



PROPOSAL FOR AN INTERNATIONAL WORKSHOP AGREEMENT

A proposal for an International Workshop Agreement (IWA) shall be submitted to the secretariat of the Technical Management Board at ISO/CS (tmb@iso.org). Proposals will be referred to the ISO Technical Management Board for approval (4-week ballot).

Once the proposal for the IWA is approved by the TMB, the proposer will be requested to prepare an announcement/ invitation to the workshop, which will be circulated to the ISO members by ISO/CS. Please note that the announcement must be made at least 90 days in advance of the agreed date to allow potential attendees adequate time to plan on attending the workshop (Annex SI.3).

See the [ISO Supplement Annex SI](#) for full details of the Procedure for the development of IWAs.

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|--|
| Proposer <i>A proposal to hold an ISO workshop for the purpose of developing one or more IWAs on a particular subject may come from any source, including ISO member bodies, liaison organizations, corporate bodies etc. An organization that is not an ISO member body or liaison organization, or is not international in scope, shall inform the ISO member body in its country of its intent to submit such a proposal.</i> |
| Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan |
| Contact details of proposer Name: Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan Email: hqt-kawakeikokusai@gxb.mlit.go.jp |
| Title of the proposed IWA Hydrological Risks - Guidelines and relevant potential standards |
| Purpose and justification See Section 3 of the annex document. |
| Does the proposed IWA relate to or impact on any existing work in ISO committees? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Please list any relevant documents and/or ISO committees See Section 4 and 6 of the annex document. |
| Relevant stakeholders (list of organizations that may be interested) See Section 5 of the annex document. |
| Member body willing to act as secretariat JISC |

Number of meetings to be held (if more than one is envisaged) and proposed dates

Three to four online or hybrid meetings are expected, taking 12 to 18 months.
Discussions are expected to start in early 2025 and conclude by mid-2026.

Annexes are included with this proposal (give details)

Annex: Draft Proposal for ISO International Workshop Agreement: Hydrological Risks -
Guidelines and relevant potential standards

Japan's Proposal for new ISO standardization area on Water-related Disaster Risk Reduction (Hydrological Risks)

Takahiro Konami

Director, International Affairs Office, Water and Disaster Management Bureau
Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan

OUTCOMES OF WATER CONFERENCE ON WATER-RELATED DRR

Interactive Dialogue 3: Water for Climate, Resilience and Environment: Source to Sea, Biodiversity, Climate, Resilience and DRR



Date: 23 March 2023

Venue: Conference Room 4 of the UN HQs

Participants: 41 Member States and stakeholders

Theme:

- 1) Changing Climate: Water scarcity, droughts, and the melting cryosphere**
[10 Remarks and interventions]
- 2) Resilience to water disasters: decreasing risk and conserving biodiversity**
[13 Remarks and interventions]
- 3) Working for the future: Early warning from source to sea**
[17 Remarks and interventions]

1) Changing Climate: Water scarcity, droughts, and the melting cryosphere
 [2 Keynotes: South Africa and UAE]



[8 Interventions from the floor]
 5 Member States:
 Niger, Bulgaria, Portugal, the Philippines, Spain



3 Stakeholders:
 HELP, UNEP, UNFCCC

2) Resilience to water disasters: decreasing risk and conserving biodiversity
 [3 Keynotes: France, UNDRR and IUCN]



[10 Interventions from the floor]
 9 Member States (including EU):
 The Netherlands (St. Martin, Curaçao, Aruba), Iraq, Brazil, US, China, Slovenia, Chile, Ireland, EU



1 Stakeholder:
 JWF

3) Working for the future: Early warning from source to sea
 [2 Keynotes: WMO and the youth]



[15 Interventions from the floor]
 15 Member States:
 Madagascar, Jamaica, Solomon Is., Lao PDR, Slovakia, Greece, Fiji, Uganda, Mexico, Sweden, UK, Italy, Turkey, Russia, Malta



Co-chairs: Egypt and Japan
Opening remarks: Former President of Hungary,
 Member of the Water and Climate Leaders, Former member of the High-Level Panel on Water



UN 2023 Water Conference Interactive Dialogue 3: Water for Climate, Resilience and Environment:

