

WMO Welcome Statement

at the Opening of the WMO Symposium on
Nowcasting and Very-short-range Forecast
(Hong Kong, China, 25-29 July 2016)

**On behalf of Professor Petteri Taalas,
Secretary-General of the World
Meteorological Organization (WMO)**



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WMO World Weather Research Programme (WWRP)

Sarah Jones, Chair Scientific Steering Committee

Paolo Ruti, Chief World Weather Research Division

Alexander Baklanov, Scientific Officer, Research Department

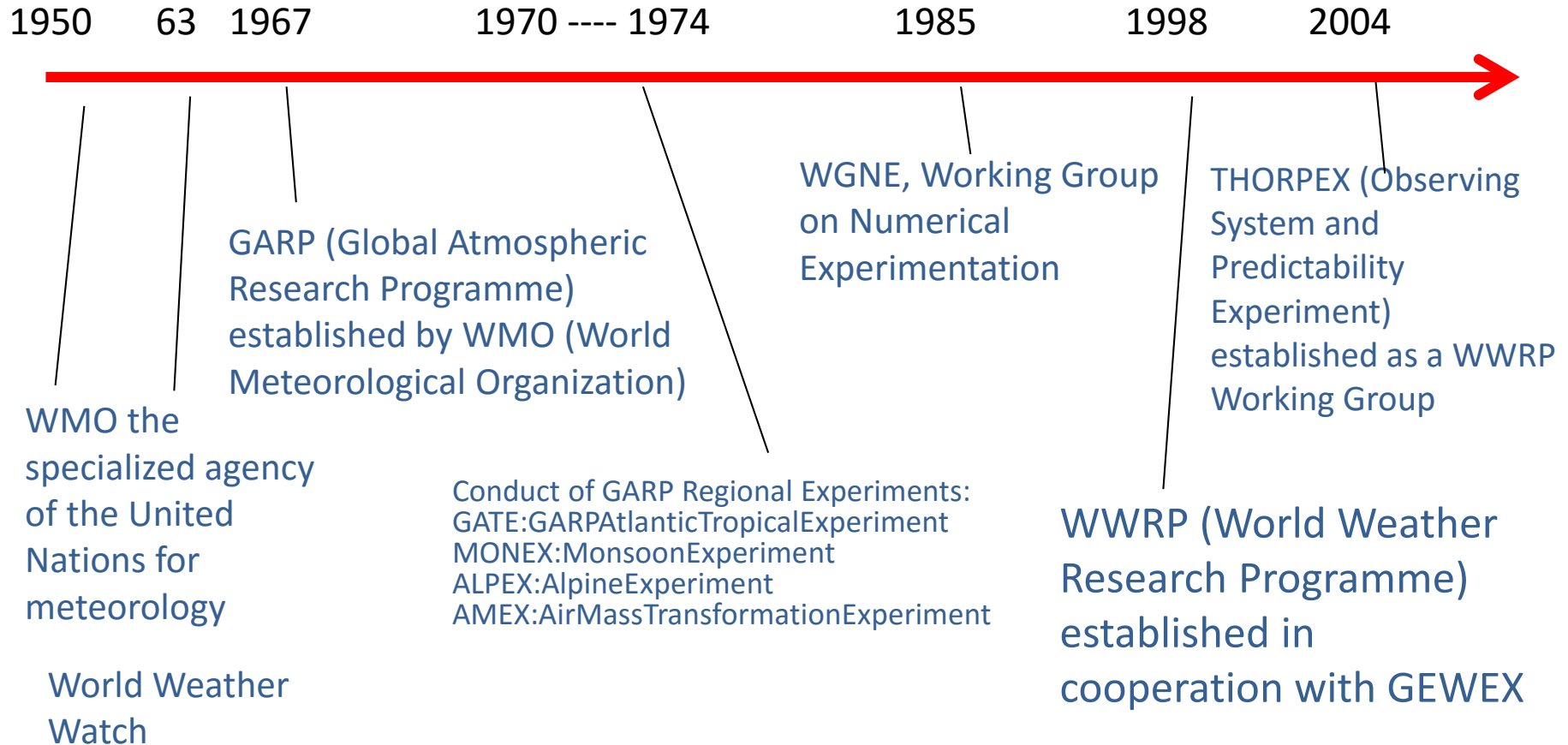


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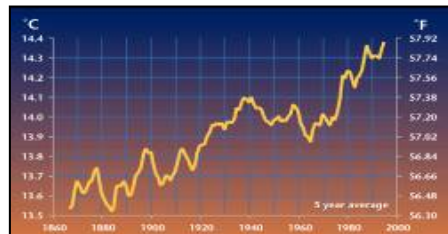
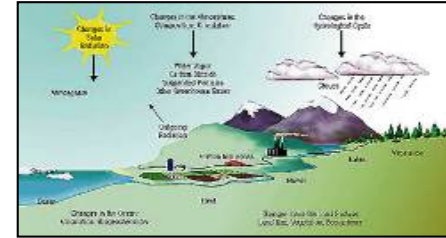
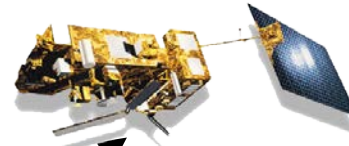
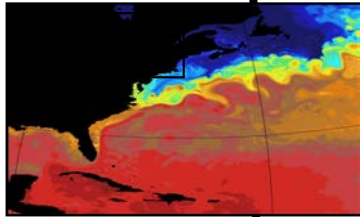
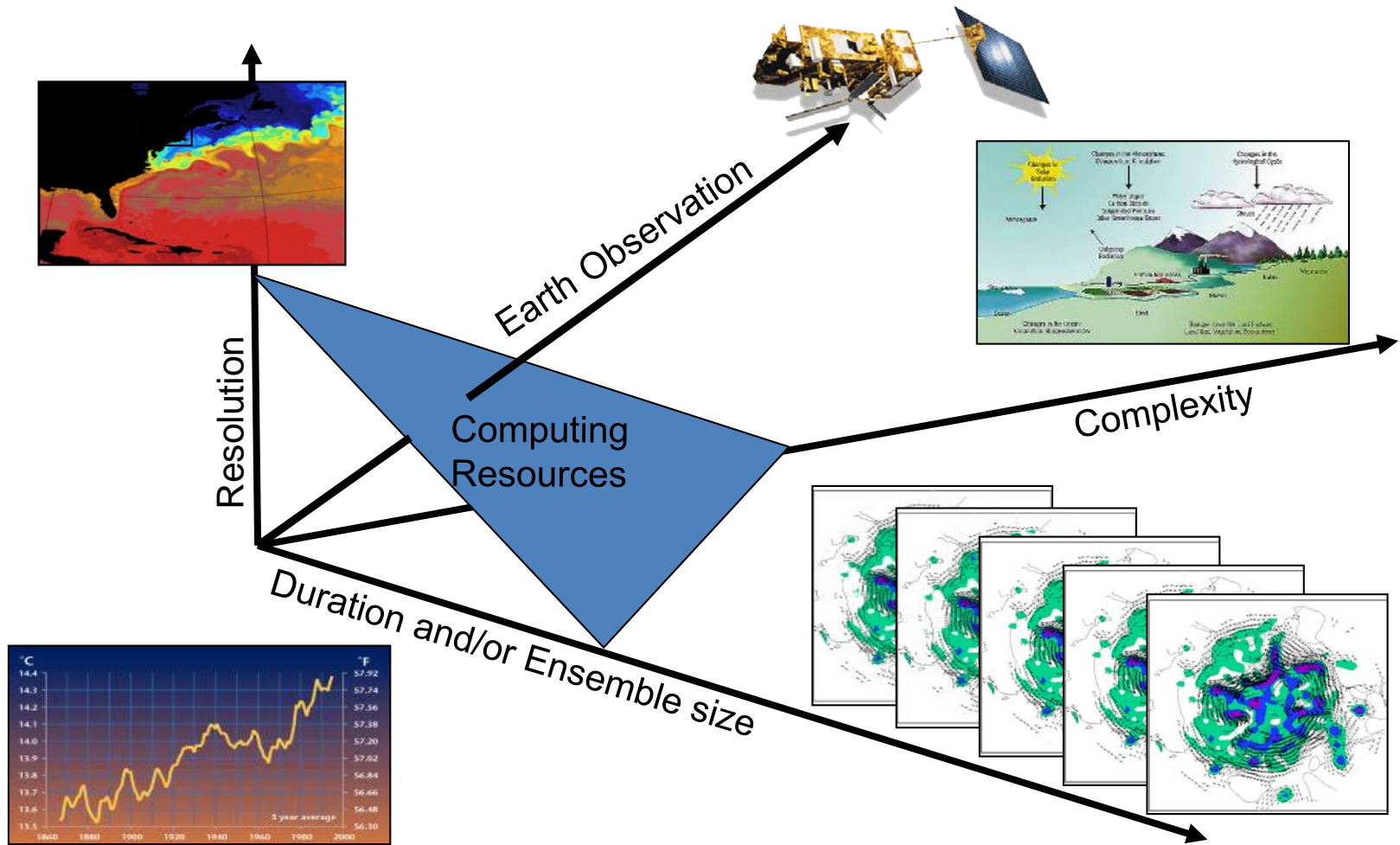
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Historical background



