



The European Centre for Medium-Range Weather Forecasts ECMWF

Welcome!

Introduction to ECMWF

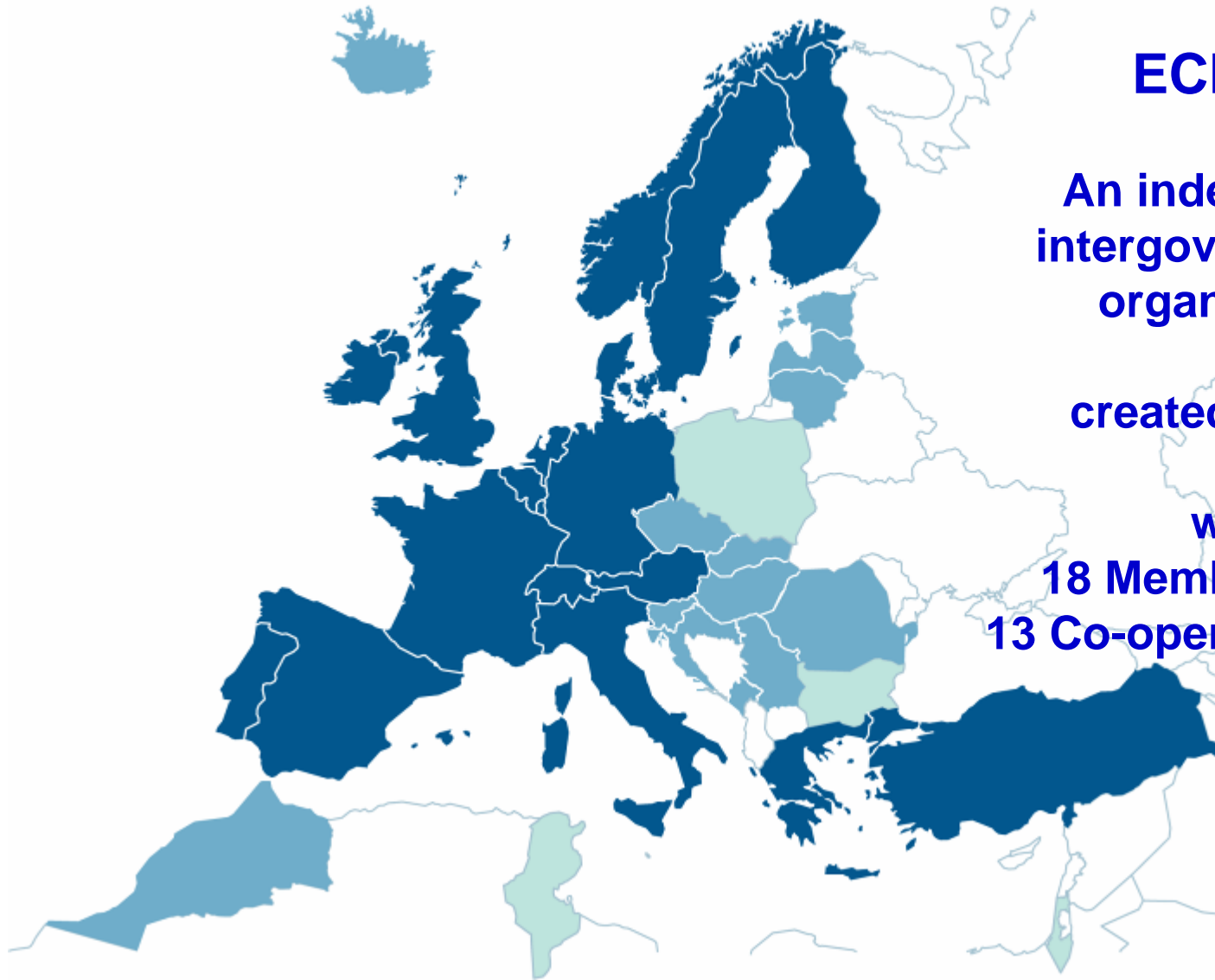
Dominique Marbouty
ECMWF

www.ecmwf.int

■ Member States

■ Co-operating States

■ Under negotiation



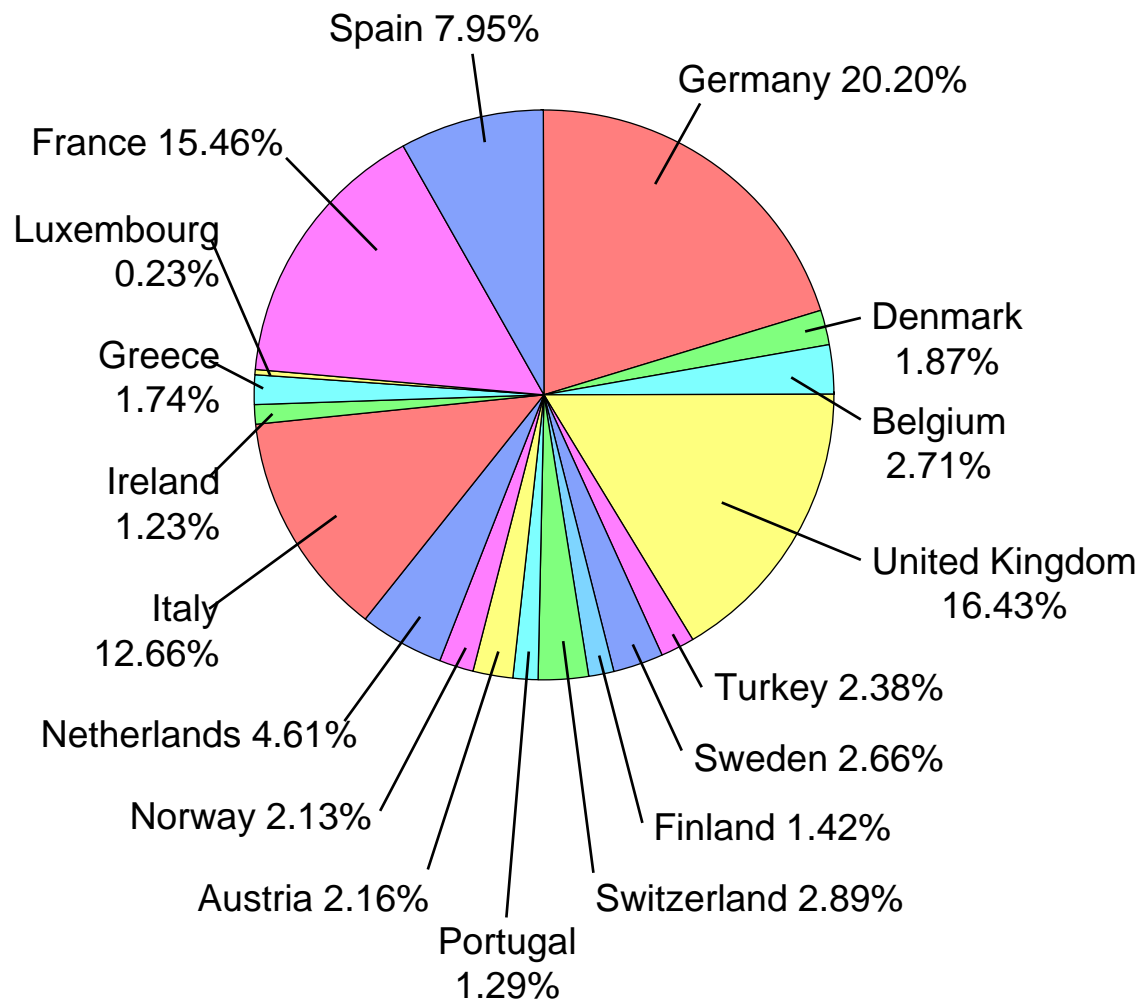
ECMWF

An independent
intergovernmental
organisation

created in 1975

with
18 Member States
13 Co-operating States

ECMWF Budget 2010



Main Revenue 2010	
Member States' contributions	£36,703,200
Co-operating States' contributions	£861,600
Other Revenue	£1,275,000
Total	£38,839,800

