

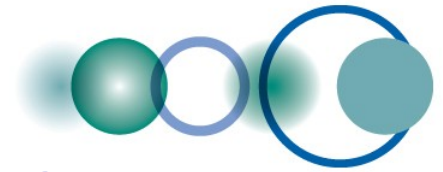
GEOSS & Leveraging Lessons from the Weather Domain

India Geospatial Forum

Barbara J. Ryan
Director, GEO Secretariat

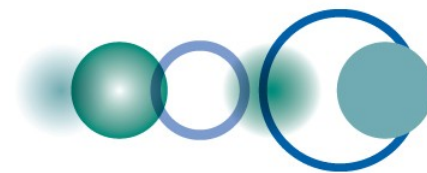
Hyderabad, India
06 February 2014





A Global, Coordinated, Comprehensive and Sustained System of Observing Systems



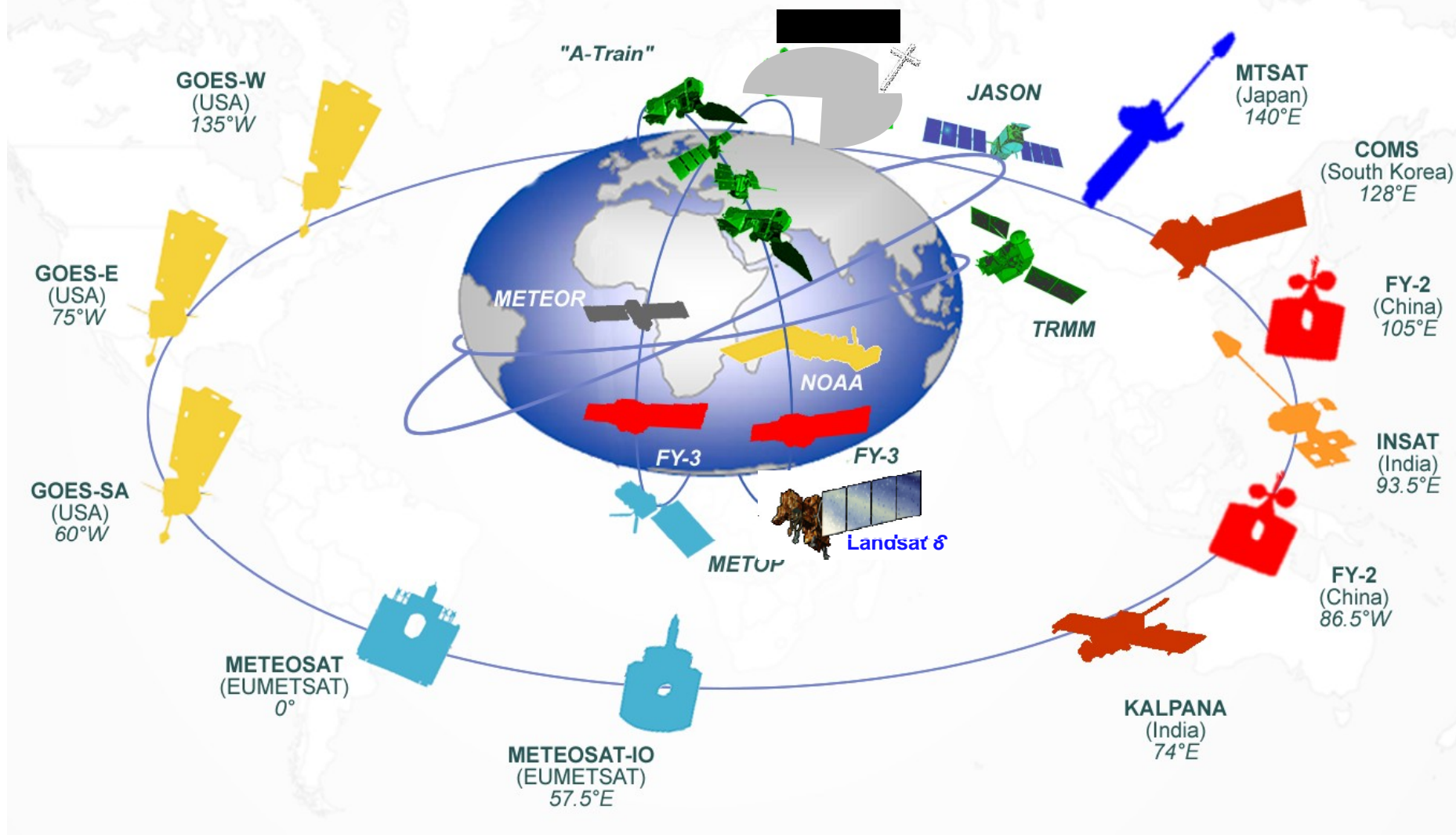


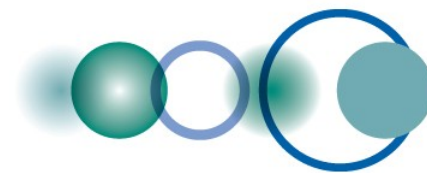
77 Participating Organizations

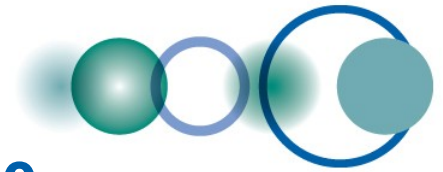




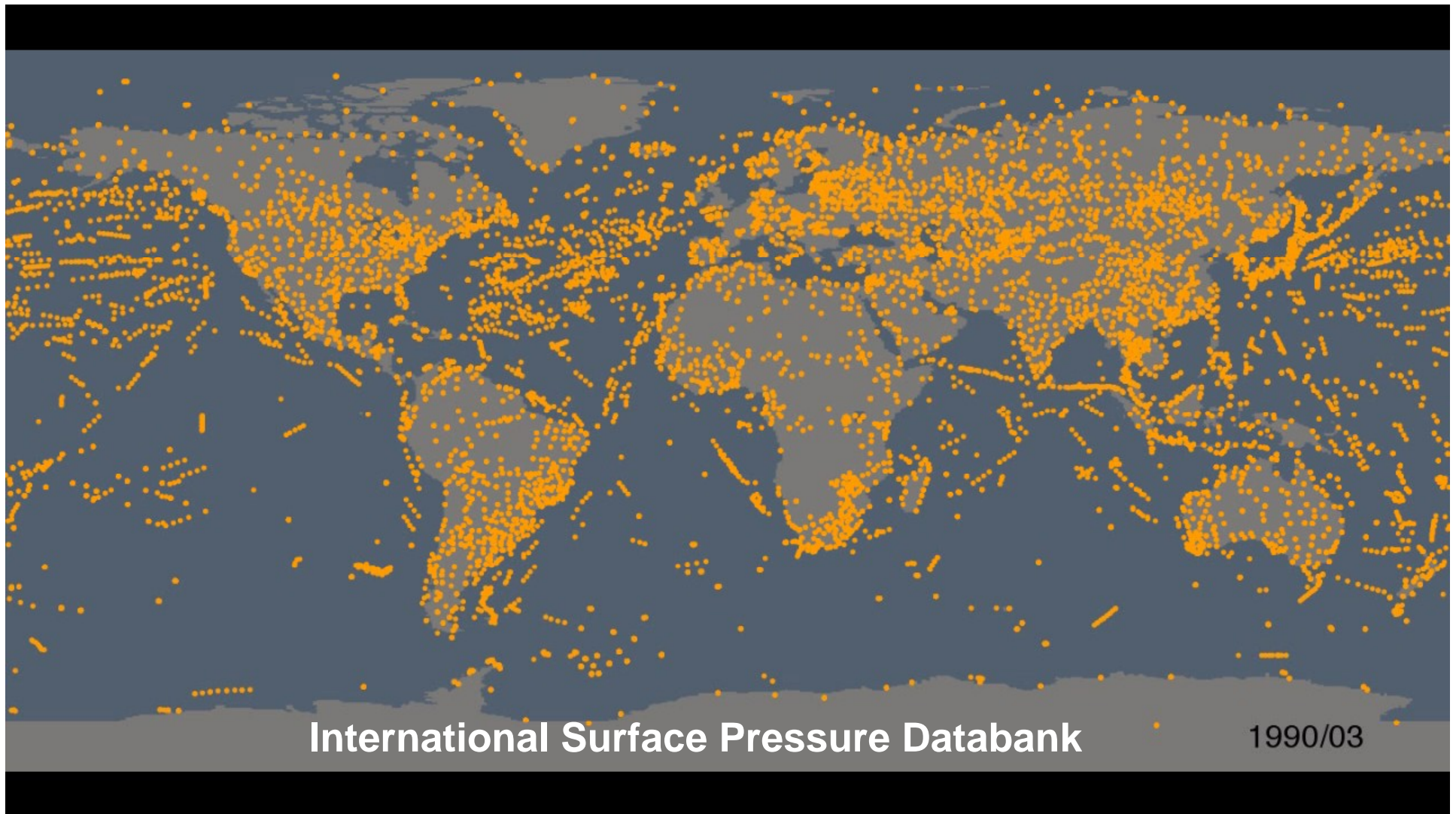
