World Weather Research Programme (WWRP) - Catalyzing Innovation in Weather, climate and Environmental Sciences

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World Meteorological Organization

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

WMO OMM
World Meteorological Organization
Organisation météorologique mondiale

The World Weather Research Programme

WMO's mechanism to foster and progress cooperative research for improved weather and environmental prediction services from minutes to months

Mission

"The WMO World Weather Research Programme (WWRP) promotes international and interdisciplinary **research for more accurate and reliable forecasts from minutes to seasons**, expanding the frontiers of weather science **to enhance society's resilience** to high-impact weather and the **value of weather information for users**. WWRP aims at ***Seamless Prediction*** by increasing convergence between weather, climate and environmental approaches. WWRP **strengthens academic – operational partnerships** and interdisciplinary collaborations, and enhances **the role of Early Career Scientists**

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WWRP
WORLD WEATHER RESEARCH PROGRAMME

Seamless prediction

In the context of WMO, seamless prediction considers not only all compartments of the Earth system, but also all disciplines of the weather–climate–water–environment value cycle (monitoring and observation, models, forecasting, end-user products, dissemination and communication, perception and interpretation, decision-making and feedback to research requirements) to deliver tailored weather, climate, water and environmental information covering minutes to centuries and local to global scales.

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WORLD WEATHER RESEARCH PROGRAMME

Three Core Projects

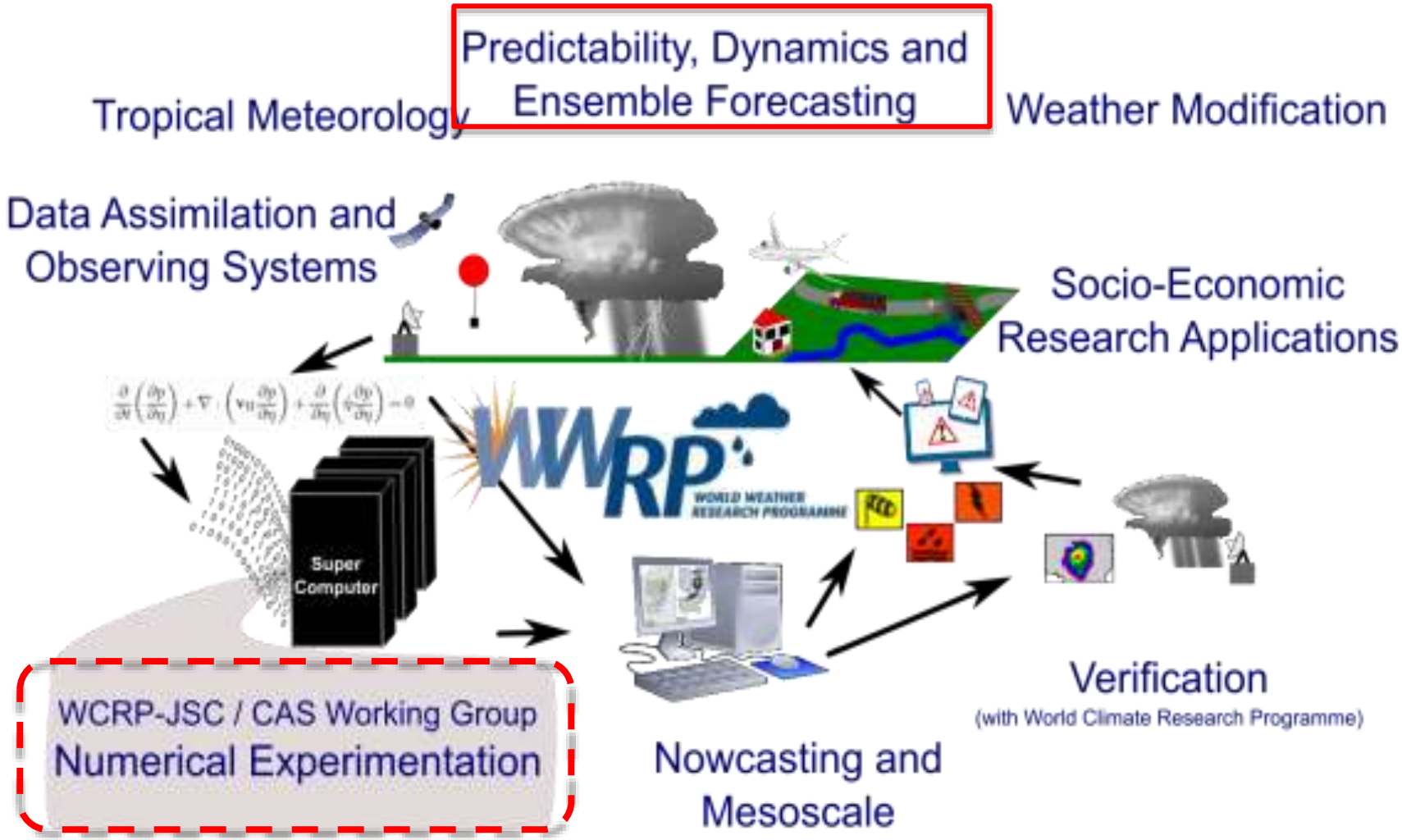
- Multi-scale forecasts, warnings and impacts
- Predictability & Uncertainty
- Vulnerability & Risk
- User communication
- Timescale:
  Minutes to two weeks
- Urban jointly with GAW