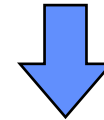
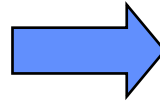
Main Expenditure 2010	
Staff	£15,199,900
Leaving Allowances & Pensions	£3,298,600
Computer Expenditure	£15,809,000
Buildings	£3,647,700
Supplies	£884,600
Total	£38,839,800

GNI Scale 2009-2011

Global observation system



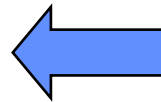
Global numerical weather forecasts



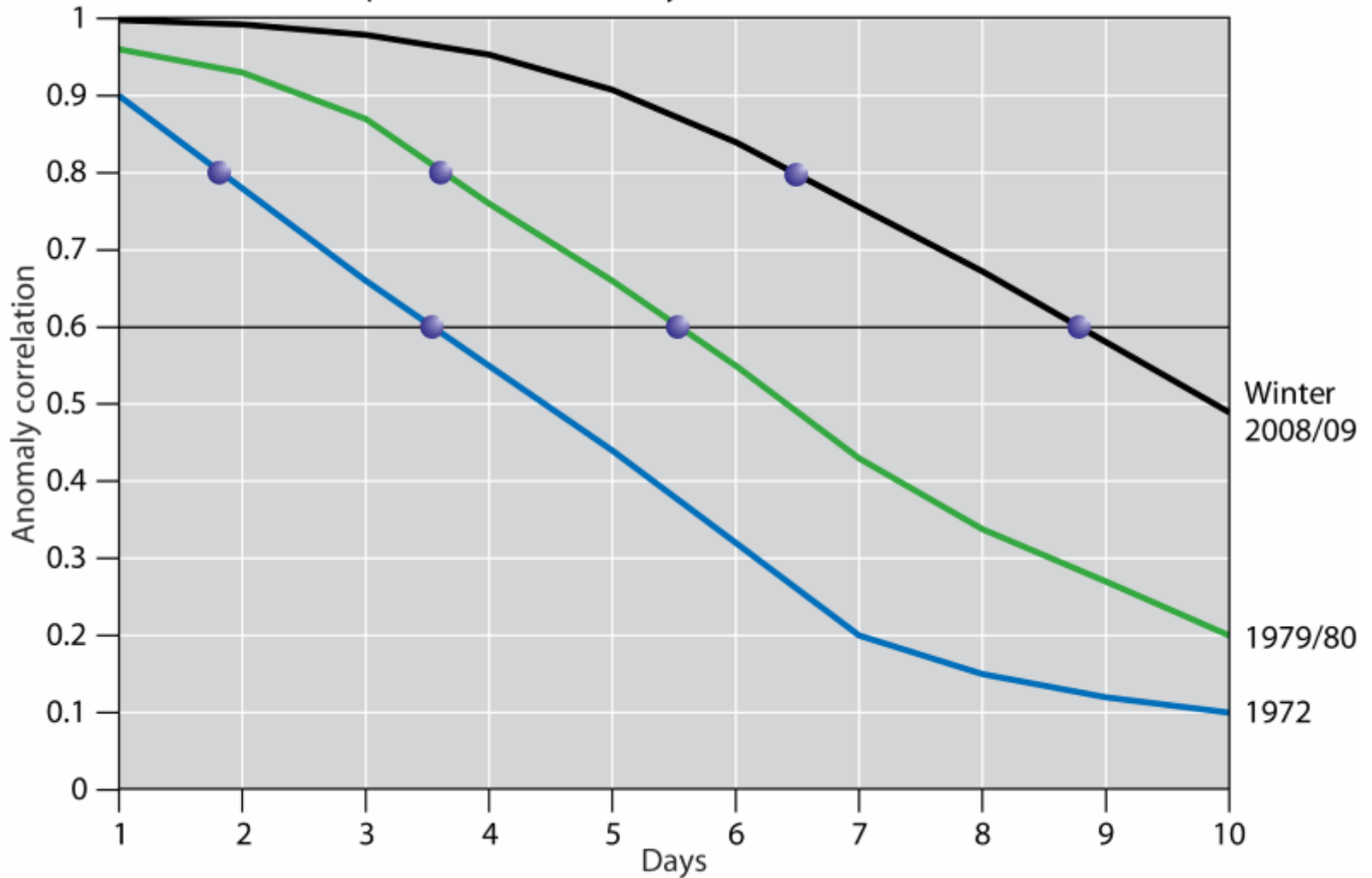
Users



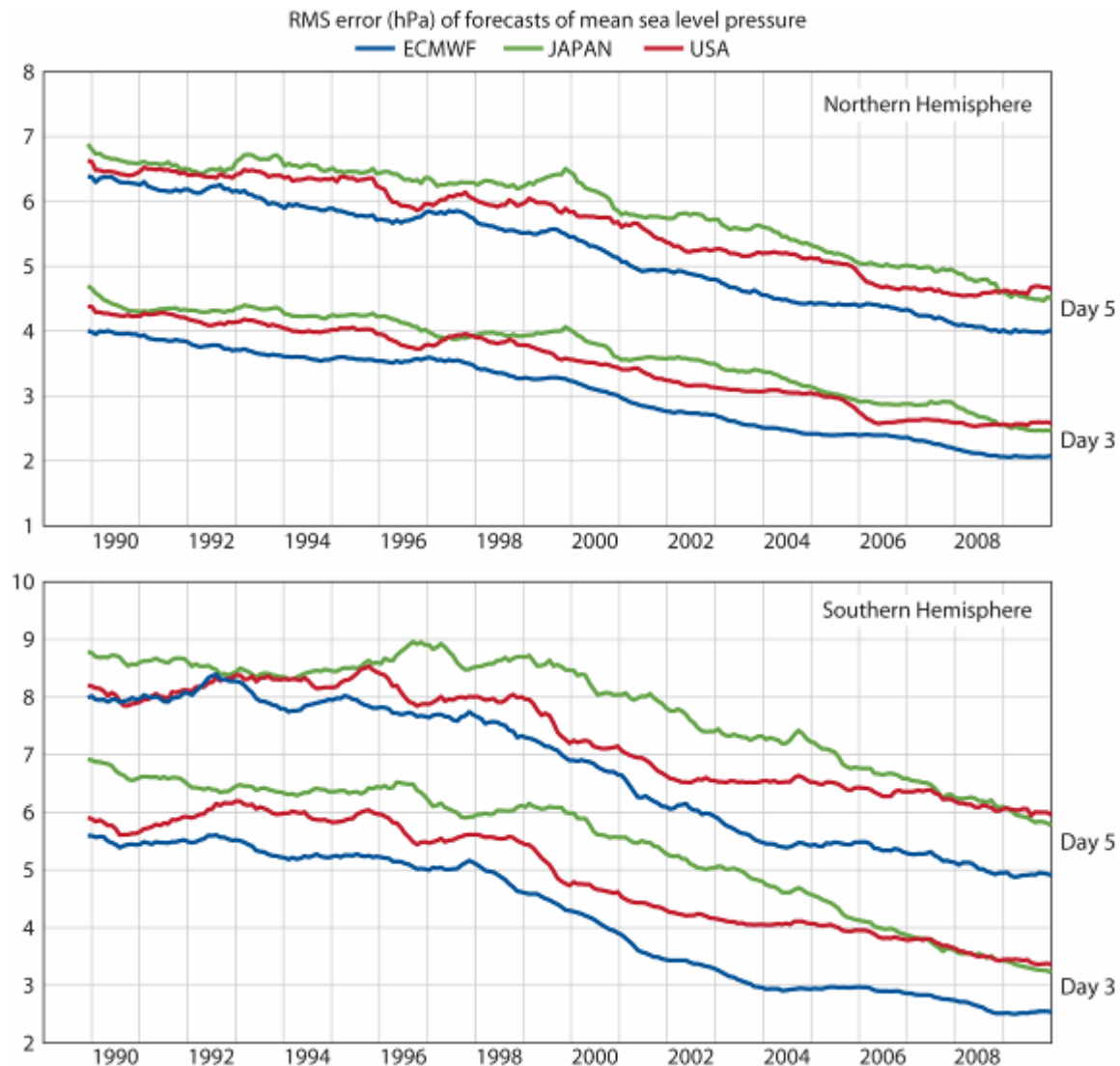
National weather services



Northern Hemisphere (DJF) anomaly correlation 500 hPa

