



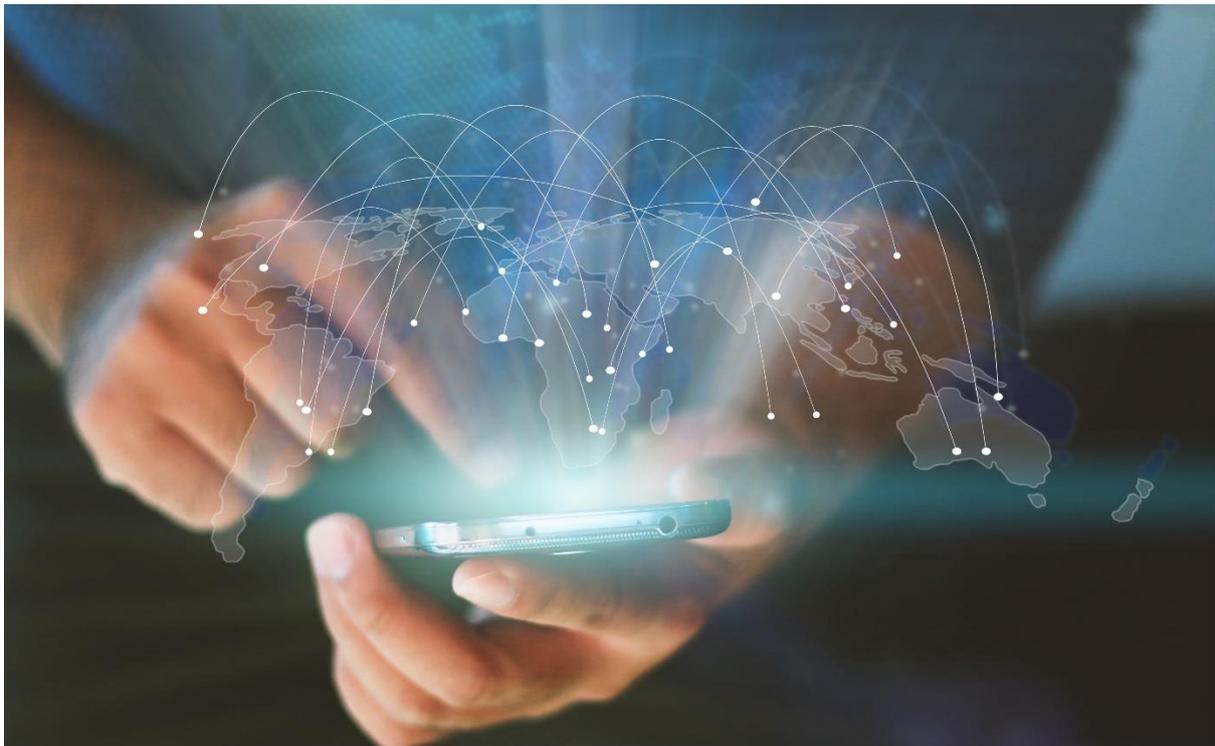
WORLD
METEOROLOGICAL
ORGANIZATION



Distance Learning Course "Interoperable Data Exchange in Hydrology" in Spanish

18 September – 10 November 2023

Final Report



December 2023



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About the course

The WMO HydroHub recognizes that data sharing is often prevented by the lack of knowledge about basic Information and Communications Technology (ICT) and readily available data exchange standards, WMO regulations and tools. To close this knowledge gap and contribute to the advancement of hydrological data exchange worldwide, the WMO HydroHub has developed and carries out the Distance Learning course "Interoperable Data Exchange in Hydrology".

The Distance Learning course "Interoperable Data Exchange in Hydrology" aims at:

- Raising awareness regarding the importance of international exchange, use and reuse of hydrological data;
- Addressing gaps in the knowledge and technical expertise related to data sharing;
- Introducing and describing the functionalities and implementation processes of the WMO Hydrological Observing System (WHOS).

The course is centred upon [13 required distance learning lessons](#) and structured in four modules. Students are required to complete four online quizzes, one after completing each module. In addition to mastering the course content, students are required to complete a final assignment comprising of five short activities. After successfully completing the course assignment and the online quizzes for each module, the students receive a certificate of completion.

