

World Weather Research Programme – report to Research Board



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

June 2022

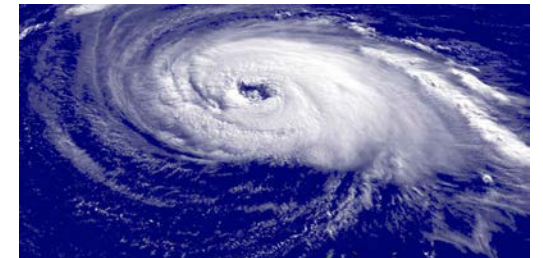
WMO OMM
World Meteorological Organization
Organisation météorologique mondiale



WWRP Recent Highlights in 2022

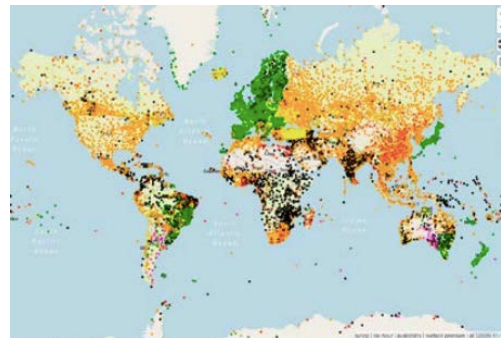
(mapping to S&I Strategic Objectives, 3.X)

- Launching of **International Monsoons Project Office** (with WCRP). (3.1, 3.2)
- **7th International Workshop on Monsoons** (IWM-7) hosted by IITM, upcoming on 22-26 March (3.1, 3.2)
- **Weather and Society Conference** (organized by Societal and Economic Research Applications WG) from 28 Feb to 11 March (3.2)
- **4th Joint Project Meeting of WWRP Typhoon Projects**, 7-10 Mar 2022 (3.1)
- **Machine Learning/Artificial Intelligence Competition**, organized by S2S (winners announced in Feb.) (with WCRP) (3.1, 3.2).
- HIWeather book **“Towards the perfect warning”** is out! (3.3)
- **WWRP will spend 2022 developing its new Implementation Plan for 2024-2027.** (3.1, 3.2, 3.3).



Programmatic Considerations for WWRP

- WWRP **Community Survey** (featuring research ties to Disaster Risk Reduction)
- Evaluation of Impact
 - Research and operations
 - Enhancing capacity and improving outcomes in developing countries
- Global Multi-hazard Alert System, Early Warning Systems, and Disaster Risk Reduction: input into the policy makers on the weather time scales – UNDRR Global Platform, Sendai, etc
- **WMO**: New WMO Strategic Plan, 2024-2027
- **WMO**: Support Stronger Climate Action (mitigation, adaptation, finance)
- **WMO**: Hydrology and water management
- **WMO**: Global Basic Observing Network
- **WMO**: Oceans



Proposed WWRP Umbrella Framing and Structure (2024-2027)

AWAR³E

Advancing **W**eather **R**esearch to **R**educe **R**isk to Soci**E**ties

Ensure that people are **aware** of threats and mitigation actions

Be **aware** of all people and their needs

Make society **aware** of our science

Increase forecasters' and decision makers' **awareness** of appropriate tools and techniques

Ensure that researchers are **aware** of each other's work:

Framing and
guiding principles

Projects to provide
improvements

Projects (TC-PFP, AvRDP, Paris, and other new Projects)

Expertise that
fuels projects

Working Groups and others: Reservoirs of Expertise and Innovation



WMO OMM

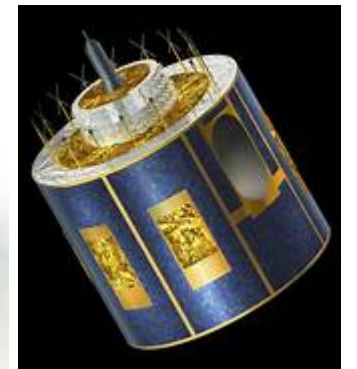
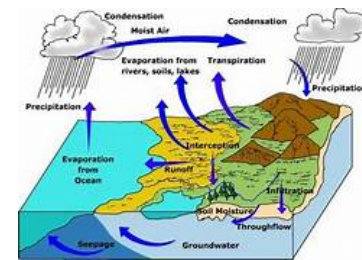
Projects in 2024 and Beyond (staggered approach)

- **Current Projects**

- HIWeather Core Project (through 2024)
- Paris Olympics 2024 RDP (through 2024)
- Aviation RDP-2 (through 2025)
- Tropical Cyclones-Probabilistic Forecast Products (through 2025)

