A HEATED WORLD?!

What does that mean for the state of our global water resources?

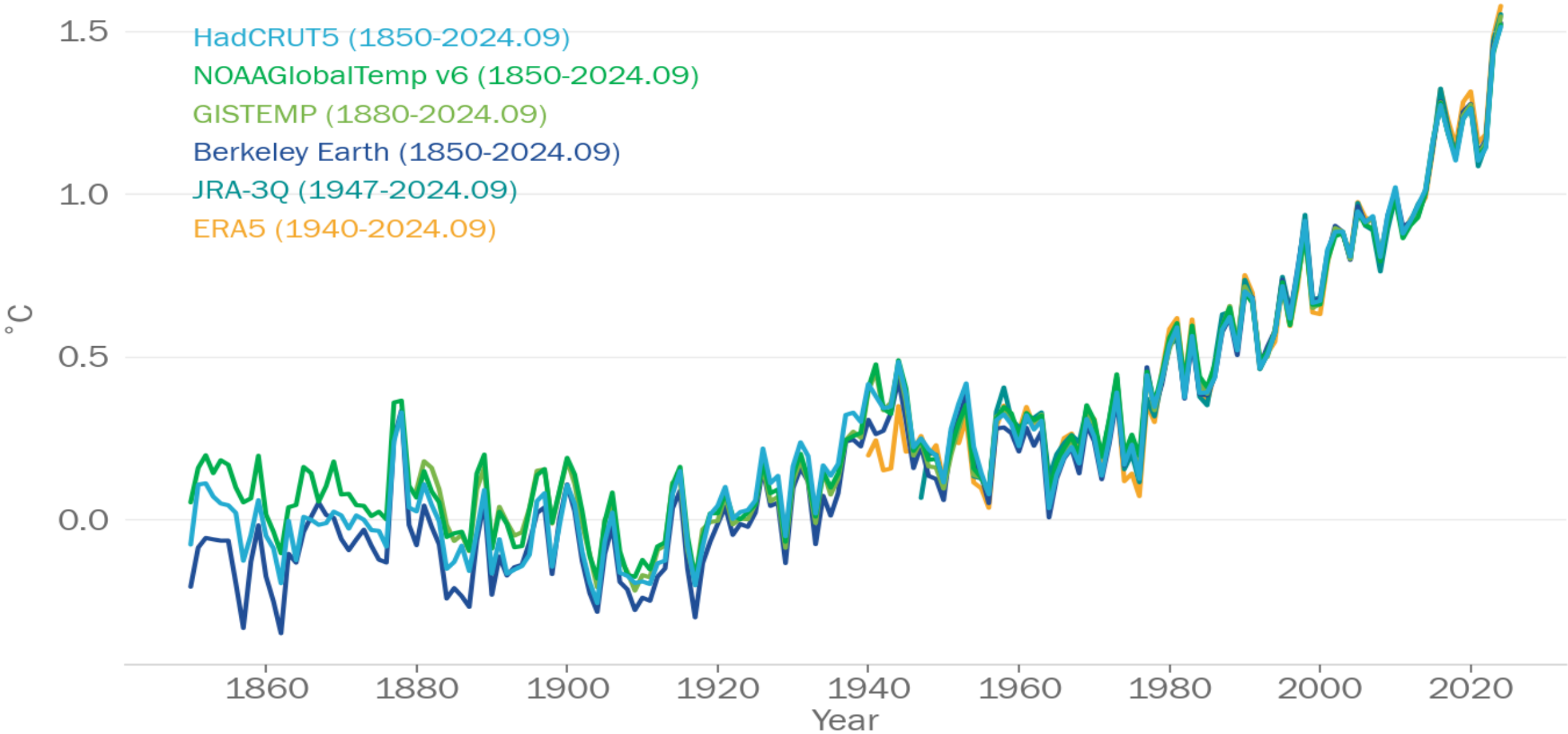
Stefan Uhlenbrook, Sulagna Mishra and MANY others