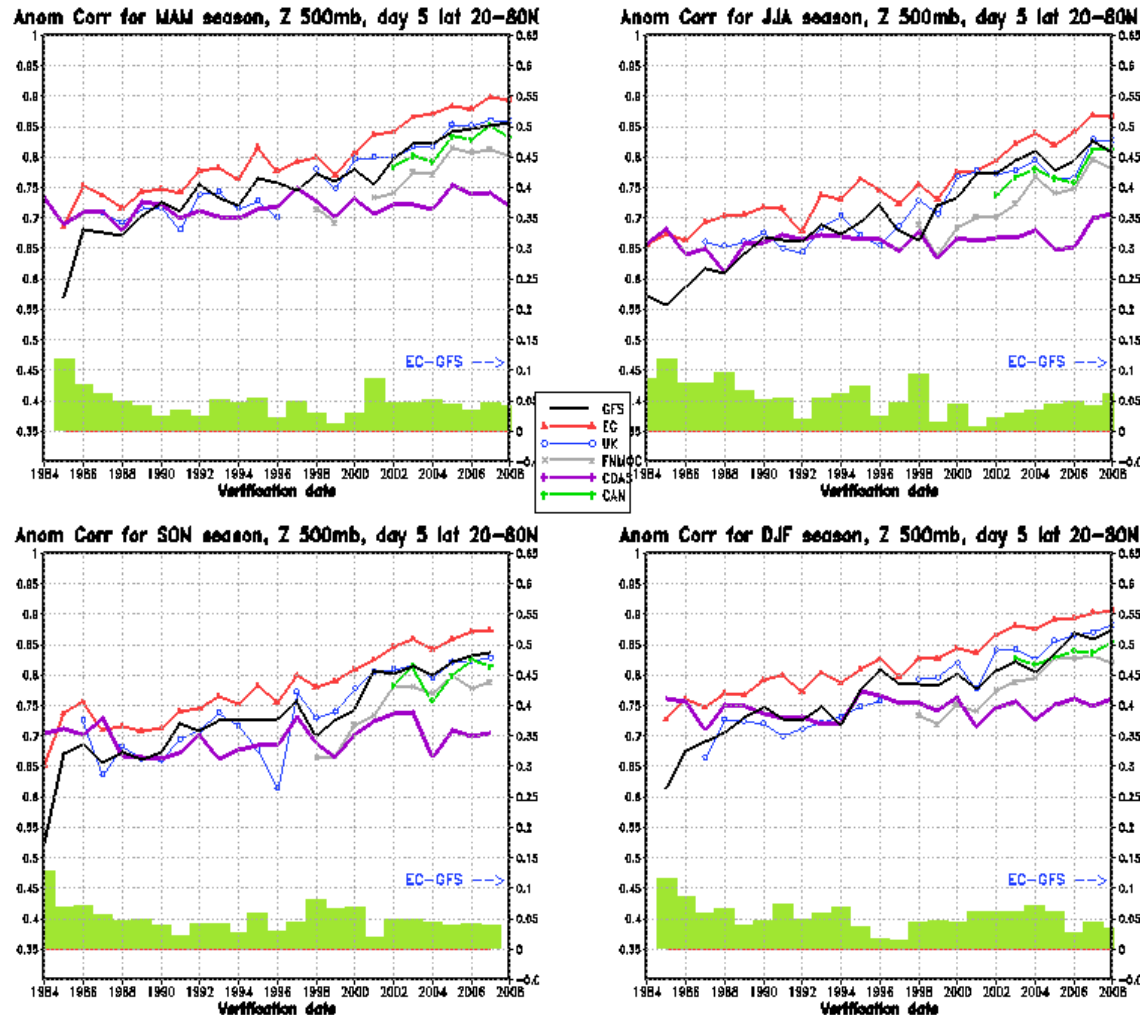


ECMWF scores compared to other major global centres

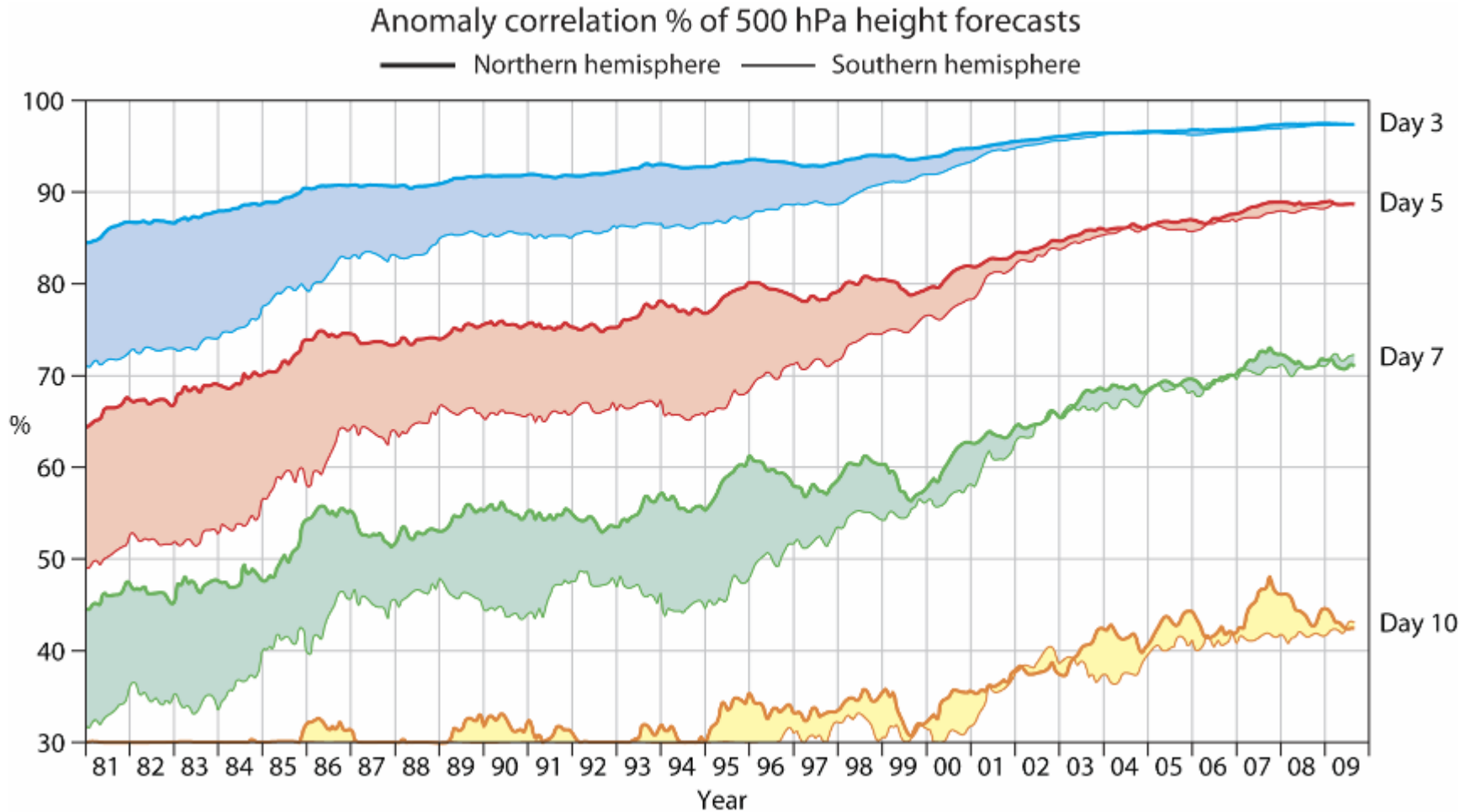


Score comparison from the NCEP website

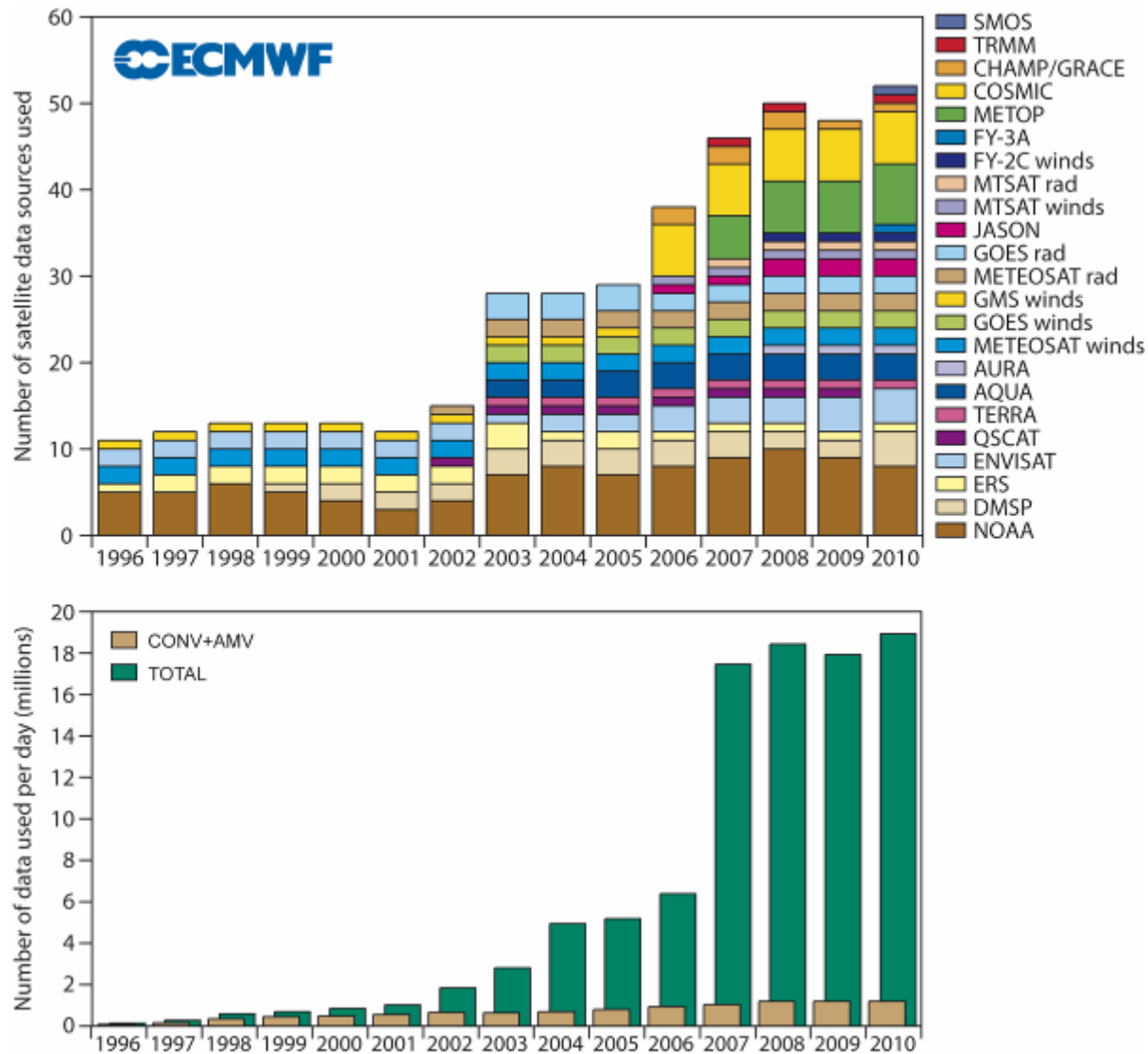
ANC 500hPa, NH, per season, 1985 to present