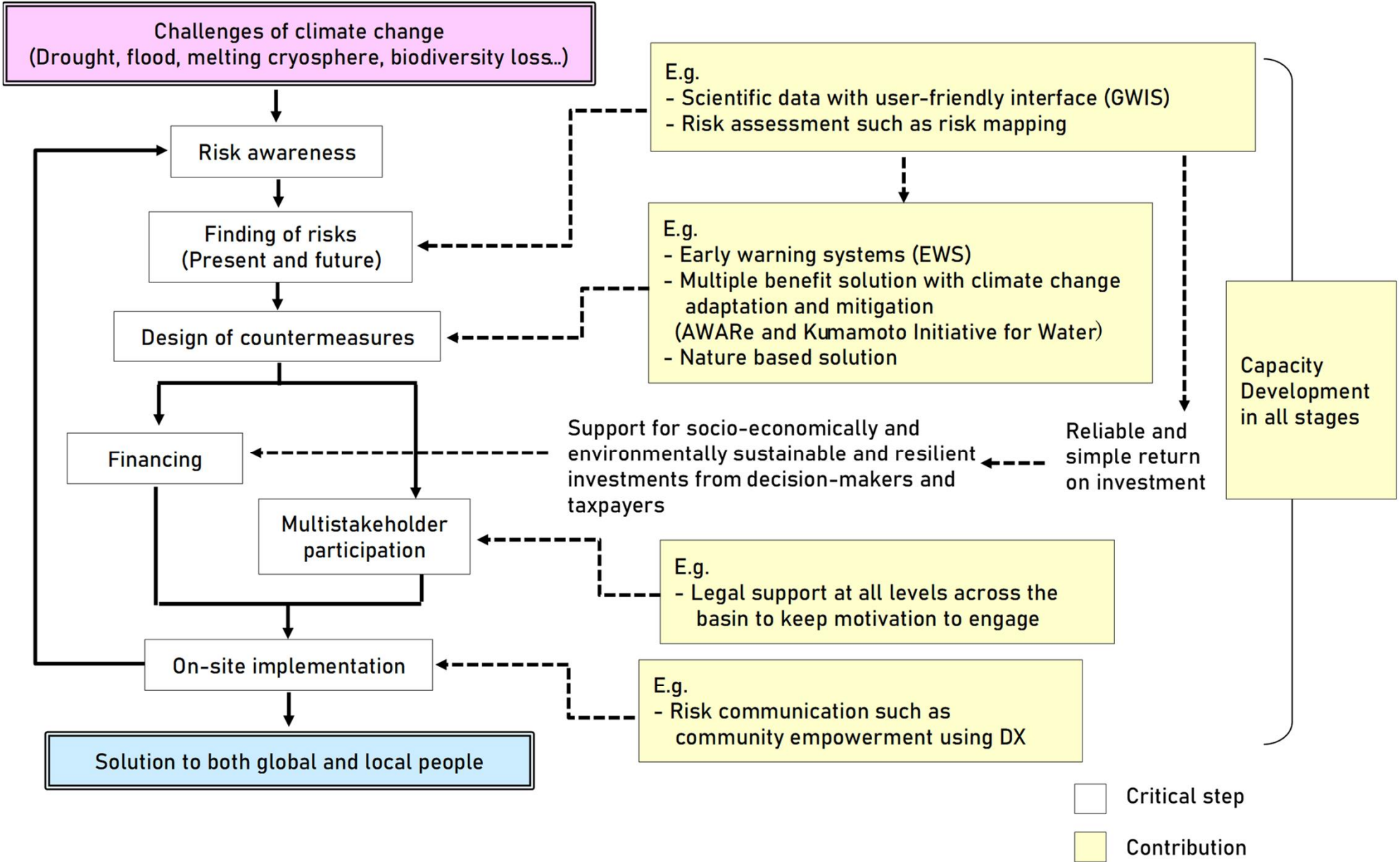
CO-CHAIR'S KEY MESSAGES

- I. Changing Climate: Water scarcity, droughts and the melting cryosphere**
- II. Resilience to water disasters: Decreasing risks and conserving biodiversity**
- III. Working for the future: Early warning from source to sea**
- IV. Commitment, Actions, and Coalitions to meet water challenges towards full-achievement of water-related goals and targets**

<Action Workflow>

All the contributions referred in the Key Messages can get closer to being truly "action-oriented" if they are implemented through the critical steps, with support from appropriate contributions, starting from challenges to solutions. An Action Workflow was proposed in Interactive Dialogue 3, and the discussion in line with this Action Workflow.

'Action Workflow' proposed in the ID3



* Source: MLIT press release (https://www.mlit.go.jp/report/press/mizukokudo03_hh_001166.html and <https://www.mlit.go.jp/report/press/content/001596812.pdf>)

Co-chairs: Egypt (H.E. Mr. Hani Sewilam) and Japan (H.E. Ms. Yoko Kamikawa)

- Link between climate change and water, advocating a holistic response to ensure the best use of available resources..
- The importance of scientific data and an open, integrated global platform for data collection and assessment.

Opening remarks: H.E. Mr. János Áder, Former President of Hungary,

- 80 per cent of the impacts of climate change were experienced through water, including droughts and flash floods.
- The need for better access to funding, especially in Africa.

Key messages from the interactive dialogue

- Adopt an **“Inter-COP” process** to connect, integrate, and fully implement water-related decisions made at global assemblies, conventions, and within frameworks dedicated to climate, resilience, and the environment, building on COP27 which brought water discussions to the centre of the climate discourse. **COP28** is the chance to further agreement on integrated water and biodiversity action as well as more innovation and better access to finance for resilience and adaptation.
- Water is not only a problem but also part of solutions that allow marine, terrestrial and freshwater ecosystems to provide services for climate action, both for mitigation and adaptation.
- Establish a **Global Water Information System**, based on the **“Hydrological Status and Outlook System (HydroSOS)”** and water reporting, as a prerequisite for improved water management, climate resilience, early warning, and risk-informed decision-making for climate action and disaster risk reduction. This should be among the top priorities of water-related climate action and supported by the **Water Cycle Integrator (WCI)**.
- Climate-resilient water management requires internal defragmentation and external integration of current water management systems. This can be achieved by 1) Mainstreaming integrated policy frameworks which combine **integrated water resources management (IWRM)** with other holistic water-related approaches that link the interconnected ecosystems of the hydrological cycle with the associated socioeconomic processes. 2) Developing and adopting **national mechanisms for cross-sectoral coordination** and mutually agreed policies for cooperative water-related adaptation.
- Consider the creation of **Contextualized Environmental Economic Accounting Systems** to support investment directed to **water-related climate and environmental resilience**-building and providing an accurate assessment of **water-related climate-induced loss and damage**.
- Follow a **Water Action Workflow** encompassing six steps: risk awareness, risk identification, designing of counter measures, funding, multi-stakeholder participation, and on-site implementation.
- Focus on **whole-of-the-system approach**. **River basin** is the primary solution scale, not only to resolve water demand and supply issues but also to address water quality problems.
- **Resilient water infrastructure system** is strengthened by enhancing **multiple functions**.
- **Nature-based solutions** and **green-grey infrastructure approaches** can provide important contributions and **co-benefits for climate, biodiversity and disaster risk reduction**.
- Taking into account the close **links between resilience, biodiversity, and the status of water-related ecosystems**, holistic conservation approaches are required to implement coherent policies, **linking biodiversity conservation and climate-resilient water management**.
- **Climate resilient water management** is a fundamental part of adaptation and mitigation of climate change.
- Participants focused on the **nexus between water, climate change and disaster**, and **discouraged working in silos** on these issues. They highlighted the need for **scientifically proven data**, coordination, and collaboration in all areas related to environment. The participants called for commitment, actions, and coalitions to meet water challenges towards **full-achievement of water-related goals and targets**.
- **Decoupling water consumption from economic development** is crucial for sustainable development.
- In order to build resilience, it is essential to mainstream integrated policy frameworks that combine integrated water resources management (IWRM) with other holistic approaches that link the interconnected ecosystems of the hydrological cycle with the associated socioeconomic processes. Such holistic approaches include **source to sea**, **inclusive transboundary governance**, **integrated coastal zone management**, and **disaster risk management**
- To secure successful and swift implementation of transformative commitments in the Water Action Agenda, the Office of the PGA was encouraged to work with Member States to propose a **UN water platform** for discussing policy and preparing joint programming ahead of the SDG Summit.

