



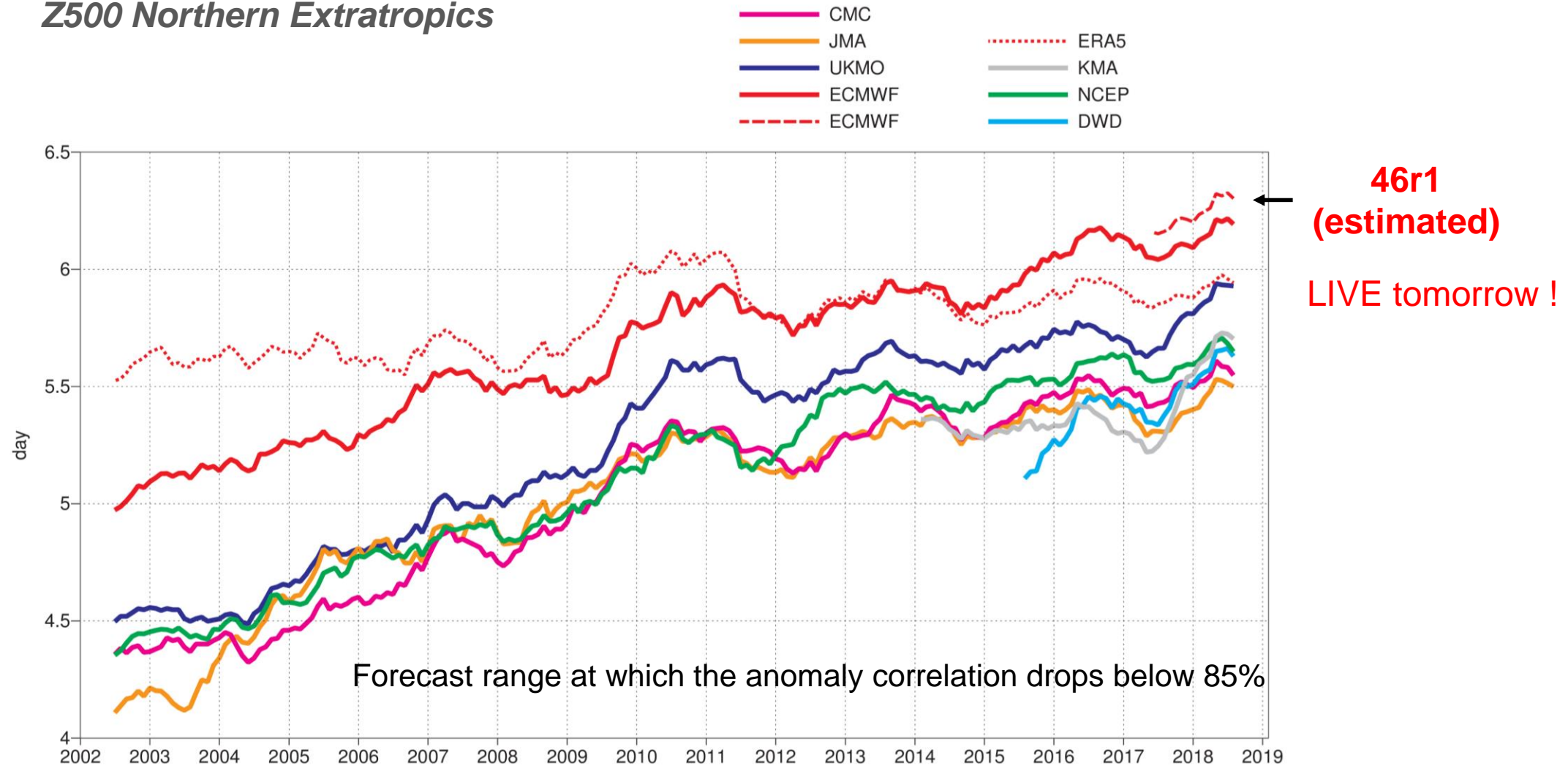
Observational campaigns for better weather forecasts