Improving predictive skill



Overarching goals



- Towards Environmental Prediction, integrating modeling components (hydrology, sea-ice, ocean, atmospheric composition) to improve forecasting systems
→ **Ex. Polar Prediction Project**
- Towards a seamless predictive capability, developing a unified approach to advance environmental prediction from minutes to months and seasons, from global to local, for different users
→ **Ex. Sub-seasonal to Seasonal Prediction Project**
- Towards impacts forecasting, building community resilience in the face of increasing vulnerability to extreme weather events, through a better understanding of communication and decision-making processes
→ **Ex. High-Impact Weather Project**

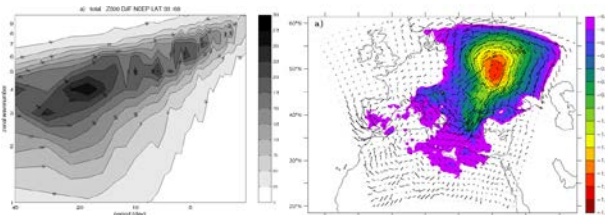


Around 4 societal challenges



WWRP Mission

- WWRP advances society's resilience to high impact weather through research focused on improving the accuracy, lead time and utilization of weather prediction, and through engaging users & stakeholders to define research priorities and facilitate transition to applications
- WWRP promotes cooperative international & interdisciplinary research in the operational and academic communities and supports the development of early career scientists
- WWRP aims at Seamless Prediction of the Earth System from minutes to months using coupled systems – thus applying expertise in weather science to promote convergence between weather, climate and environmental communities



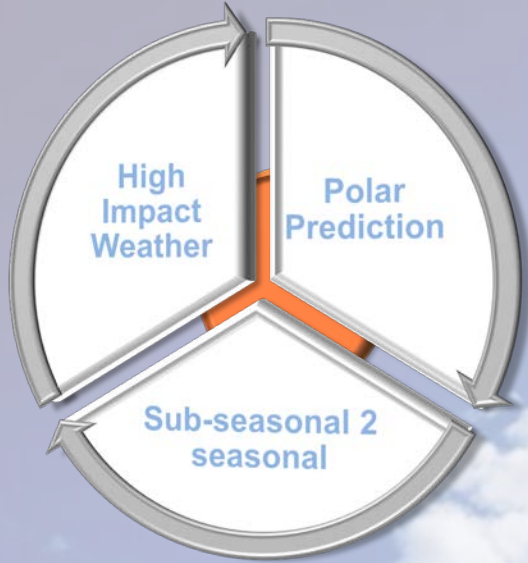
WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

Extremes

Predicting Water Cycle

Urbanization

Emerging Technologies



- Numerical Experimentation
- Nowcasting and Mesoscale
- Tropical Meteorology
- Predictability and Ensemble Forecasting
- Dynamics
- Data Assimilation and Observing Systems
- Verification
- Social & economics
- Weather Modification



