

Connecting climate information to epidemic early warning

- experiences from the AMMA and ENSEMBLES projects

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Running Order

- Background/State of Play
- Focus of Interest/Approaches
- Gaps/Way Forward

Background/State of Play

- **Climate information** – observations and predictions - impacts
-lack of observations in Africa –below WMO guidelines
- **Ensemble predictions** from days to seasons – routine – decadal in pipeline
- WMO WCRP – seamless prediction and societal benefit
- WMO WWRP – high impact weather 15 day lead time
- GEO and other satellite programmes
- Satellite + forecasting for applications – disconnect
- **Empirical** underpinning - few, so little, generally un-integrated
- **Climate change** prediction greater impact in Africa

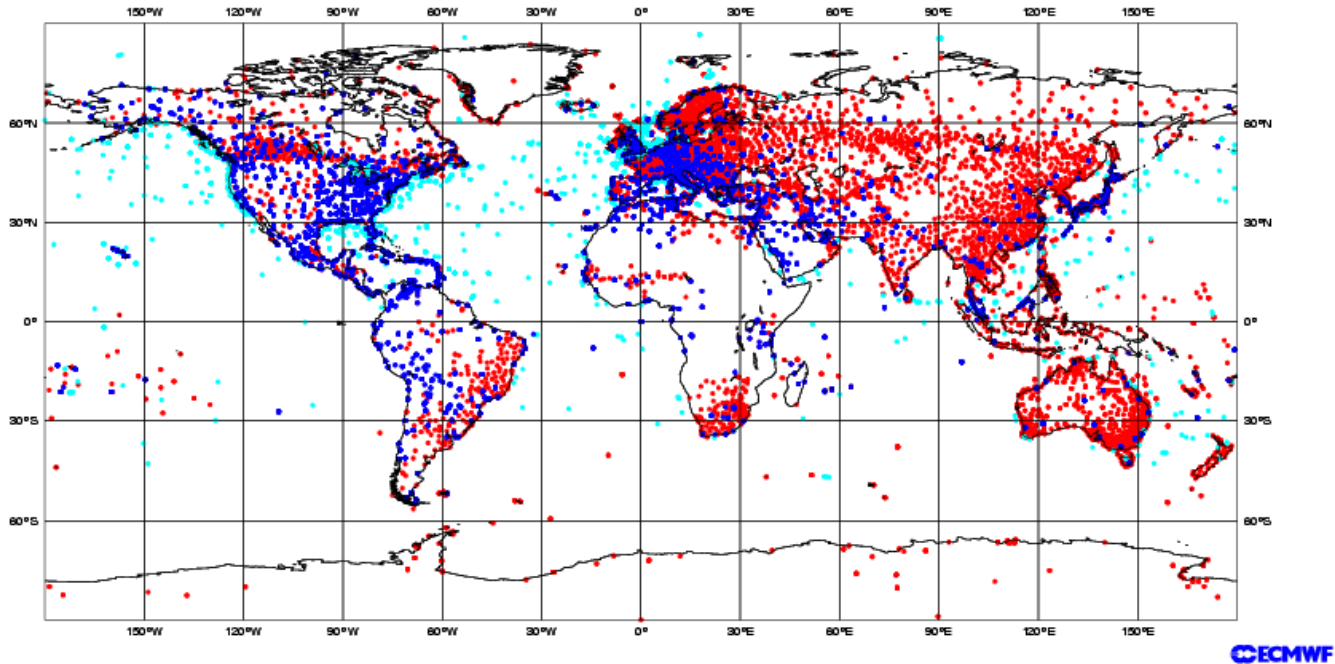
Background/State of Play



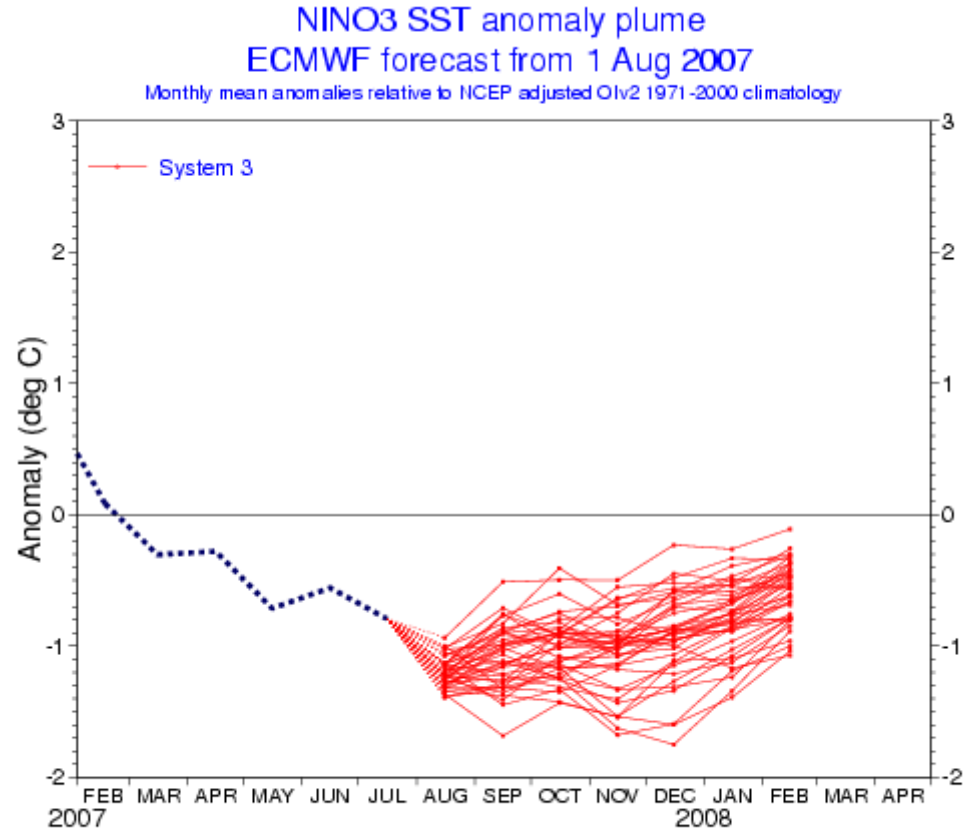
ECMWF Data Coverage (All obs DA) - SYNOP/SHIP