Florian Pappenberger

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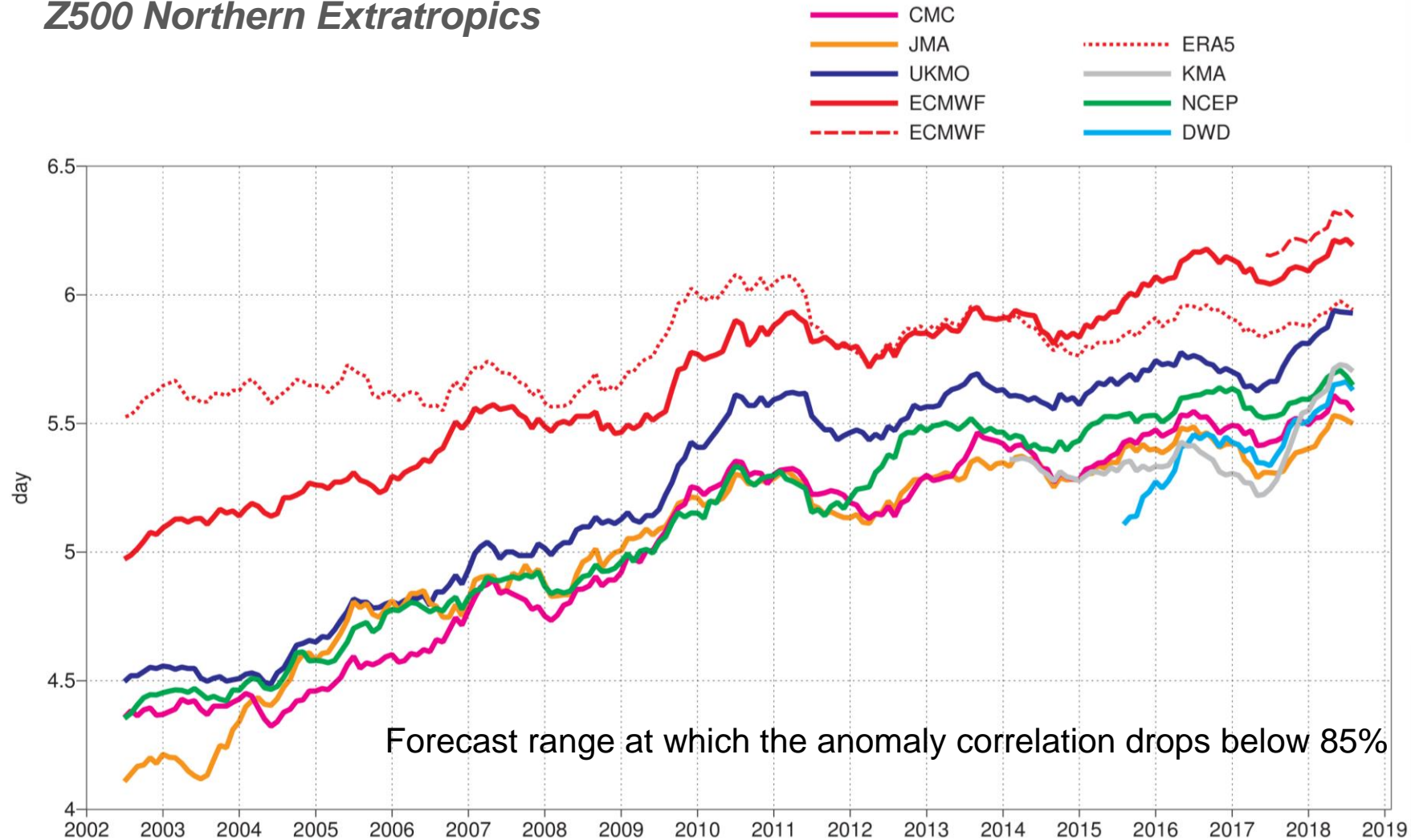
Increasingly better weather forecasts

