Early Warning Systems
DBCP	Data Buoy Cooperation Panel
DRR	Disaster Risk Reduction
EC	Executive Council
ECVs	Essential Climate Variables
EEZ	Exclusive Economic Zones
ENSO	El Niño–Southern Oscillation
ESMP	Earth System Modelling and Prediction
FAO	Food and Agriculture Organization
FSO	Forecast Sensitivity to Observations
GAW	Global Atmosphere Watch
GBON	Global Basic Observing Network
GCF	Green Climate Fund
GCOS	Global Climate Observing System
GCW	Global Cryosphere Watch
GDPFS	Global Data-Processing and Forecasting System
GESAMP	Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	Greenhouse Gas
GMDSS	Global Maritime Distress and Safety System
GMSL	Global Mean Sea Level
GOOS	Global Ocean Observing System
GTS	Global Telecommunication System
IG^{3}IS	Integrated Global Greenhouse Gas Information System
IHO	International Hydrographic Organization
IMO	International Maritime Organization
INFCOM	Commission for Observation, Infrastructures and Information Systems
IN-MHEWS	The International Network for Multi-Hazard Early Warning System
IOC-UNESCO	Intergovernmental Oceanographic Commission of UNESCO
IPCC	Intergovernmental Panel on Climate Change
ISC	International Science Council

JCB	Joint WMO-IOC Collaborative Board
JCOMM	Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology
JCOMMOPS	The JCOMM insitu Observations Programme Support Centre
JPL	NASA Jet Propulsion Laboratory
LDC	Least Developed Countries
LLGHGs	Long-Lived Greenhouse Gases
MCDS	Marine Climate Data System
METAREA	Geographical sea region for the purpose of coordinating the transmission of meteorological information to mariners on international voyages through international and territorial waters
Metocean	Meteorology and (physics) Oceanography
MHEWS	Multi-Hazard Early Warning System
NAPs	National Adaptation Plans
NASA	National Aeronautics and Space Administration
NMC	National Meteorological Centre
NMHS	National Meteorological and Hydrological Services
NRT	(Near) Real-Time
NWP	Numerical Weather Prediction
OceanObs'19	Decadal Ocean Observations Conference 2019
OOPC	Ocean Observations Panel for Physics and Climate
OSEs	Observing System Experiments
PPP	Polar Prediction Project
RCC	Regional Climate Centres
RSMC	Regional Specialized Meteorological Centre
SBSTA	Subsidiary Body for Scientific and Technological Advice
SC-MMO	Standing Committee on
SERCOM	Commission for Weather, Climate, Water and Related Environmental Service Applications
SIDS	Small Island Developing States
SOLAS	International Convention for the Safety of Life At Sea

SROCC	Special Report on the Ocean and Cryosphere in a Changing Climate
TC	Tropical Cyclone
TCC	Tropical Cyclone Committee
TCP	WMO Tropical Cyclone Programme
TMA	Tropical Moored buoy Array
TPOS	Tropical Pacific Observing System
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	UN Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCRP	World Climate Research Programme
WG	Working Group
WIGOS	WMO Integrated Global Observing System
WIPPS	WMO Integrated Processing and Prediction System
WIPPS-DC	WIPPS Designated Centre
WIS	WMO Information System
WMC	World Meteorological Centre
WMO	World Meteorological Organization
WWMIWS	World-Wide Metocean Information and Warning Service
WWRP	World Weather Research Programme
YOPP	The Year of Polar Prediction