PROPOSAL ON NEW ISO STANDARDIZATION AREA ON WATER-RELATED DISASTER RISK REDUCTION (HYDROLOGICAL RISKS)



Urban DRR

Resilience

Water

Example of relevant TC/SC/WG

- ISO/TC 268
Sustainable cities and communities
- SC1
Smart community infrastructures
- WG6
Disaster risk reduction

- ISO/TC 292
Security and resilience
- WG5
Community resilience

- ISO/TC 224
Drinking water, wastewater and stormwater systems and services
- WG7
Crisis management of water utilities

Example of published ISO

ISO/TR 6030:2022
Smart community infrastructures – Disaster risk reduction – Survey results and gap analysis

ISO/TR 22370:2020
Security and resilience — Urban resilience — Framework and principles

ISO 24518:2015
Activities relating to drinking water and wastewater services — Crisis management of water utilities

Example of drafts under discussion

ISO/CD 37179
Smart community infrastructures — Disaster risk reduction — Basic framework for the implementation of disaster risk reduction

ISO/CD 22372
Security and resilience — Community resilience — Guidelines for resilient infrastructure

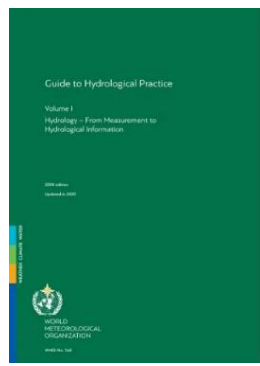
ISO/FDIS 24566-1
Drinking water, wastewater and storm water systems and services — Adaptation of water services to climate change impacts

*There are several other TCs/SCs/WGs with potential to expand of their scope to include water-related climate and resilience: e.g. TC113 (Hydrometry), TC207/SC7 (Greenhouse gas and climate change management and related activities)

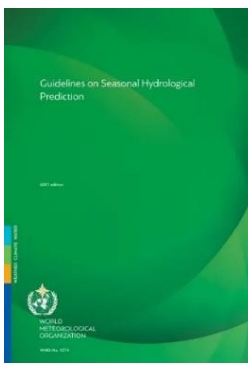
New standards should be discussed on the basis of existing standards and guideline documents developed by **international organisations** related to hydrological risk.



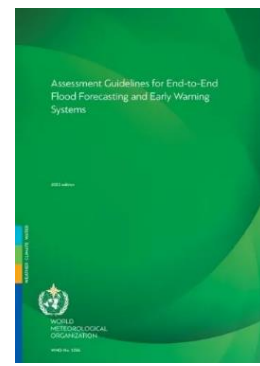
WMO: Technical Regulations
Volume III – Hydrology



WMO: Hydrology – From Measurement to Hydrological Information



WMO: Guidelines on Seasonal Hydrological Prediction



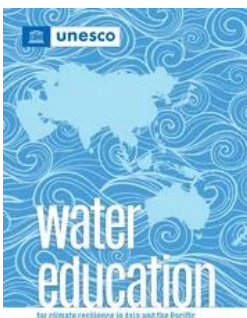
WMO: Assessment Guidelines for End-to-End Flood Forecasting and Early Warning Systems



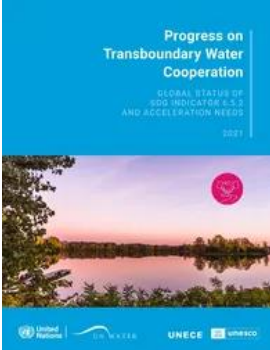
WMO: Integrated Flood Management Tools Series (No.1-27)



UNESCO: International Glossary of Hydrology



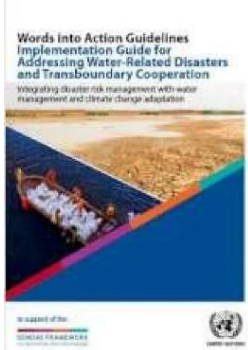
UNESCO: Water education for climate resilience in Asia and the Pacific



UNESCO: Progress on transboundary water cooperation



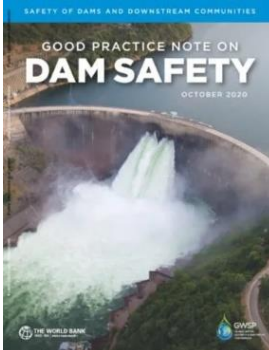
UNESCO: Planning water resilience from the bottom-up to meet climate and development goals



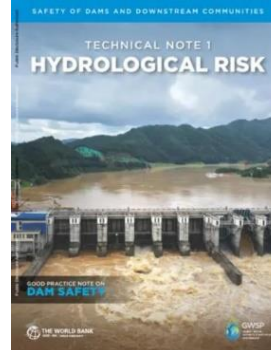
UNDRR & UNECE: Implementation guide for addressing water-related disasters and transboundary cooperation



UNECE: Water Convention Programme of Work for 2022-2024



World Bank: Good Practice Note on Dam Safety



World Bank: Technical note 1 Hydrological Risk





The discussion in the **International Workshop Agreement (IWA)** to identify existing and potential standardization topics by the analysis of works inside and outside ISO.

International Workshop Agreement (IWA) on “Hydrological Risks”

New ISO/CD XXXXX
(on ISO/TC XX)
i.e. on water-related DRR

New ISO/CD XXXXX
(on ISO/TC XX)
i.e. on flood risk evaluation



ISO/TC XXX

ISO/TC XXX

ISO/TC XXX

ISO/TC XXX

ISO/TC 268
Sustainable cities and communities

ISO/TC 292
Security and resilience

ISO/TC 224
Drinking water, wastewater and stormwater systems and services



International Workshop Agreement (IWA) on “Hydrological Risks”

Mandate:

- undertake an analysis of existing and potential standardisation work in the area of hydrological risks from the point of addressing climate change adaptation based on public-private cooperation and coordination with transdisciplinary scientific and technological conventions, on the basis of existing standards and guidelines developed by international organisations;

Expected outcome:

1. Streamlined guide on addressing hydrological risks, including floods, droughts, and water scarcities, under the climate change situation, reflecting discussions in the international fora including 2023 UN Water Conference;
2. Proposals for new standards in relevant / new ISO/TCs and other ISO related activities.

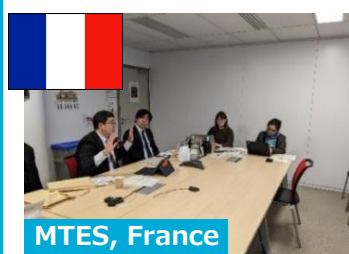
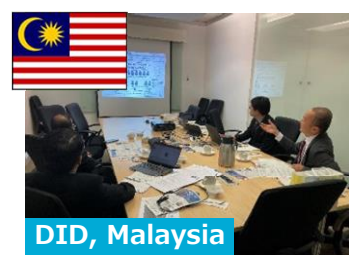
Discussions for Participation of Potential Experts

MLIT has made discussions with relevant 11 state, 8 international organisations, 3 multilateral conferences on this new activity in cooperation with the ISO. Potentially, experts will be gathered from these organisations and societies.

