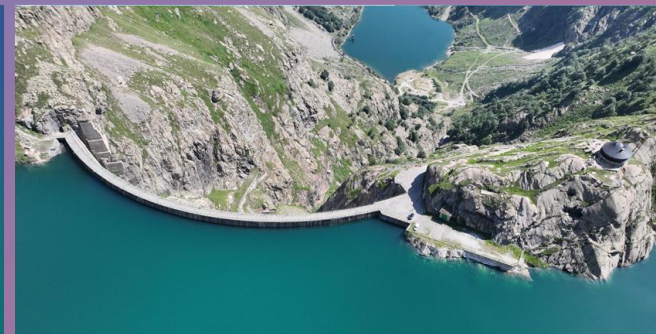




Dams & Reservoirs DAY

Securing water resilience for Europe

EurCOLD newsletter N. 4

Fourth Issue

September 2026

13th ICOLD
European Club Symposium
21-25.09.2026
Bydgoszcz
POLAND
Opera Nova
ul. Marszałka Focha 5
www.ecs2026.pl

QR code

Logistic Provider: Gradim

Logos: ICOLD, EurCOLD, Polish Republic, ICOLD, Gradim

Table of Contents

1. *Introduction*
2. *Activities of EURCOLD, 2026*
 - ICOLD Annual Meeting, May 2026
 - EurCOLD Board Meeting, May 2026
 - Updates from EWGs
 - Updates from European NC
 - Cooperation with EDSAN
 - Dam & Reservoirs Day 2026
3. *Statistics of European Large Dams*
4. *The 2026 Nepal Flash Flood*
5. *What's Next*
6. *Follow and Contact us*



INTRODUCTION

Arjan Jovani, EurCOLD President

Alfredo Granados, EurCOLD Secretary General

Dear colleagues,

Welcome to EURCOLD Newsletter No.4, which highlights the intensive and productive activities carried out by the EURCOLD community during the first months of 2026. The Fourth issue of the EurCOLD Newsletter provides an overview of the activities carried out throughout 2026 by the Board, the European Working Groups and National Committees.

This period has been marked by numerous meetings and technical activities, culminating in the 94th ICOLD annual meeting, where the EURCOLD also convened. More than 300 European experts participated actively in Technical sessions and strategic discussions, once again demonstrating the strength of European Cooperation.

A special place in this issue is dedicated to the Dam and Reservoir Day 2026, celebrated under the message of Securing Water Resilience for Europe. During this period, EURCOLD has further strengthened its collaboration with the European NCs, Universities and Research Centers, EDSAN and Dam Engineering Community promoting the exchange of knowledge and best practices throughout Europe.

We extend our sincere gratitude to all Committees and colleagues who contributed to this edition.

ACTIVITIES 2026



- ✓ ICOLD Annual Meeting, May 2026
- ✓ EurCOLD Board Meeting, May 2026
- ✓ Updates from EWGs
- ✓ Updates from European NC
- ✓ Cooperation between EURCOLD&EDSAN
- ✓ Dam & Reservoirs Day 2026



Activities 2026

ICOLD Annual Meeting,

Guadalajara, May 2026

The 94th Annual Meeting 2026 was held from 22 to 29 May 2026 in Guadalajara, Mexico, bringing together dam professionals, experts, researchers and representatives of National Committees from around the world.

The theme of this Annual meeting was: “Water, Energy and Society: The evolving Role of Dams in a Changing World.

This Theme reflected the critical intersection between water resources, energy production and social needs, highlighting the evolving role of dams and reservoirs in addressing global challenges.

The meeting placed particular emphasis on the following key areas:

- ✓ *Climate Resilience-strengthening the resilience of dams and reservoirs to climate change, extreme hydrological events and increasing environmental uncertainties.*
- ✓ *Energy Transition-exploring the contribution of hydropower.*
- ✓ *Sustainable water management-*

Improving the efficient and sustainable management of water resources in response to growing water demand and changing hydrological conditions.

- ✓ *Modern dam safety and monitoring innovations-promoting new technologies, advanced monitoring systems, risk assessment methodologies and innovative approaches to dam and reservoirs safety.*

The Annual meeting provided an important international platform for sharing knowledge, presenting recent developments and strengthening cooperation among ICOLD National Committees, experts and professionals while addressing the challenges and opportunities facing the dam sector in a rapidly changing world.

During the Annual Meeting, a comprehensive programme of activities was organised, including technical sessions, workshops, technical exhibitions, Regional club meetings, technical site excursions and the ICOLD General Assembly.



On May 28, 2026, the ICOLD General Assembly meeting was held, where the main topics to be addressed at the 29th ICOLD Congress in Madrid, Spain, were approved as follows:

- ✓ Question 112 – Rehabilitation and upgrading of old dams and embankments for long-term safety
- ✓ Question 113 – Digitalization and modern technology for dam design, construction, monitoring, and operation
- ✓ Question 114 – Dam safety, risk analysis, and emergency management
- ✓ Question 115 – Dams for water storage and pumped-storage hydro power in the energy transition

During this meeting, Ms. Antonella Frigerio was elected as the new ICOLD Vice President for Europe, and it was decided that the 97th ICOLD annual meeting would be held in Sydney, Australia, May 2029.

More details about the activities organized at this event can be found on the website:

www.icold-cigb.org2026.

During the Annual Meeting, the President of EURCOLD held a meeting with the Secretary General of KNCOLD. The meeting focused on the participation of EURCOLD members in the 95th ICOLD Annual Meeting, which will be held in Daejeon, Republic of Korea in May 2027. The meeting provided an opportunity to discuss the participation of European NC and EURCOLD members in this important ICOLD event.



95th Annual Meeting ICOLD 2027
May 21 (Fri) – May 28 (Fri), 2027, Daejeon Convention Center (DCC), South Korea

An international event showcasing how we build and protect our water resources, covering everything from dams and levees to industrial tailings.

Registration	Sponsors & Exhibition
Registration Opens: Mon, Sep 14, 2026	Applications Open: Mon, Sep 14, 2026
Call for Papers	Initial Bulletin
Abstract Submission Opens: Tue, Sep 1, 2026	Announcement: Tue, Sep 1, 2026
Abstract Submission Deadline: Wed, Sep 30, 2026	Contact Us
Full Paper Submission Deadline: Fri, Jan 15, 2027	Registration: Registration@icold2027daejeon.com Exhibition: Exhibition@icold2027daejeon.com Symposium: Symposium@icold2027daejeon.com

Note: Subject to change. Any updates will be announced on the official website.









Activities 2026

EurCOLD Board Meeting,

May 2026

The EURCOLD Board Meeting was held on 24 May 2026 at the Expo Guadalajara, Mexico, in conjunction with the ICOLD Annual meeting.

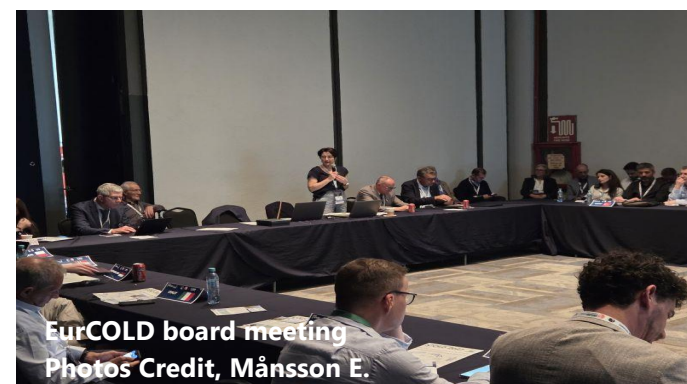
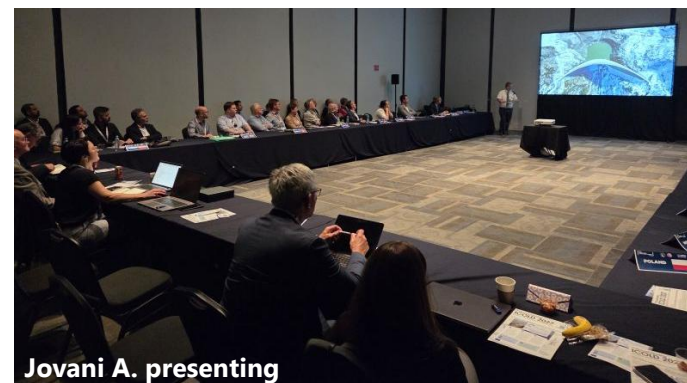
The meeting was attended by representatives of more than 22 European NC, the President of ICOLD, two ICOLD vice presidents, Secretary General of ICOLD, the chairs of 3 EWGs as well as invited representatives of different NCs, experts in the field of dams and reservoirs, etc.