26/AUG/2007; 00 UTC

Total number of obs = 27316



Ensemble Prediction Systems



Forecast issue date: 15 Aug 2007

ECMWF

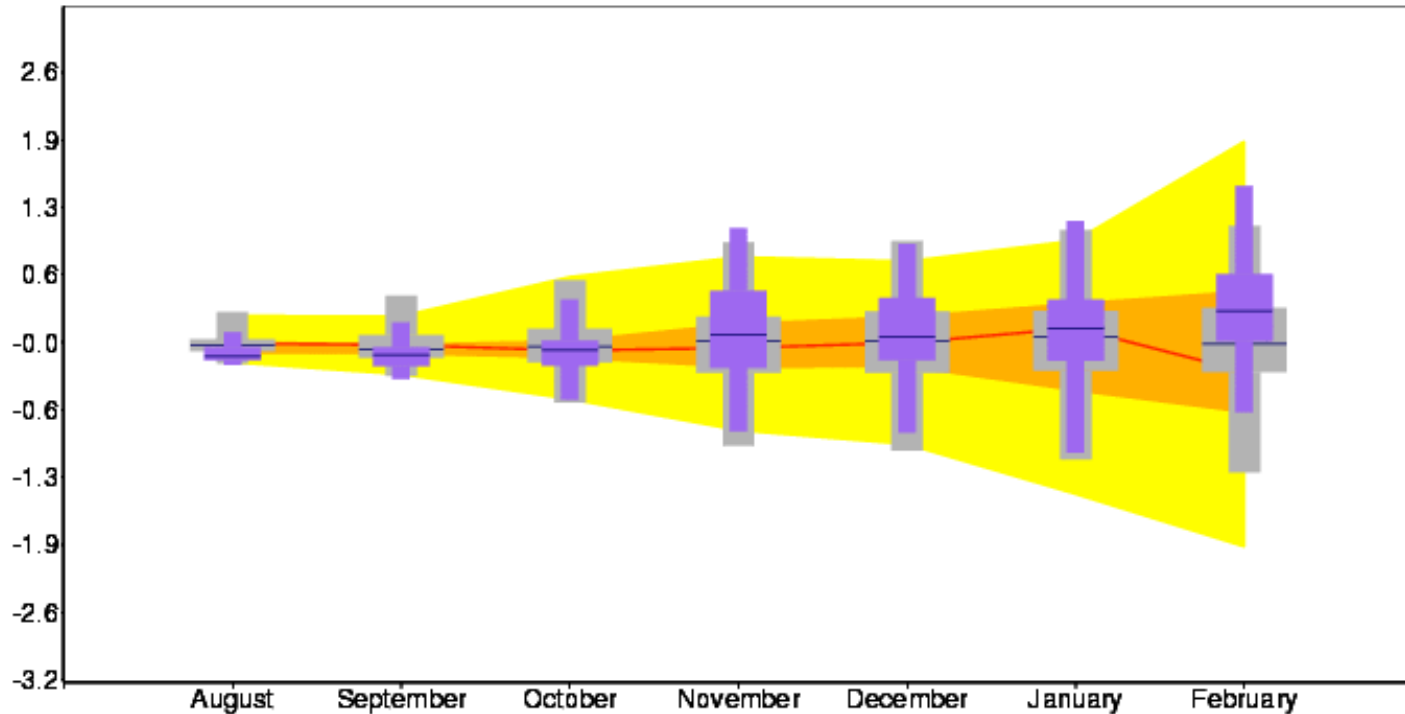
Chart from ECMWF

Ensemble Prediction Systems

precip. anomalies (mm/day) latitude= -15.0 to -35.0 longitude= 15.0 to 40.0

Forecast initial date: 2007 801

Ensemble size: Forecast=41 Model climate=275 Analysis climate=25



Southern Africa pptn
Chart from ECMWF

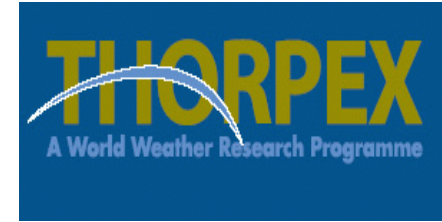
Focus of Interest/Approaches

- EU **Integrated projects**
 - EPS and impacts DEMETER, **ENSEMBLES** – seasonal to decadal scales
 - Climate science + empirical under pinning – **AMMA**
- Impacts/disease **model development** – empirical underpinning
- **THORPEX**-Africa EPS 15 day scales - impacts
- **Decision** maker and NGO **disconnect**
- **African scientist** dimension
- **Commonality** between human epidemics and with zoonoses – avoid creation disease silos

Gaps/Way Forward

- Climate model **post processing** – bias, weighting, downscaling
- Model climates – **capture variability**
- ‘modellers in **biology**’ & societal aspects
- **Complexity** disease
- **Vector disease model** - skill integrated EPS seasonal
- **Earth observation** input – events, land cover & high spatial resolution spin up
- Funds **cross cutting** activity with large projects
- **Capacity building** and training within disciplines
- **Seamless early warning**

Thank you



Morse: Climate information -
epidemic early warning
GEO Meningitis Environmental Risk

Project Websites

<http://www.ensembles-eu.org>

<http://www.amma-international.org>

<http://www.clivar.org>

http://www.wmo.ch/pages/prog/arep/thorpex/index_en.html