Meetings with International Organisations



Bilateral Meetings



International Conferences



Preliminary Meeting with Potential Experts

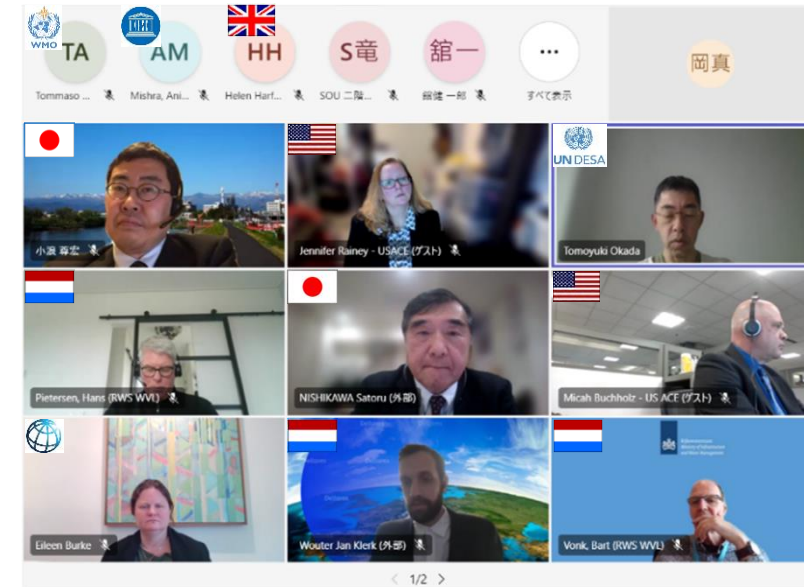
Preliminary Meeting for New Activity on International Organization for Standardization (ISO) on Hydrological Risks

Date: March 6, 2024 (11pmJST/3pmCET/2pmGMT/9amEST) *online

Agenda (total 60 min):

- Remarks by Prof. Satoru Nishikawa
- Proposal by MLIT
- Presentation by World Bank, Deltares, and Japan Bosai Platform
- Open discussion (30min) *Major interventions below

Participants: Japan/Netherlands/US/UK/WB/DESA/WMO/UNESCO ...



| | |
|--|--|
| <p>Value of International Standard</p> | <ul style="list-style-type: none"> • This project provides opportunity and value for relevant stakeholders. • This is good follow up of the UN Water Conference 2023. • Standards per se have a sort of moral status and add the value to the existing available guidance by international organisations. |
| <p>Private Sector Involvement</p> | <ul style="list-style-type: none"> • The opportunity of implementation in both national agencies and private sector will be provided by the ISO standards. • Existing guideline will be complemented by the ISO guidelines in the implementation stage and wider awareness and recognition. • Potential presence of the private sector, which may have a risk create confusion in the end users, can be avoided and public private partnership in DRR will be more important. |
| <p>Contribution to International Society</p> | <ul style="list-style-type: none"> • This activity can contribute to the intergovernmental validated water assessment, which looks like not sufficient at this moment. • Established national standards based on long experience can be shared with various countries and the private sector. |

STEP 1: Proposal of IWA

- Japan (and co-sponsor(s), if any,) will submit the proposal of IWA to the ISO.

STEP 2: Approval by the ISO

- The establishment of IWA require the approval of Technical Management Board (TMB).

STEP 3: Call for participations in IWA

- ISO will call for participations of potential experts in IWA according to the procedure.

STEP 4: Start of discussion in the IWA

- The IWA will start the works and discussions.

THANK YOU !!

Contact: Takahiro Konami
E-mail: konami-t2fx@mlit.go.jp

Annex: Draft Proposal for ISO International Workshop Agreement: Hydrological Risks - Guidelines and relevant potential standards

1 Proposer

The following organization is proposing the development of this ISO International Workshop Agreement:

- Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan
2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8918, Japan

2 Title of the proposed Deliverable

The International Workshop Agreement (IWA) on "Hydrological Risks - Guidelines and relevant potential standards"

3 Purpose and Justification of the proposal

3.1 Purpose

The main purpose of this International Workshop is to discuss and make a consensus among the relevant TC/SCs and other stakeholders on what kind of new areas of activities should be addressed and how they should be dealt with in the area of Hydrological Risks. The proposed IWA will start with the identification of issues, conduct a gap analysis between existing works and standardisation needs, and finally agrees on possible future areas for standards to fill the gap.

3.2 Goal of this IWA

The objective of this IWA is to undertake an analysis of existing and potential standardisation work in the area of hydrological risks from the perspective of addressing climate change adaptation. The discussion will be conducted in public-private cooperation and coordination with transdisciplinary scientific and technological conventions, based on existing standards and guidelines developed by international organisations.

The expected outcomes of this IWA include, but are not limited to, streamlined guidance documents on addressing hydrological risks, including floods, droughts, and water scarcities, under the climate change situation, reflecting discussions in the international fora including 2023 UN Water Conference, and proposals for new standards in relevant or new ISO/TCs and other ISO related activities.

3.3 Contribution to Sustainable Development Goals (SDGs)

The discussion in this International Workshop can include mainly on the Goal 6 "Ensure availability and sustainable management of water and sanitation for all" especially on the Target 6.5 "By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate", and the Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable" especially on the Target 11.5 "By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations".

Appropriate standardization in the field of hydrological risks has the potential to stimulate growth in relevant international markets and lead to further contributions from private entities and private finance on the key functions to reduce water-related disaster risks.

This International Workshop will provide a platform for discussing how to address the challenges related to hydrological risks, considering climate change adaptation. Each session will pursue the participation of both public and private sectors in a transdisciplinary manner, and will consider scientific and technological conventions by setting effective international standard(s) in this field.

3.4 Context and justification

Water-related disasters accounted for 90% of the 1,000 most severe disasters that have occurred since 1990,

according to the outcome document ‘Making Every Drop Count of the High-Level Panel on Water (2018)’. In March 2023, a historic UN 2023 Water Conference, or the UN Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, ‘Water for Sustainable Development’, 2018-2028, took place in New York, US, as the second UN Conference dedicated to water, following the conference in Mar del Plata, Argentina, in 1977.

