

GAME- CHANGER

FOR THE UN 2023
WATER CONFERENCE

**Intergovernmental Science-Policy Platform
For Water Sustainability (ISPWAS)**

BACKGROUND

The game-changing idea of the Intergovernmental Science-Policy Platform for Water Sustainability (ISPWAS) was developed and elaborated as a contribution to the UN 2023 Water Conference, to be held between the 22 and 24 of March 2023 at the United Nations Headquarters, in New York. The conference, co-hosted by the Republic of Tajikistan and the Kingdom of the Netherlands, is being organized under the resolutions of the UN General Assembly “*Midterm Comprehensive review of the implementation of the International Decade for Action, ‘Water for Sustainable Development’, 2018-2028*”, adopted on 20 December 2018.

The idea originated from the 77th session of the UN General Assembly where a vision for solutions through solidarity, sustainability and science was presented.

In preparation for the Water Conference, more than 1,200 scientists, representatives of Member States, the private sector, multilateral agencies, and civil society met for a High-Level Stakeholder Dialogue as part of the Preparatory Meeting (New York, 24-25 October 2022) to identify potential game-changing ideas related to water and the 2030 Agenda for Sustainable Development. These ideas are to be developed into action plans for the Water Action Agenda, to support the ongoing discussions of the five Interactive Dialogues (ID) of the Water Conference.

The Intergovernmental Science-Policy Platform for Water Sustainability was one of the proposed game-changing ideas, led by UNESCO’s Intergovernmental Hydrological Programme (UNESCO-IHP) and Future Earth’s Sustainable Water Future Programme (SWFP), along with other UN agencies and the scientific community. The intergovernmental platform seeks to provide water solutions through a science-based global water assessment, tailored to address the needs of Member States and validated by an intergovernmental body. It aims to be a game-changer in underpinning the sustainable management of water resources and supporting informed decision- and policy-making, by offering a solution-oriented knowledge base which addresses the intersectoral, systemic, complex and transdisciplinary nature of water challenges, and identifying capacity development and implementation needs for more effective water management.

The idea of such a mechanism was then discussed in detail with the Office of the President of General Assembly (PGA), the two co-hosts of the UN 2023 Water Conference- Republic of Tajikistan and the Kingdom of the Netherlands, UNDESA, and a group of UN agencies, as well with several scientific and research organizations. Encouraged by the positive feedback received at the October 2022 preparatory meeting, the game-changer proponents have mobilized the scientific community and other stakeholders to further develop it into an action plan, aligned with the mandate of the International Decade for Action, ‘Water for Sustainable Development’.

Detailed discussions on the viability of the ISPWAS took place at the 1st Open Consultation Meeting, held during the UN-Water meeting on 6 December 2022, at UNESCO headquarters in Paris, where an extended group of water experts was invited to contribute to the draft paper. Building upon the feedback received, and incorporating further inputs from UN agencies and scientific partners, a second consultation took place on 19 January 2023, also at UNESCO HQ, which facilitated the finalization of the final manuscript to be presented at the UN 2023 Water Conference.

The proposal for a side event to the Water Conference was submitted by the Republic of Korea, and supported by Austria, Belgium, Canada, Egypt, Hungary, Indonesia, Mexico, Senegal, Tajikistan, and Uganda, several UN agencies (UNEP, UNDP, WMO, IAEA, UNCCD) and scientific associations (ISC, IAHS), with the aim of presenting the Intergovernmental Science-Policy Platform to gain countries’ buy-in and engage broader stakeholder participation. The side event will be held on 24th March during the UN 2023 Water Conference in New York.

Recently, the UN Water Conference secretariat made available the advanced version of the concept papers of each of the Interactive Dialogues. The intergovernmental science-based mechanism is featured in several of those concepts, particularly those which also mention the emergence of citizen science and open science and the urgency of intergovernmental validation for water management. In the same line of thought, several Member States called for an increasing role of science, technology, and innovation for accelerated transformation in the water realm, as part of the contribution mechanism from the Member States for the five interactive dialogues of the UN 2023 Water conference¹.