Following the approval of the Minutes of Meeting of the EURCOLD Board meeting in May 2026, in Chengdu, together with those of the online Board meeting held in December 2026, the ICOLD President, Mr. Devendra Kumar Sharma addressed the EURCOLD Board. He congratulated EURCOLD on its achievements during 2025 and outlined some of the key challenges and priorities for the future of the dams and reservoirs sector in Europe.

The EURCOLD President, Mr. Arjan Jovani, then presented the Annual Report covering the activities of the organization up to May 2026.

The report addressed several key issues related to EURCOLD's priorities and activities for 2026, as well as proposed actions for the future. Attention was given to the emerging challenges facing the European dam sector, the work and reorganization of EWG, the organization of activities for the Dams and Reservoir Day 2026 and preparation for the 13th EURCOLD Symposium to be held in Bydgoszcz, Poland, in September 2026.

The meeting continued with presentations by the chairs of EWGs. Mr. Remy Tourment - Chair of EWG on Levees and Flood Defense presented the group's activities; Ms. Antonella Frigerio - Chair of EWG on Penstocks, Pressure shafts and pressure tunnels, presented the works of her group; Mr. Lisa Bensasson - Chair of EWG on Dams in context of EU Policies presented the group's activities and priorities; Prof. Anton Schleiss- leader of the ETIP Hydropower project, presented the progress and main objectives of the project. Also, He provided information on the 4th Brussels Hydropower day 2026 to address Energy Security and Digital Transformation.



This was followed by a presentation by Ms. Maria Bartsch concerning the analysis of Gender Diversity and inclusion within ICOLD Technical Committees. The analysis focused on the participation and representation of European experts in the various technical bodies of ICOLD and provided a basis for the further discussion on strengthening European involvement.

Mr. Piotr Sliwinski- President of POLCOLD, then presented the latest information concerning the preparations for the 13th EURCOLD Symposium scheduled to take place in Bydgoszcz, Poland in September 2026 including the organizational and technical aspects of this event.

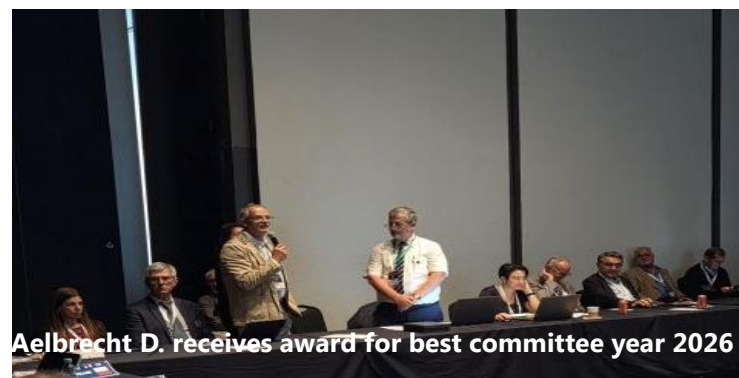
The Board was briefed by Mr. Denis Aelbrecht, President of CFBR who gave a short presentation on the activities planned to celebrate the 100th anniversary of the establishment of CFBR. Following his presentation, the EURCOLD President presented Mr. Aelbrecht with the EURCOLD Award for the Best Committee of the year 2026, in recognition of CFBR's outstanding contribution and activities.

The meeting concluded with a discussion on the development of the new EURCOLD website. Participant agreed that the new website should be more dynamic, regularly updated in real time, comprehensive and accessible providing opportunities for all NC's members, as well as experts working in the field of dams and reservoirs, to contribute and share relevant information and activities.

It was agreed that a detailed proposal for the structure and content of the new EURCOLD website would be prepared and submitted for the consideration and approval at the next EURCOLD Board meeting in September 2026.

Also, The Board discussed the new proposed EURCOLD logo. Board agreed that the proposals would be circulated among all NC to allow them to provide their opinions.

Overall, the Guadalajara meeting provided an important opportunity to review EURCOLD's activities, strengthen cooperation among European NCs, define priorities for next period and establish a clear framework for the organization's future activities and initiatives.



Activities 2026

Updates from the Working Groups

EURCOLD WG on Penstocks, pressure shafts & pressure tunnels

The EurCOLD Working Group (WG) on *Penstocks, Pressure Shafts and Pressure Tunnels* is chaired by Antonella Frigerio of RSE, Italy, supported by co-chairs Alexandre Pachoud of the Swiss Federal Office of Energy (SFOE), Switzerland, and Wolfgang Richter of TU Graz, Austria, appointed at the ICOLD Annual Meeting in Guadalajara, Mexico, in May 2026.

In 2026, the WG made significant progress in updating its technical bulletins. **Bulletin No. 1, *Pressurized Waterways: Overview of Structural Typologies and Components***, coordinated by **Nicolas Crocheton** of Tractebel, France, is currently undergoing final review and will be presented at the **13th ICOLD European Club Symposium** to be held in Bydgoszcz, Poland, from 21 to 25 September 2026.

Work is also progressing on Bulletin No. 2, *Pressurized Waterways: Surveillance and Control Methodologies, Maintenance and Rehabilitation Activities*, which addresses approaches for monitoring

structural condition, detecting deterioration and damage phenomena, and supporting the safe and efficient operation of these infrastructures.

Bulletin No. 3 is divided into two parts: Part 3a, *Pressurized Waterways: Design and Safety Assessment*, covering design principles, loading conditions, structural verification and safety assessment of new and existing structures; and Part 3b, *Pressurized Waterways: Review of accidents and incidents, risk assessment*, addressing risk identification, prevention and lessons learned from past accidents and incidents.

The series is completed by Bulletin No. 4, *Pressurized Waterways: Selected Case Studies*, which presents best practices drawn from existing facilities and rehabilitation projects.



Alongside the development of these bulletins, the WG is promoting knowledge exchange through scientific and technical papers submitted to international events and symposia.

A paper entitled *EurCOLD Bulletins on Penstocks, Pressure Shafts and Tunnels: Selected Aspects of Safety Assessment of Existing Structures*, accompanied by a related poster, was presented by Wolfgang Richter at the **23rd Wasserbau Symposium**, held in Zürich, Switzerland, from 8 to 10 July 2026. The contribution focuses on the safety assessment of existing steel-lined pressure tunnels and shafts, including load-sharing between the steel liner and the surrounding concrete-rock system under internal pressure, buckling stability under external pressure, and analytical, experimental and finite-element methods for evaluating long-term structural safety.

A further paper entitled *EurCOLD Bulletins on Penstocks, Pressure Shafts and Tunnels: Selected Aspects of Fatigue Evaluation of Welded Steel Parts* will be presented by Alexandre Pachoud at the **13th ICOLD European Club Symposium**. The paper reviews fatigue design standards and engineering approaches relevant to welded steel penstocks, highlighting the influence of local geometry, stress concentrations, manufacturing and material quality on fatigue performance.

Looking ahead, the WG has begun planning its next **workshop**, expected to take place in **Perugia, Italy, in fall 2027**, providing a new opportunity for experts, infrastructure owners, researchers, and practitioners to exchange experience and advance shared European approaches to the safety, reliability and sustainability of pressurized waterways.

EURCOLD WG on Levees and Flood Defence

The EurCOLD Working Group on Levees and Flood Defence (LFD WG) is chaired by Mr. Remy Tourment, France.

The EurCOLD LFD WG provides channels for exchanging and disseminating news and views with regard to levee research and practice.

This action relies on three main channels:

- a web site

<https://lfd-eurcold.hub.inrae.fr> regularly updated

- a newsletter – [Issue 13](#) published in May 2026 – Issue 14 in preparation
- webinars – A webinar on monitoring of levees is in preparation

Regular calls are made to all members and contacts to provide information about:

- Levees and flood defences projects and works
- News, medias or press releases on current flood or storm events involving levees and flood defences.
- Current, ongoing or recently completed research projects.

- Documents related to levees or flood defences: handbooks, guidance, reports and regulations.
- Information on any event or conference relating to levees or flood defences.
- Links to informative / educational web sites and related organisations.

The EurCOLD LFD WG acts at the European level as the Backing Group to the ICOLD TC on levees.

A bulletin from ICOLD TC LE has been approved during the 2026 General Assembly in Guadalajara:

“Comparison of Dams and Levees: Similarities, Differences and Recommendations”

The draft is available for ICOLD members can find in the respective web and in the annexes of Circular 2063.