Z500 Northern Extratropics

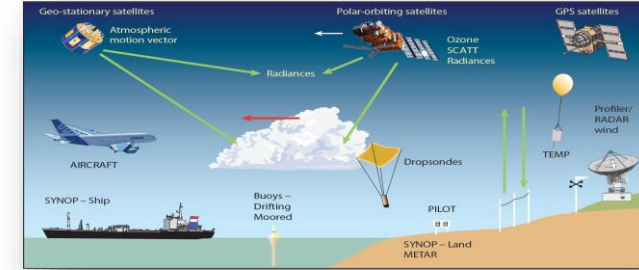


Increasingly better weather forecasts

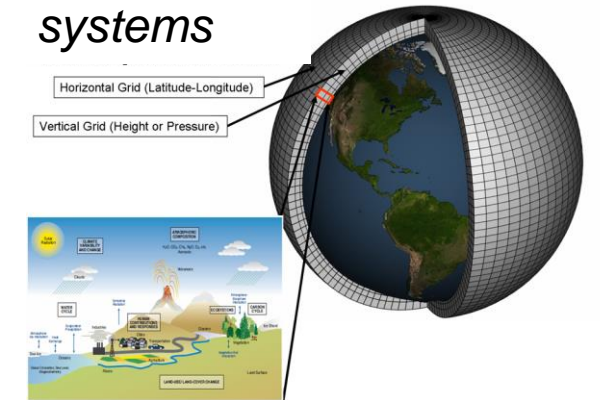
Z500 Northern Extratropics



Observations



Forecasting systems



High performance computing

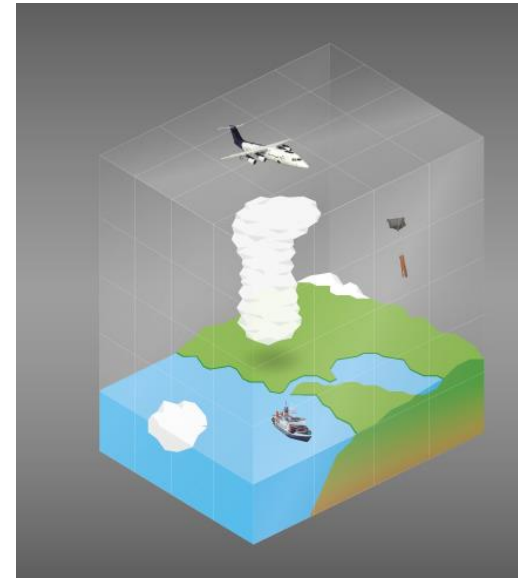


Why?



Why?

Observational campaigns for better weather forecasts

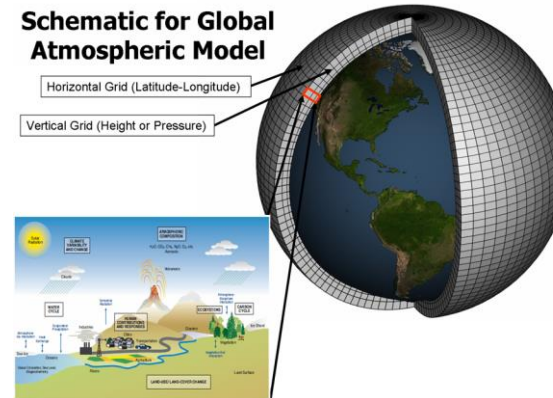


Enhanced interaction between
modellers and observationalists



**Schematic for Global
Atmospheric Model**

Horizontal Grid (Latitude-Longitude)
Vertical Grid (Height or Pressure)