1 Refer to <https://sdgs.un.org/conferences/water2023/documentation>

MOTIVATION

The game-changer idea of a science-policy platform was developed in the spirit of “solutions through solidarity, sustainability and science” – the motto of the 77th session of the UN General Assembly presented by H.E. Mr Csaba Kőrösi – a visionary path towards satisfying the development needs of the present generation and preserving opportunities for generations to come. Water is a dealmaker in achieving sustainable development, given its role as a connector and cross-sectorial importance, and the resource that will be impacted most significantly by climate change. Yet, the development modifications made by humans of the pathways and processes of the global hydrological cycle are often impacting the well-being of the current and future generations and the biosphere in negative ways. The accelerating pace of changes in water systems is creating new and ever-increasing risks to society, and trends in multi-sectorial variables indicate that human-water interactions are intensifying as a result of increased water demand for immediate use and as water footprints for satisfying other human needs. Decades of global water research have provided clear evidence and understanding of these modifications, and critical problems and opportunities have been identified.

Achieving SDG6 – Clean Water and Sanitation for all - is critical to stall or reverse these trends. However, it is unlikely that SDG6 will be met by 2030 as per its mandate, given the current rate of progress. The delay in implementing SDG6 could be costly and undermine other dimensions of human development, including the achievement of the Paris Agreement and the post-2020 Global Biodiversity Framework, and is a *sine qua non* for achieving the other 16 sustainable development goals. It is necessary to accelerate

the implementation of water-centric and water-related SDGs by 2030 and beyond, benefitting *inter alia* the achievement of climate change and biodiversity goals in line with the new Kunming-Montreal biodiversity framework.

There is a pressing need for partnerships between policymakers and science and technology communities. This was recently reiterated in the UN-Water’s SDG6 Global Acceleration Framework, where a central role of science in supporting the implementation of SDG6 was suggested, as meaningful stepwise change is needed at all levels to exchange and generate quality data and optimize monitoring and assessment, to deepen disaggregation and analysis for actionable diagnostics of current shortcomings (UN-Water 2020).

However, scientific efforts in the past have often siloed and overly emphasized identifying problems and challenges without developing solutions. The problem-solution divide leads to an increasing gap between science and policy. There is a strong need to move to the next level to make policy and regulations more relevant by closing the existing gap between science and water policy. That can only be done by properly linking cross-sectoral governmental policy settings, based on state-of-the-art data, analysis, science and technology.

This finding underlines the lack of analytical tools that connect water management and governance solutions to address the root causes of problems. Although water-related reports exist², there is no consistent comprehensive assessment of effective water management solutions based on the need of Member States, and incorporating water with other sectors such as food, health, environment, and economic development.

² For example: UN Water’s GLAAS and WWDR, coordinated and published by the UNESCO World Water Assessment Programme (WWAP) on behalf of the UN-Water family, FAO’s WaPOR, WMO’s HydroSOS and GWR, and UNDP-GEF’s GIWA.



FIGURE 1 – EXAMPLES OF EXISTING WATER-RELATED REPORTS

A global assessment implemented by the national entities of a specific intergovernmental process is needed to generate a comprehensive knowledge base and integrate fragmented data and information in order to support policy, regulation and decision-making (Figure 1). ISPWAS science-based global water assessment will provide practical and actionable solutions, identify capacity development, implementation and infrastructure needs and help to understand its applicability with foresight better.

The role of relevant institutions at all levels also cannot be overemphasized. In most parts of the world, institutional water management is still severely disjointed, often underfunded, and lacks sufficiently trained personnel. This is particularly worrying at governmental levels, as such institutions often deal with water issues but do not coordinate effectively and meaningfully within and across sectors. Integrating the fragmented elements is an essential condition of sustainable water management. Likewise, coordination between organizations is needed to deal with other environmental components, such as the atmospheric, terrestrial and aquatic ecosystems, including making use of transdisciplinary ecohydrology and nature-based solutions.

Echoing the concerns of the Water Science and Policy community and several Member States to address such complex, interrelated challenges and in order to move towards accelerated transformation, the proposed game-changer is as timely as necessary. Such assessment is more than ever needed to address these 21st-century water challenges. It will provide a comprehensive diagnosis of water-related issues at integrated scales that impede the progress in implementing SDG6 and interrelated SDGs. It will offer Member States and water actors at various

levels a broader pallet of solutions to accelerate pathways for sound water management.