Robert Slomp (from NETHCOLD) has been appointed as Vice-Chair (Rémy Tourment remains as Chair)



Rémy Tourment | Chairman

Note From the Chairman

Welcome to the 13th issue of the LFD WG newsletter (number 13 – maybe a lucky one!). Once again, we have received several very interesting articles from members and associates of our Working Group. This issue also includes a special feature from our Dutch colleagues, who present a flood event from the past.

It may sometimes seem that we publish articles mainly from the same countries. This is not a conscious choice, but we would very much welcome contributions from a wider range of countries, across Europe and also from the rest of the world.

As you will see in two dedicated sections, one about the EurCOLD LFD WG and another about the ICOLD TC LE, 2026 will be an important year for the international levee community.



Matthew Brooks | Editor

Note From the Editor

As editor, I have had the pleasure of bringing together a great collection of articles from across Europe. In this edition, we cover a wide range of topics relevant to the levee community. This edition reflects the knowledge, experience and commitment of our contributors. I would like to thank everyone who took the time to share their work.

It would be fantastic to see even more countries involved in future issues, so that we can showcase the excellent work being done from an even wider range of perspectives. Sharing experiences across borders helps us all to learn and improve our practice.

I also look forward to connecting with some of you in person at the ICOLD conference in Guadalajara this May.

IN THIS ISSUE

Page 3
Simpli-MANA
A Role-Playing Game

Page 6
Managing Asset Condition

Page 8
Flood and Coastal Risk
Management on Réunion
Island

Page 11
On Site Materials Testing

Page 12
Feedback on the Management
of the February 2026 Flood
Event in the Lower Loire River
Basin Dry

Page 15
Upcoming Events

Page 16
The 1926 Meuse and Rhine
River Flood

EURCOLD WG on Levees and Flood Defence

New Terms of Reference of TC LE (2026-2029) have been approved (available on the ICOLD web site) :

i/ updating an existing national appendix to bulletin 196 (Levees around the World - Characteristics, Risks and Governance) or writing a new one for countries that don't already have one

ii/ contribute to the preparation of our position paper

iii.a/ contribute to our new bulletin on "animal burrow control and vegetation management for levees"

iii.b/ provide information on case studies and available techniques for levee maintenance, repairs and upgrading

iv/ be involved in the collaboration with other TCs (details will be discussed later)

v/ share knowledge and experience in different ways, in particular during webinars (prepare a presentation / contribute to the preparation)

All technical documents and Initiatives related to Levees have had a major contribution from European members:

- International Levee Handbook (2013): at the beginning of the international community of practice on Levees leading to their inclusion in EurCOLD and ICOLD

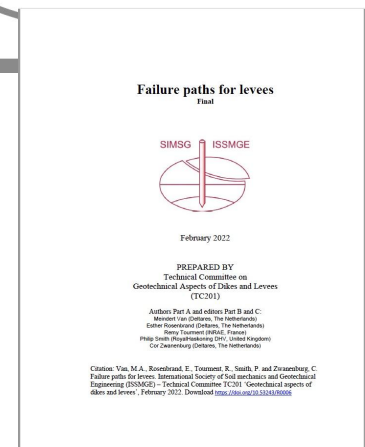
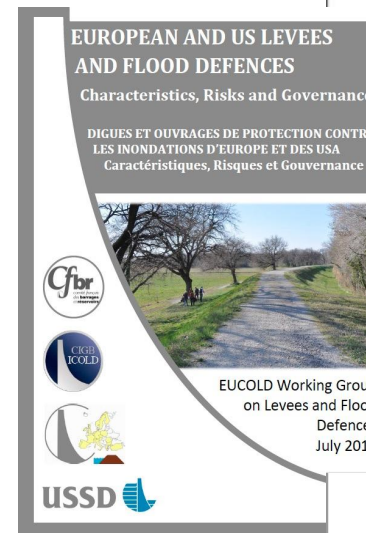
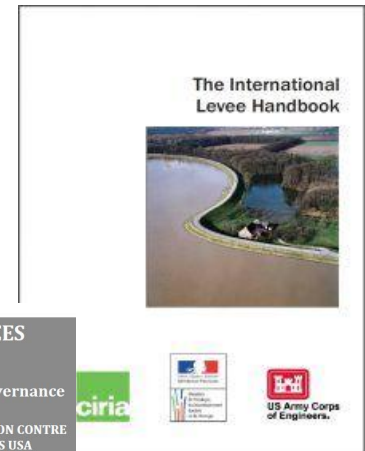
- FloodProBE project (2013 too – European research project)

- EurCOLD Report "European and US Levees and Flood Defences – Characteristics, Risks and Governance" (2018)

- ICOLD Bulletins: "Levees around the world" and "Comparison of Dams and Levees"

- ISSMGE Reports: Failure paths for Levees (2022) and Techniques for reinforcement or renovation of levees (2026)

- Spillways on river Levees



EURCOLD WG on Internal Erosion (EWG-IE) & EURCOLD WG on Overflow & Overtopping Erosion (EWG-OOE)

The EurCOLD Working Group on Internal Erosion (EWG-IE) and European Working Group on Overflow and Overtopping Erosion (EWG- OOE) are chaired by Mr. Stephane Bonelli and Mr. Jean - Robert Courivad, France.

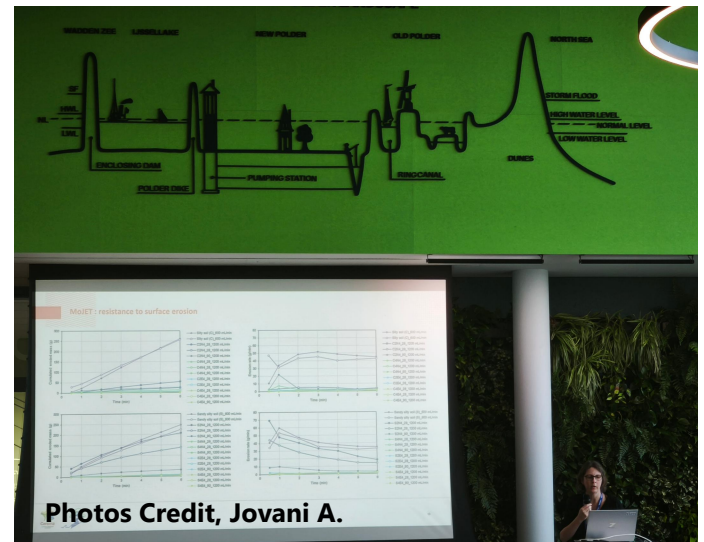
Erosion is one of the main causes of degradation and failure of dams, dikes and levees. Two working groups operating under the European Club of ICOLD are dedicated to this issue: The European Working Group on Internal Erosion in Embankment Dams, Levees and Dikes, and their Foundations (EWG-IE), created in 1993, and the European Working Group on Overflow and Overtopping Erosion (EWG-OOE), created in 2019.

Their objectives are to disseminate knowledge and to give guidance to the practitioners in charge of assessing the safety of dams, dikes and levees. It is a place of exchanges between practitioners and scientists, and between experts, young engineers and researchers.

This year, Deltares, Rijkswaterstaat, and TU Delft hosted the 32nd Meeting of the European Working Group on Internal erosion in Embankment Dams, Dikes and Levees and their Foundations (EWG-IE) and the 7th Meeting of the European Working Group on Overflow and Overtopping Erosion (EWG-OOE), in the historic city of Delft, Netherlands, from 22nd to 26th June 2026.

The two-days meeting on Internal Erosion featured 34 presentations (85 participants). It covered the following themes:

- Monitoring and geophysical methods for internal erosion (special session)
- Internal erosion mechanisms, conceptual approaches and criteria
- Numerical modelling of internal erosion
- Laboratory research and interpretation of internal erosion
- Case studies and large-scale field experiments



EWG on Internal Erosion (EWG-IE) & EWG on Overflow and Overtopping Erosion (EWG-OOE)

The one-and-a-half-day meeting on Overflow and Overtopping Erosion featured 24 presentations (65 participants). It covered the following themes:

- Protection technologies against overflowing erosion of dams & levees;
- Overtopping erosion of coastal levees;
- Overflowing erosion of bedrock downstream of concrete dams and overflowing erosion of spillways
- Overflowing erosion of embankment dams and levees

The joint day for the two WGs (115 participants) featured six presentations, as well as a session dedicated to ongoing research projects. Participants visited the geotechnical and hydraulic laboratory facilities at Deltares and TU Delft: Softsoils laboratory and Geofacilities, Large liquefaction tank, Geotechnical Centrifuges, Wave and flow facilities, notably the Indoor Wave Overtopping Simulator and the real scale Deltares Delta Flume.

The meeting was also attended by the President of EURCOLD, who welcomed the successful organization of the event.