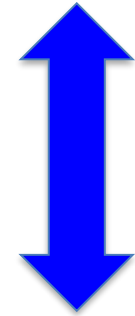


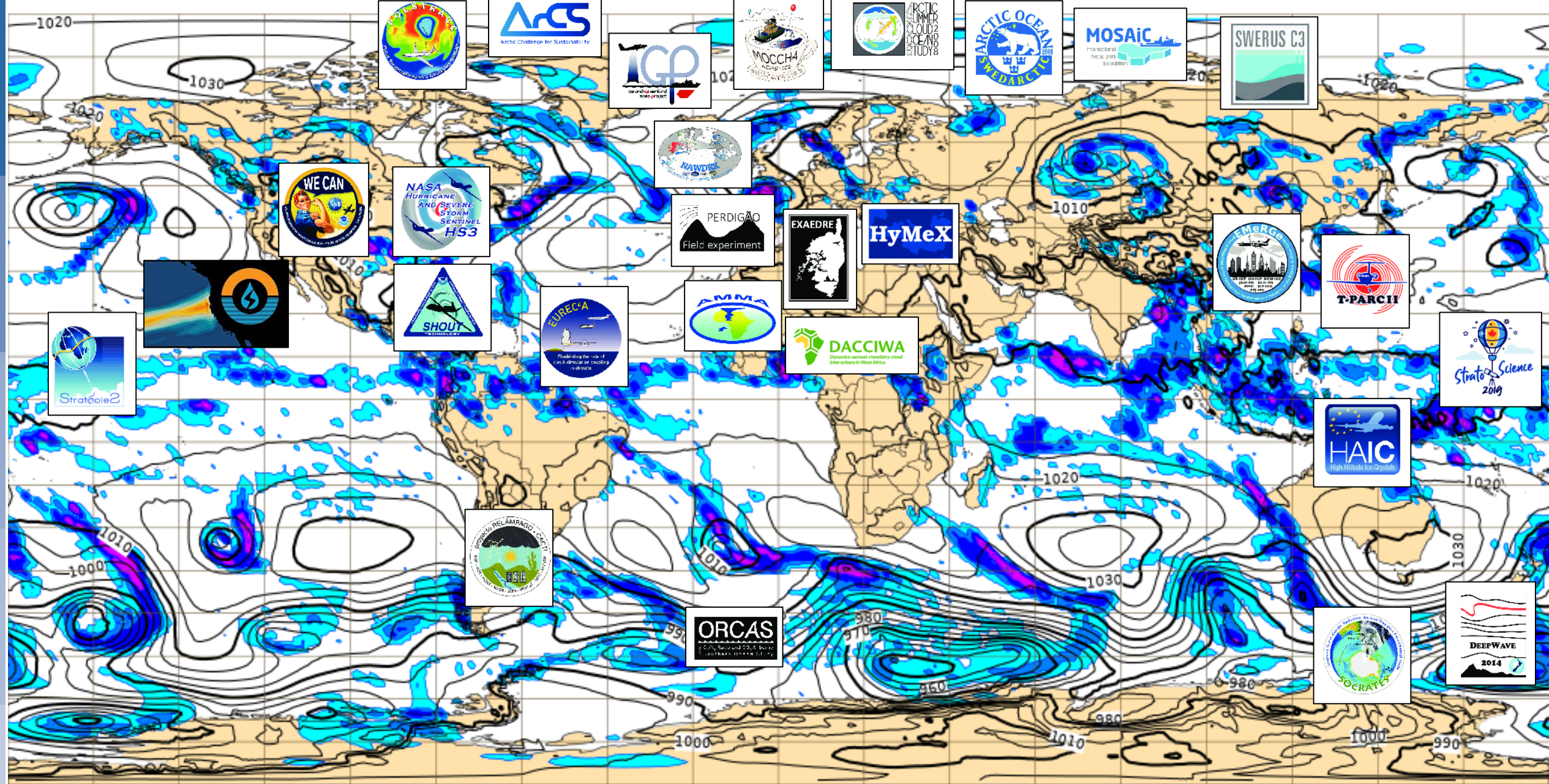
Why?