- Improve forecast skill
- Tropical cyclones, droughts, floods, heat waves, monsoons,…
- Data exchange and accessibility
- S2S Database
- Timescale:
  Two weeks to seasons
- Jointly with WCRP

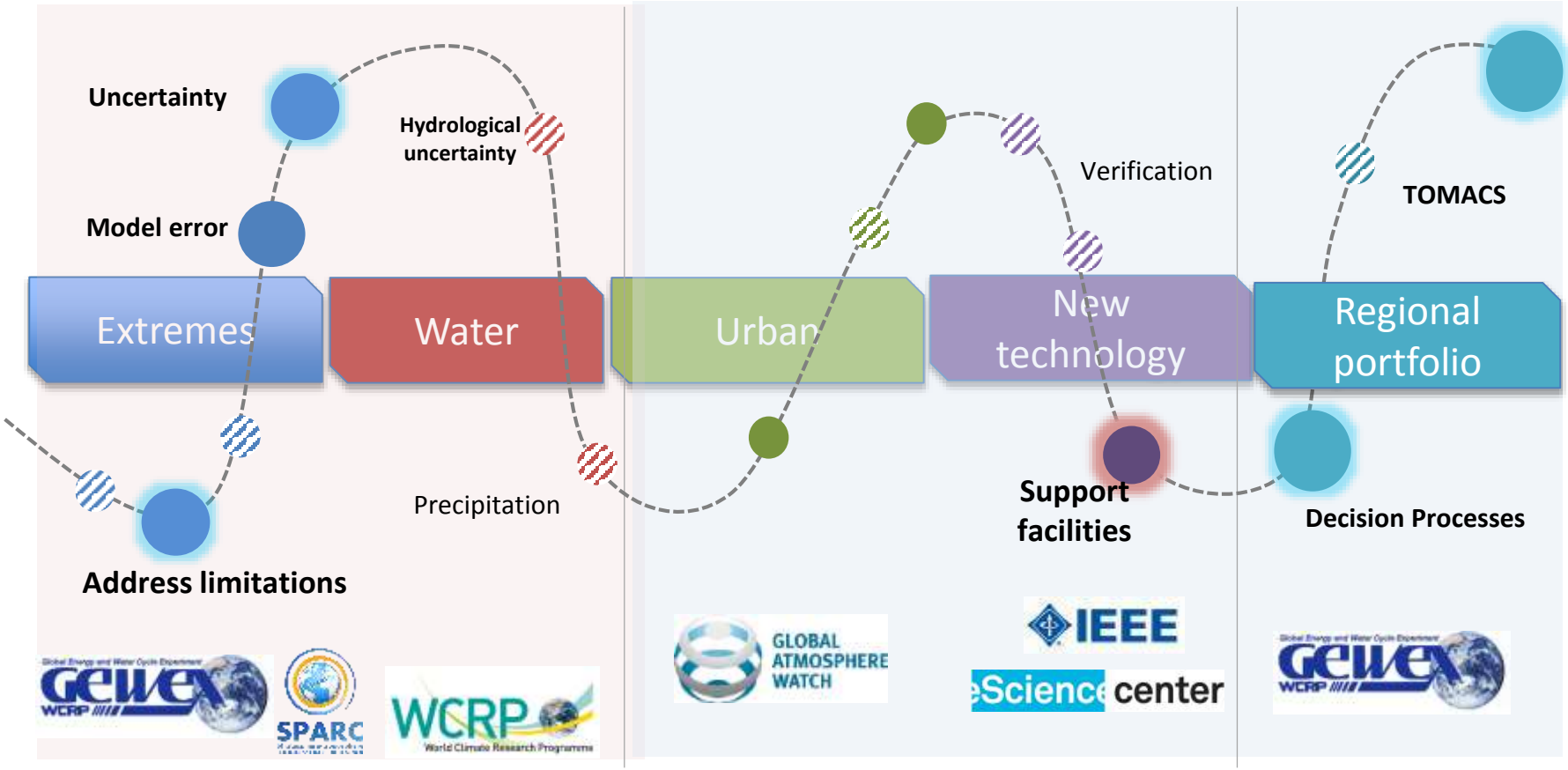
- Develop improved weather and environmental prediction services
- Year of Polar Prediction: (mid 2017-mid 2019)
- Timescale:
  From hours to seasons
- In coordination with WCRP, OBS