Space-based Assets



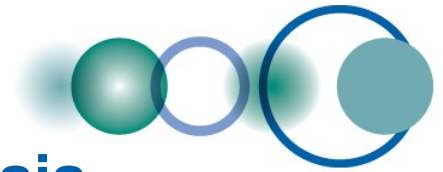




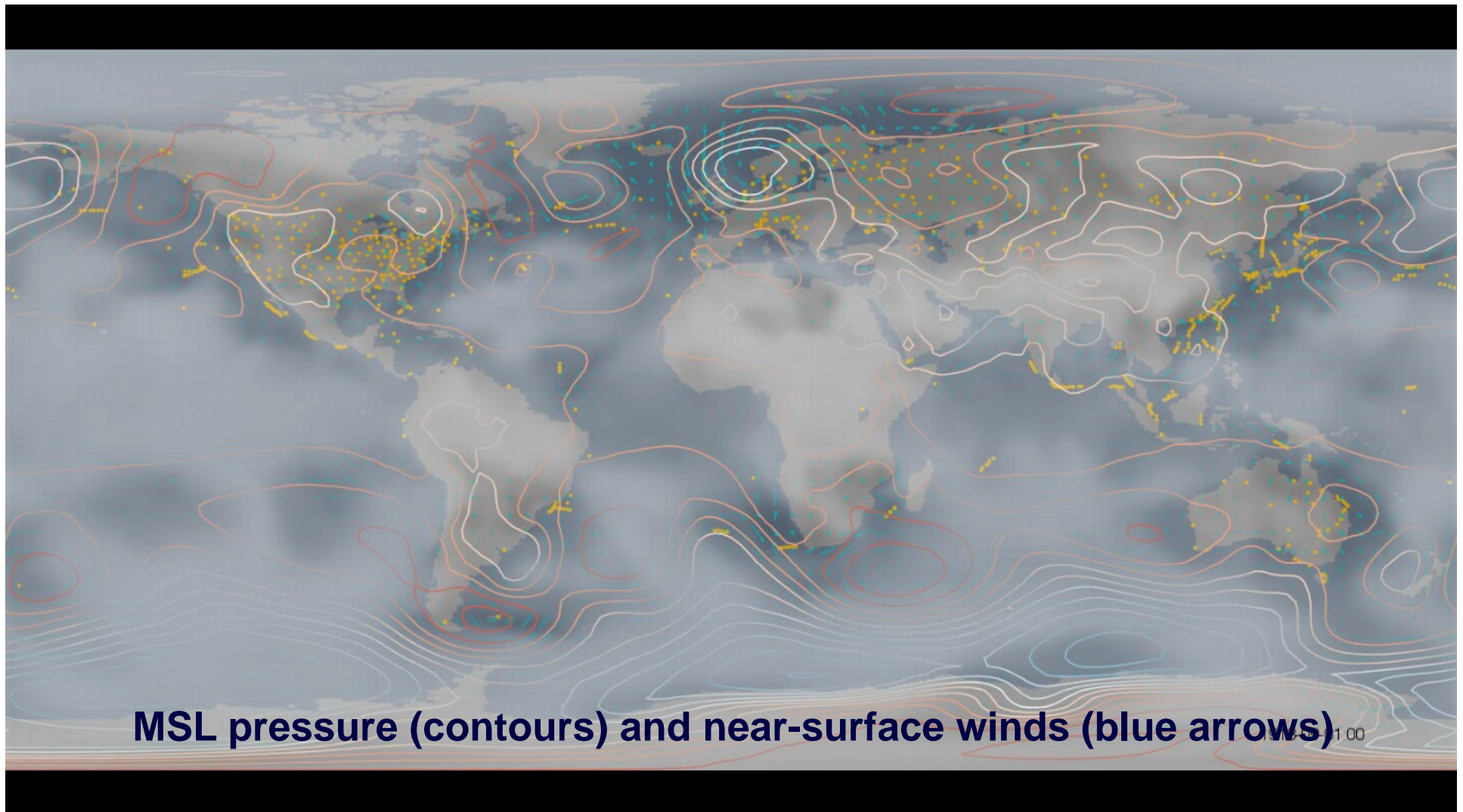
In-Situ Observations 1870-1990



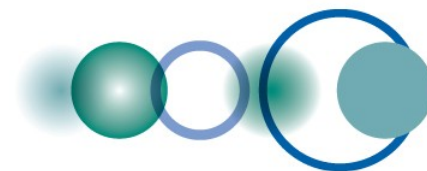
Courtesy of P. Brohan, UK Met Office Hadley Centre