In the UN Water Conference, the Interactive Dialogue 3 (ID3), one of five interactive dialogues, titled ‘Water for Climate, Resilience and Environment: Source to Sea, Biodiversity, Climate, Resilience and DRR’, which was co-chaired by Japan and Egypt, has been successfully held with the participation of total of 41 Member States and stakeholders. The discussion was focused on three themes including, 1) Changing Climate: Water scarcity, droughts, and the melting cryosphere, 2) Resilience to water disasters: decreasing risk and conserving biodiversity, and 3) Working for the future: Early warning from source to sea.

Summarizing the discussion in the ID3, co-chairs have formulated ‘Key Messages’ and submitted it to the President of the General Conference (PGA). All the contributions referred in the Key Messages can get closer to being truly ‘action-oriented’ if they are implemented through the critical steps, with support from appropriate contributions, starting from challenges to solutions. An Action Workflow was proposed in the ID3, and the discussion in line with this Action Workflow, which encompasses six steps: risk awareness, risk identification, designing of counter measures, funding, multi-stakeholder participation, and on-site implementation (Figure 1).

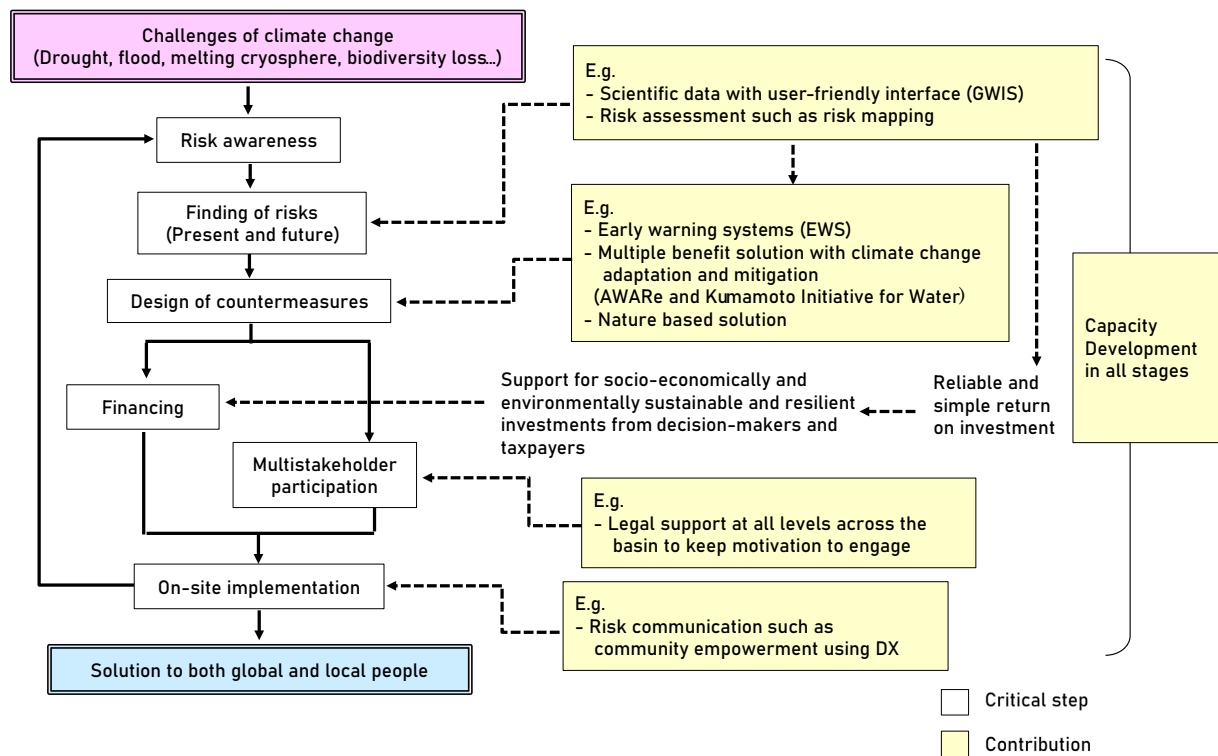


Figure 1 Action Workflow circulated to the participants of the ID3 of the UN 2023 Water Conference

Based on the discussions in the ID3, interventions by the participants were integrated as a document formulated by the PGA, as a PGA's Summary. Table 1 shows key messages in the ID3 summarized in the PGA's Summary.

Table 1 Key messages from the ID3 of UN 2023 Water Conference

| |
|---|
| <p>Co-chairs: Egypt (H.E. Mr. Hani Sewilam) and Japan (H.E. Ms. Yoko Kamikawa)</p> <ul style="list-style-type: none"> • Link between climate change and water, advocating a holistic response to ensure the best use of available resources. • The importance of scientific data and an open, integrated global platform for data collection and assessment. <p>Opening remarks: H.E. Mr. János Áder, Former President of Hungary,</p> <ul style="list-style-type: none"> • 80 per cent of the impacts of climate change were experienced through water, including droughts and flash floods. • The need for better access to funding, especially in Africa. <p>Key messages from the interactive dialogue</p> |
|---|

- Adopt an **“Inter-COP” process** to connect, integrate, and fully implement water-related decisions made at global assemblies, conventions, and within frameworks dedicated to climate, resilience, and the environment, building on COP27 which brought water discussions to the centre of the climate discourse. **COP28** is the chance to further agreement on integrated water and biodiversity action as well as more innovation and better access to finance for resilience and adaptation.
- Water is not only a problem but also part of solutions that allow marine, terrestrial and freshwater ecosystems to provide services for climate action, both for mitigation and adaptation.
- Establish a **Global Water Information System**, based on the **“Hydrological Status and Outlook System (HydroSOS)”** and water reporting, as a prerequisite for improved water management, climate resilience, early warning, and risk-informed decision-making for climate action and disaster risk reduction. This should be among the top priorities of water-related climate action and supported by the **Water Cycle Integrator (WCI)**.
- Climate-resilient water management requires internal defragmentation and external integration of current water management systems. This can be achieved by 1) Mainstreaming integrated policy frameworks which combine **integrated water resources management (IWRM)** with other holistic water-related approaches that link the interconnected ecosystems of the hydrological cycle with the associated socioeconomic processes. 2) Developing and adopting **national mechanisms for cross-sectoral coordination** and mutually agreed policies for cooperative water-related adaptation.
- Consider the creation of **Contextualized Environmental Economic Accounting Systems** to support investment directed to **water-related climate and environmental resilience**-building and providing an accurate assessment of **water-related climate-induced loss and damage**.
- Follow a **Water Action Workflow** encompassing six steps: risk awareness, risk identification, designing of counter measures, funding, multi-stakeholder participation, and on-site implementation.
- Focus on **whole-of-the-system approach**. **River basin** is the primary solution scale, not only to resolve water demand and supply issues but also to address water quality problems.
- **Resilient water infrastructure system** is strengthened by enhancing **multiple functions**.
- **Nature-based solutions** and **green-grey infrastructure approaches** can provide important contributions and **co-benefits for climate, biodiversity and disaster risk reduction**.
- Taking into account the close **links between resilience, biodiversity, and the status of water-related ecosystems**, holistic conservation approaches are required to implement coherent policies, **linking biodiversity conservation and climate-resilient water management**.
- **Climate resilient water management** is a fundamental part of adaptation and mitigation of climate change.
- Participants focused on the **nexus between water, climate change and disaster**, and **discouraged working in silos** on these issues. They highlighted the need for **scientifically proven data**, coordination, and collaboration in all areas related to environment. The participants called for commitment, actions, and coalitions to meet water challenges towards **full-achievement of water-related goals and targets**.
- **Decoupling water consumption from economic development** is crucial for sustainable development.
- In order to build resilience, it is essential to mainstream integrated policy frameworks that combine integrated water resources management (IWRM) with other holistic approaches that link the interconnected ecosystems of the hydrological cycle with the associated socioeconomic processes. Such holistic approaches include **source to sea**, **inclusive transboundary governance**, **integrated coastal zone management**, and **disaster risk management**
- To secure successful and swift implementation of transformative commitments in the Water Action Agenda, the Office of the PGA was encouraged to work with Member States to propose a **UN water platform** for discussing policy and preparing joint programming ahead of the SDG Summit.