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Challenges

Core Projects

Working Groups



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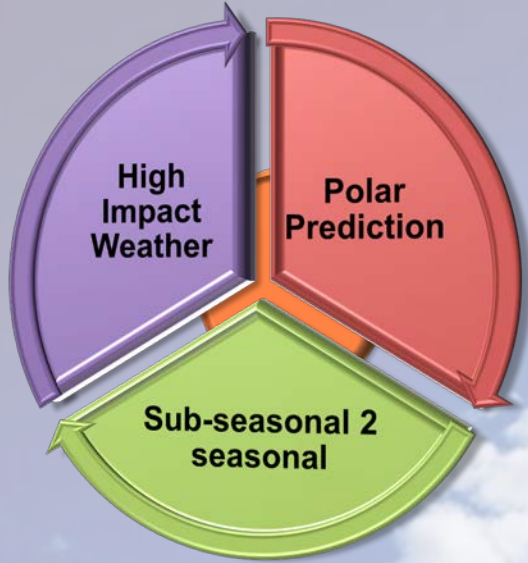
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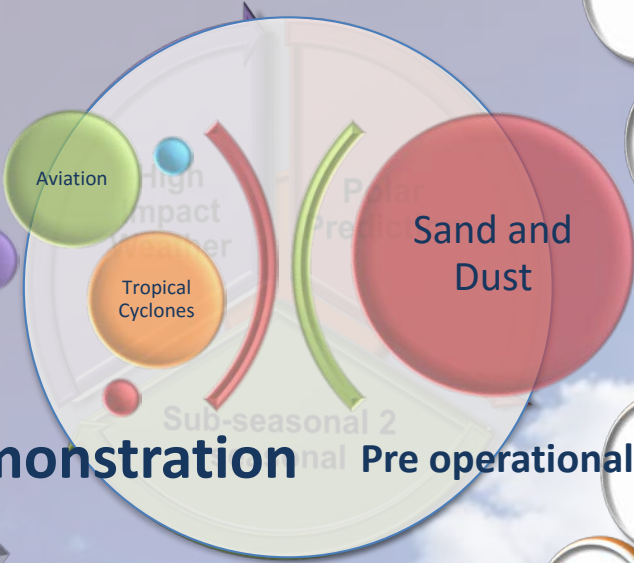
Urbanization



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Challenges



Demonstration Pre operational

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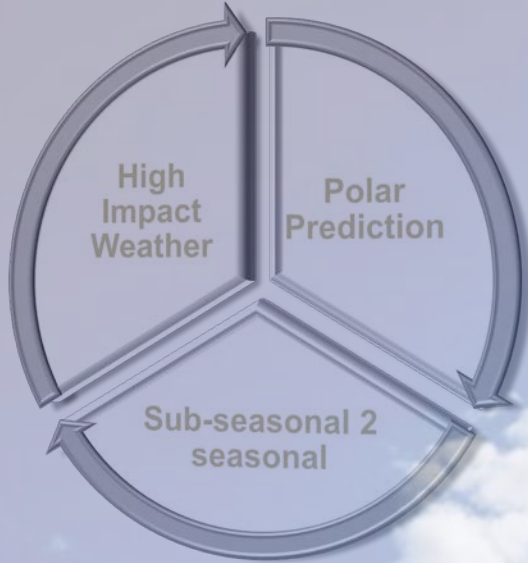
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High Impact Weather Project