- **New Projects (starting in 2023-2026)**

- **Polar Research** (coupled atmosphere-ocean-ice prediction; inclusion of Indigenous communities)
- **Sub-seasonal (and longer) predictability related to agriculture, energy and water resources** (coupled atmosphere-land-ocean) applications
- **Urban Prediction**
- **Integrated hydrology and precipitation** (minutes to days)
- **Satellite based nowcasting for Africa**
- **Public Engagement fOr Practitioners, Learners, and Educators (PEOPLE)**



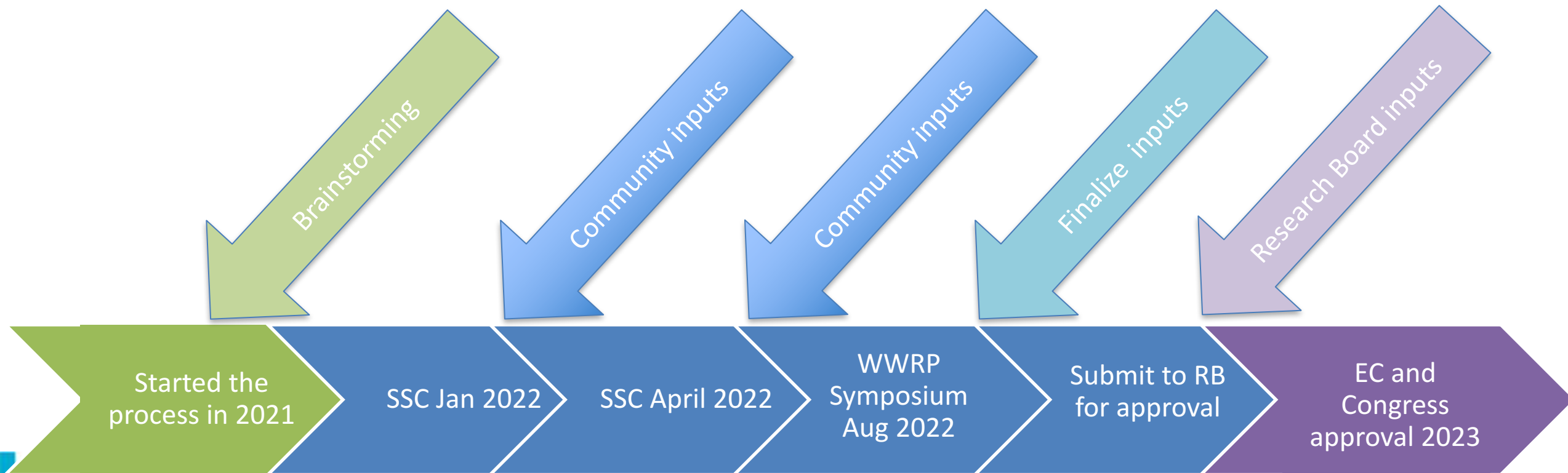
Why Choose *These* New Projects?

- Span the Earth system components (land, water, ice, atmosphere)
- Include fundamental science that we need to advance
- Respond to climate and water drivers (priorities in WMO)
- Maintain some continuity with current research efforts
- Demonstrate relevance of WWRP and enhance our visibility
- Inform and build trust with broad community
- Increase regional emphasis, including Developing Countries (DC), Least Developed Countries (LDC) and Small Island Developing States (SIDS)

WWRP Projects	Partners
HIWeather (through 2024)	SERCOM and the Standing Committee on Disaster Risk Reduction and Public Services (SC-DRR)
Paris Olympics RDP (through 2024)	SERCOM SG-URB and GAW for air quality prediction
Aviation RDP-2 (through 2025)	SERCOM and the Standing Committee on Services for Aviation (SC-AVI)
TC-PFP (through 2025)	INFCOM through the Data Processing for Applied Earth System Modelling and Prediction & Projection (SC-ESMP); SERCOM (RSMCs) and SC-DRR
Polar (2024-2028)	WCRP (ESMO/WGNE), coupled modeling; INFCOM (EC-PHORS)
S2S Water/Energy/Agriculture (2025-2029)	WCRP (ESMO), coupled modeling; SERCOM and the Standing Committee on Services for Agriculture (SC-AGR)
Urban (2026-2030)	GAW (GURME) for air quality and urban boundary layer research and SG-URBAN
Hydrology and Precipitation (2024-2028)	SERCOM and the Standing Committee on Hydrological Services (SC-HYD), WCRP/GEWEX
Satellite Nowcasting (2023-2027)	African NMHSs; EUMETSAT's Nowcasting Satellite Applications Facility (NWC-SAF); WMO RA I Regional Office (RO), Space Systems and Utilization Division (INFCOM/SSUD) and MS (ETR) and GMAS (SERCOM)



New WWRP IP timeline





Thank you

WMO OMM

World Meteorological Organization

Organisation météorologique mondiale