Expected outcomes of the IWA will be based on the discussion in the ID3 of UN 2023 Water Conference, in the field of standardization, which enhance implementation of the commitments held in the UN 2023 Water Conference, and then contribute to SDG 6 and other relevant goals and targets.

4 Relevant ISO and other SDOs

The discussion of this IWA is related to, but not limited to, the following committees and their activities.

- ISO/TC 268 Sustainable cities and communities
- ISO/TC 268/SC 1 Smart community infrastructures
- ISO/TC 268/SC 1/WG 6 Disaster risk reduction
- ISO/TC 292 Security and resilience
- ISO/TC 292/WG 5 Community resilience
- ISO/TC 224 Drinking water, wastewater and stormwater systems and services
- ISO/TC 224/WG 7 Crisis management of water utilities
- ISO/TC 113 Hydrometry
- ISO/TC 207/SC 7 Greenhouse gas and climate change management and related activities
- ISO/TC 59/SC 20 Resilience of buildings and civil engineering works

- ISO/TC 147 Water quality
- ISO/TC 224/WG16 Climate change adaptation

5 Relevant stakeholders

5.1 National ministries and agencies

Relevant national ministries and agencies include, but not limited to, the following list. Bureaus, departments, or divisions in the square brackets are potential focal points.

- Ministry of Water Resources and Irrigation (MWRI), Egypt [Planning Sector]
- Ministry of Ecological Transition (MTES), France [Directorate General of Risk Prevention (DGPR)]
- Ministry of Public Works and Housing (PUPR), Indonesia [Directorate General of Water Resources]
- Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan [Water and Disaster Management Bureau]
- Ministry of Environment (MoE), the Republic of Korea [Water Resources Policy Bureau, Water Management Policy Office]
- Ministry of Infrastructure and Water Management (MIWM), the Netherlands [Rijkswaterstaat (Directorate General for Public Works, RWS)]
- Environmental Agency (EA), UK [Directorate for Flood and Coastal Risk Management]
- U.S. Army Corps of Engineers (USACE), US [Directorate for Civil Works]
- Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG-ECHO), European Commission
- Directorate-General for Environment (DG-ENV), European Commission
- Korea Water Resources Corporation (K-Water), the Republic of Korea

5.2 International Organizations

Relevant international organizations include, but not limited to, the following list. Bureaus, departments, or divisions in the square brackets are potential focal points.

- UN Department of Economic and Social Affairs (UN DESA) [The Division for Sustainable Development Goals (DSDG)]
- World Meteorological Organization (WMO) [Hydrology, Water and Cryosphere Branch, Services Department]
- United Nations Educational, Scientific and Cultural Organization (UNESCO) [Division of Water Sciences, Natural Sciences Sector (SC/HYD)]
- World Bank Group [Water Global Practice]
- Organisation for Economic Cooperation and Development (OECD) [Governance Reviews and Partnerships Division, Public Governance Directorate]
- United Nations Economic Commission for Europe (UNECE) [Secretary of the Water Convention]
- UN Office for Disaster Risk Reduction (UNDRR) [tbc]
- UN-Water

5.3 Private entities and non-governmental organizations (NGOs)

Relevant private entities and non-governmental organizations include, but not limited to, the following list.

- Japan Bosai Platform (JBP), Japan, <https://www.bosai-jp.org/>
- Japan Institute of Country-ology and Engineering (JICE), Japan, <https://www.jice.or.jp/>
- Deltares, the Netherlands, <https://www.deltares.nl/>

6 Relevant documents

The relevant documents are to be listed within the work of this IWA including, but not limited to, the following documents.

- Making Every Drop Count of the High-Level Panel on Water (2018)

- Summary of Proceedings by the President of the General Assembly, UN 2023 Water Conference
- Co-chair's Key Message, Interactive Dialogue 3 "Water for Climate, Resilience and Environment: Source to Sea, Biodiversity, Climate, Resilience and DRR", UN 2023 Water Conference
- ISO/TR 6030:2022 "Smart community infrastructures – Disaster risk reduction – Survey results and gap analysis"
- ISO/TR 22370:2020 "Security and resilience — Urban resilience — Framework and principles"
- ISO 24518:2015 "Activities relating to drinking water and wastewater services — Crisis management of water utilities"
- ISO/TR 22845:2020 "Resilience of buildings and civil engineering works"
- ISO 4931-1:2024 "Buildings and civil engineering works — Principles, framework and guidance for resilience design Part 1: Adaptation to climate change"
- ISO 24536:2019 "Service activities relating to drinking water supply, wastewater and stormwater systems — Stormwater management — Guidelines for stormwater management in urban areas"
- ISO/TR 24539:2021 "Service activities relating to drinking water supply, wastewater and stormwater systems — Examples of good practices for stormwater management"
- ISO 24566-2:2024 "Drinking water, wastewater and stormwater systems and services — Adaptation of water services to climate change impacts Part 2: Stormwater services"
- OECD (2014), OECD Recommendation on the Governance of Critical Risks
- OECD (2024), Infrastructure for a Climate-Resilient Future
- WMO (2008), Hydrology – From Measurement to Hydrological Information
- WMO (2007-2020), Integrated Flood Management Tools Series (No.01-27)
- WMO (2022), Technical Regulations Volume III – Hydrology
- WMO (2022), Guidelines on Seasonal Hydrological Prediction
- WMO (2022), Assessment Guidelines for End-to-End Flood Forecasting and Early Warning Systems
- WMO and UNESCO (2012), International Glossary of Hydrology
- UNESCO (2021), Water education for climate resilience in Asia and the Pacific
- UNESCO (2021), Progress on transboundary water cooperation: global status of SDG indicator 6.5.2 and acceleration needs
- UNESCO (2021), Planning water resilience from the bottom-up to meet climate and development goals
- World Bank (2020), Good Practice Note on Dam Safety: New Guidance on Managing Risks Associated with Dams
- World Bank (2021), Technical note 1 Hydrological Risk
- UNDRR and UNECE (2018), Implementation guide for addressing water-related disasters and transboundary cooperation