World Health Organization
ICSU
UKaid
IRDR
WMO OMM
CREWS CLIMATE RISK & EARLY WARNING SYSTEMS
GFCS GLOBAL FRAMEWORK FOR CLIMATE SERVICES
European Commission
ARCTIC COUNCIL
ECMWF

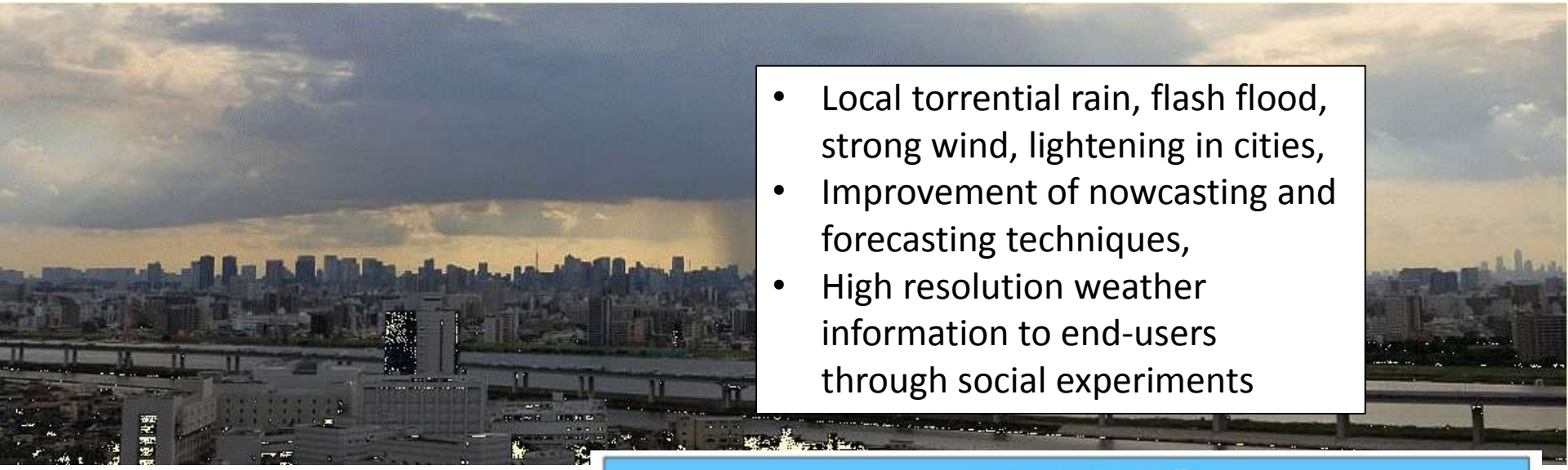
Working Groups and Expert Teams



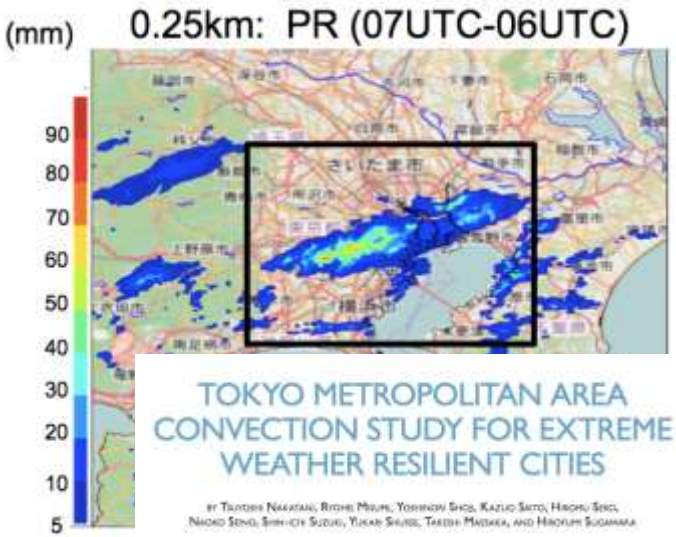
WWRP – 4 challenges and interconnectivity

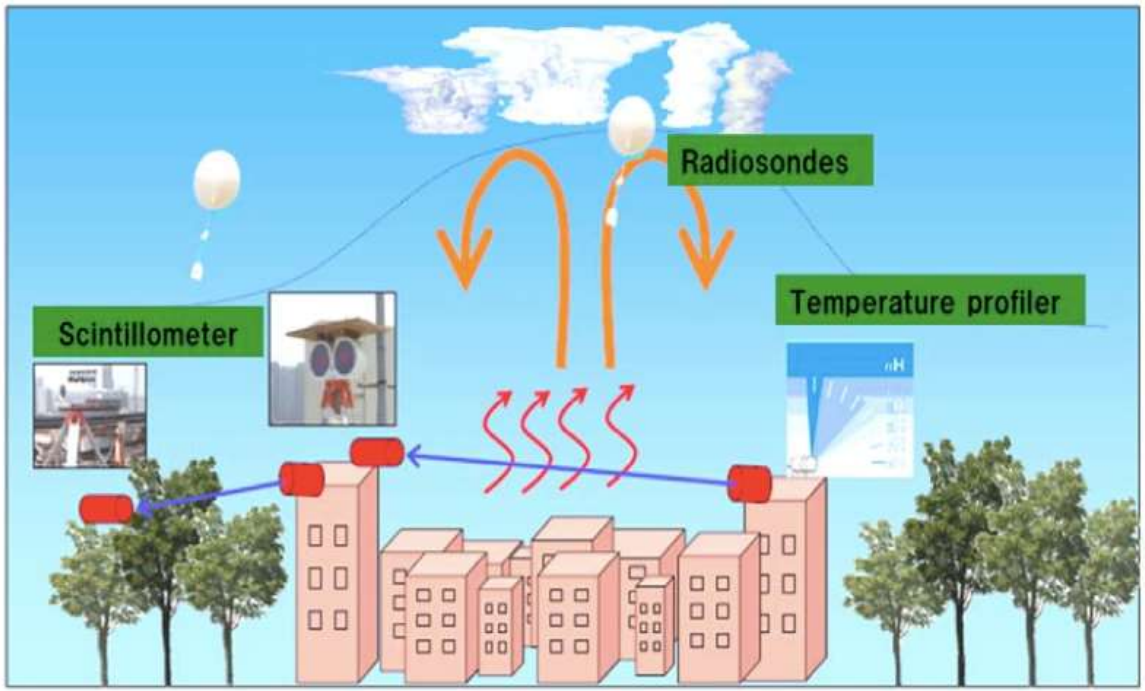


TOMACS



- Local torrential rain, flash flood, strong wind, lightening in cities,
- Improvement of nowcasting and forecasting techniques,
- High resolution weather information to end-users through social experiments





COMMENT

Five priorities for weather and climate research

Science Summit key outcomes (Nature, vol 552, Dec 2017)

More than 100 experts and more than 50 countries met in Geneva in October 2017 for the Science Summit and CAS-17 session, discussing and agreeing on five priorities:

1. Deliver Science for Services
2. Build Seamless Models
3. Improve Infrastructure
4. Nurture a Diverse Workforce
5. Build New Partnerships

becoming a landmark in moving Earth System science forwards.

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https://www.nature.com/articles/d41586-017-08463-3

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Thank you
Merci

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