Better use of
forecasts for
observational
campaigns



Better diagnose
model errors and
improve forecasts

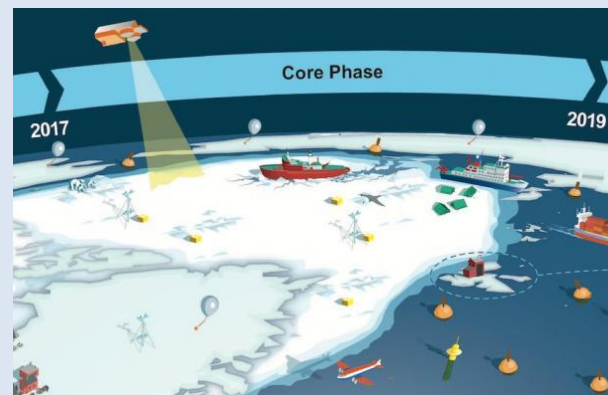




Polar processes



2017-2019



Bear Island, Norway

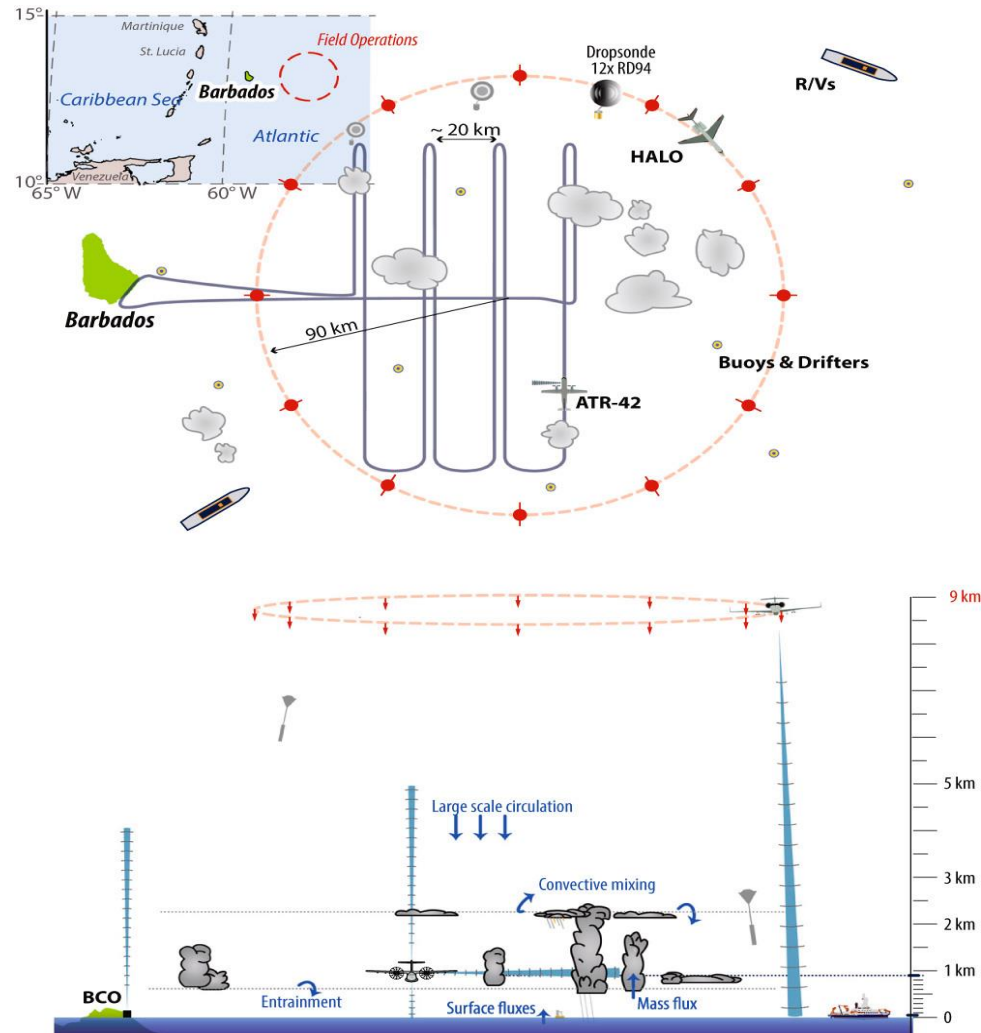


See Polar session

Clouds

EUREC4A (IPSL/MPI-M)