The workshops brought together a broad range of experts from Research Institutions, Universities, providing an excellent opportunity for knowledge exchange and strengthening cooperation within European experts.

The main conclusions from these meetings were:

- ✓ Over topping and Internal Erosion are not new challenges. What is new, is the urgency created by climate change, aging dam infrastructure, and increasing societal expectations.
- ✓ These challenges can not be solved by dam owners alone. They require close cooperation among all actors in dam sector.
- ✓ Scientific research must remain at the centre of dam safety policy. Investments in the research are the fundamental in Public safety

For more information, please visit <https://ewgiooe2026.sciencesconf.org>

The next combined meetings will be held in Luleå, Sweden, from 27th of September to 1st of October 2027. Jasmina Toromanovic (Luleå University of Technology) will provide further details.



Activities 2026

Updates from the

National Committees

Highlights from FINCOLD, Finland.

- ✓ The first webinar by FINCOLD together with Economic Development Centre of Lapland was arranged 13 May 2026. The topic was Dams and Climate change. 73 participants attended the webinar!
- ✓ FINCOLD announced the second master thesis competition in Finland. The winner of this competition will be able to join the ICOLD 2028 in Spain.
- ✓ Kemijoki Oy arranged for the local school, a possibility to visit Pirttikoski hydropower station on 26 May. Around 50 students were discovering facts about hydropower.
- ✓ FINCOLD board decided to redesign organization's logo. Artist & graphic designer Kaarina Helenius (www.kaarina.site) was chosen as a designer for the new logo.

- ✓ FINCOLD published a newsletter, which was sent to all its member organizations in printed form. The PDF file (in Finnish) can be found at fincold.org.
- ✓ Part of Oulu2026-program, experimental opera series "Hydropower Plants" started on 28.5.2026 The first event was held in Seitenoikea-hydropower station owned by Fortum in river Oulunjoki. You can read more about the event from nocpok.fi/en/productions/vesivoimalaitokset-hydropower-plants
- ✓ New comic strip on dam safety theme was designed again by Kamala luonto (Ugly Nature www.kamalaluonto.fi) paper entitled

IMPORTANCE OF MONITORING AND IMMEDIATE ACTIONS WHEN NEEDED



Credits, Kamala luonto <https://kamakaluonto.fi>

Highlights from ITCOLD, Italy.

- ✓ Participation to the 14 ICOLD Technical Committees held on May 2026, Mexico
- ✓ Participation of the Italian Utilities in IHA activities of Forum on Pumped Storage to cooperate on pumping given European national energy strategies.
- ✓ ITCOLD workshop on Monitoring and Rehabilitation of the dams and diversion works, innovation and Challenges, held on 18 June 2026
- ✓ 14th ECNDT 2026 - European Conference on non-destructive controls, held on 15-18 June 2026
- ✓ ITCOLD has increased its visibility on social media
- ✓ ITCOLD announced the 5th Edition Photography Competition and 9th Edition Graduation Award in Italy.
- ✓ The Evaluation Committee of ITCOLD awarded the 2026 Thesis Prize to Giulia Acconciaioco for her Thesis entitled "Evaluation of Water Resource Management Scenarios for the Brandano-Basento Systems".
- ✓ ITCOLD has organised more than 18 events across 12 regions of Italy for Dams and Reservoir Day 2026
- ✓ ITCOLD published a video on the role of Dams and Reservoir in Our Society. More detail can find in www.itcold.it



FOLLOWERS 2026

2637

573

FOLLOWERS 2025

2370

529



Highlights from HUNCOLD, Hungary

In May of 2026, Hungary officially rejoined the International Commission on Large Dams (ICOLD) by establishing the Hungarian National Committee on Large Dams (HUNCOLD).

The new organization aims to strengthen professional cooperation, support knowledge exchange, and represent Hungarian expertise in dam engineering, water management, hydropower, geotechnics, and environmental sustainability. HUNCOLD operates within the framework of GWP Hungary and brings together experts from water directorates, academia, industry, and research institutions. HUNCOLD Board is composed by:

- ✓ President: Mr. István Láng
- ✓ Vice President: Mr. Attila Lovas
- ✓ Secretaries: Ms. Melinda Váczi and Mr. Örs Antal

The committee currently includes experts representing a wide range of disciplines including water management, hydraulic engineering, hydropower, geotechnics, hydrography, eco-hydraulics, meteorology, and river basin management.



During its first few months of operation, HUNCOLD has already begun integrating into the international ICOLD community.

The committee has delegated members to the Levees and Flood Defences Working Group (LFD WG) and held an introductory meeting with the President and General Secretary of the ICOLD European Club (EURCOLD).

Unlike many mountainous countries, Hungary is characterised by low-relief topography and a strong dependence on transboundary rivers, particularly the Danube and the Tisza. Consequently, Hungarian water management relies less on large storage dams and more on a complex network of levees, flood retention reservoirs, valley-dammed reservoirs and flood-control structures. More than 4,300 km of flood protection levees form the backbone of national flood defence.

The Tiszalök and Kisköre barrage systems on the River Tisza represent the country's most important multipurpose hydraulic structures. Beyond water level regulation and irrigation supply, the Kisköre reservoir has evolved into Lake Tisza, one of Hungary's valuable wetland ecosystems and recreational areas.



Activities of TRCOLD, Türkiye.

Following its revitalization in 2025 under the leadership of the General Directorate of State Hydraulic Works (DSİ), TRCOLD continued to consolidate its structure throughout 2026. The Committee maintained its regular cycle of board meetings, hosted alternately by DSİ and private engineering companies, a format that has firmly established public-private cooperation as the defining feature of its work. Turkish experts from both the public administration and private engineering firms are now represented in some twenty ICOLD Technical Committees.

At the international level, a Turkish delegation participated in the ICOLD 94th Annual Meeting held in Guadalajara, Mexico, contributing papers and presentations prepared through TRCOLD coordination and supporting the work of the technical committees in which Türkiye is represented. This engagement builds on the international recognition of Turkish dam engineering, exemplified by the Gold Medal of the Emirates Energy Award received by Yusufeli Dam, at 275 m the fifth tallest arch dam in the world.

At home, the strategic reorientation initiated in 2025 shaped the technical agenda of the year. With approximately 1,900 large dams in operation, around 900 of them constructed in the last decade, Türkiye's priorities are progressively shifting from the design of new dams towards the safety, surveillance and long-term serviceability of the existing portfolio. TRCOLD accordingly concentrated its efforts on dam safety assessment, instrumentation and monitoring, dam break analyses,

emergency action plans and the rehabilitation of ageing dams. In parallel, the Committee has been following the emerging role of digital technologies and artificial intelligence in dam safety, in particular data-driven approaches to the analysis of monitoring and instrumentation data, with the aim of encouraging their gradual integration into national dam safety practice.

These priorities are reflected in the update of the national Dam Design Guidelines, carried out through dedicated sub-committees led jointly by public and private sector experts, which advanced substantially during 2026. The updated set covers flood hydrology, embankment dams, concrete dams, determination of seismic parameters, hydraulic structures, dam safety, structural design, and hydromechanical and electromechanical equipment, complemented by new guidelines on the engineering geology of dam sites and reservoirs and on geomembrane applications. The update of the Album of Large Dams of Türkiye continued in accordance with ICOLD large-dam criteria, presenting the historical development of Turkish dam engineering in ten-year periods.

Public outreach and the involvement of the younger generation remained further priorities. As part of the Dams and Reservoirs Day celebrations, a visit to Atatürk Dam, Türkiye's largest dam, was organized on 16 July for primary school children, introducing the youngest generation to the role of dams and reservoirs in water and energy management and continuing the tradition established in 2025 with the student excursion to Ilisu and Yusufeli Dams.

Highlight from SWEDCOLD, Sweden.

**From snapshots to rates of change:
digital tools in dam inspection**

**Report from the workshop "Digital
inspection of dam structures",
Älvkarleby, Sweden, 25 August 2026**

Dam owners, consultants and technology providers met at Vattenfall Research and Development in Älvkarleby for a full-day workshop on the digital inspection of dam structures, arranged jointly by Energiforsk, Vattenfall and Ingenjörssbyrå Anders Frisk AB.

The workshop held in Älvkarleby, Sweden, focused on advancing digital drone inspection methods for dam structures, emphasizing the importance of repeatable surveys to track changes over time rather than relying on single measurements.

- **Value of time series data:** The key benefit of digital inspection lies in repeated, standardized scans over time, which reveal rates of change crucial for prioritizing maintenance and interventions before conditions become critical.