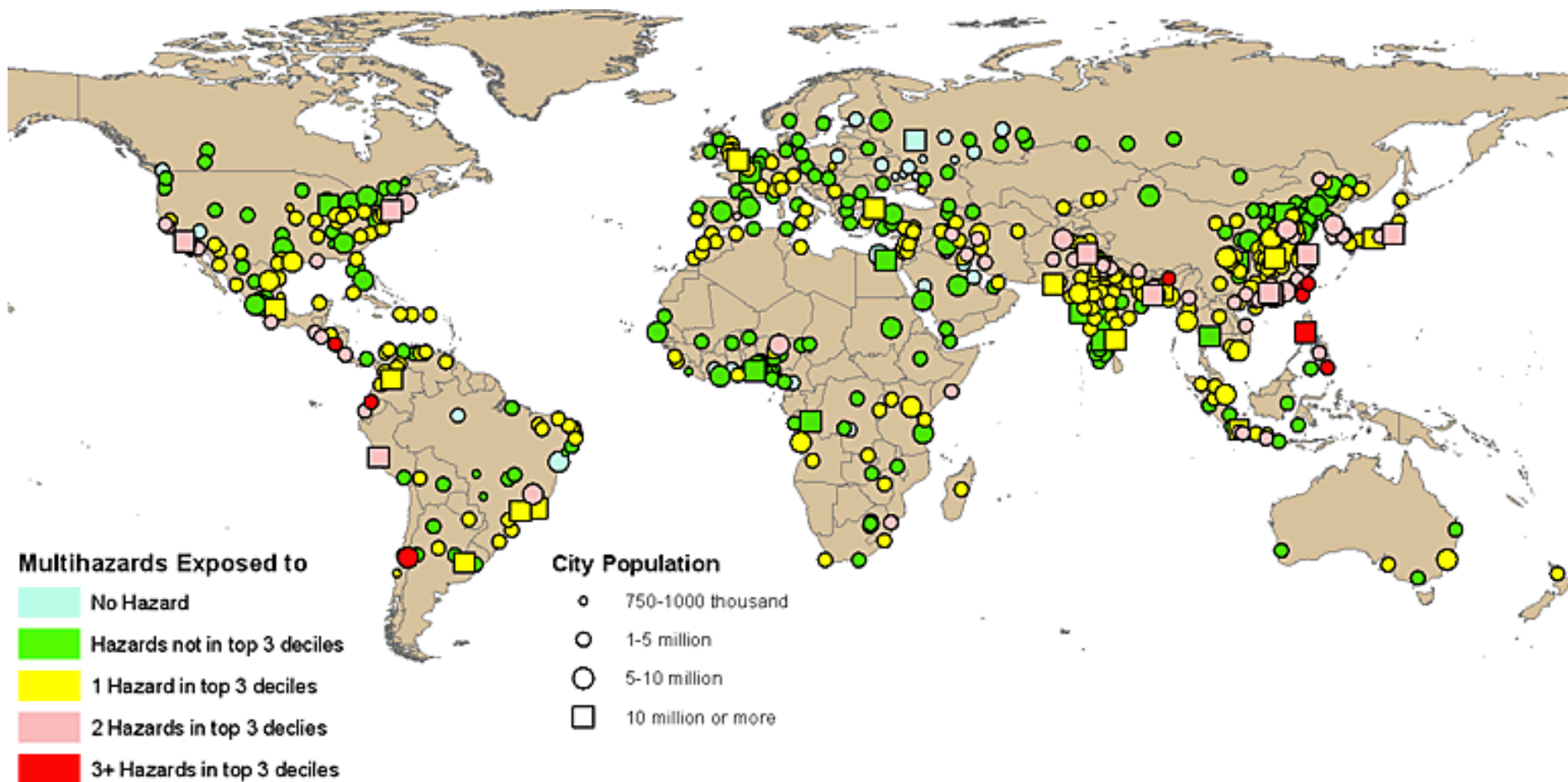
- Increasing resilience to Urban Flood, Wildfire, Urban Heat and Air Pollution in Megacities, Localised extreme wind, Disruptive winter weather through improving forecasts for timescales of minutes to two weeks and enhancing their communication and utility in social, economic and environmental applications
- Implementation Plan (2015-2024) approved by WWRP SSC
- Links to WCRP through quantifying vulnerability and risk assessment, and for response to High Impact Weather in a changing climate.

Co-Chairs: Brian Golding, MetOffice, David Jhonston, Massey Uni.



Christof Stache/AFP/Getty Images; Marina Shemesh /publicdomainpictures.net; Alexandros Vlachos/EPA; NOAA NWS; NOAA NWS