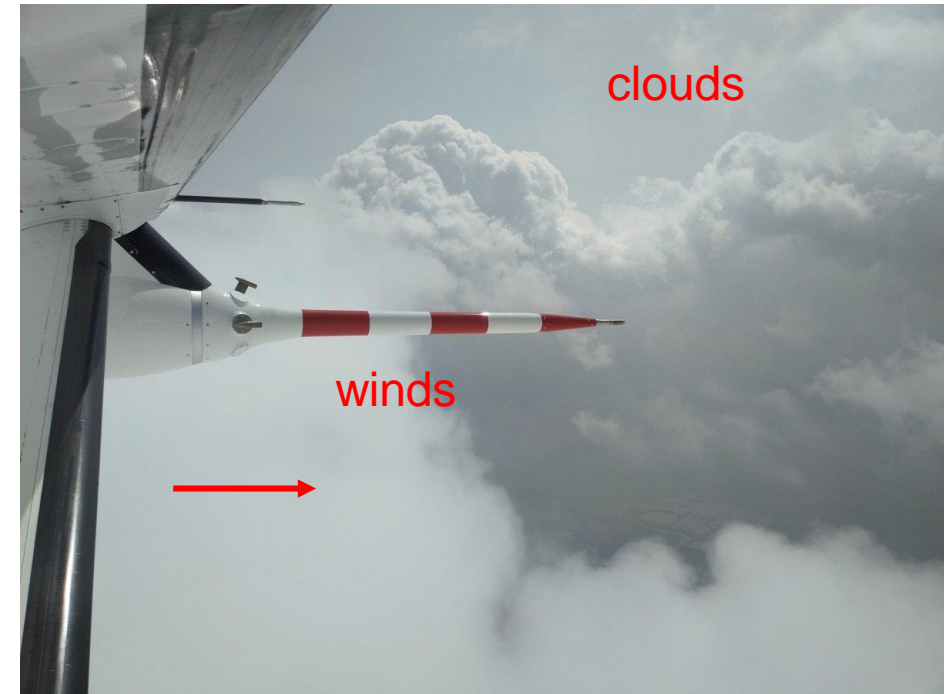
Sandrine Bony & Bjorn Stevens



European Research Council
Established by the European Commission

CloudBrake (TU Delft/DLR)