7 Secretariat

On behalf of JISC, the Ministry of Land, Infrastructure, Transport and Tourism of Japan is willing to act as the secretariat of this work, if this proposal is approved.

8 Plan for development of IWA

A detailed schedule is given in **Table 2**.

Table 2 Timetable of IWA

| Topic | Description | Expected time from the approved date [Expected tentative schedule, given the approval by the end of 2024] |
|------------------------|-------------------------------|---|
| Submission of proposal | Formal proposal to ISO/CS | [Late 2024] |
| Meeting Announcement | The announcement will be made | At an appropriate timing after |

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| | 90 days in advance of the workshop. | checking availability of stakeholders. [2025Q1] |
| Introductory Zoom meeting | - | 2-3 Month [2025Q1-Q2] |
| Any workshop information | A draft IWA any relevant documents will be provided at least 6 weeks in advance of the workshop. | 2-3 Month [2025Q2-Q3] |
| IWA workshop | Drafting IWA | 4 Month [2025Q3-Q4] |
| Follow up Zoom meeting (if needed) | - | 5 Month [2025Q4] |
| Submission of draft IWA to ISO/CS | Secretariat submit the draft IWA to ISO/CS | 5-6 Month [2026Q1-2] |
| Publication | ISO/CS will publish document | 7-8 Month [2026Q2-Q3] |



FORM A – ISO/CS INITIAL ASSESSMENT – IWA ON HYDROLOGICAL RISKS - GUIDELINES AND RELEVANT POTENTIAL STANDARDS

The ISO/CS initial assessment

- The ISO/CS initial assessment will facilitate the evaluation process for TMB, which will occur during the 4-week review period.
- TPMs will work with the leadership team of relevant committees to provide factual/neutral feedback for this initial assessment. It is the role of the leadership team to provide feedback on behalf of the committee, and proposals will not be distributed widely to the entire committee.
- The ISO/CS initial assessment will only be shared with the TMB during the 4-week review.

Proposer's response

- Prior to the circulation of their proposal for the 4-week review, the proposer will have the opportunity to review the feedback provided during the ISO/CS initial assessment.
- The ISO/CS initial assessment will be completed within a maximum period of 4 weeks.

ISO/CS initial assessment and proposer response

| Consulted groups | Concise description | General recommendations | Proposer response | Proposers' recommended mitigation |
|--|--|--|--|--|
| ISO/TC 59/SC 20 "Resilience of buildings and civil engineering works" | <p>ISO/TC 59/SC 20 works on standardization addressing resilience in design of built environment to reduce risks induced by hazards, whether natural or man-made, and changing environment. This includes resilience strategies for the climate change adaptation. We fully acknowledged that there are increasing hydrological risks induced by climate change due the extreme precipitations and droughts. And we already have 2 ISO publications, ISO/TR 22845:2020 and ISO/ 4931-1:2024(Which is currently under the management of ISO/TC59 but will be transfer to SC20 soon), addressing climate change adaptation for building sector. The purpose and goal of the IWA has a clear overlap with the scope and work of ISO/TC 59/SC 20. And it is expected to have similar stakeholders and participants to the committee. It is strongly encouraged to include the 2 publications above in the development of this IWA.</p> <p>We believe that having such analysis could help the committees finding new standardization directions and promote the global participation in those works, which are exactly what the committee needs right now. We are very interested in this topic and hopes to participate in the development of the publication. We have been cooperating with JISC and global experts on climate change adaptation for buildings and civil engineering works since 2016. Experts from our members and liaison organizations shared interests to actively participate in this project.</p> <p>Having a joint working group is preferred but liaison could also be an option. We are not sure if it is possible to have several TC/SCs joint in one project, since we expecting to find a lot of committees suggesting to have a joint on this topic. And the buildings sector is definitely not the only one who's interested in this. We believe that ISO/TMB and the Central Secretariat could find a better way to promote global collaborations on this project. ISO/TC 59/SC 20 remains open for any further discussion on this project.</p> | <p>Based on our experience in building sector, there are some publications and guidelines drafted by international organizations and NGOs could be good references for the analysis. A call for documents might help to collect some good works and eventually having positive effects on the publication.</p> | <p>There is a relationship between ISO/TC 59/SC 20 and the IWA proposal while the scope discussed by SC 20 does not cover the full range of hydrological risks . It would be appropriate to include the proposed documents ISO/TR 22845:2020 and ISO 4931-1:2024 in this IWA proposal and to have necessary liaison with TC59.</p> | <p>The following revisions will be made to the IWA proposal document:</p> <p>The following two ISO publications will be added as related documents:</p> <ul style="list-style-type: none"> - ISO/TR 22845:2020 Resilience of buildings and civil engineering works - ISO 4931-1:2024 Buildings and civil engineering works — Principles, framework and guidance for resilience design Part 1: Adaptation to climate change <p>ISO/TC 59/SC 20 will be added as a related ISO.</p> <p>Participation in the IWA is welcomed.</p> |
| ISO/TC 147 "Water quality" | <p>ISO/TC 147 "Water quality" does not seem to have direct contact and overlap to the proposed scope and topic.</p> | <p>However, standards and analytical methods from ISO/TC 147 might be of interest for the IWA project when it comes to the evaluation of toxicity and degree of contamination of water during the handling of a crisis</p> | <p>Since Water contamination is one of crirical hydrological risks, the issue is included in the scope of the IWA.</p> | <p>The following revisions will be made to the IWA proposal document:</p> <p>ISO/TC 147 will be added as a related ISO.</p> <p>Participation in the IWA is welcomed.</p> |