- **Embankment dam monitoring:** Airborne LiDAR and photogrammetry provide full-surface models that could

replace and complement traditional point measurements, enabling detection of deformation patterns across entire dam surfaces, contingent on permanent ground control infrastructure for accuracy.

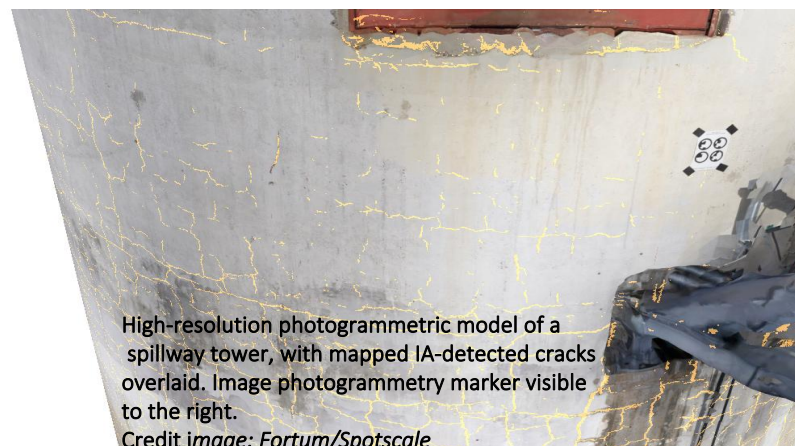
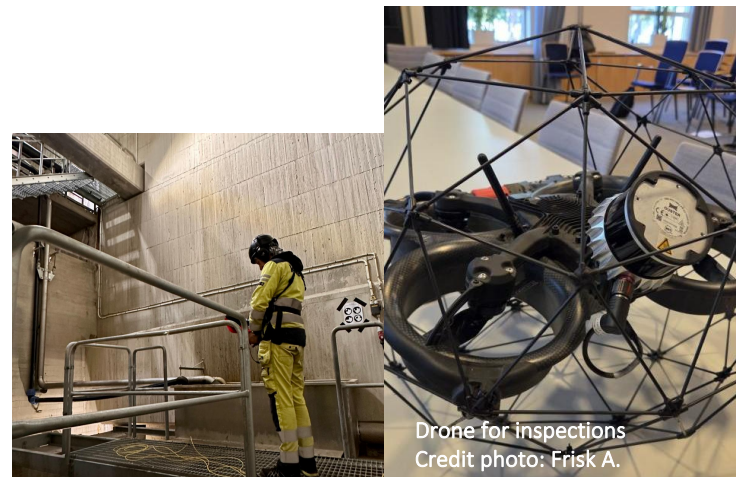
- **Concrete dam inspection techniques:**

High-resolution drone photogrammetry combined with AI-assisted crack detection allows safe and detailed surveys of concrete dams and spillway piers, including underwater inspections via remotely operated vehicles, with pragmatic specifications to balance cost and decision relevance.

- **Repeat photography and automation:**

Modern repeat photography, enhanced by image analysis and AI, extends historical records by replicating original viewpoints, while future efforts aim to make drone surveys routine and repeatable through automation and fixed control points, improving data comparability.

// Erik Månsson, Boliden
Finn Midbøe, Fortum



Highlights from RUSCOLD, Russia

Throughout 2026, the Russian National Committee (RUSCOLD) of the International Commission on Large Dams (ICOLD) continued its steady, systematic programme of work.

The Committee brings together 16 of Russia's leading organizations – research and design institutes together with power-generation companies – a membership that secures Russian representation across 24 of ICOLD's technical committees.

RUSCOLD was represented at the 94th ICOLD Annual Meeting and Symposium, held from 21 to 29 May 2026 in Guadalajara, Mexico. A particular highlight was the address entitled “Digital Solutions and Innovations as an Element in the Development and Operation of Smart Dams”, delivered by the President of RUSCOLD, Deputy Director General of PJSC RusHydro for Project Engineering, Sustainable Development & International Cooperation S.V. Machekhin during the CHINCOLD Workshop on Smart Dams. The presentation showcased advanced Russian technologies applied across the entire life cycle of hydropower facilities.

A further notable outcome was the presentation to ICOLD's Vice-Presidents of microseismic sounding – an innovative Russian technique for assessing the condition of dams and their foundations. The method was well received and singled out as a promising tool for improving the safety of hydraulic structures.

Over the period, RUSCOLD representatives were actively engaged in the work of ICOLD's technical committees: contributing to bulletins, promoting key Russian technologies and engineering practices, and studying and adapting international best practice.

Russian input continues to be reflected in the Commission's publications. Work is advancing across a broad range of bulletins currently in preparation, including: selecting seismic parameters for large dams; concrete dams, concrete durability and low-carbon construction technologies; public safety and emergency management; the assessment of extreme floods and the changing nature of flood risk; sediment management in cascade hydropower reservoirs; the integrated management of dams and river basins.



Chirkeyskaya dam



Sayano Shushenskaya dam

Source: RUSCOLD

Activities 2026

Cooperation between EURCOLD and EDSAN

Cooperation between EURCOLD and EDSAN

The cooperation between EURCOLD and European Dam Safety Authorities network-EDSAN represents an important opportunity to strengthen the exchange of knowledge, experience and good practices in the field of dam safety across Europe. A key step in this cooperation was the EDSAN meeting held in Bergen, Norway from 27 to 29 April 2026 which brought together 25 participants representing dam safety authorities from 14 European countries.

The meeting provided an excellent forum for exchanging national experiences, discussing current and emerging challenges in dam safety and identifying areas where closer cooperation between EDSAN and EURCOLD could provide added value.

The meeting focused on three main areas:

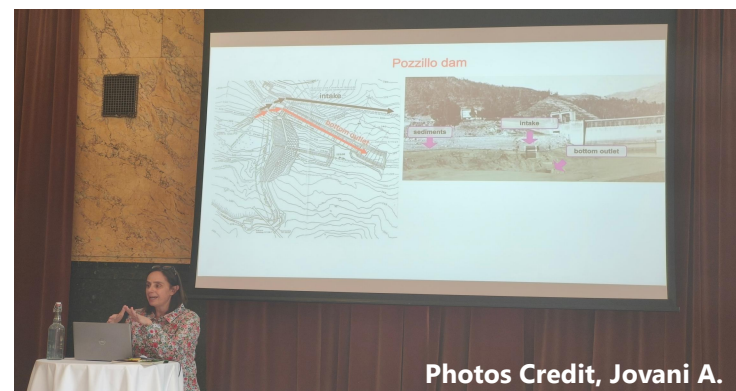
- 1- Recent development in dam safety and surveillance.
- 2- Existing dams under changing climate conditions.

3- Cooperation with different stakeholders in the dam sector

A significant part of the meeting was dedicated to the future cooperation between EURCOLD and EDSAN. Participants emphasised the importance of strengthening the relationship between the two organizations and identifies several areas where joint activities could provide significant benefits.

One of the key areas identified was dam legislation and regulatory frameworks in Europe. The proposed works could start with the preparation of a common format for collecting information from European countries, identifying the main legislative and regulatory aspects that should be addressed by each country.

Based on this information, the working group could subsequently prepare a Report on dam legislation and regulatory frameworks, highlighting similarities, differences, good practices and possible areas for further cooperation.



Cooperation between EURCOLD and EDSAN

Such an initiative could provide valuable information for national authorities and contribute to a better understanding of the regulatory approaches applied across Europe.

Another important area of cooperation discussed was the participation of experts from European dam safety Authorities in ICOLD and EURCOLD activities as:

- ICOLD Annual meeting
- EURCOLD Symposium
- Workshops and Technical meeting of EWG
- Other technical event addressing dams safety, risk management, climate change, legislation and the management of existing dams.

Such participation would provide the opportunities for experts from National dams safety authorities to share their experience, contribute to technical discussion and benefit from the knowledge and expertise available within EURCOLD and EDSAN.

The Bergen Meeting confirmed that closer cooperation between both organizations can provide significant added value for dam safety in Europe. The proposed cooperation on legislation, together with enhanced participation of experts in above technical activities, can contribute to a stronger and more coordinated European approach to dam safety.