Director Hydrology, Water and Cryosphere, WMO

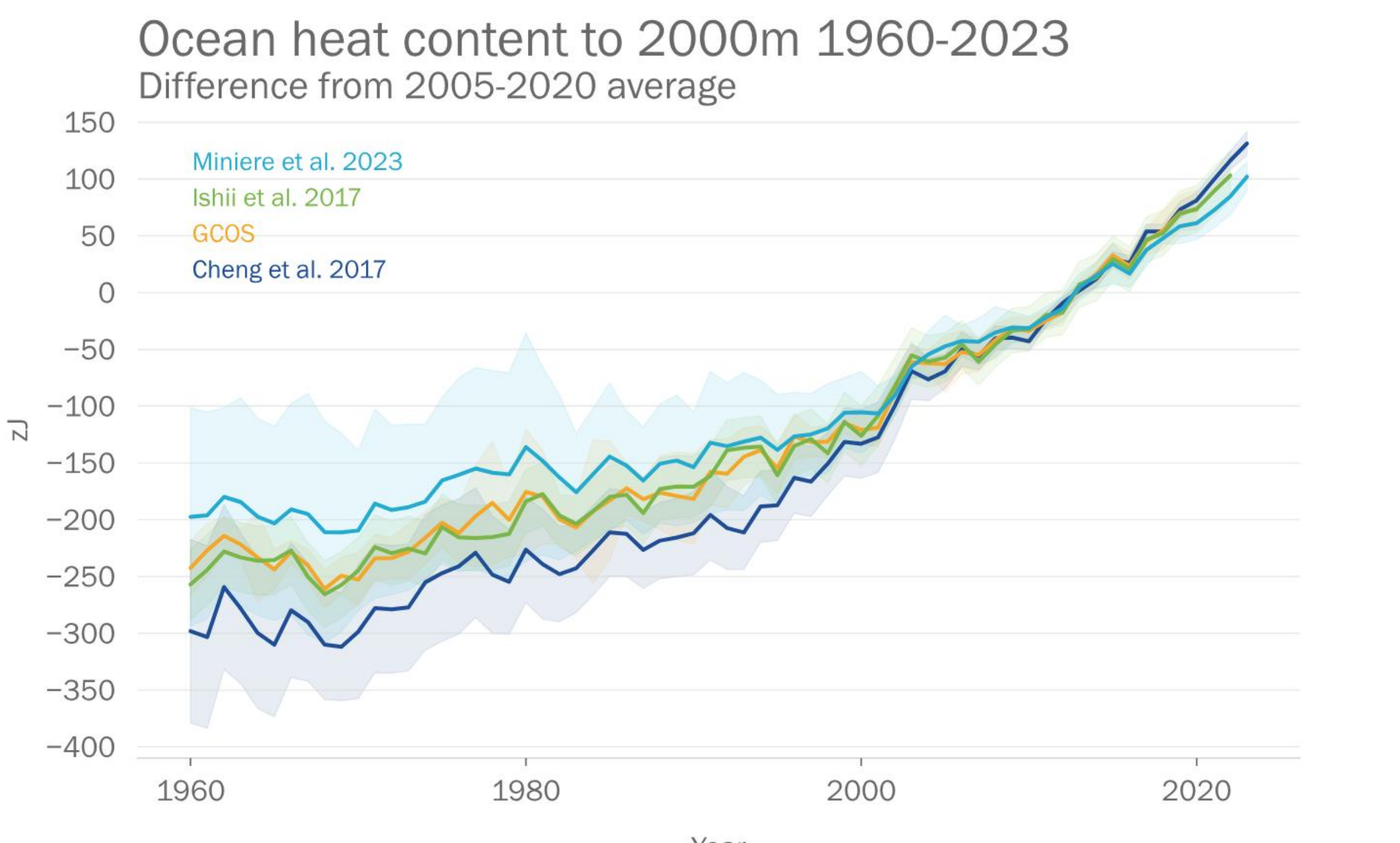
WORLD METEOROLOGICAL ORGANIZATION

Global mean temperature 1850-2024

Difference from 1850-1900 average



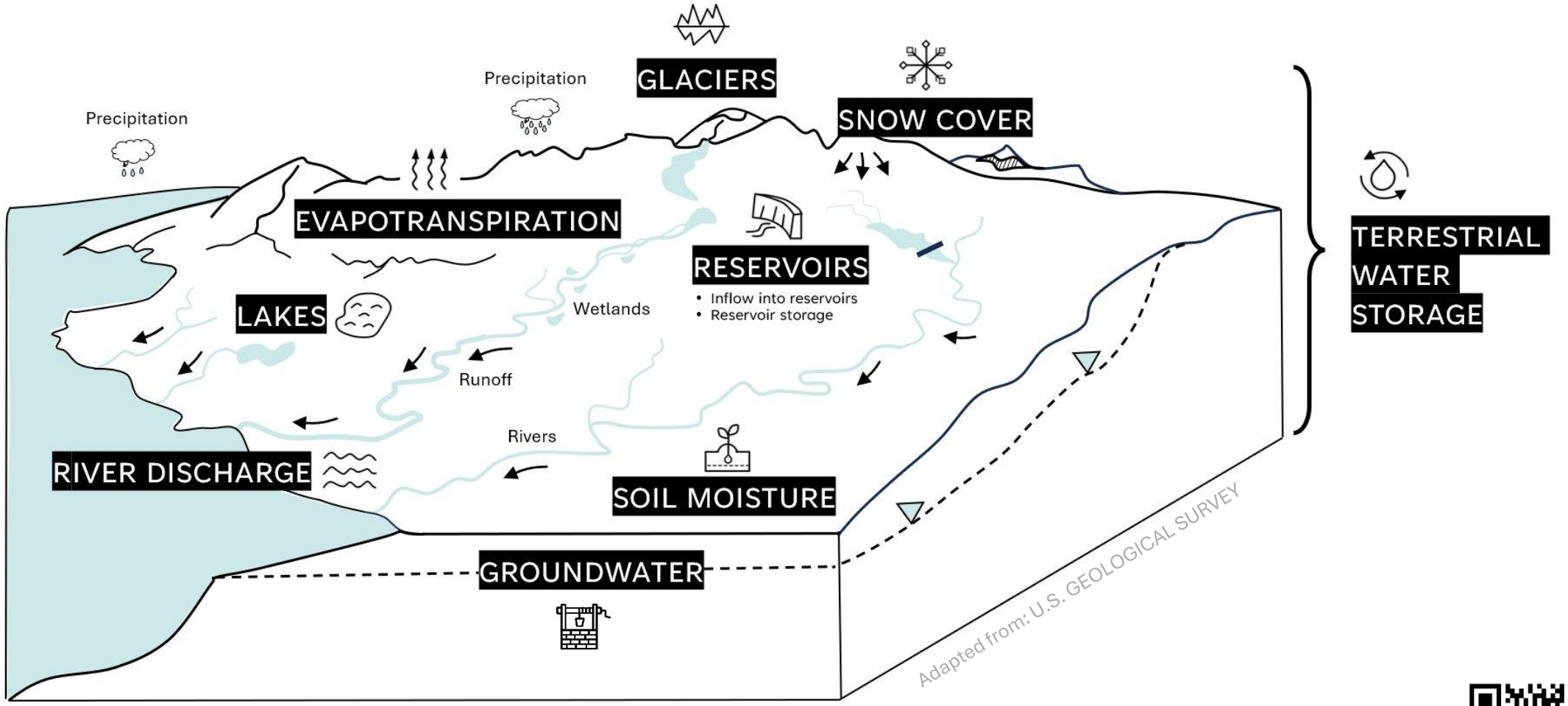
The 2024 average is based on data from January-September.


Ocean heat content to 2000m 1960-2023
Difference from 2005-2020 average
150
100
50
0
−50
−100
−150
−200
−250
−300
−350
−400
zJ
Miniere et al. 2023
Ishii et al. 2017
GCOS
Cheng et al. 2017
1960
1980
2000
2020
Year

WHAT DOES THE REPORT PROVIDE?

- Provide a **quantitative assessment** of global water resources in the last year
- Give an overview of status on **data availability and data sharing** at a global scale (hydrological data)
- **Innovative methodology** used to overcome the gaps in available observations
- The report was **well received** by Members, international organizations and media (>2500 articles)

HOW DOES THE REPORT COVER THE WATER (HYDROLOGICAL) CYCLE ?