Evolution of ECMWF scores comparison northern and southern hemispheres

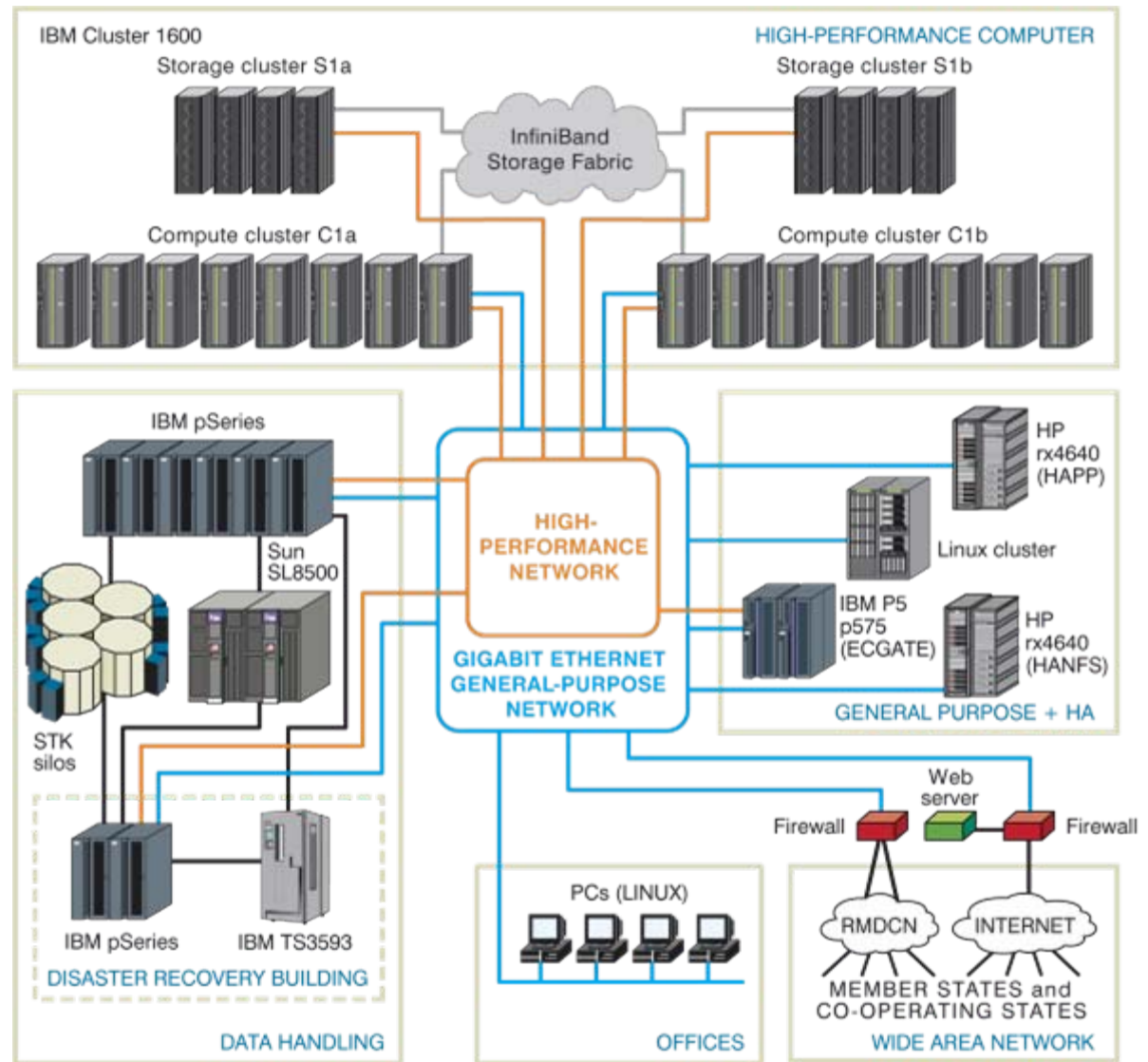


Satellite data used by ECMWF



The ECMWF computer system

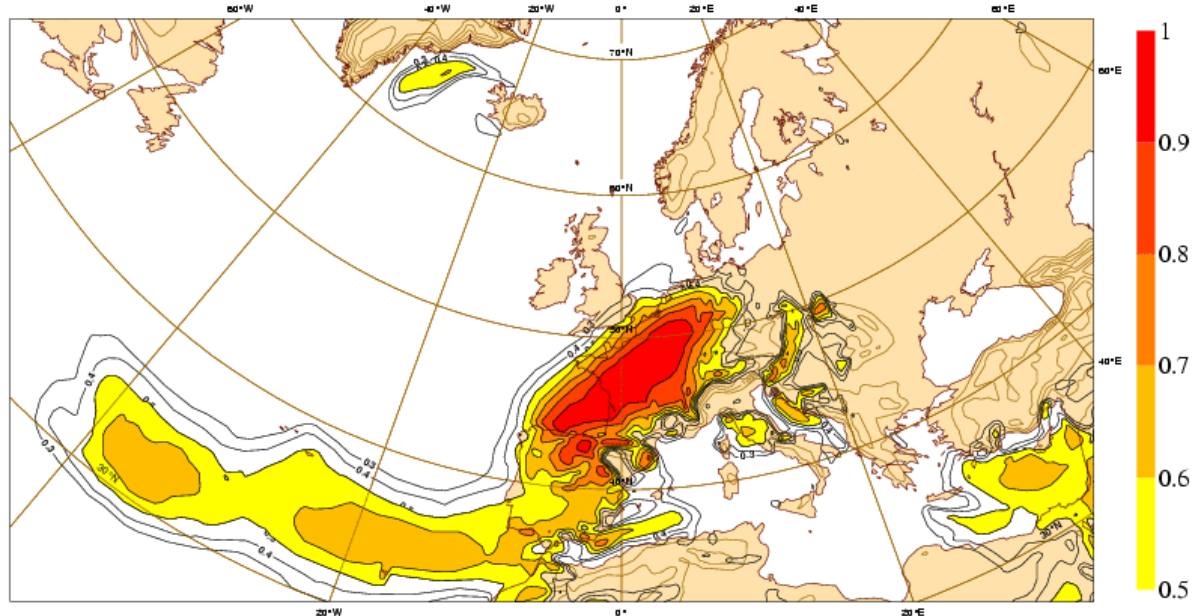
One of the largest supercomputer system worldwide



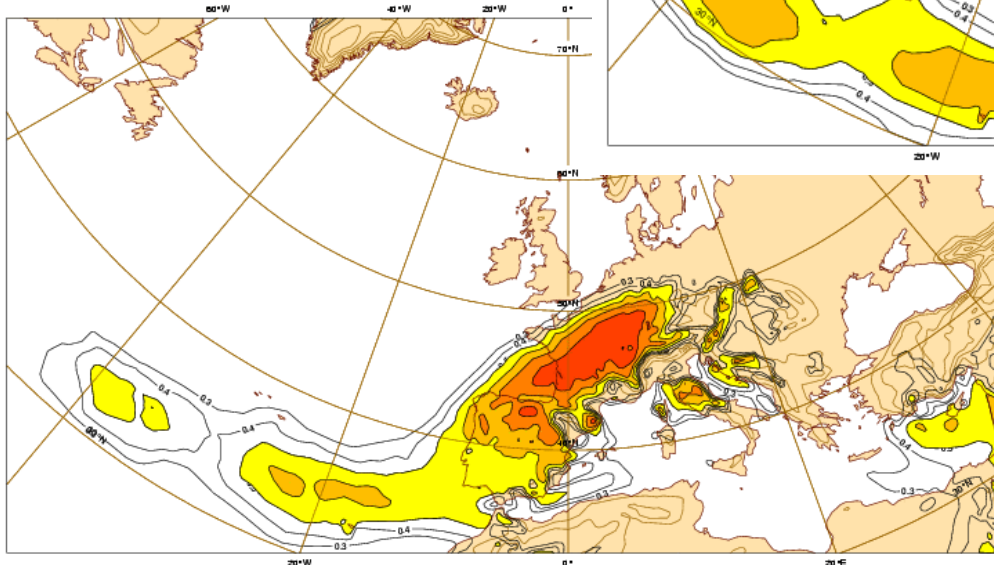
Storm Xynthia - 28 February 2010

47 casualties in France
EFI gave a clear early warning

Friday 28 February 2010 00UTC ©ECMWF Extreme forecast index t+048-072 VT: Sunday 28 February 2010 00UTC - Monday 1 March 2010 00UTC
Surface: 10 metre wind gust index



Thursday 25 February 2010 00UTC ©ECMWF Extreme forecast index t+072-098 VT: Sunday 28 February 2010 00UTC - Monday 1 March 2010 00UTC
Surface: 10 metre wind gust index