Currently, no existing mechanism allows Member States to agree on science-based evidence for decision-making in water-related matters. A new intergovernmental mechanism, with the appropriate cooperation of the scientific community and UN Member States in validating results, is urgently needed.

First, a clear shift towards a data-based solution-oriented assessment underpinned by science is required to make a transformative change using such a knowledge base for evidence-based action.

Second, a new relationship needs to be forged between science and policymaking. An intergovernmental validation of science-based evidence can bridge the science-policy gap. This is evident from the successes of existing mechanisms, such as the IPCC and IPBES reports, which are subject to scientific validation.

The upcoming UN 2023 Water Conference – the second of such comprehensive intergovernmental events – provides a unique opportunity to discuss the viability of a science-policy platform for water and to chart the road ahead. The Water Conference provides the opportunity to discuss the scientific intergovernmental mechanism and design its framework, including identifying possible interlinkages.

The conference opens a window of opportunity for Member States to influence and create ownership of this game-changing platform – ownership that will allow it to gain momentum towards contributing to the Water Action Agenda, consisting of commitments, validation, knowledge sharing, scaling and replication of sound and resilient water management.

FEATURES OF THE INTERGOVERNMENTAL SCIENCE-POLICY PLATFORM

A key objective of the platform will be to position water issues at the forefront of global sustainability agendas and processes. The solution-oriented scientific assessment, implemented by national entities based on each Member State's particular vulnerabilities will be

carried out regularly, with continuous updates developed in close coordination with relevant UN agencies and other intergovernmental mechanisms.

The proposed science-based assessment will have the following features and outputs:

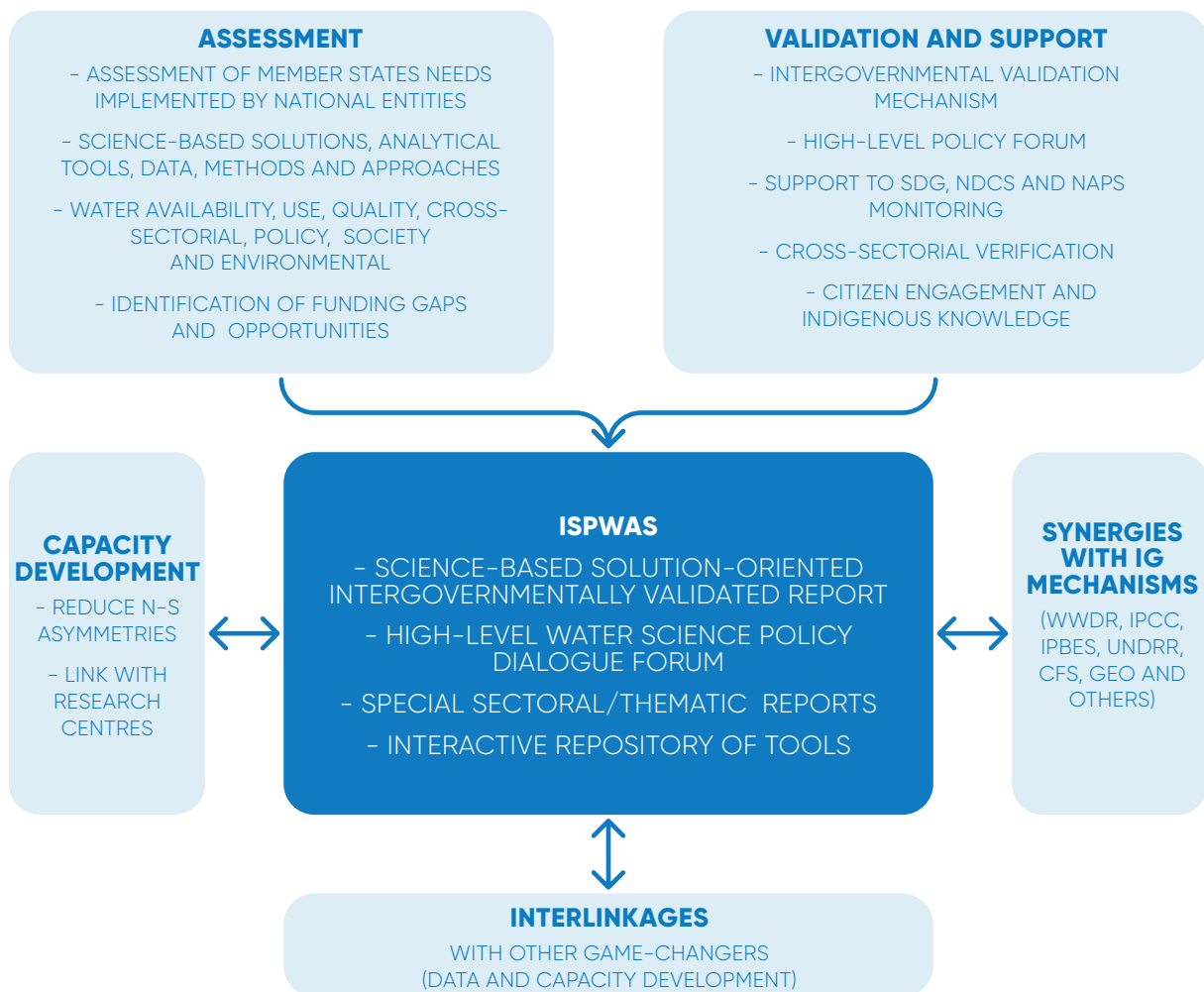


FIGURE 2 - KEY FEATURES AND PRODUCTS OF THE ISPWAS

COMPREHENSIVE GLOBAL WATER ASSESSMENT

- The global science-based assessment of solutions, analytical tools, data, methods and approaches will ensure the applicability of synthesized up-to-date knowledge towards addressing the inter-sectoral, systemic and transdisciplinary water challenges, considering Member States' needs identified by the respective national entities. ISPWAS assessment will identify state-of-the-art solutions, based on science, research, engineering, technology and innovations, capable of providing policymakers with a more comprehensive understanding of the available options to face water-related challenges.
- It will support the identification of investment gaps, opportunities, urgency, and priorities (when and where to invest) for SDG6 acceleration, considering complementary and conflicting relationships between SDG targets. The scientific assessment structure will be designed to minimize the demand for additional inputs from Member States and identify SDG implementation gaps and policy needs from the global to the regional level, facilitating the downscale to the local level.
- The science-based mechanism will address issues of scale by demonstrating and supporting the scaling up of science-based solutions and innovation by an all-inclusive approach – including open science, citizen science, women and youth-led initiatives, as well as traditional and indigenous knowledge – to achieve effective water management in line with national and regional priorities and circumstances.
- The assessment will be supported by a cutting-edge research backbone, facilitated by multiple interconnected and established global research hubs, specialized in solution-oriented research, covering the water cycle (including surface water, groundwater, atmospheric water and recycled water) and looking at water availability, use, quality, societal and environmental needs, integrating the effects of hydrology, ecology, hydraulics, chemistry, engineering, human health, culture, climatic change and socio-economic behaviour to understand the dynamics under varying risk conditions. Extensive use of

digital tools, including earth observation, remote sensing and Artificial Intelligence (AI) are foreseen to identify patterns in all water-related processes.

CAPACITY DEVELOPMENT FOR WATER

- The research capability will be augmented through capacity development by establishing links and networks with established centres of excellence and research centres to benefit countries with limited capacity to produce such solution-oriented assessments. Human capacity development in the Member States is critical to effectively produce and use ISPWAS outcomes and tools, particularly for the benefit of developing countries. This could enable local researchers from around the world to effectively contribute to water assessment, which could help provide truly global assessments that all countries support and address North-South asymmetries. This will be a relevant auxiliary to the assessment process as we lack the trained human capacity and related institutions to use them effectively.
- A funding mechanism is needed for capacity development to ensure the all-inclusive social movement (“leaving no one behind”). This should build on the demand-driven UN-Water Capacity Development Initiative. However, there could be several funding options, including from Member States, driven in coordination with others (e.g. GEF), that support a number of water projects globally.