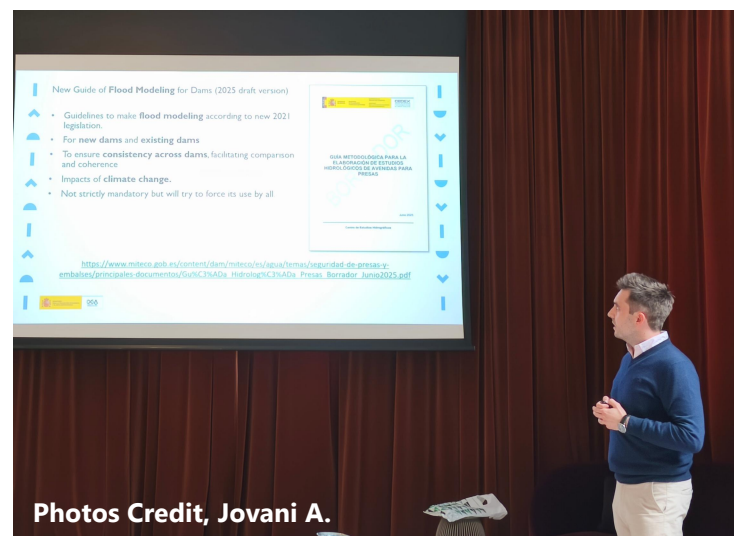
The meeting reinforced the importance of transforming shared experience into practical knowledge and improved decision-making.

The main message emerging from discussion can be summarised as

Shared knowledge - Better decision

Stronger Cooperation - Higher Safety standards

These principles provide a strong basis for the further development of cooperation between EURCOLD and EDSAN and for joint efforts to enhance the safety and resilience of Europe's existing and future dams

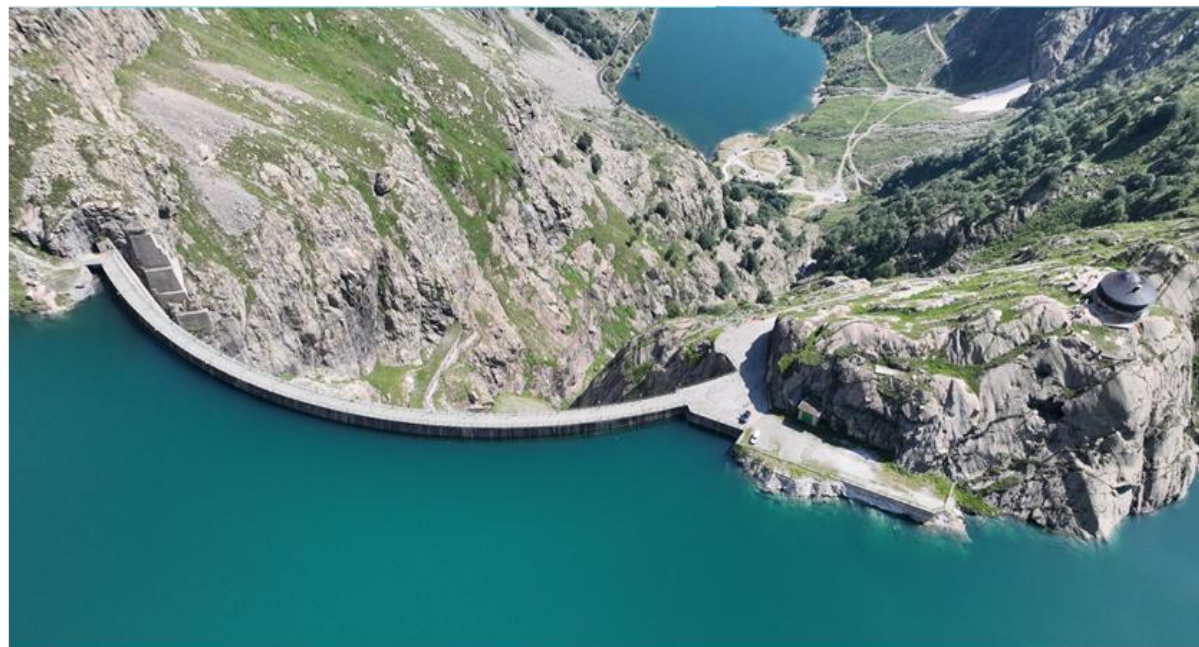




Activities 2026

Dam & Reservoirs Day

celebrations



Dams & Reservoirs DAY

Securing water resilience for Europe

This third year, numerous celebrations were carried out around Europe, supported by EurCOLD National Committees




2026
Dams & Reservoirs DAY
Securing water resilience for Europe

**MONITORIZAREA SIGURANȚEI
BARAJELOR**

ROCOLD

**PLATFORMĂ INTEGRATĂ BAZATĂ PE
TEHNOLOGII GEOSPATIALE**

UT
CB
Universitatea Tehnică
de Construcții București

TERRASIGNA

esa

Workshop organizat în cadrul proiectului „Romanian Ground Motion Pilot Service for Sustainable Infrastructure”, coordonat de Terrasigna, în parteneriat cu UTCB și finanțat de ESA

Platforma PSTool <https://pstool.terrasigna.com/>

Monitorizarea satelitară
revoluționează evaluarea
și managementul
stabilității
infrastructurilor

Arhitectură DB
Structură dedicată
monitorizării infrastructurii
utilităților și mediului înconjurător

Platformă Unitară
Interfață centralizată pentru
managementul datelor de
monitorizare

Analiză Avansată
Integrarea algoritmilor de
procesare pentru date multice-
nționale și complexe

- Delimitarea zonelor de risc și focalizare operațională de monitorizare
- Bază istorică consistentă, cu validare spațio-temporală
- Extindere națională fără costuri CAPEX/OPEX proporțional mai mari
- Fuziune de date și integrare măsurători in-situ și straturi GIS disponibile

11.06.2026, ora 10⁰⁰ – 12³⁰
Amfiteatrul II-7 “Radu Prîșcu” al Facultății de
Hidroînginerie și Managementul Resurselor de Apă

45 events were recorded around Europe, excluding online campaigns and promotion

More than 2500 participants in events, site visits, webinars, etc



ITCOLD - Dams & Reservoirs Day 2026



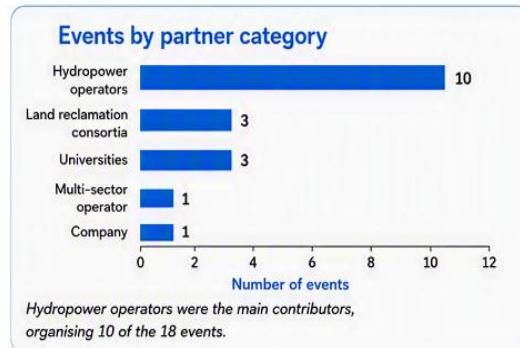
The "Dams and Reservoirs Day 2026" event, promoted by EURCOLD and organized in Italy by ITCOLD (Italian Committee on Large Dams), took place from May 22nd to June 7th, 2026.

The "Securing Water Resilience for Europe" called for reflection on the impacts of climate change and related adaptation measures. Dams play a crucial role in this context, both in managing water resources for various uses and in mitigating flood risk, given their capability in buffering flood flow in an environment characterized by significant hydrological uncertainty.

The initiatives also highlighted hydropower as a renewable source that contributes to the energy transition and to the flexibility and reliability of the electricity system.

A total of **13 partners** organized **18 events** distributed across **12 Italian regions**.

Six hydropower operators delivered ten events, while land reclamation consortia and universities each contributed with three events. A multi-sector operator and a specialist company added one event each.



18
EVENTS



12
REGIONS



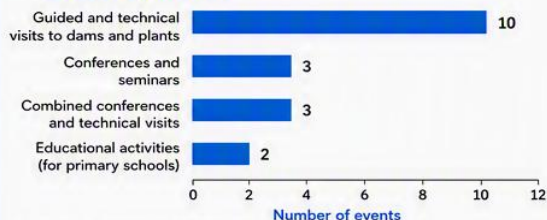
13
PARTNERS



~2,000
PARTICIPANTS
(ESTIMATED)

ITCOLD - Dams & Reservoirs Day 2026

Events by format



A variety of engaging formats ensured broad participation across citizens, students and professionals.

The events featured a variety of formats:

- Guided tours and technical visits to dams and hydropower plants (10 events)
- Educational visits for primary school students (2 events)
- Conferences on current hydropower issues, combined with technical visits to dams and plants (3 events)
- Conferences and seminars combined with visits to dams, hydropower plants and/or laboratories (3 events).

As in previous editions, the Italian partners made a valuable contribution through their enthusiasm and expertise.

Feedback from partners and participants was overwhelmingly positive, with appreciation for the organization, content quality and relevance of the topics addressed.

Looking ahead, ITCOLD has identified several key priorities for future editions:

- Schedule the event earlier to enable schools and universities in particular to join the initiative and encourage broad student participation.
- Launch the call for participation among Italian partners well in advance, at least three months before the date selected by EurCOLD.
- Prepare brochures and promotional materials for distribution to event participants and the wider public.
- Strengthen local communication to reach wider audiences and attract a more diverse range of participants.

