

The World Weather Research Programme

2025

Chris Davis, Chair of Scientific Steering Committee
Estelle de Coning, Chief of WWRP

Our Activities in 2025

AWAR3E

Advancing Weather Research to Reduce Risk to Societies



Nowcasting and Mesoscale Research



Data Assimilation and Observing Systems



Forecast Verification Research



Predictability, Dynamics and Ensemble Forecasting



Tropical Meteorology Research



Societal and Economic Research Applications



Expert Team on Weather Modification

Working Groups



InPRHA



ADVANCE



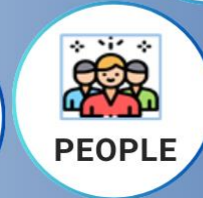
SAGE



URBAN (2025)



PCAPS



PEOPLE

Projects

Sciences for Services Projects



Tropical Cyclones - RDP (through 2025)



Aviation RDP (through 2025)

Polar Coupled Analysis and Prediction for Services (PCAPS)

- Enhance environmental services (**SERVICES**)
- Enable informed decision-making to enhance human safety and mitigate environmental risk (**SUSTAINABILITY**)
- Provide more accurate and reliable analyses and predictions (**PREDICT**)
- Strengthen partnerships through transdisciplinary coordination and cooperation (**PARTNERSHIPS**)
- Inclusivity and capacity development enable a wide range of actors to participate in and benefit from PCAPS (**INCLUSIVITY**)

Andrew Orr – WCRP/Polar CORDEX



Integrated Prediction of Precipitation and Hydrology for Early Actions (InPRHA)

1. Engage with the diversity of the international communities of researchers, forecasters, practitioners and other stakeholders
2. Foster collaboration between research and operations, within national meteorological and hydrological services (NMHSs) and beyond
3. Bring together knowledge from different disciplines (meteorology, hydrology and the social sciences) and cultures with consideration for the most vulnerable and least developed communities
4. Rethink the flood warning process, in a non-stationary system, by taking into account anthropogenic influences and changes on climate, land and water, as well as societal interactions, considerations and perceptions.

Jan Polcher – WCRP GEWEX



Credits: Muhammad Amdad Hossain

Sub-seasonal Applications for Agriculture and Environment (SAGE)

- **Focus Sectors: Agriculture, Energy, DRR, Health**
- Advance our understanding of **how and where sub-seasonal to seasonal forecast information is and can be used** to support decision-making
- Advance our understanding of the **skill and uncertainty and their sources** in impact relevant sub-seasonal to seasonal forecasts.
- Develop methods for **incorporating sub-seasonal forecasts and their associated uncertainty into decision-making and evaluating** the worth of forecast information

Yuhei Takaya – WCRP/ESMO (WGSIP)



Progressing EW4All Oriented to Partnerships and Local Engagement (PEOPLE)

- **Inclusive EWS:** How can we involve and identify the needs of an inclusive **range of people to be effectively and adequately engaged** in the design, planning, and implementation and evaluation of early warning systems?
- **Barriers and Enablers:** What are the barriers and enablers to design socially inclusive early warning systems, delivered urgently and at scale inter-alia including multi-level governance, resources (human and financial), spectrum of impactful events, culture, context, trust, etc.
- **Context-driven and Evolving Risk:** How can context-appropriate EW systems be optimized, sustained and adapted to evolving weather and climate-induced risks and socio-economic structural dynamics?

Kendra Gotangco – WCRP/My Climate Risk



Urban Prediction Project

- **ACCESSIBILITY AND RELEVANCE OF INFORMATION:** Assess and provide guidance on the accessibility and cultural relevance of diverse urban data and information to contribute to an actionable EWS process for place-specific preparedness and response.
- **PREDICTION AND EWS ACROSS SPATIAL SCALES:** Seeks to understand the role of spatial scale and recommend benchmarks in predicting and providing effective multi-hazard early warnings for diverse urban populations and decision-makers.
- **ADVANCING MODELLING TECHNIQUES AND UTILIZATION OF EMERGING DATASETS:** Seeks to understand how the integration of advanced physical models, observations, AI technologies, and diverse multidisciplinary urban data can enhance prediction and early warning systems in different urban environments.
- **KNOWLEDGE SHARING AND CAPACITY BUILDING:** Explore place-specific, diverse knowledge and capacities among key actors in urban areas to prepare and respond to weather-related risks using data and information.



Aiding Decision-making in Vulnerable Africa with Nowcasting of ConvEction (ADVANCE)

- ENDORSED PROJECTS:
 1. CREWS East Africa
 2. CREWS Central Africa
 3. Weather and Climate Information Services (WISER): Early Warnings for Southern Africa (EWSA)
 4. Advancing Nowcasting with Deep Learning techniques (ANDel)

WCRP/RifS activities





Eighth WMO International Workshop on Monsoons (IWM-8)

Early Career Professional Workshop

17-21 March 2025, Pune, India

Outcomes of the Workshop



68 ECPs actively engaged with innovative ideas and valuable reflections



Sparked ECP collaboration and networking in monsoon research



ECPs contributed in IWM-8 final panel on "Monsoon in a Changing Climate"

More Info:



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