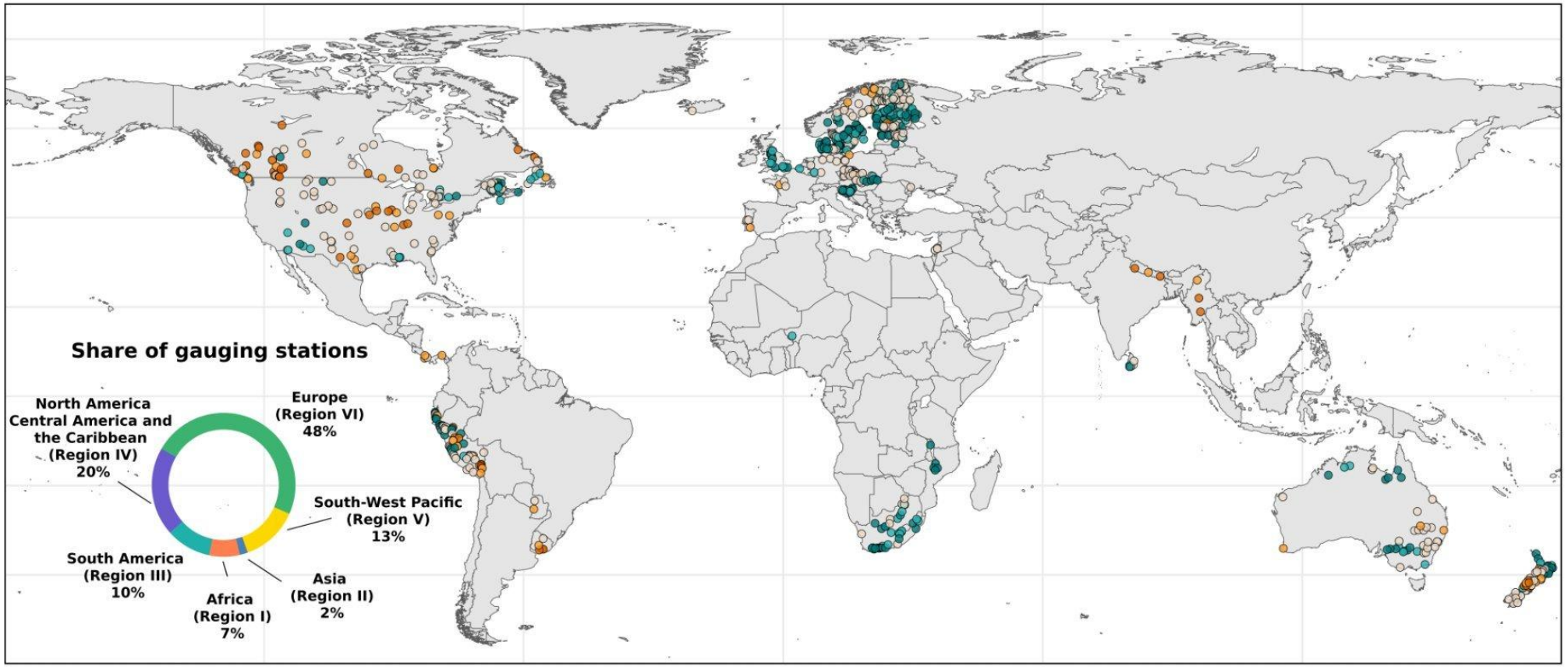


WORLD METEOROLOGICAL ORGANIZATION

#StateOfWater

#StateOfClimate

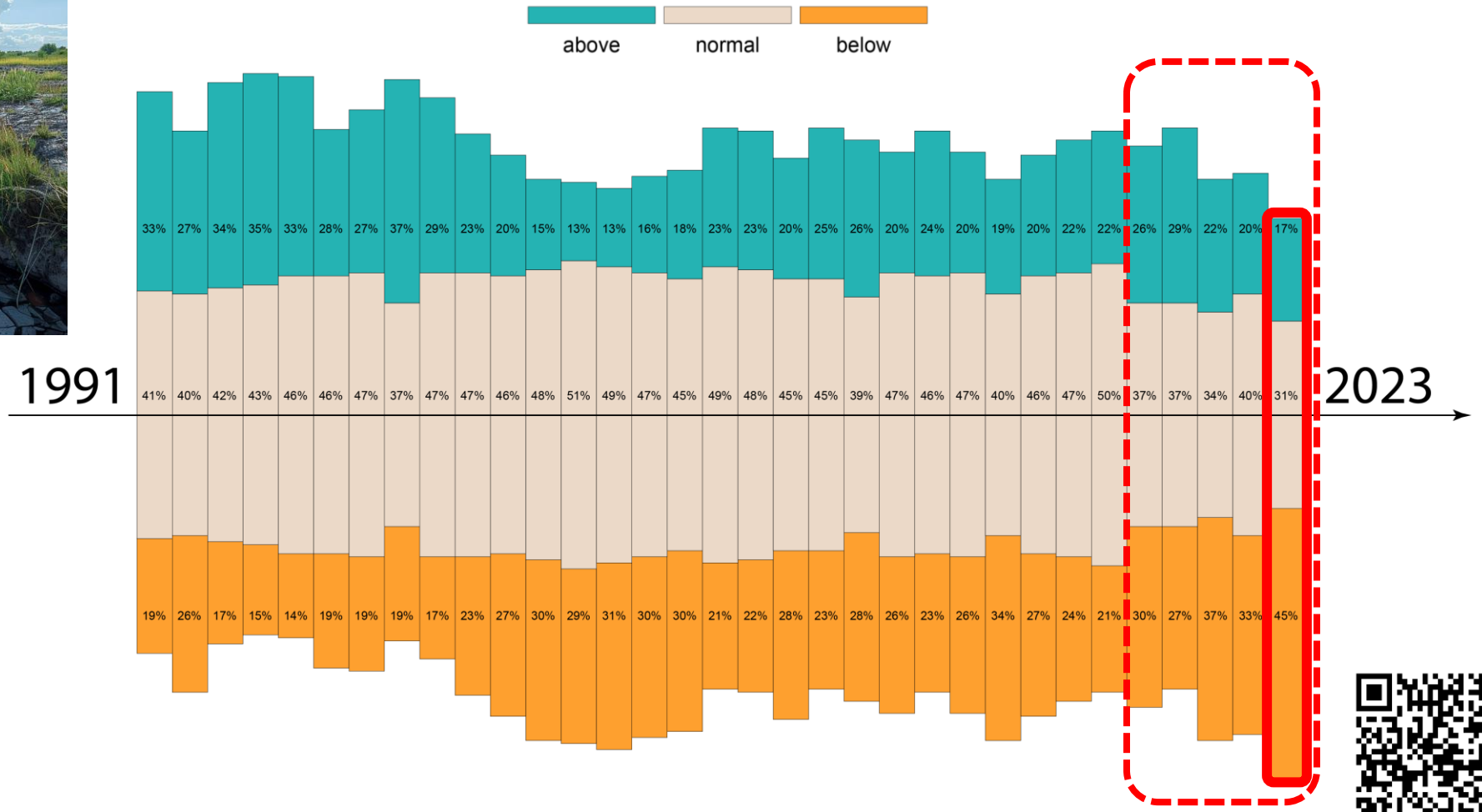
OBJECTIVE IS TO HAVE DOTS ALL OVER THE GLOBE!
MONITORING IS THE BACKBONE FOR EW4ALL