According to ITCOLD President Guido Mazzà, *“The third Italian edition confirmed the value of coordinated, locally rooted initiatives in building knowledge and raising public awareness of dams, reservoirs and hydropower”*



Explore the Italian events:
<https://dam-day.itcold.it/>

ITCOLD - Dams & Reservoirs Day 2026



Site visit to the Corbara dam

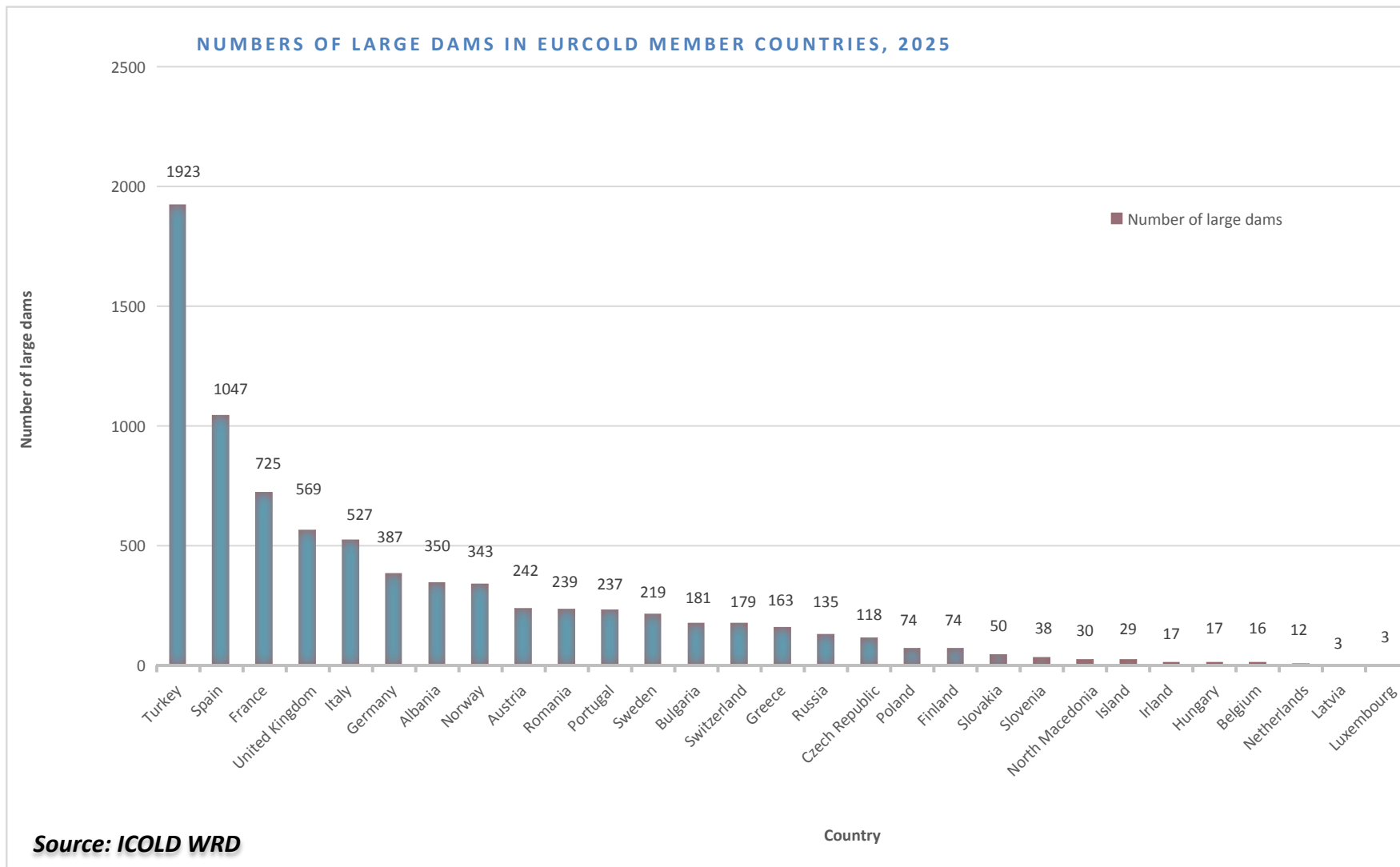


Site visit to the Cantoniera dam



Statistics on European Large Dams

Number of large dams in EURCOLD Member Countries, 2026



EUROPE'S 10 HIGHEST DAMS

By Height



EURCOLD



10 OLDEST LARGE DAMS STILL IN OPERATION IN EUROPE

DAMS OVER 15 m HIGH – FROM ROMAN ENGINEERING TO THE 19TH CENTURY

These dams have stood the test of time. Built from Roman times to the 1800s, they are all over 15 meters high and still in operation today, serving essential functions such as water supply, irrigation and navigation.

RANK	DAM	COUNTRY	CONSTRUCTION DATE (approx.)	HEIGHT (m)	PRIMARY PURPOSE	STATUS
1	CORNALVO	 Spain	1st–2nd century AD (Roman)	~28	 Water supply	 In operation
2	PROSERPINA	 Spain	1st–2nd century AD (Roman)	~21.6	 Reservoir / water supply	 In operation
3	ALMANSA	 Spain	1384	20.7	 Irrigation	 In operation
4	TIBI	 Spain	1594	~41–42	 Irrigation	 In operation
5	ELCHE	 Spain	1640–1655	~23–24	 Irrigation	 In operation
6	SAINT-FERRÉOL	 France	1675	~32–35	 Navigation (Canal du Midi)	 In operation
7	PATY	 France	1766	21.5	 Reservoir / water supply	 In operation
8	LAMPY	 France	1782	16.2	 Navigation / Irrigation	 In operation
9	COUZON	 France	1811	34	 Water supply	 In operation
10	CHAZILLY	 France	1837	22.5	 Navigation	 In operation

LEGEND – PRIMARY PURPOSE

-  Water supply / Reservoir
-  Irrigation
-  Navigation

NOTES

- Heights refer to current dam height above foundation (approx.).
- Construction dates indicate the initial construction or first documented completion of the dam structure.
- All dams are in operation in 2024/2025.



These historic dams continue to play an essential role in water management and infrastructure across Europe.



EUROPE'S 10 LARGEST RESERVOIRS

EURCOLD MEMBER COUNTRIES • RANKED BY DESIGN TOTAL STORAGE CAPACITY



RANKING CRITERION

Design total storage capacity
at the normal/design reservoir level.



SOURCE

ICOLD World Register of Dams
and national sources.



Values represent design/original total storage capacities
and may differ from current effective storage due to
changes in operating levels and sedimentation.

NOTE: Keban – **29.475 billion m³** based on TRCOLD confirmation (2026).

The 2026 Nepal Flash Flood

Early Lessons for Dam Safety and Flood Risk Management

The 2026 Nepal Flash Flood

Early Lessons for Dam Safety and Flood Risk Management

On 26 August 2026, a catastrophic flash flood struck the Rasuwa region of northern Nepal, close to the border with Tibet. The event rapidly developed into one of the most severe recent disaster in the Himalayan region, causing extensive loss of life and major damage to settlements, road, bridge, buildings and hydropower infrastructure.

The event is significant for the dam and flood management community because it was not a conventional rainfall-generated flood.

Current evidence indicated that the event was initiated by the collapse of part of a glacier, accompanied by snow, rock, sediments and debris.

The mass movement entered the river system and generated a powerful flow of water and debris. The resulting flood propagated thorough the Bhote Koshi and Trishuli river system producing severe downstream impact.

The Nepal Disaster illustrated the increasing importance of cascading hazard in mountain catchment. The catastrophe demonstrates that in mountain regions, hazards do not necessarily occur individually. Such an event differs substantially from a conventional flood. The flow may contain not only water but also ice, sediments, trees and debris. This considerably increase the erosive and impact forces, acting on the settlements, bridges, road, buildings and other hydraulic structures.



The 2026 Nepal Flash Flood

Early Lessons for Dam Safety and Flood Risk Management

For dam owners and operators in Europe, the event raises an important question:

Are our existing systems for mountain hazard monitoring, dam safety, flood protection and emergency preparedness sufficiently prepared for cascading hazards under changing climatic conditions.

The answer should be considered carefully.

Perhaps the most important lesson from Nepal is that **risk assessment cannot be based only on individual hazards. Risk management should consequently move from “single-hazard management” towards “system and cascade -risk management”**

This concept of cascading risk is highly relevant to Europe. The Alps, Pyrenees, Carpathians, Balkan and other European mountain region contain glacier, unstable slopes, rivers, reservoirs and settlements located within the same interconnected systems. A failure or extreme event upstream can therefore produce consequence far downstream.