VERIFICATION, VALIDATION, AND SUPPORT

The verification, validation and support branch of the platform will be discussed by the supporting Member States in detail upon receiving the formal mandate. The following outlines the needs, and lists value additions for intergovernmental validation:

- The assessment will be implemented by Member States' national entities and validated by an appropriate intergovernmental mechanism, which is absent from existing water assessment mechanisms and is essential to validate the solutions and tools considering Member States' specific needs.
- The verification and validation process will be used to understand the readiness, reliability

and relevance of the solution-oriented tools, methods and approaches for policy, regulation, and decision-making at national, regional and local levels.

- The process of finding effective solutions will be co-designed and co-produced through a continuous science-policy dialogue, which assumes a central role in bridging current gaps. Support tools will further help the assessment to refine the methods and approaches with a feedback mechanism.
- ISPWAS should build on and leverage existing UN scientific intergovernmental water programmes and consider national committees from the Member States and the scientific community to avoid additional institutional burdens and overlap of efforts for the Member States and the UN system.
- ISPWAS must simultaneously invest in and advocate for bottom-up engagement with all relevant non-state actors, including citizens, to enable the evidence-based co-creation of water solutions at scale. This will require inclusion of the principle of devolved decision making at the lowest possible spatial scale relevant to beneficiaries of water use, and integrated at watershed and national scale. It will demonstrate the employment of data uptake and the implementation of negotiated solutions by proactively engaging representatives of all social sectors at local, national, regional, and supranational levels.
- Further, it aims to provide support for the monitoring of SDG6 implementation, as well as the implementation of Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), leveraging citizen engagement. This will contribute to the ongoing reporting and monitoring process coordinated by the UN with the support of Member States.

INTERLINKAGES AND SYNERGIES

- ISPWAS will be interlinked and coordinated with other potential game-changing solutions, for instance, those related to data and information and capacity development – two of the accelerators defined in the SDG Acceleration Framework – as recognized during the stakeholder consultation meeting in October 2022.

- Multiple opportunities exist for interlinkages with other UN 2023 Water Conference game-changers. An evident link can be established with the game-changer presented at the Roundtable on Governance, which proposes the development of a systemic and whole-of-society approach to deal with challenges in relation to cross-sectorial collaboration and the support for water/climate/food policies. Likewise, synergies can be established with the game-changer proposing an open global water information system and platform and the game-changer on Early Warning System for All, proposed at the Roundtable on Data and Information.
- Synergies with other intergovernmental mechanisms (such as the IPCC or IPBES) are also expected. The goal is not to replicate other efforts but to fill in the gaps and enhance evidence-based approaches that are still underdeveloped, putting all game-changers in one picture as a collective effort to address the significant challenges ahead. Examples of existing global, multilateral assessments are given in **ANNEX I**.

ENVISAGED PRODUCTS

Four key products of the Intergovernmental Science-Policy Platform for Water Sustainability are foreseen as follows:

- 1. The science-based global assessment, implemented by national entities and validated by an intergovernmental body** will be an analytical summary of the best scientific knowledge on critical water-related variables (biophysical, biological, hydrological, and socio-economic), water uses and demand, water quality and impacts from changes in the global water system conditions (such as climate change or land use). Such a report, tentatively published every 5-6 years, implemented at the national level and validated at the intergovernmental level, aims to be a reference publication on the status of global water resources; sectorial water uses, and state-of-the-art management tools – information that, to the present day, is scattered among multiple publications from different institutions and, importantly, with no intergovernmental validation.

2. High-Level Water Science-Policy Dialogue Forum (HLWSPDF) for interactions,

demonstrations and feedback on the outcomes of the assessment, such as scientific synthesis (e.g. reports), knowledge accumulation and accessible tools. The HLWSPDF should create a buy-in effect and give voice to policy needs, creating a space where scientists and expert groups can directly and regularly communicate with decision-makers on the pathways to accelerate SDGs – particularly those where urgent attention is needed to achieve the respective targets. Such a forum will advise on state-of-the-art tools and methodologies and discuss decision alternatives and trade-offs. A framework for analysing different tools and models with appropriate indicators and indexes of feasibility (such as social and economic costs, time and data requirements) will be developed. This will enable the potential to replicate applications and facilitate cross-learning by not repeating earlier mistakes, enabling Member States to identify the impacts of actions and inactions.