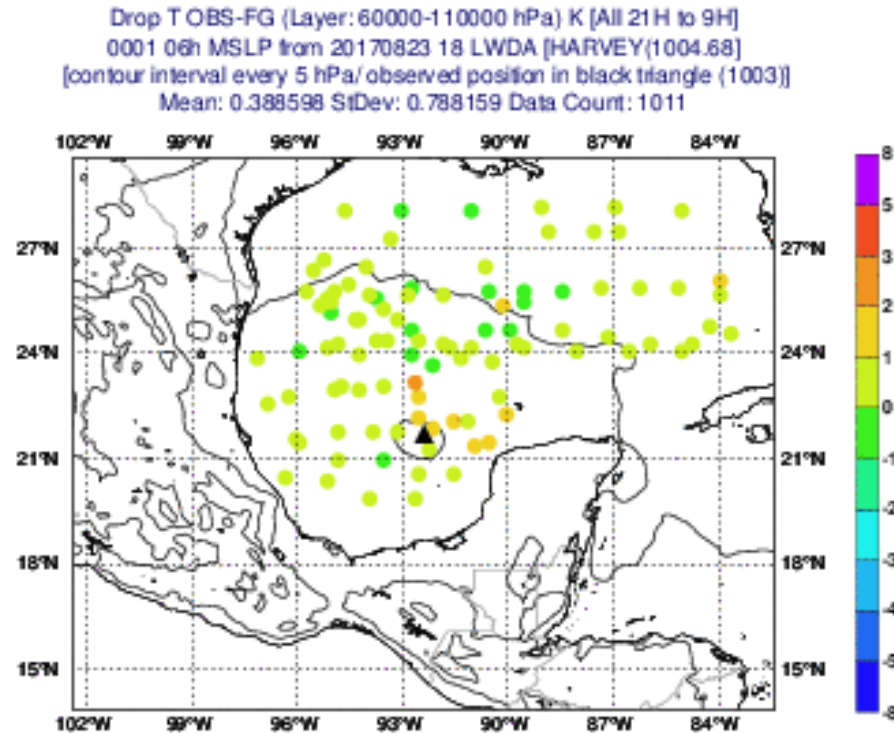
ECMWF fellow Louise Nuijens



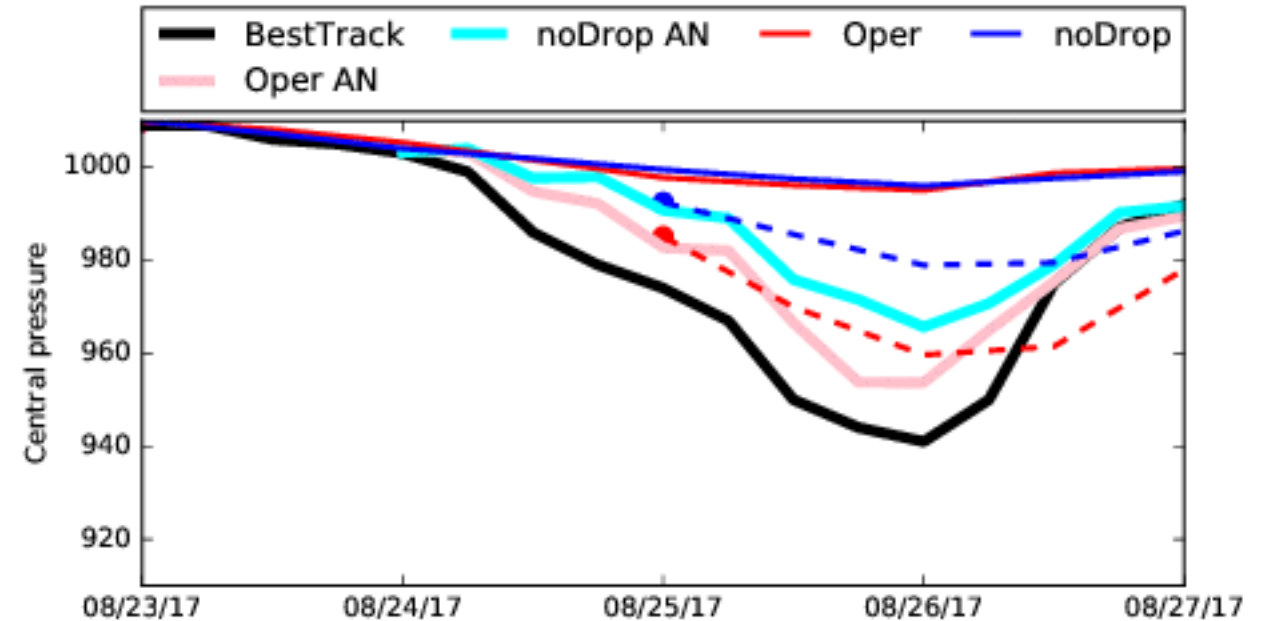
See Sandrine's talk

Tropical cyclones

Real-time monitoring
First guess departures



If the observations are on GFS we automatically use and monitor them!



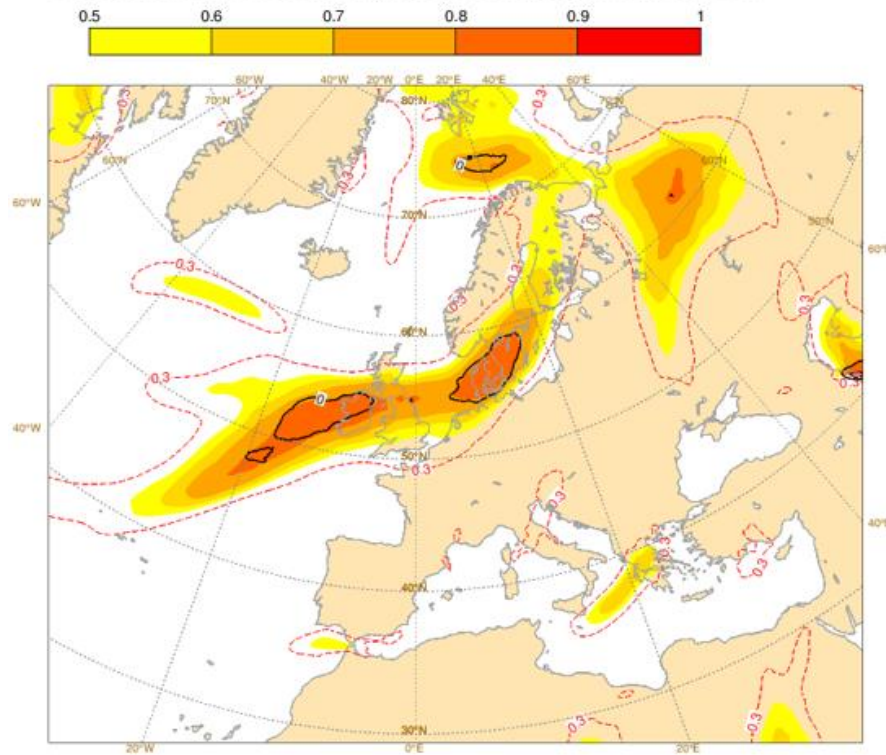
- Observation usage still far from perfect
- Work on to account for dropsonde drift
- Campaigns help us in this work!