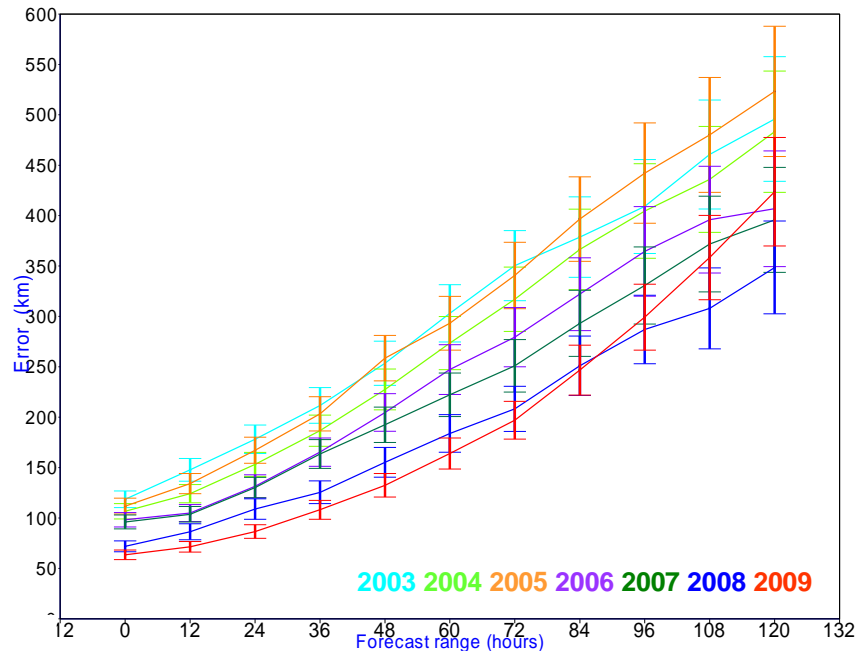
Day 2-3

Day 3-4

Performance of TC forecasts

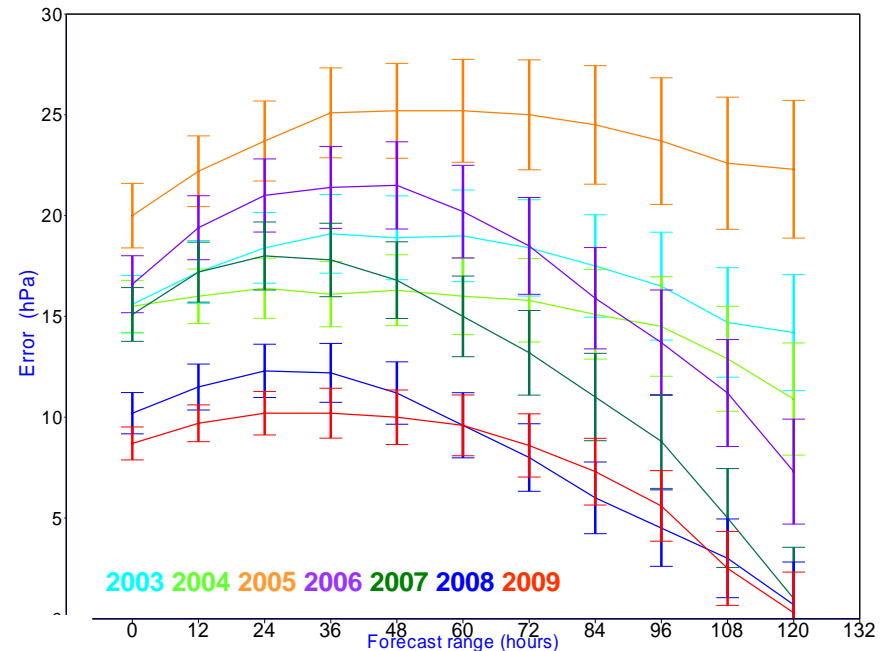
➤ Direct position error (DPE)

Tropical cyclone mean position error
annual mean ending 14 July



➤ Core pressure error (CPE)

Tropical cyclone mean intensity error
annual mean ending 14 July

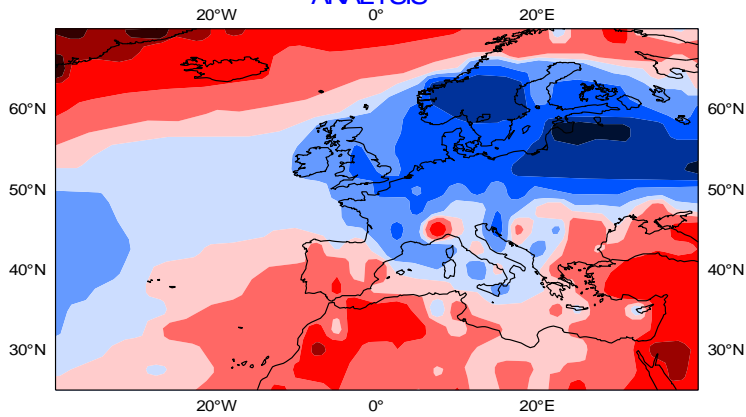


➤ 70% confidence level for the mean computed as a function of the lead time.

➤ General trend to lower values since 2006.

➤ Significant reduction of CPE is found in 2008 and confirmed in 2009. Physics changes in Nov07 may explain the positive impact in reducing the intensity and position errors.

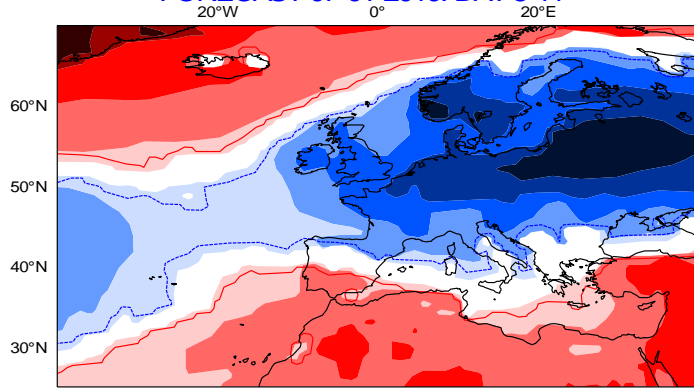
ANALYSIS



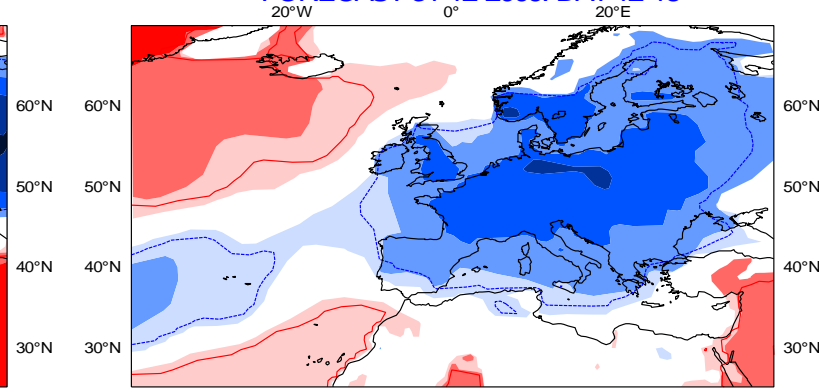
Analysis and ECMWF VarEPS-Monthly Forecasting System 2-meter Temperature anomaly Verification period: 11-01-2010/TO/17-01-2010

ensemble size = 51 , climate size = 90
Shaded areas significant at 10% level
Contours at 1% level