Sept 1918 – 20th Century Reanalysis



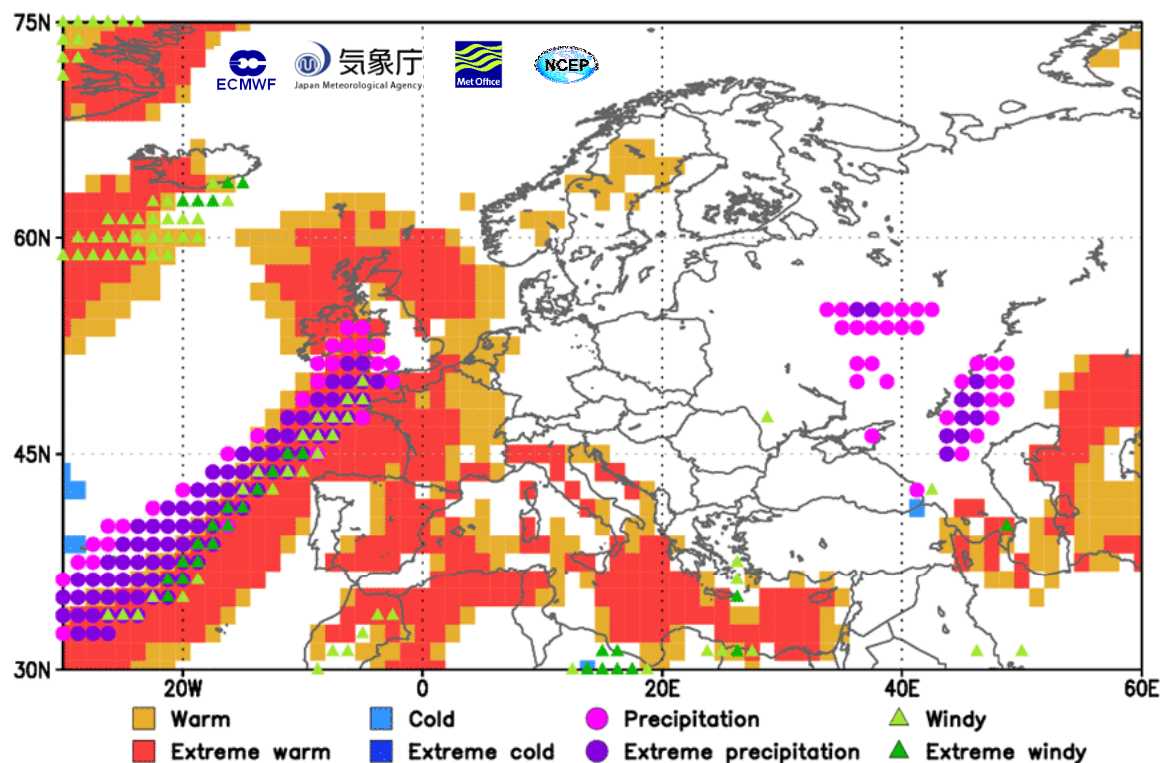
Courtesy of P. Brohan, UK Met Office Hadley Centre



Extreme Weather Early Warning

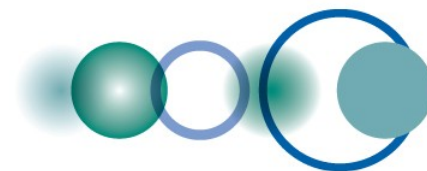
*(Australia, Brazil, Canada, China, France,
Japan, Korea, UK, USA, ECMWF, WMO)*

Warnings for extreme weather events (MCGE)
Initial: 2012.08.13.12UTC, Valid: 2012.08.17.12UTC