See Mohamed's talk

Rivers in the sky

Extreme Forecast Index for Water Vapor Flux

Tue 28 May 2019 00UTC ©ECMWF t+048-072h VT: Thu 30 May 2019 00UTC - Fri 31 May 2019 00UTC
Extreme forecast index and Shift of Tails (black contours 0,1,2,5,8) for water vapour flux

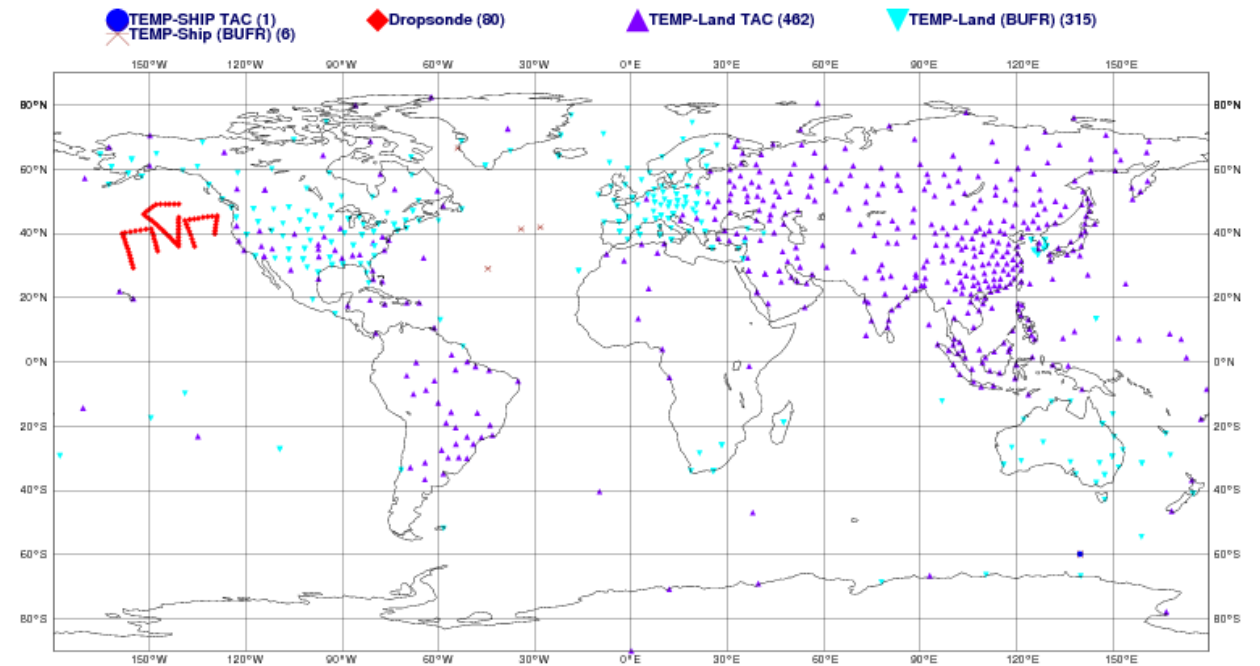


AR Recon

ECMWF data coverage (used observations) - RADIOSONDE

27/01/2018 00

Total number of obs = 864



See David's talk

Enjoy and keep talking to each other!

Better use of
forecasts for
observational
campaigns



Better diagnose
model errors and
improve forecasts

