

MARSEILLE  
DU 27 MAI  
AU 3 JUIN  
2022



ICOLD  
27<sup>TH</sup> CONGRESS  
90<sup>TH</sup> ANNUAL  
MEETING



CIGB  
27<sup>ÈME</sup> CONGRÈS  
90<sup>ÈME</sup> RÉUNION  
ANNUELLE



**ICOLD Technical Committee Y « Climate Change »**

## **ICOLD – IHA joint workshop on “ Climate Change : Risks and Opportunities for Dams, Reservoirs and Hydropower ”**

**May 28, 2022 (Marseille)**



Denis Aelbrecht (EDF Hydro, France)  
Maud Demarty (Aqua-Consult, Canada)

Debbie Gray (IHA, UK/Canada)



# What is ICOLD Tech. Committee Y on Climate Change ?

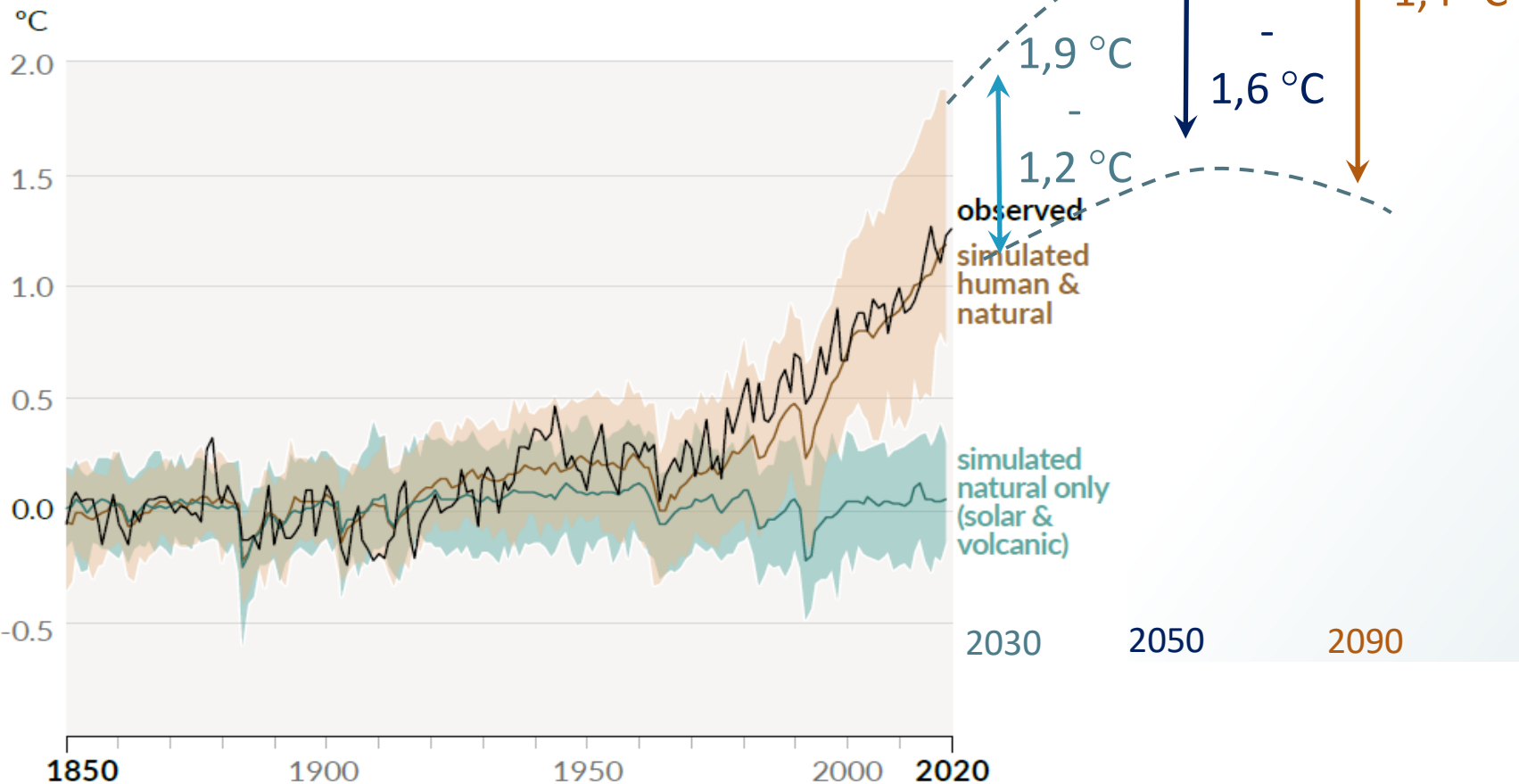
- Created in 2009 : somehow recent in the ICOLD history
- 1<sup>st</sup> TOR 2009 - 2016 : Publication of the first TC Y **Bulletin #169**
  - <http://www.icold-cigb.net/GB/publications/bulletins.asp>
- **Climate Change is a broad and cross-sectoral overarching issue**
  - Connections with other ICOLD Tech. Committees : Floods (S), Environment (G), Sedimentation (J), Dam Safety (H), Hydropower (K), ...
  - Connections with international organizations : IHA, World Bank, IPCC, EBRD...
- **2<sup>nd</sup> TOR 2017 – 2023 :**
  - Chairman : Denis Aelbrecht (France) – Vice-Chair : Maud Demarty (Canada)
  - Very active members from following national committees : **Austria, Canada, France, Germany, India, Japan, Russia, South Africa, Spain, Sweden, Switzerland, UK, USA**
  - New members arrived in the last months : **Brazil, Norway**



