



WORLD WEATHER RESEARCH PROGRAMME

Mission: To advance society's ability to cope with high impact weather **through research focused on improving the accuracy, lead time and utilization of weather prediction.**



Major Partners

TMR

Joint WG on Numerical Experimentation (WGNE)

M & N

Group on Earth Observations (GEO)

SERA

Integrated Research on Disaster Risk (IRDR)

WWRP

FVR

The International Council for Science (ICSU)

WM

World Climate Research Programme (WCRP)

WMO Severe Weather Forecast Demonstration Projects (SWFDP)

PDEF

WMO Integrated Global Observing System (WIGOS) and Information Systems (WIS)

DAOS

Global Atmosphere Watch (GAW)

WMO Weather and Disaster Risk Reduction Services (WDS)





Societal and Economic Research Applications

To advance the science of the **social and economic application of weather related information and services** and review and assist in the development and promotion of societal and economic related demonstration projects.





working together in support of **building hazard resilient communities**

Working arrangement to, among other things, jointly support the activities of the Working Group on Societal and Economic Research and Applications.

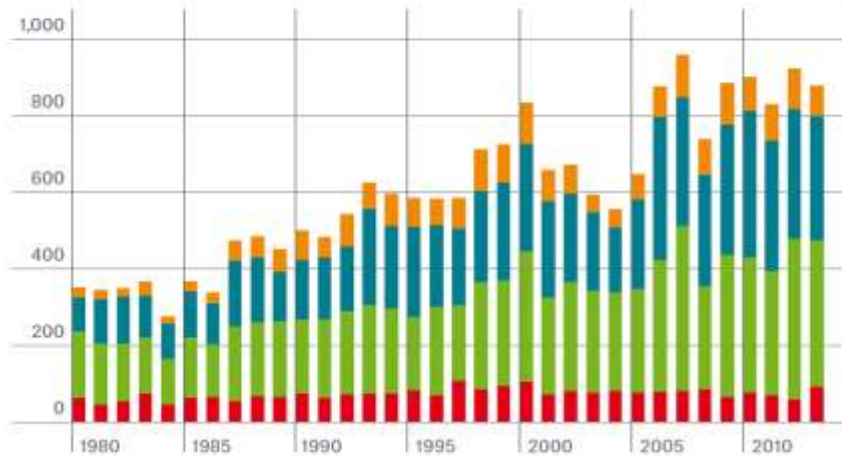


research priorities include:

- Estimation of the societal (including economic) value of weather and disaster risk reduction information;
- Understanding and improving the use of weather-related hazard information in decision making;
- Understanding and improving the communication of weather-related hazard information and forecast uncertainty;
- Development of user-relevant verification methods; and
- Development of decision support systems and tools.”



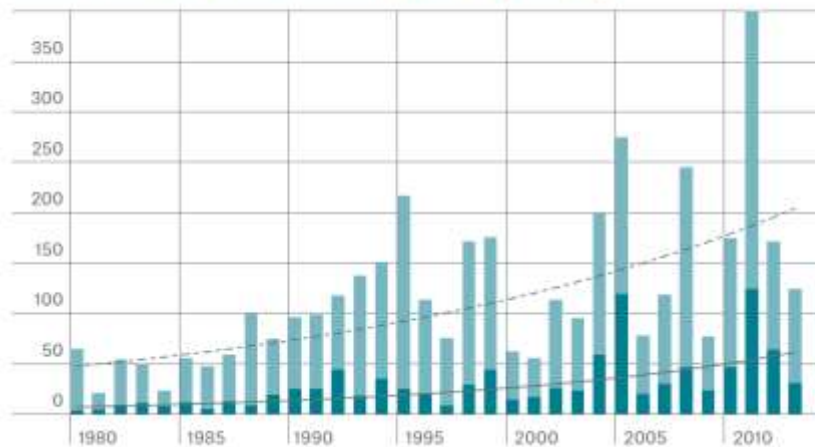
Number of loss events 1980-2013



- Geophysical events:
Earthquake, tsunami,
volcanic eruption
- Meteorological events:
Tropical storm, extratropical
storm, convective storm,
local storm
- Hydrological events:
Flooding, mass movement
- Climatological events:
Extreme temperatures,
drought, wildfire