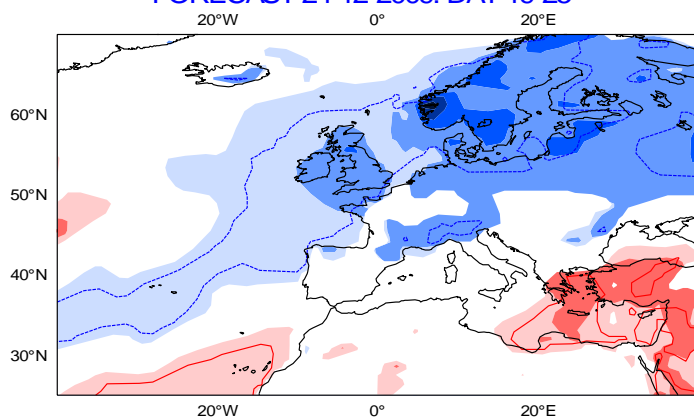
FORECAST 07-01-2010: DAY 5-11



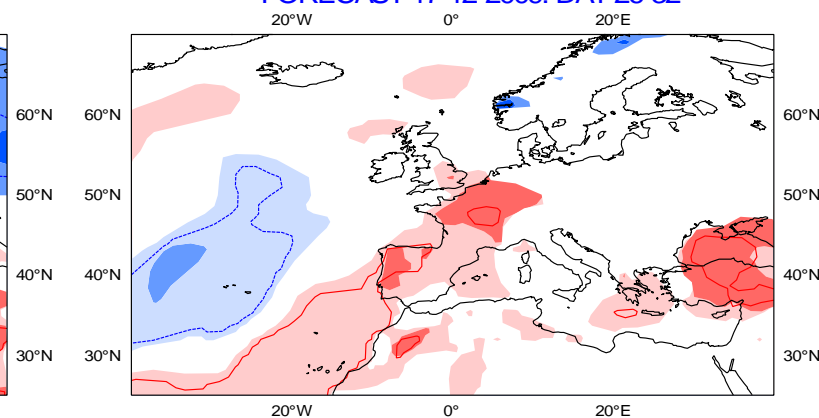
FORECAST 31-12-2009: DAY 12-18



FORECAST 24-12-2009: DAY 19-25



FORECAST 17-12-2009: DAY 26-32

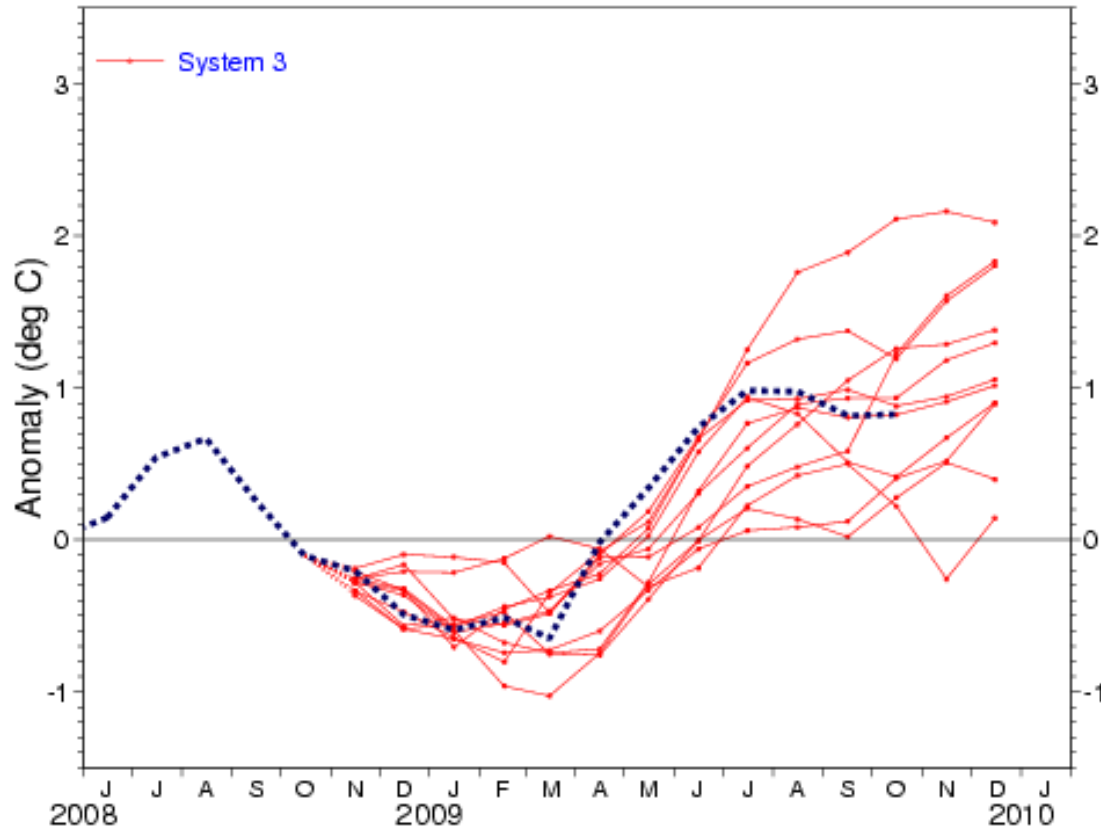


12 month seasonal forecasts

Current El Nino event forecast in Nov 2008

NINO3 SST anomaly plume ECMWF forecast from 1 Nov 2008

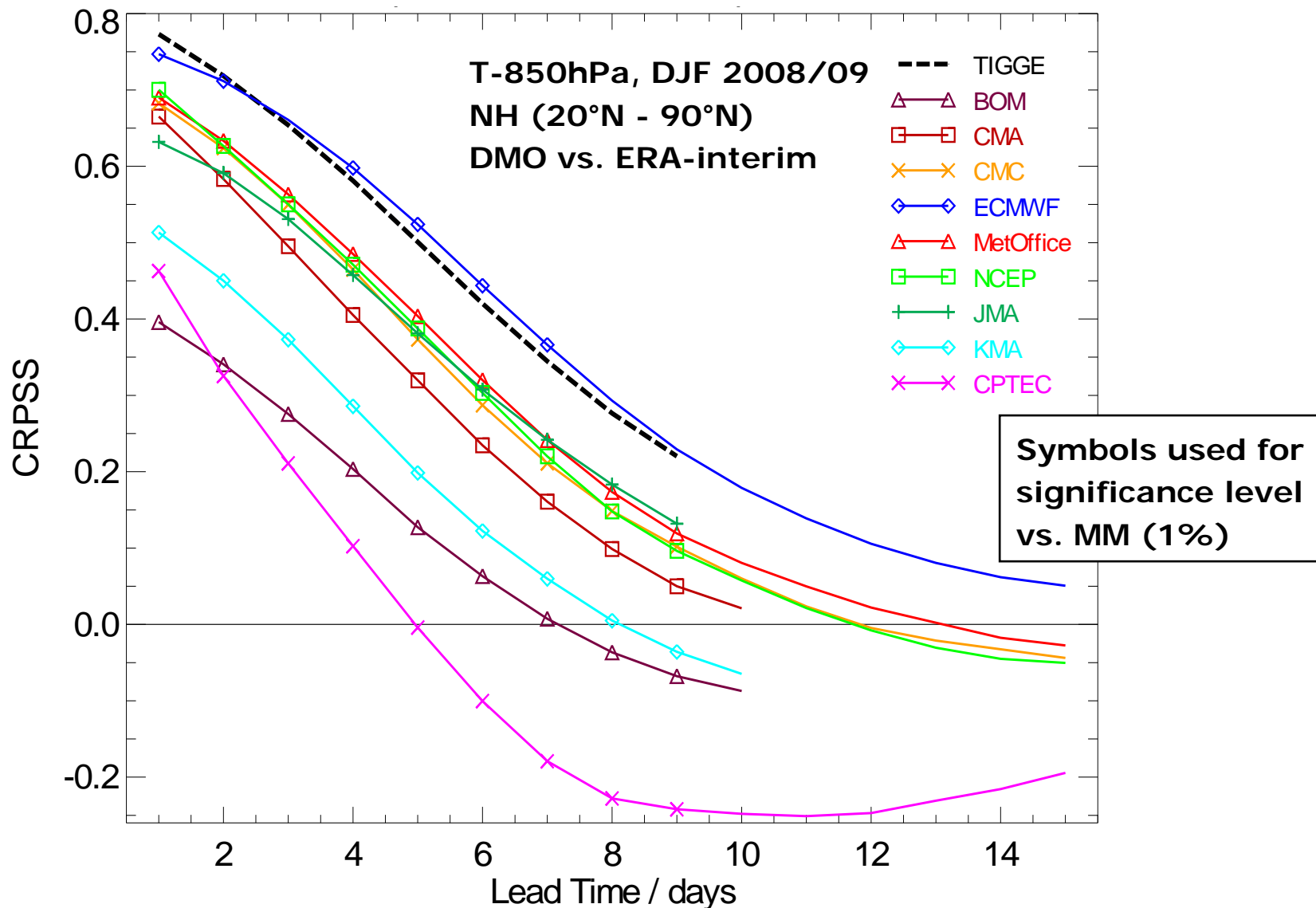
Monthly mean anomalies relative to NCEP adjusted OIv2 1971-2000 climatology