# It's getting warmer and warmer!

- Update from IPCC AR-6 report (WG.1 report – publ. August 2021)

b) Change in global surface temperature (annual average) as **observed** and simulated using **human & natural** and **only natural** factors (both 1850-2020)



# It's getting warmer and warmer!

- Update from IPCC AR-6 report (WG.1 report – publ. August 2021)

4,4 °C

b) Change in global surface temperature (annual average) as **observed** and simulated

°C

2.0

1.5

1.0

0.5

0.0

-0.5

**Current dynamics of Global Warming corresponds to the most severe projected trajectories / scenarios**

natural only  
(solar &  
volcanic)

2030

2050

2090

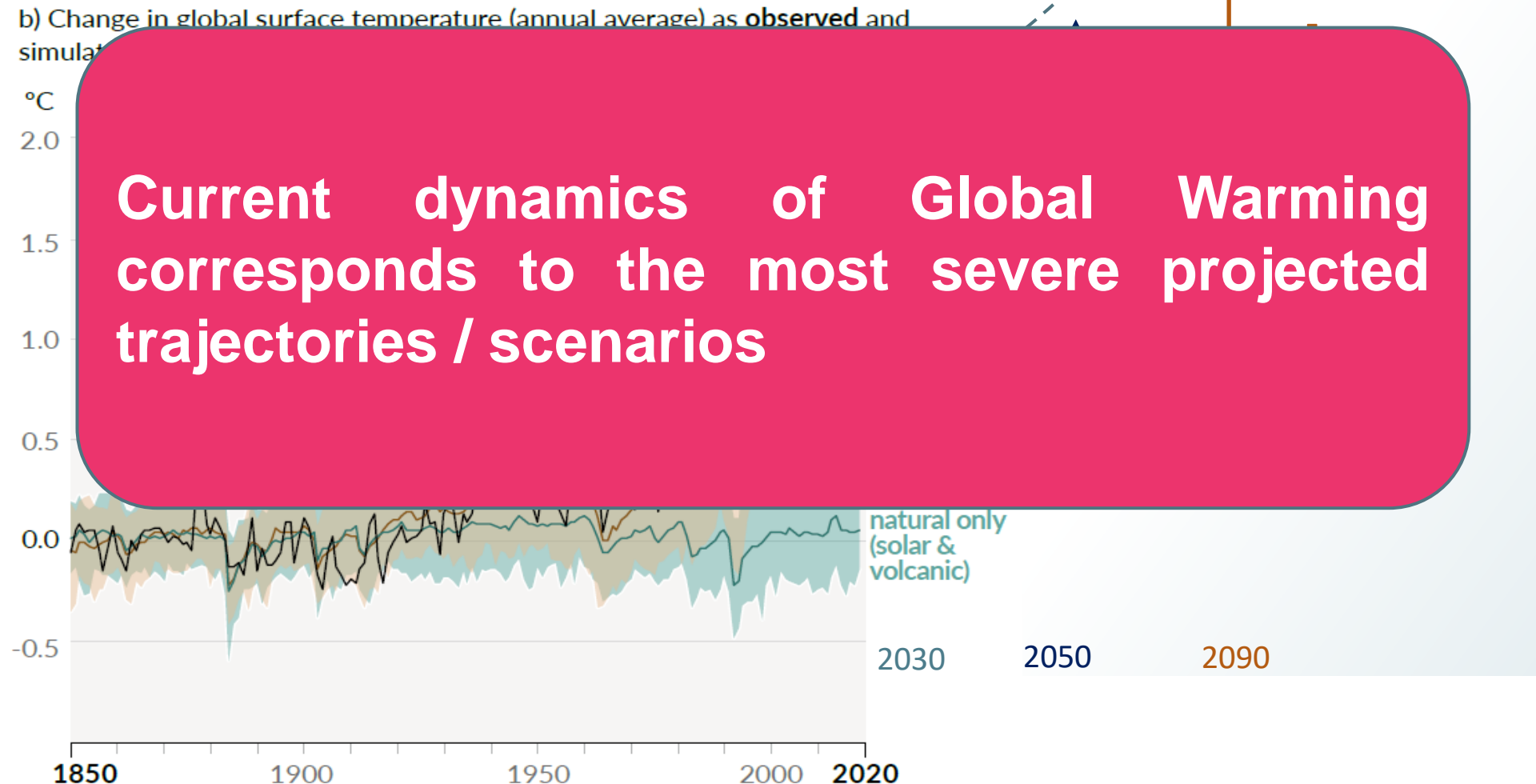
1850

1900

1950

2000

2020



# Objective of joint ICOLD TC “Y” + IHA workshop

- **Share with an extended ICOLD community the outcomes of ICOLD Technical Committee Y “Climate Change” work**
  - Overview of the contents of future ICOLD bulletins in preparation
  - Feedback from the ICOLD community to adjust TC Y current work plan
- **Invite new ICOLD countries / members to join TC “Y” group**
- **Show how ICOLD and other international organizations like IHA, are working together for addressing strategic issues, and developing guidelines and recommendations for our communities**

**What is IHA ? =>**



Présentation  
Microsoft PowerPoint

# Workshop agenda (1/2)

## Part I – ICOLD TC “Y” activity on Climate Change : preparation of new bulletins

02:10 – 02:30	<p><b>Terms of reference of ICOLD TC Y activity. Organization of TC work, and structure of next bulletins addressing 3 different