Source: Munich Re

Overall losses and insured losses 1980-2013 (in US\$ bn)



- Overall losses
(2013 values)*
- Of which insured losses
(2013 values)*
- - - Trend: Overall losses
- - - Trend: Insured losses

Source: Munich Re

* Values adjusted for inflation using the Consumer Price Index (CPI) of each country.





THE ROLE OF RESEARCH IN DRR

1. Reduce the level and degree of uncertainty by improvements in:

accuracy and timeliness

lead time

2. Identify how the uncertain information can be used to inform decision-making.



Past Meetings



1. 12-13 October, 2009 (Trieste, Italy)
2. 27-29 September, 2010 (Toulouse, France)
3. 30 October, 2011 (Beijing, China)
4. 25-30 July, 2012 (Melbourne, Australia)
5. 21-22 August, 2014 (Montréal, Canada)



Membership

Linda Anderson-Berry, co-
Chair (BoM)

Jane Rovins, co-Chair (DRRS)

Kwabena A. Anaman (UG)

Ben Jou (ATS)

Paul Kovacs (ICLR)

Brian Mills (EC)

Jeff Lazo (NCAR)

Adrian Perrels (FMI)

Eugene Poolman (SAWS)

Joanne Robbins (UKMO)

David Johnston (IRDR)



OBJECTIVES

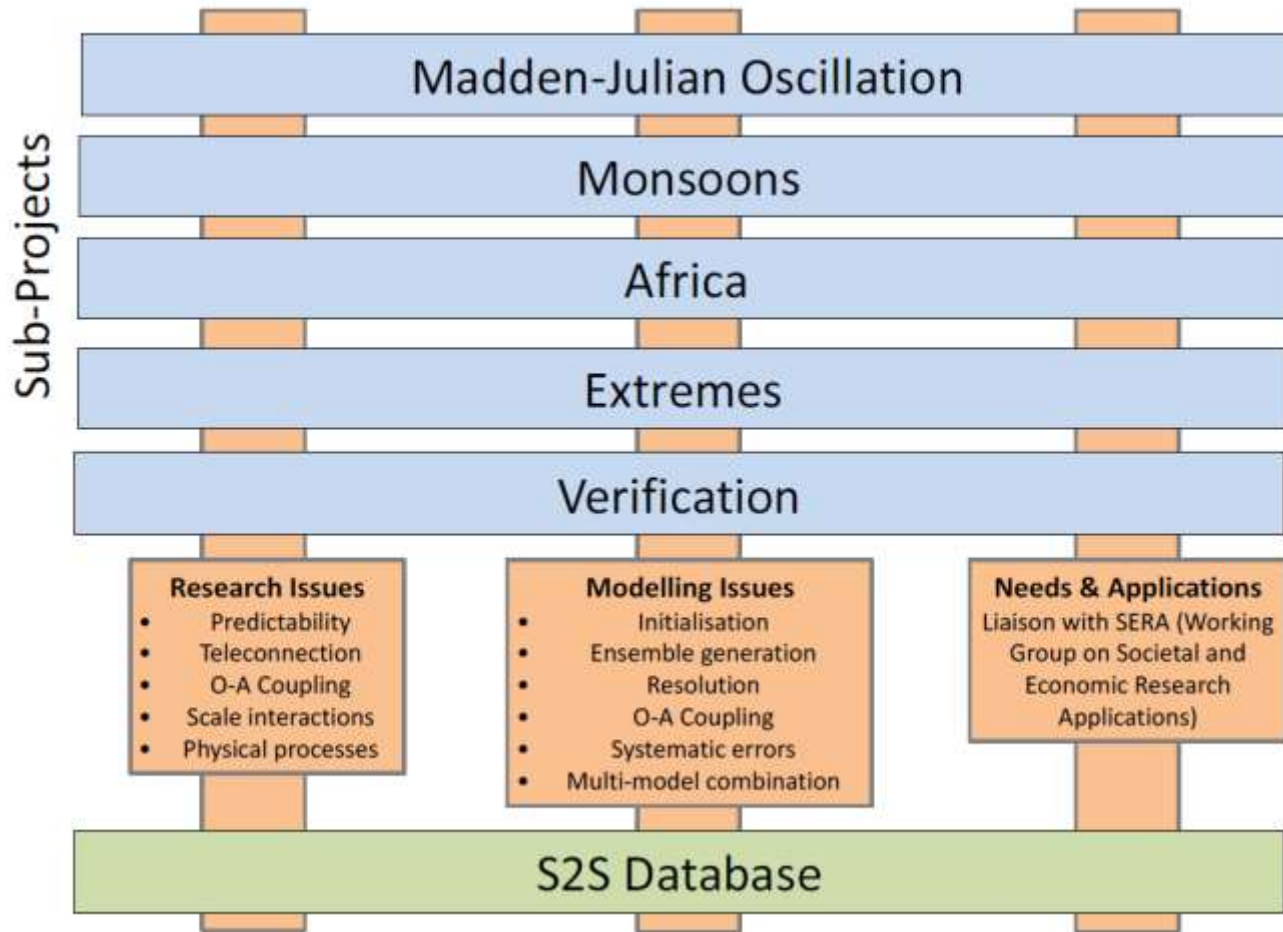
- To improve forecast skill and understanding on the sub-seasonal to seasonal timescale with special emphasis on high-impact weather events
- To promote the initiative's uptake by operational centres and exploitation by the applications community
- To capitalize on the expertise of the weather and climate research communities to address issues of importance to the Global Framework for Climate Services