Forecast issue date: 15 Nov 2008

ECMWF

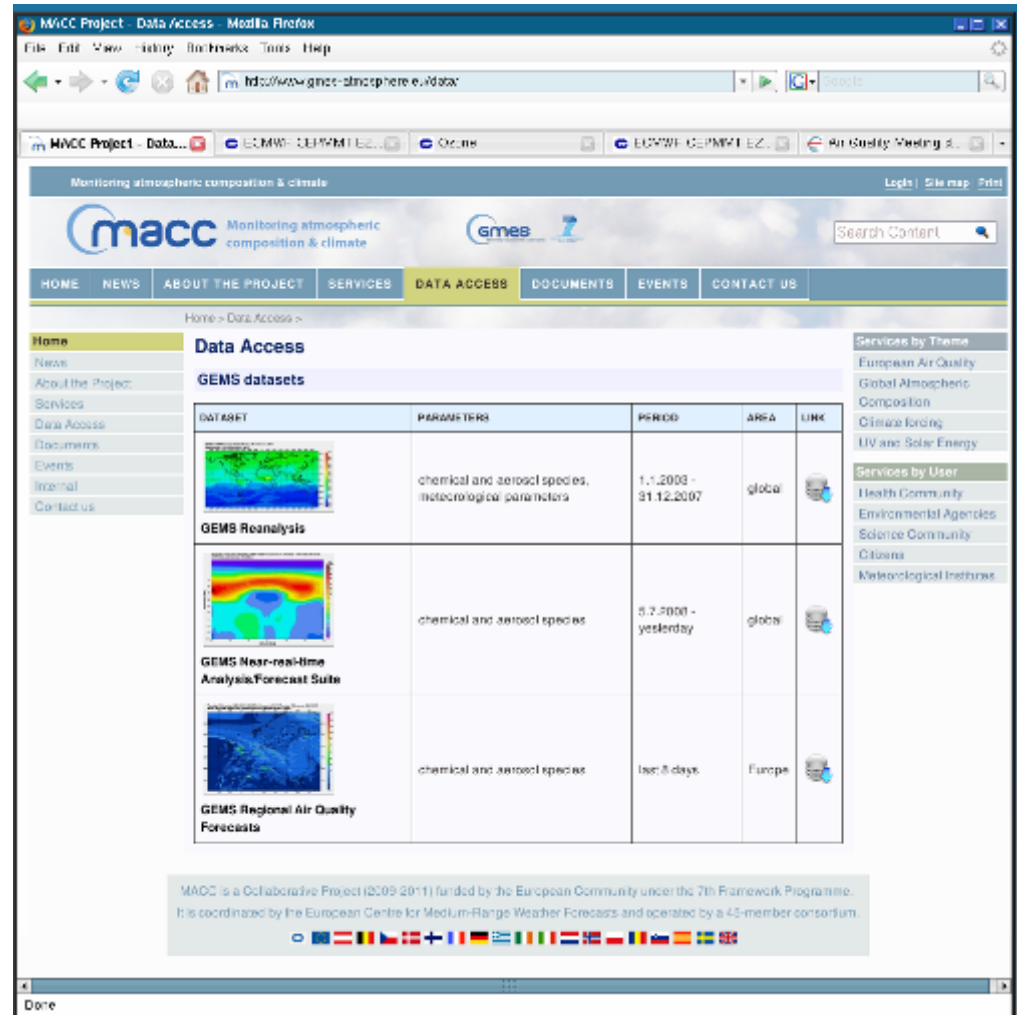
Comparing 9 TIGGE models & the MM



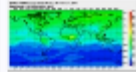





MACC: Global availability of products

- Global data products on atmospheric composition are publicly available with minimal conditions, from a reanalysis for 2003-2007 and from daily near-real-time forecasts
- Complementary conventional global meteorological data products from the reanalysis are similarly available
- A new reanalysis for 2003-2010 will be produced during MACC


















www.gmes-atmosphere.eu



The screenshot shows the MACC Data Access website in a Mozilla Firefox browser. The page title is "MACC Project - Data Access" and the URL is "http://www.gmes-atmosphere.eu/data". The website header includes the MACC logo and the text "Monitoring atmospheric composition & climate". The navigation menu includes HOME, NEWS, ABOUT THE PROJECT, SERVICES, DATA ACCESS (highlighted), DOCUMENTS, EVENTS, and CONTACT US. The main content area is titled "Data Access" and "GEMS datasets". It features a table with three rows of datasets, each with a thumbnail image, a description, a period, an area, and a link icon.

DATASET	PARAMETERS	PERIOD	AREA	LINK
 GEMS Reanalysis	chemical and aerosol species, meteorological parameters	1.1.2003 - 31.12.2007	global	
 GEMS Near-real-time Analysis, Forecast Suite	chemical and aerosol species	5.2.2008 - yesterday	global	
 GEMS Regional Air Quality Forecasts	chemical and aerosol species	last 8 days	Europe	

MACC is a Collaborative Project (2009-2011) funded by the European Community under the 7th Framework Programme. It is coordinated by the European Centre for Medium-Range Weather Forecasts and operated by a 45-member consortium.

Real-time aerosol forecasts

Aerosol optical depth of dust and sea salt



News Front Page Page last updated at 10:42 GMT, Wednesday, 23 September

Desert dust storm chokes Sydney



Sydney's red dust has been blown from the outback

A large stretch of Australia's east coast, including the largest city Sydney, has been shrouded in red dust blown in from the desert outback.

Visibility in Sydney was so bad that flights were diverted and harbour ferry traffic disrupted.