#StateOfWater

#StateOfClimate

2023 DRIEST YEAR FOR GLOBAL RIVERS IN OVER THREE DECADES

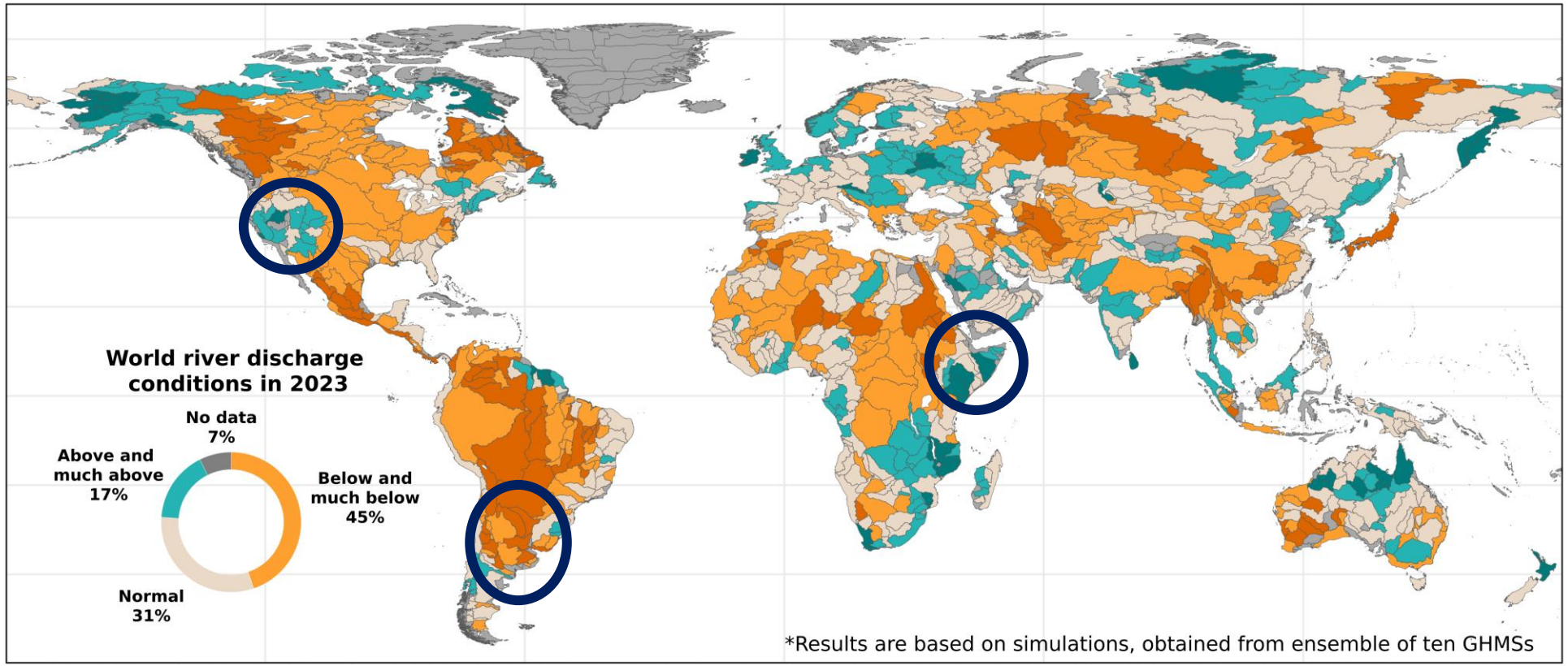


#StateOfWater

#StateOfClimate

2023: HALF OF THE GLOBE HAD DRY RIVER FLOW CONDITIONS

Mean river discharge for the year 2023 compared to the period 1991–2020 (for basins larger than 10 000 km^2)