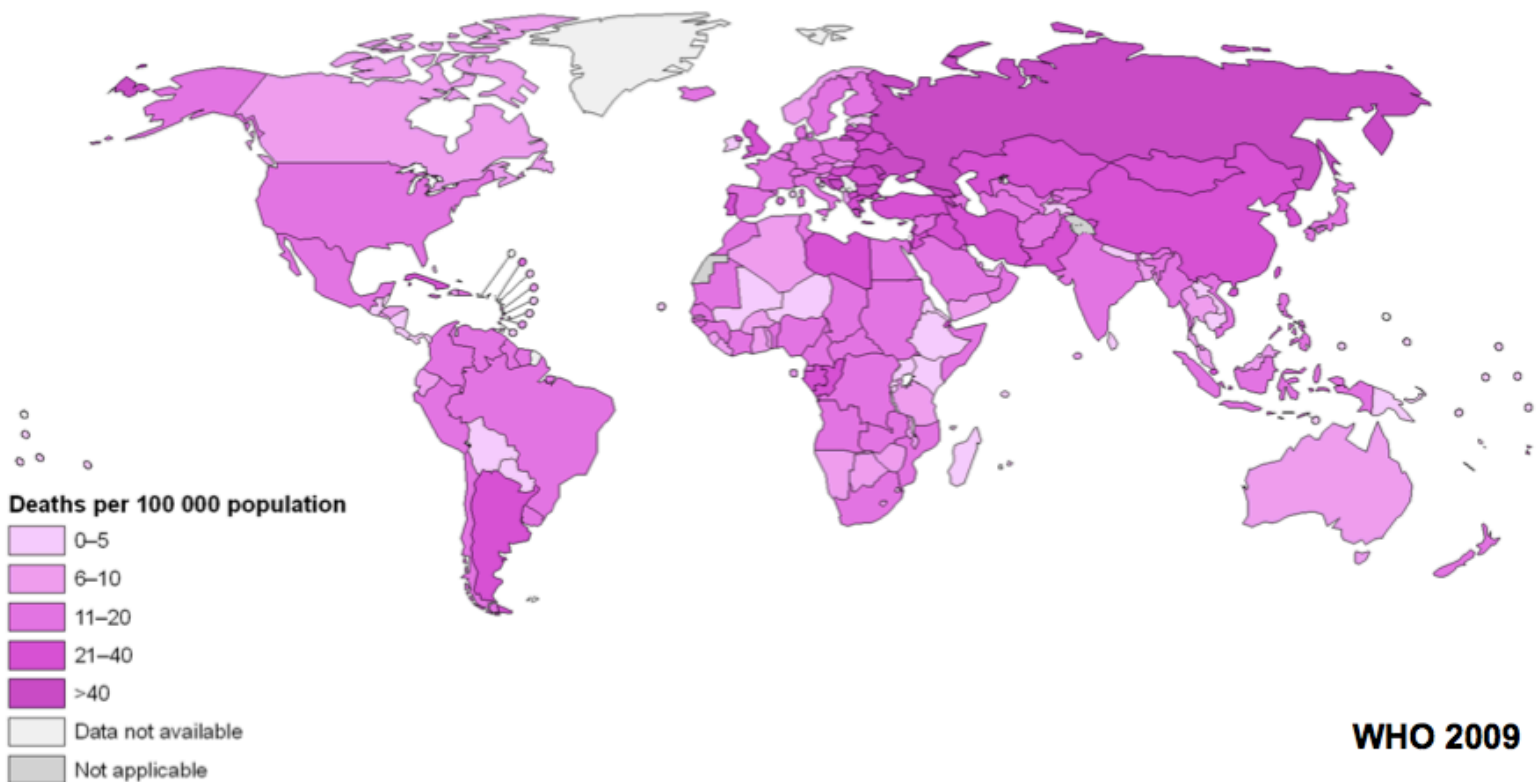
Why?



Urban agglomerations at risk of multiple natural hazards (2025)



Why?



More than 1 billion people are exposed to outdoor air pollution. Urban air pollution is linked to up to 1.3 million premature deaths and a cost of 2 to 5% of GDP.



How?



Urban Flood: Reducing mortality, morbidity, damage and disruption from flood inundation by intense rain.

Disruptive Winter Weather: Reducing mortality, morbidity, damage and disruption from snow, ice and fog to transport, power & communications infrastructure.



Wildfire: Reducing mortality, morbidity, damage and disruption from wildfires & their smoke.

Urban Heat Waves & Air Pollution: Reducing mortality, morbidity and disruption from extreme heat & pollution in the megacities of the developing and newly developed world.



Extreme Local Wind: Reducing mortality, morbidity, damage and disruption from wind & wind blown debris in tropical & extra-tropical cyclones, downslope windstorms & convective storms, including tornadoes.