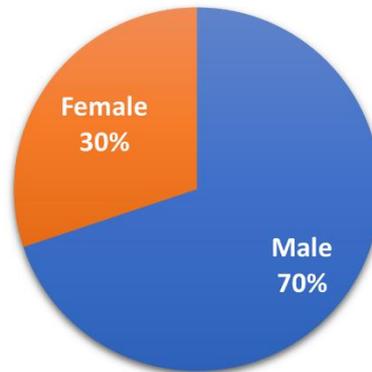
The introductory video for the WMO Distance Learning Course "Interoperable Data Exchange in Hydrology" is available [here](#).

2023 Edition in Spanish

In 2023, the WMO Distance Learning course "Interoperable Data Exchange in Hydrology" was carried out in Spanish from 18 September to 10 November, with 55 enrolled participants from 15 Spanish-speaking countries.



The gender distribution of the enrolled participants was as follows:



75% of the enrolled participants have successfully completed all the course requirements.

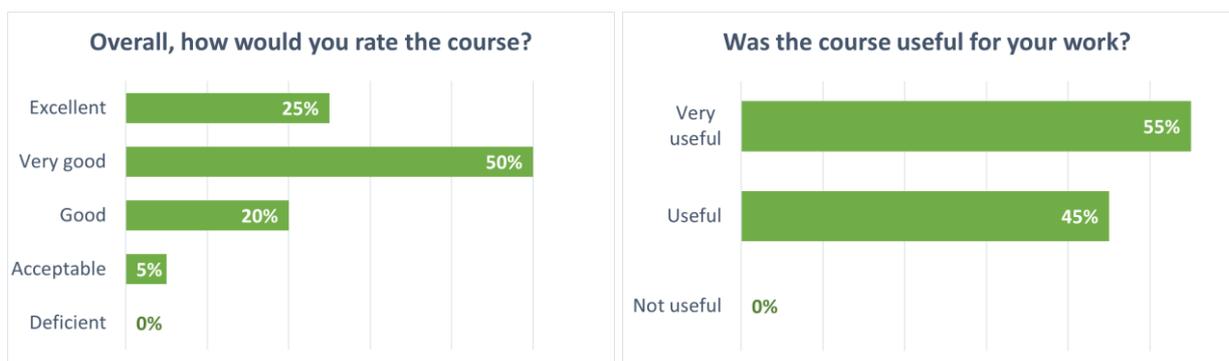


The list of countries, institutions, and number of participants who have successfully completed all the course requirements is available in [ANNEX](#).

Throughout the duration of the course, two live webinars were carried out by the course organizers and instructors to provide participants with useful information, answer their questions and collect their direct feedback.

Feedback Survey

At the end of the course, all the participants were asked to fill in an anonymous feedback survey. The figures below show the results of the feedback survey, which was completed by 20 participants.





Summary

In summary, 41 participants from 13 countries across Regions III, IV, and VI achieved successful completion of all required material. This is another step toward the goal of advancing hydrological data exchange worldwide. This course also demonstrated that these lessons can be expanded beyond the original English-language offerings and successfully delivered in other WMO languages.



ANNEX: List of countries, institutions, and number of participants who have successfully completed all the course requirements

Country	Institution	Number of participants
Argentina	Instituto Nacional del Agua (INA)	2
Colombia	Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM)	5
Costa Rica	Instituto Costarricense de Acueductos y Alcantarillados (AyA)	3
	Instituto Costarricense de Electricidad (ICE)	2
	Instituto Meteorológico Nacional (IMN)	1
Cuba	Instituto Nacional de Recursos Hidráulicos (INRH)	2
El Salvador	Ministerio de Medio Ambiente y Recursos Naturales	2
Spain	Confederación Hidrológica del Ebro (CHE)	2
Guatemala	Instituto Nacional de Sismología, Vulcanología, Meteorología e Hidrología (INSIVUMEH)	2
Honduras	International Center for Tropical Agriculture (CIAT)	3
	Secretaria de Recursos Naturales y Ambiente (SERNA)	1
	Centro Nacional de Estudios Atmosféricos, Oceanográficos y Sísmicos (CENAOS/COPECO)	3
	Empresa Nacional de Energía Eléctrica (ENEE)	1
Nicaragua	Instituto Nicaragüense de Estudios Territoriales (INETER)	2
	Autoridad Nacional del Agua (ANA)	2
Panama	Instituto de Meteorología e Hidrología de Panamá (IMHPA)	3



Country	Institution	Number of participants
Paraguay	Dirección de Meteorología e Hidrología (DMH)	1
Uruguay	Dirección Nacional de Aguas (DINAGUA)	2
Venezuela	Instituto Nacional de Meteorología e Hidrología (INAMEH)	2
13 countries	19 institutions	41 participants