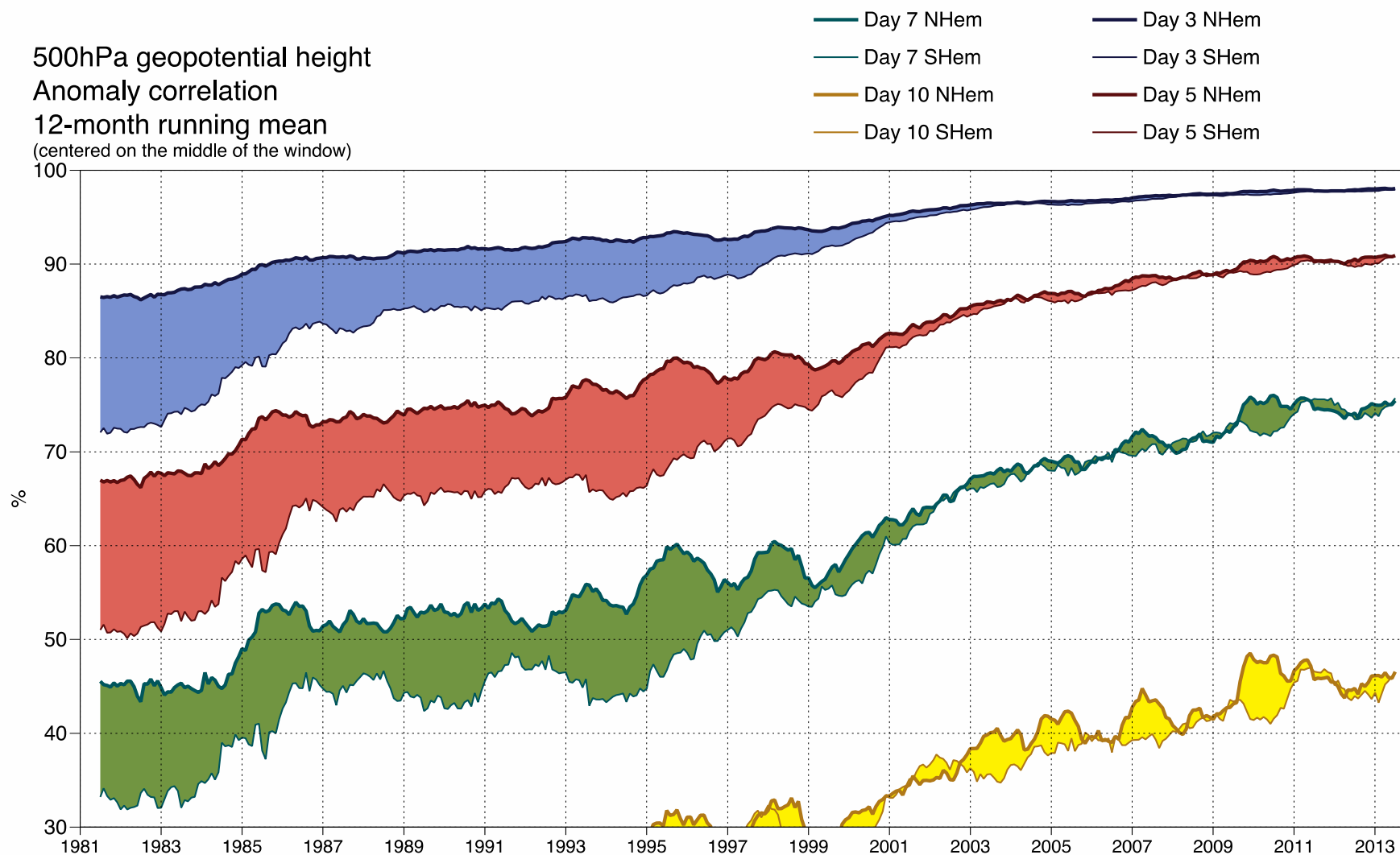
- * Warnings for 4 types of extreme weather (warm, cold, precip, wind)
- * Multi-model products
- * TIGGE 5-yr global database
- * 10 leading forecast centers
- * 100's of users

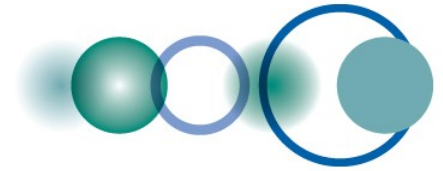




Advances in Global and Regional Weather Forecasts

500hPa geopotential height
Anomaly correlation
12-month running mean
(centered on the middle of the window)





Summary

- Atmospheric developments over last 50-100 years can serve as a model for terrestrial and oceanic domains
- *In situ* observations and space-based observations were essential
- Research and modeling components were key elements
- Regional and International collaboration existed
- International data sharing agreements existed
- Economic value has been proven in downstream elements – value-added products and services – robust private sector

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