Scope defined by a set of hazards

WMO 2016-19 Strategy

Disaster risk reduction: Improve the accuracy and effectiveness of impact-based forecasts and multi-hazard early warnings

Global Framework for Climate Services: Implement climate services under the GFCS particularly for countries that lack them → Sub-seasonal to seasonal

Aviation meteorological services: to provide sustainable high quality services in support of safety, efficiency and regularity of the air transport worldwide

Polar and high mountain regions: Improve operational meteorological and hydrological monitoring, prediction and services in polar and high mountain regions



No Research – No new services

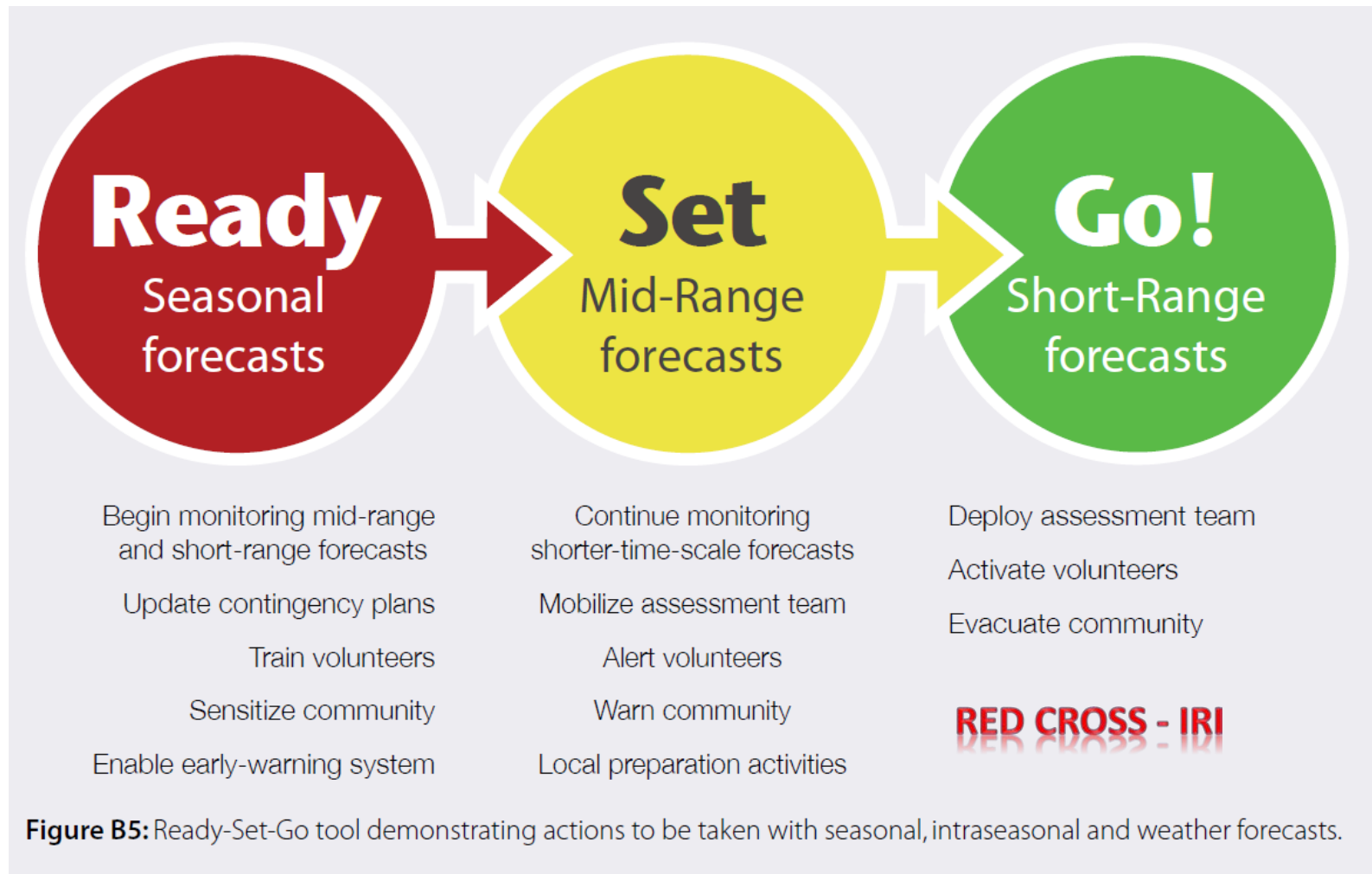


Figure B5: Ready-Set-Go tool demonstrating actions to be taken with seasonal, intraseasonal and weather forecasts.

Thank you
Merci
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