WORLD METEOROLOGICAL ORGANIZATION

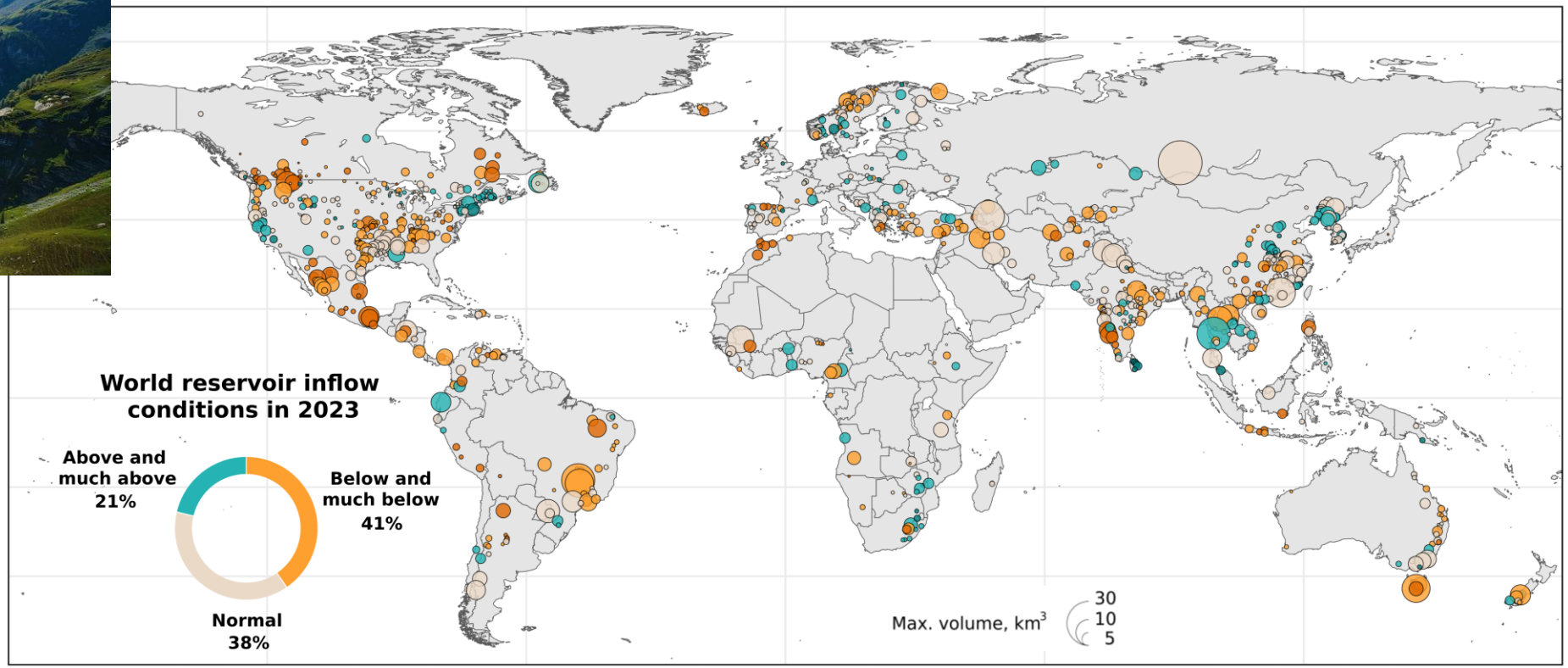
#StateOfWater

#StateOfClimate

BELOW-NORMAL RESERVOIR INFLOW IN 2023

Less water available for ecosystems and societies

Mean annual inflow into selected reservoirs in 2023 as compared to the historical period 1991–2020