Traditionally, dam safety has concentrated on Reservoir-Dam-Downstream. In mountain regions, this approach is no longer sufficient.

A dam may be structurally safe, while the hazards entering the reservoir is changing dramatically. Therefore, dam safety assessments should increasingly consider external hazards originating upstream of the reservoir. This leads to an important principle that **Dam safety can not be separated from catchment safety.**

One of the most important weakness exposed by the Nepal event was the difficulty of monitoring remote and rapidly changing mountain environments.

Europe has a major technologies advantage through satellite observation, remote sensing, GNSS, drones and extensive Hydrometeorological networks. These capabilities should increasingly be integrated into a European Mountain Hazard Monitoring System.

The objective should not simply be to collect data, but to connect the data into an operational risk-warning systems.

A conventional flood-warning system may detect that a river is rising. But in this event, this can be too late. The warning chain needs to start at the source of the hazard. This requires a transition from reactive warning to anticipatory warning.

The 2026 Nepal Flash Flood

Early Lessons for Dam Safety and Flood Risk Management

An important lesson for the dam community is the formation of a natural barrier across a river. A landslide, rock avalanche or ice collapse can create a temporary dam and a lake upstream. Although it is not an engineered structure, its failure can produce exactly the type of phenomenon that dam engineers know as a dam-break flood. This should become part of emergency procedures in European mountain regions.

One of the most important questions for the Europe's large inventory of existing dams is:

Are the hazards assumption used for the original design still valid under today's and tomorrow's climate conditions?

This suggests the need for periodic reassessment of extreme precipitation, PMF, snowmelt, landslide-generated waves, debris flows, sedimentation, climate change scenarios and seismic-flood combinations.

Another objective should be risk-informed reassessment, rather simply checking whether an old design standard remains formally satisfied.

Arjan Jovani, President of EURCOLD

Climate change does not simply mean "more water". Recent assessments of the Nepal event have similarly highlighted the relationship between warming and increasing instability in high-altitude environments.

Europe therefore needs to consider not only changes in hydrological hazards, but also changes in geological and cryospheric hazards. This is particularly relevant to the Alps and other European mountain ranges, where mountain communities are already exposed to flood, landslides and other hazards.

Protecting people requires more than an early warning message. An early warning system is useful only if people can respond to it. For vulnerable mountain valleys, authorities should have hazards maps, inundation and evacuation maps, safe areas, and communication systems.

Critical infrastructure must be treated as an interconnected system. The Nepal catastrophe also demonstrated that the infrastructure can fail as a network. This creates a cascade infrastructure failure. European emergency plans should therefore identify critical dependencies around mountain reservoirs and valleys.

WHAT'S NEXT:

2026 Calendar

EVENTS

September 2026

13th EURCOLD Symposium, Bydgoszcz, Poland
BDS 23rd Biennial Conference, Keele University, UK
4th Brussels Hydropower Day, Brussels, Belgium
Seminar on Application of Advanced Methods in Dam Engineering, Skopje

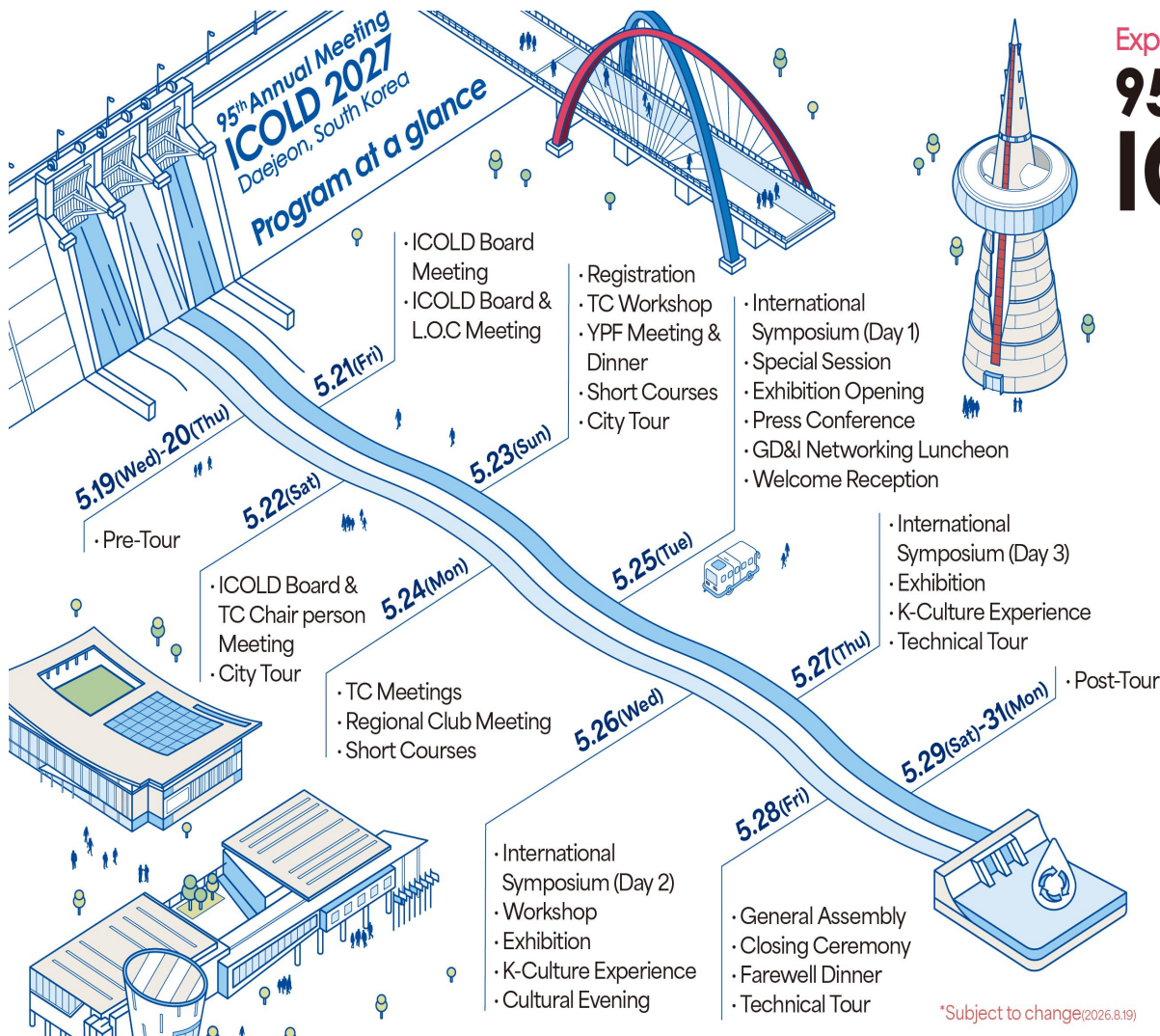
October 2026

Euro- Mediterranean Water Forum and Water Festival 2026, Rome, Italy
Workshop on Dam and Territories 2026, Trento, Italy
Global Hydropower Day 2026, Europe
Hydro 2026 - Adapting to Change - Embracing Opportunities, Bologna, Italy
Flood and Dams Day, Rovaniemi, Finland

November 2026

IWA Digital Water summit, Istanbul, Turkey





Experience Dynamic Korea!

95th Annual Meeting ICOLD 2027

Daejeon, South Korea
21-28 May, 2027

Symposium

Dam Safety and Resilience in the Era of Climate Change

Call for Paper

- ① Innovation in dam engineering through AI
- ② Building confidence in dam/levee safety for the future
- ③ Tailing dam safety and environmental management
- ④ Design and construction for extreme environments and climate change
- ⑤ Optimal operation technologies in the era of climate change
- ⑥ Water Environment and Ecosystem
- ⑦ Water energy technologies for achieving carbon neutrality
- ⑧ Pumped-storage hydropower
- ⑨ Governance, policy, and technical tools for sustainable water resources

Venue Daejeon Convention Center

Host  Korean National Committee on Large Dams



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KNCOLD is now on [Linked in](#)

Follow us for KNCOLD updates
and ICOLD 2027 news

Closing Remarks

Thank You

"We appreciate your invaluable contribution and feedback"

Dear colleagues and friends,

During the preparation of the Fourth EurCOLD Annual Newsletter, we received invaluable contributions from many National Committees and Chairs of the European Working Groups. We would like to express our sincere gratitude to all of you for sharing your information, updates, and insights.

We are excited about the activities ahead and look forward to meeting you all at forthcoming Board Meetings and ICOLD events.



Arjan Jovani
President



Alfredo Granados
General Secretary



Erik Månsson
Media Manager