3. Water Policy recommendations and thematic report, published every 1 or 2 years, will translate key scientific findings into policy metrics and recommendations based on thematic aspects to assist policy and decision-makers on the best course of action using evidence-based science for a range of well-defined contexts.

4. An interactive web-based repository of assessment tools, models, data, maps, process mapping, and capacity development tools, established and tested at national level and validated by national authorities. The repository is aimed at water managers for water-related investment planning and identification of effective evidence-based solutions. This water data hub should concentrate on multiple partners' data and analytics (with direct links to the original developers) and receive continuous updates to reflect the state-of-the-art water assessment. It should include a collection of successful implementations of the above tools and practical problem solutions in diverse contexts and under various conditions.

ADDITIONAL VALUE:

The Intergovernmental Science-Policy Platform for Water Sustainability will:

- facilitate a synthesis and assessment process of the scientific community that would offer a high level of legitimacy and authority, with the aim of co-designing knowledge transfer between science and policy. ISPWAS will avoid recycling from other sources but offer unique value-added products implemented by Member States' own national authorities and validated by an intergovernmental mechanism, bridging the science-policy gap that hinders sustainable water management.
- provide up-to-date assessments with tools, processes and models, addressing the up-to-date needs of policy and decision-makers, focusing on the interaction between global anthropogenic activities and water resource availability. It will focus on solution-oriented assessment, scenarios and forecasting models, considering the inter-sectoral, systemic, integrative, and transdisciplinary nature of the complex and interconnected water challenges.
- provide an opportunity to disrupt significant drivers of the water system degradation and influence the decision domain by providing the necessary information on the evidence- and multicriteria-based value of different actions and impacts under future scenarios.
- contribute to leapfrogging the achievement of water-related SDGs, particularly in countries/regions with a high risk of failure to attain crucial SDGs under the business-as-usual scenario. It will likewise leverage intergovernmental processes and goals with inclusivity, co-ownership of Member States, and addressing fragmentary information and knowledge as high priorities.

SUMMARY OF KEY RECOMMENDATIONS

Based on the above points, the consideration of the following interlinked issues is recommended:

1. Establishing an appropriate, global, science-based, solution-oriented assessment, implemented by national entities can offer interactive functional tools and methodologies for policy and decision-makers, leveraging ongoing monitoring and solution assessment processes. The envisaged mechanism will help understand cross-sectoral integration and the likely consequences of different actions and inactions – considering complementary and conflicting relationships between water-related SDG targets. It could be a transformative and game-changing approach to accelerate the implementation of water-related SDGs and achieve sound water management goals, beyond 2030 and the SDG time frame.
2. The use of an appropriate intergovernmental validation mechanism to verify and validate the assessment with the support and participation of Member States and validated by their nominated experts.
3. Member States' buy-in is seen as critical for the success of the implementation of the ISPWAS platform, whilst creating momentum for the several UN agencies and research institutions, custodians of existing assessments and reports, to develop a collective and solution-oriented mechanism. The existing targets and objectives for SDG6 can be used to construct the solution-oriented framework for identifying existing data, programs and knowledge gaps, and for developing a solution and action oriented mechanism to link policy to science.
4. A giant leap forward is needed to attain the human capacity required for effectively using, applying and further developing those tools. Capacity development and education for sustainability in an integrated fashion across the whole society is more relevant than ever before. On the other hand, the tools developed as part of the global assessment mechanism will provide essential content for training purposes.
5. A High-level Water Science-Policy Dialogue Forum should be formed with world-renowned scientists and expert groups to directly communicate with relevant decision-makers from Member States (and other levels), particularly where urgent attention is needed to accelerate SDGs. The Forum may also support Member States to apply ready-to-use tools.

ANNEX I – EXAMPLES OF EXISTING GLOBAL ASSESSMENT MULTILATERAL ARRANGEMENTS

For the materialization of the ideas presented in this discussion paper, multiple combinations of the nature and the level of engagement by state and non-state stakeholders are possible, each with its specific aspects, strengths, and limitations. While a comparison of what each could mean for a Science-based Global Water Assessment is outside the scope of this document, a brief listing is provided here. The arrangements can be informed by any, or variation of, the below-listed

mechanisms, designed through consultations and the involvement of the relevant governing bodies. The key decisions include its governance (UNESCO governance structure or dedicated structure), its stakeholders (intergovernmental or multi-stakeholder), engagement levels (who will nominate authors and reviewers, who will clear/adopt processes, reports, how national input will be incorporated) in addition to the key financial, administrative, and bureaucratic aspects.