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Sub-seasonal to Seasonal (S2S) Prediction Project



High-Impact Weather Prediction Project



Overall Objective

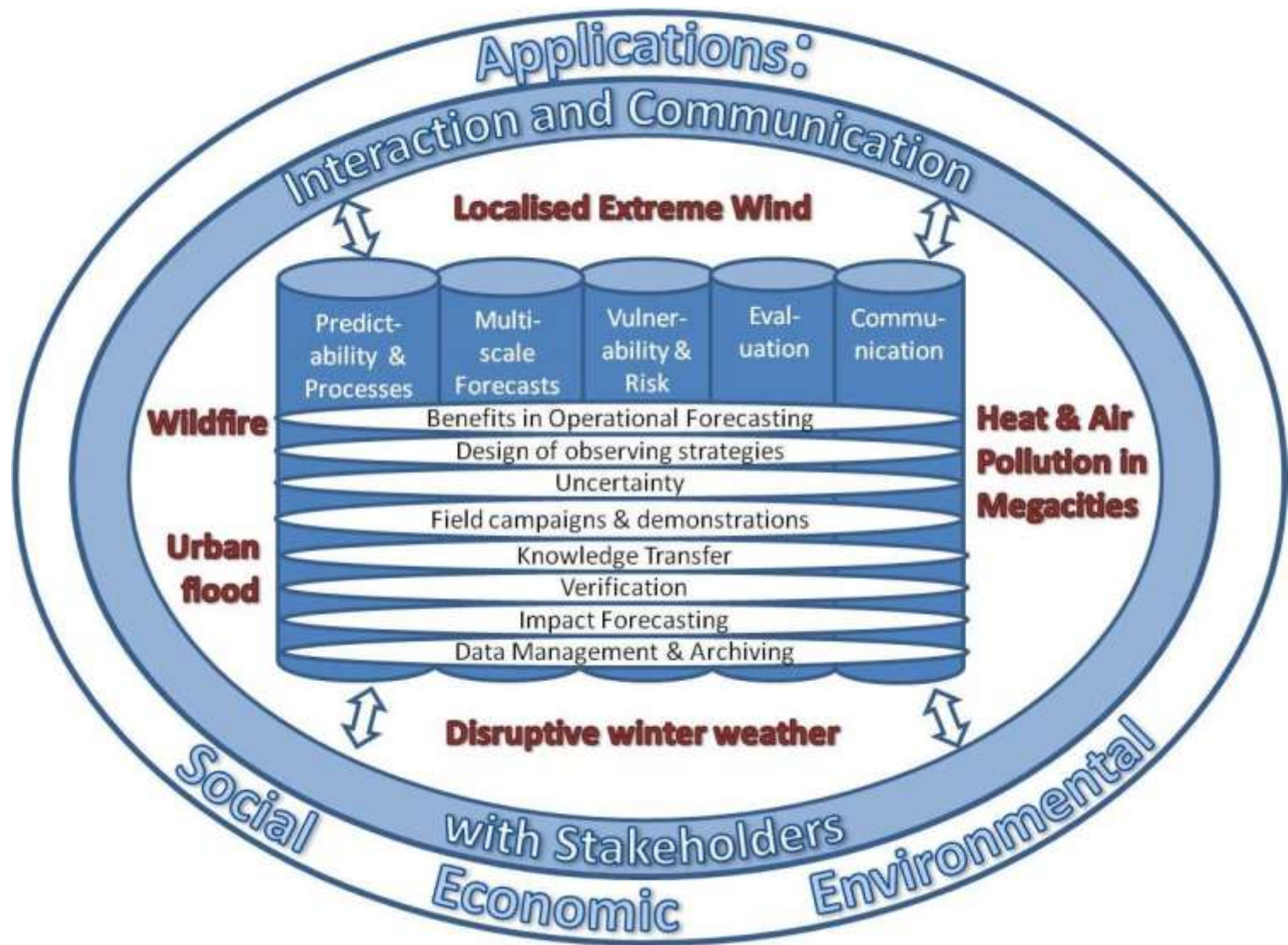
“Promote cooperative international research to achieve a dramatic increase in resilience to high impact weather, worldwide, through improving forecasts for timescales of minutes to two weeks and enhancing their communication and utility in social, economic and environmental applications”



STRATEGIES TO ACHIEVE GOALS

- Engage researchers from operational and academic centres; encourage development of research proposals
- Develop linkages with other initiatives
 - International bodies and activities, WWRP Working groups, national initiatives, Post-Hyogo activities on disaster risk reduction
- Engage communication of scientists with different backgrounds through workshops, conferences etc.
- Establish and exploit special research datasets
- Support research and demonstration projects
- Link to S2S and PPP





The WWRP Polar Prediction Project (2013-2022)

Mission: „Promote cooperative international research enabling development of improved weather and environmental prediction services for the polar regions, on time scales from hourly to seasonal.“



Research Goals

Service-oriented Research

User Applications and Societal Benefits

Verification

Forecasting System Research

Observations

Modelling

Data Assimilation

Ensemble Forecasting

Underpinning Research

Predictability and Diagnostics

Global Linkages



ON-GOING AND PLANNED ACTIVITIES

Develop a joint JWGFVR/SERA project focused on The Integrated Global Grand Ensemble (TIGGE) tropical cyclone tracks (CXML data) or heavy precipitation product(s)

Develop a publication: Applications of seasonal to sub-seasonal weather and climate predictions: An annotated bibliography

Prepare a guidance document that can be used by project proponents in the design, costing and implementation of SERA elements of proposals seeing endorsement from WWRP

Prepare the draft proposal for a SERA Research & Development Project: Understanding the Societal and Economic Dimensions of weather-related warning systems

Develop an externally-managed web site (and social media pages) linked to the WWRP web site



World Meteorological Organization



A United Nations Specialized Agency
Working together in Weather, Climate and Water



THANK YOU