Themes</b></p> <ul style="list-style-type: none"> <li>• <b>Theme 1</b> : Climate-induced water shortage and drought risk management Climate resilience of water resources systems</li> <li>• <b>Theme 2</b> : Flood risk evolution associated to climate change</li> <li>• <b>Theme 3</b> : Role of Hydropower in climate change mitigation and new energy</li> </ul>	Maud Demarty
02:30 – 03:00	<p><b>Examples of Case Study reported in the future ICOLD bulletins :</b></p> <p>Theme 1 : <b>Neustadt water resources system</b></p> <p>Theme 2 : <b>South-East Asia - Climate Change Impacts on Extreme Flood Inflow</b></p> <p>Theme 3 : <b>Increasing swiss hydropower electricity production under climate change conditions - Case study: periglacial reservoirs in the swiss alps and the new trift hydropower plant</b></p>	<p>Markus Moeller</p> <p>Harald Kling</p> <p>Andrea Balestra</p>



# Workshop agenda (2/2)

## Part II – Climate Change & Hydropower : challenges and opportunities. IHA initiatives on Climate Change & Hydropower

03:00 – 03:25	<b>Climate Change: challenges and opportunities for Hydropower. An overview of IHA initiatives on Climate Change issues</b> <ul style="list-style-type: none"><li>• Hydropower 2050 vision</li><li>• GHG emissions and the G-Res tool</li><li>• IHA guide for Climate Resilience (publ. 2019)</li></ul>	Debbie Gray
03:25 – 03:45	<b>Experience by Tractebel-Engineering on the application of the IHA Climate resilience guide</b>	Marine Riffard-Chenet
03:45 – 04:05	<b>Experience by AFRY on the application of the IHA Climate resilience guide</b>	Harald Kling
04:05 – 04:15	Q / A	All