# **Climate Services**

Chris Hewitt WMO Climate Services Director



## Climate services

- Climate information is becoming increasingly important and relevant for decision-making across society
- Climate services are the provision and use of climate information to assist decision-making
  - need to respond to user needs
  - need to be based on scientifically credible information and expertise
- Timescales depend on the decision-maker
  - ranging from historical information to future months, seasons, years, decades and beyond









# **Climate Services Information System (CSIS)**





# Refocussed GFCS: and key touchpoints with WCRP



#### Vision: enable society to better manage the risks and opportunities arising from climate variability and change



#### Strengthen climate service capacity and capability, particularly in NMHSs

• Improve availability of, access to, and use of, climate information, providing scientific and technical support

• Establish National Frameworks for Climate Services, and National Climate Fora, and link to regional structures

#### Support climate policy and finance with authoritative scientific information

 Produce regular reports and advice to support adaptation and mitigation (such as Global and Regional State of Climate reports; state of climate services; ENSO Bulletins; seasonal climate updates. Build on IPCC knowledge)

• Provide tools and expertise to help incorporate climate science into actions and investments

#### **Develop Standards, Quality Management and Training**

- Assess and develop Climate Service capacities (basic ⇔ essential ⇔ full ⇔ advanced) and needs
- Produce guidance on standards and competencies (through WMO's SERCOM and INFCOM)



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#### **Develop the climate services value chain/cycle**

- Scientific capability (including Obs., data, WCRP)  $\Leftrightarrow$  climate services information  $\Leftrightarrow$ user engagement
- Generate value and enable actions

#### Improve visibility and effectiveness of GFCS, promote coordination

- Climate services are essential for society. Needs global-regional-national coordination
  - Provide fora for stakeholder communication, knowledge sharing, collaboration

### **WMO Flagship Climate Reports**



#### Global reports



### State of Climate Services



### **Annual State of the Climate**



### **ENSO & Multiannual forecast**







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r the latest update, visit: https://wmo.int/topics/el-nino-la-nina

### Annually Averaged global mean near-surface temperature

- 2024 was the warmest year in the 175-year observational record, 1.55 ± 0.13 °C above the 1850-1900 average
- The past ten years, 2015-2024, were individually the ten warmest years on record
- Six international datasets are used to reach the consolidated WMO global figure
- Based on internationally agreed standards for measuring and monitoring the climate
- Long-term temperature goal of the Paris Agreement not yet dead but in grave danger

Global mean temperature 1850-2024 Difference from 1850-1900 average



State of the Global Climate

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2024

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# Challenges, opportunities and requests to WCRP

- All WCRP's activities and core projects are essential to provide the underpinning capability that powers climate services
- Demands to rapidly answer key societal climate issues, such as:
  - Explain the warm conditions in 2023 and 2024 (continuing in 2025)
  - Attribute (or not) extreme weather and climate events to climate drivers
  - Can WCRP update on key societal issues (e.g. sea level, cryosphere) between (and aligned with) IPCC Assessment Reports
- Growing demand for WMO's State of the Climate reports, and seasonal climate updates needs the climate science to address the above



# Thank you



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