WORLD METEOROLOGICAL ORGANIZATION


North-eastern Borno State, Nigeria


Valencia, Spain
Source: The Irish Independent


Cachoeira do Sul, Brazil
Source: Rio Grande Do Sul

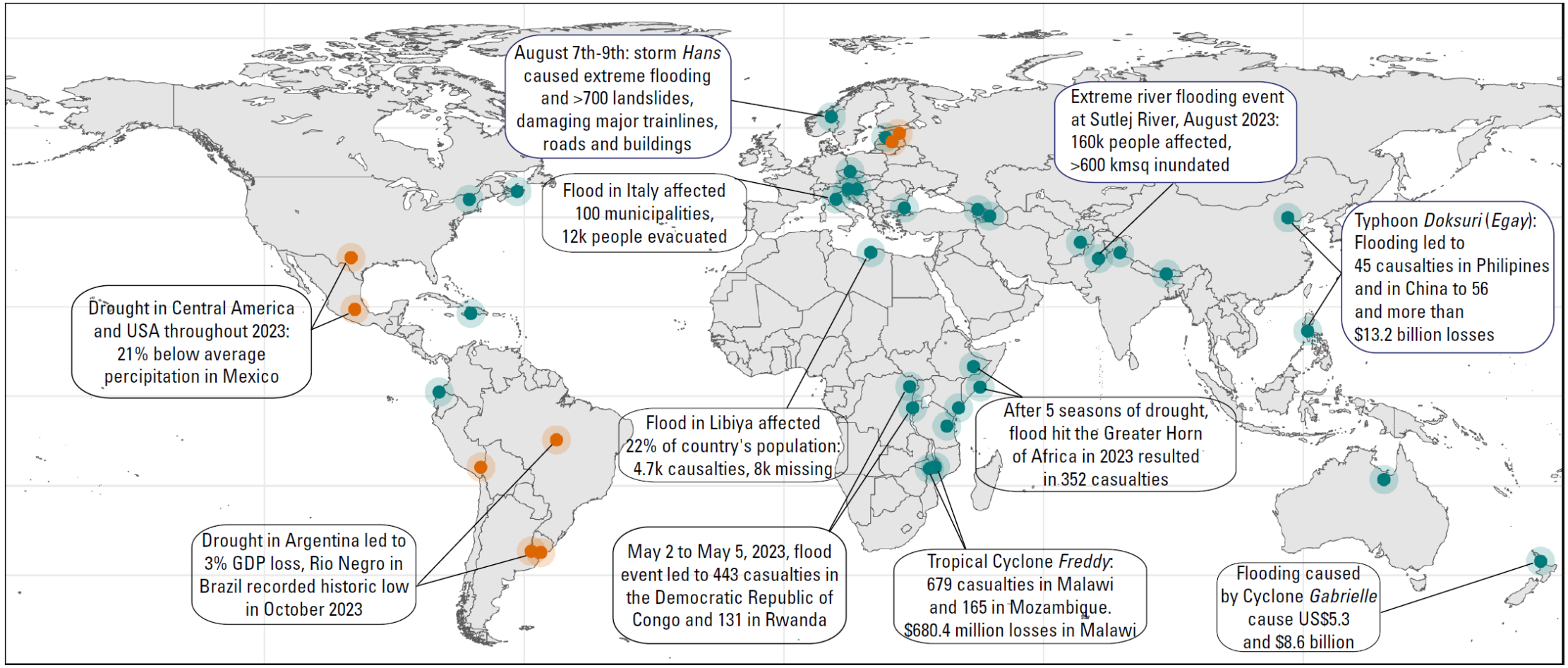

North Carolina, USA

#StateOfWater

#StateOfClimate

HIGH-IMPACT HYDROLOGICAL EVENTS IN 2023

Selected most notable high-impact hydrological events across the globe in 2023