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| ISO/CS | It would be appropriate to consider ISO/TC 262, as the concept of risk is central to this project, as well as ISO/TC 283, if there are considerations related to occupational health and safety. Additionally, since the proposal references working groups, WG 16 of ISO/TC 224 (Climate Change Adaptation) should also be taken into account. | <p>Regarding relevant publications to review, within ISO/TC 224, the following should be taken into account:</p> <p>ISO 24536:2019 - Service activities relating to drinking water supply, wastewater, and stormwater systems — Stormwater management — Guidelines for stormwater management in urban areas</p> <p>ISO/TR 24539:2021 - Service activities relating to drinking water supply, wastewater, and stormwater systems — Examples of good practices for stormwater management</p> <p>ISO 24566-2:2024 - Drinking water, wastewater, and stormwater systems and services — Adaptation of water services to climate change impacts — Part 2: Stormwater services</p> | There is a link between the discussions on stormwater management in ISO/TC224 and the IWA proposal although not all the discussions on Hydrological Risk are related to stormwater management. Therefore, establishing a liaison with TC224 would be appropriate. | <p>The following revisions will be made to the IWA proposal document, unless ISO/TC224 comments on the proposal document with a different intent:</p> <p>The following three ISO publications will be added as related documents:</p> <ul style="list-style-type: none"> - ISO 24536:2019 Service activities relating to drinking water supply, wastewater and stormwater systems — Stormwater management — Guidelines for stormwater management in urban areas - ISO/TR 24539:2021 Service activities relating to drinking water supply, wastewater and stormwater systems — Examples of good practices for stormwater management - ISO 24566-2:2024 Drinking water, wastewater and stormwater systems and services — Adaptation of water services to climate change impacts Part 2: Stormwater services <p>ISO/TC 224/WG16 will be added as a related ISO.</p> <p>Participation in the IWA is welcomed.</p> |
| ISO/TC 207 “Environmental management” | See no overlap with ISO/TC 207/SC 7 “Greenhouse gas and climate change management and related activities”, but would like to be kept informed, if the proposal is approved. | | | |
| ISO/TC 224 “Drinking water, wastewater and stormwater systems and services” | The committee as well as its WG 7 “ <i>Crisis management of water utilities</i> ” were contacted, but no response was received. | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| ISO/TC 292 “Security and resilience” | The committee as well as its WG 5 “ <i>Community resilience</i> ” were contacted, but no response was received. | Click here to enter text. | Click here to enter text. | Click here to enter text. |

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| <p>ISO/TC 268 “Sustainable cities and communities”</p> | <p>The Committee believes there is an overlap.</p> <p>Regarding scope of this IWA, mainly focus on water-related risks, comparing with the scope of TC/268, which is “standardization in the field of Sustainable Cities and Communities will include the development of requirements, frameworks, guidance and supporting techniques and tools related to the achievement of sustainable development considering smartness and resilience, to help all Cities and Communities and their interested parties in both rural and urban areas become more sustainable”, Water-related risks such as flood disasters, flash floods, mudslides, and coastal flooding and waterlogging also show impact on cities. How to reduce these risks and strengthen response measures is closely related to the sustainable development of urban areas and communities. Currently, there are standards in TC 268 involving the ISO3212X series containing indicators related to water, and reducing risks to enhance urban resilience is also a key focus of ISO/TC268.</p> | <ol style="list-style-type: none"> a. This IWA should be informed of the proposed work through a liaison relationship. b. Since the objective of this IWA is to undertake an analysis of existing and potential standardization work in the area of hydrological risks from the perspective of addressing climate change adaptation. It is recommended that this IWA can be relocated in TC268 to further develop and should be closely linked to the ongoing standards and work of TC268, maintaining communication to ensure clarity on the progress of hydrological risk-related standards. This will contribute to the resilience and climate change response of urban areas and communities. | <p>There is a clear link between the discussions on standardization in the field of Sustainable Cities and Communities in ISO/TC268 and the proposal made by the IWA. On the other hand, not all of the discussions on hydrological risks, which cover everything from the headwaters to the estuary, are included in the scope of cities and communities. For this reason, it is considered desirable to be able to have appropriate discussions within the IWA, with the necessary liaison participation, regarding the relationship with the existing discussions of TC268, as well as overlap and remaining areas.</p> | <p>ISO/TC268 is already nominated as related ISO, as well as its related SC and WG.</p> <p>Participation in the IWA is welcomed.</p> |
| <p>ISO/TC 283 “Occupational health and safety management”</p> | <p>Potentially yes, I think there is some overlap with the scope of TC283. Specifically, the proposed IWA addresses hydrological risks, which are closely related to occupational health and safety in areas affected by extreme weather events, disaster risk reduction, and resilience planning.</p> <ul style="list-style-type: none"> • The IWA’s focus on disaster risk reduction and resilience (referenced in ISO/TC 268/SC 1 and ISO/TC 292) touches on aspects of TC283’s work on managing risks to workers in environments affected by hydrological hazards. • Elements like assessing water utility crises (ISO/TC 224/WG 7) and community resilience overlap with our ongoing work to mitigate workplace risks under emergency conditions. | <ul style="list-style-type: none"> • The proposal could benefit from clearer definitions of terms like “hydrological risks” and “relevant standards” to minimize ambiguity. • Include a specific analysis of how this IWA will complement, rather than duplicate, existing ISO standards such as ISO 14090 (Climate Change Adaptation). The annex listing related committees could be expanded with explicit descriptions of their relevant scopes to aid understanding | <p>Terms and definitions are important topics to be discussed in IWA and the comment is valuable for the discussion.</p> <p>Regarding ISO14090, we would like to wait for the response from ISO/TC 207, which is in charge of this ISO document, and this will be possible after the discussion has started in IWA, as TC207 is already included in the list of relevant ISO committees in our proposal.</p> | <p>Comment noted. Participation in the IWA is welcomed, if desired.</p> |
| <p>ISO/TC 113 “Hydrometry”</p> | <p>The committee was contacted, but no response was received.</p> | <p>Click here to enter text.</p> | <p>Click here to enter text.</p> | <p>Click here to enter text.</p> |
| <p>ISO/TC 182 “Geotechnics”</p> | <p>The committee was contacted, but no response was received.</p> | | | |
| <p>ISO/TC 262 “Risk Management”</p> | <p>The committee was contacted, but no response was received.</p> | | | |