NAME	DESCRIPTION	THEME/TOPIC	PRODUCT	PRIMARY ROLE	STAKEHOLDER ENGAGEMENT	ENGAGEMENT	SECRETARIAT / HOSTING
World Water Assessment Programme (WWAP)	The WWDR (report of the WWAP) was initiated in response to a call from the UN Commission on Sustainable Development (CSD) to produce a periodic, UN system-wide global overview of the status (quantity and quality), use and management of freshwater resources. From, as of 2014, the WWDR transformed into an annual, thematic report, focused on different strategic water issues each year.	Thematic water assessments aligned with the UN-Water annual theme	World Water Development Report (WWDR), sporadic synthesis and SDG6 synthesis reports	Production and promotion of WWDR	WWDR jointly prepared by UN-Water members and cleared by UN-Water	Solicited contributions to WWDR and other products from countries, science community	UNESCO World Water Assessments Programme
Intergovernmental Panel on Climate Change (IPCC)	Founded under the auspices of the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP)	Climate change	Periodic assessment reports, special reports	A scientific basis for governments to develop climate related policies, and they underlie negotiations at the UN Climate Conference – COP to UNFCCC.	Member States that are party to UNFCCC	Member States nominate and approve authors; Member States approval at multiple stages of report development	IPCC secretariat hosted at WMO premises
Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)	Independent intergovernmental body comprising over 130 member Governments. Established by Governments in 2012	Biodiversity and Ecosystem Services	Global Assessment of Biodiversity and Ecosystem Services at global and regional scales	A scientific basis for governments at biodiversity and ecosystem-related policies, informing negotiations at the UN Climate Conference – COP to the Convention on Biological Diversity	Member States to the United Nations	Member States nominate and approve authors; Member State approval at multiple stages of report development.	IPBES Plenary and with the authorization of the UNEP Governing Council in 2013, UNEP provides secretariat services to IPBES
UN Office for Disaster Risk Reduction (UNDRR) – Global DRR Report		Disaster risk reduction	UN Global Assessment Report on Disaster Risk Reduction (GAR)	Flagship report of the United Nations on worldwide efforts to reduce disaster risk	Nations, public and private disaster risk-related science and research, amongst others	Contributions to GAR	UNDRR
Committee on World Food Security (CFS)		Food security, sustainable agriculture, rural development	Recommendations based on Annual reports by High Level Panel of Experts (HLPE)	Multi-stakeholder United Nations Platform	Members to CFS are Member States to the United Nations, Civil Society, and Private Sector	Recommendations are developed and adopted by all members.	Hosted at FAO, and supported by Rome-based Organizations of the UN (FAO, IFAD, WFP)
United Nations Environment Programme (UNEP) – Global Environment Outlook		Global environmental assessments	Global Environment Outlook (GEO); regional, thematic assessments	Flagship periodic report “providing world leaders with policy options to take immediate action to address environmental issues by turning environmental discussions into practice.”	United Nations Environment Assembly. Multi-stakeholder networking and intra and inter-regional cooperation.	Guidance on scientific and policy issues through High-Level Group, Scientific Advisory Panel and Assessment Methodologies Group.	UNEP

GAME-CHANGER

FOR THE UN 2023 WATER CONFERENCE

Intergovernmental Science-Policy Platform For Water Sustainability (ISPWAS)

UNESCO's Intergovernmental Hydrological Programme (IHP) and Future Earth's Sustainable Water Future Programme (SWFP), in partnership with WMO, UNDP, UNEP, UNCDD, IAEA, IAHS, ISC and other organizations



unesco

Intergovernmental
Hydrological Programme



waterfuture
Sustainable Water Future Programme



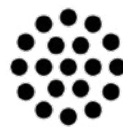
WORLD
METEOROLOGICAL
ORGANIZATION



United Nations
Convention to Combat
Desertification



IAEA
International Atomic Energy Agency



**International
Science Council**