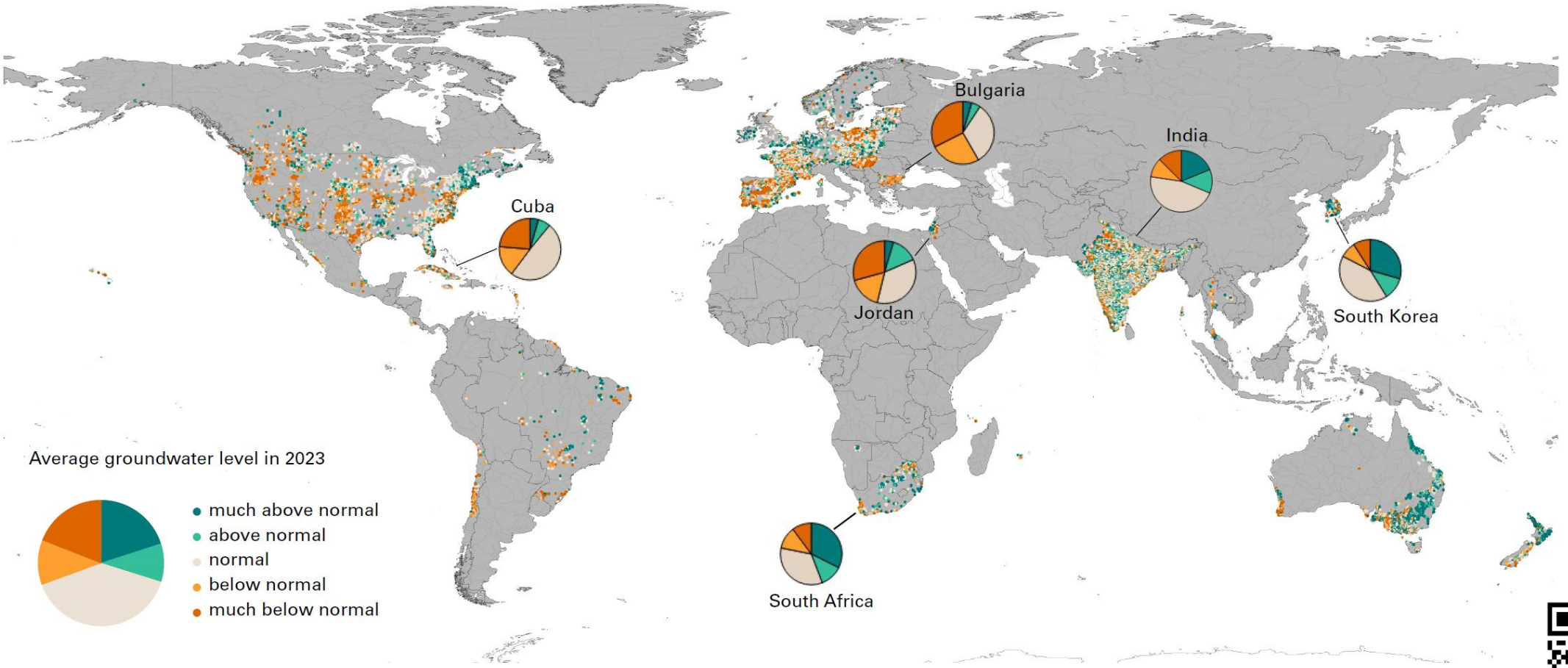
Data sources: WMO Members, State of the Global Climate 2023WMO-No. 1347, EM-DAT and others

#StateOfWater

#StateOfClimate

2023: GROUNDWATER LEVELS

"*not-normal*" conditions in >50% of the wells, insufficient data



SOURCE: IGRAC, 2024

#StateOfWater

#StateOfClimate

BIG THANK YOU TO ALL!

WMO MEMBERS & ...

& many more !