

Precipitation verification at DWD

**28th WGNE meeting,
05-09 Nov. 2012, Toulouse**

U. Damrath (DWD)

Current station set for verification of precipitation forecasts over Germany



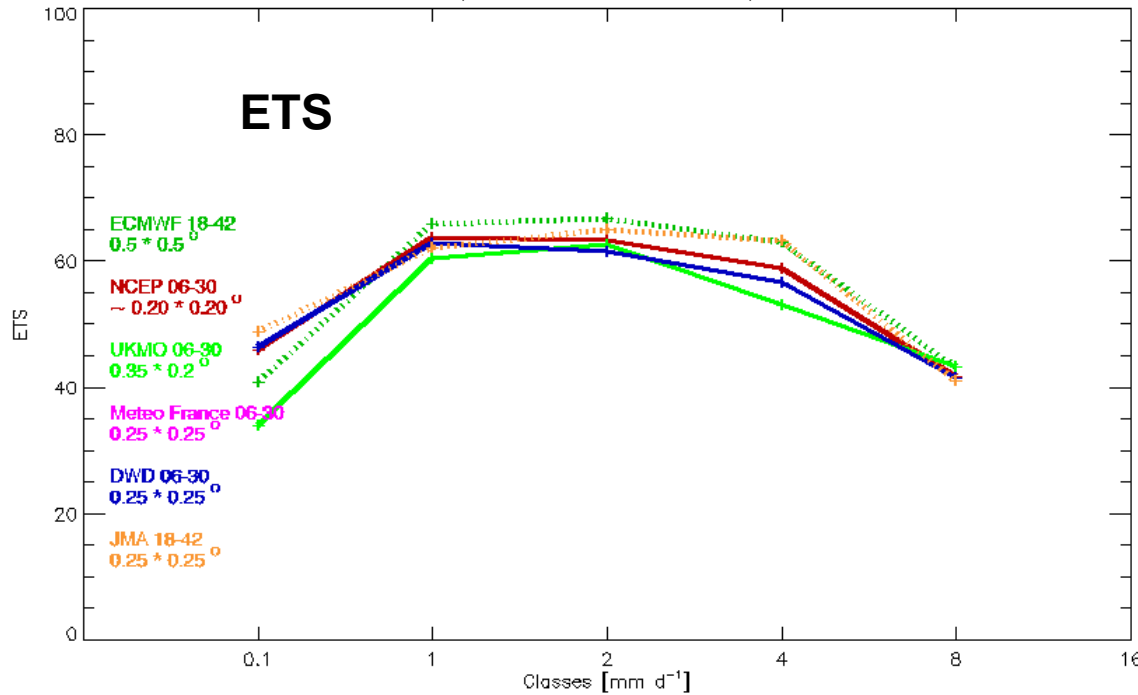
1000 stations; controlled data are available around 10 days after measurement.

Verification method:

Aggregation to a $1^\circ \times 1^\circ$ grid: forecasts in the model grid, observations as so called *superobservations* in each model grid.



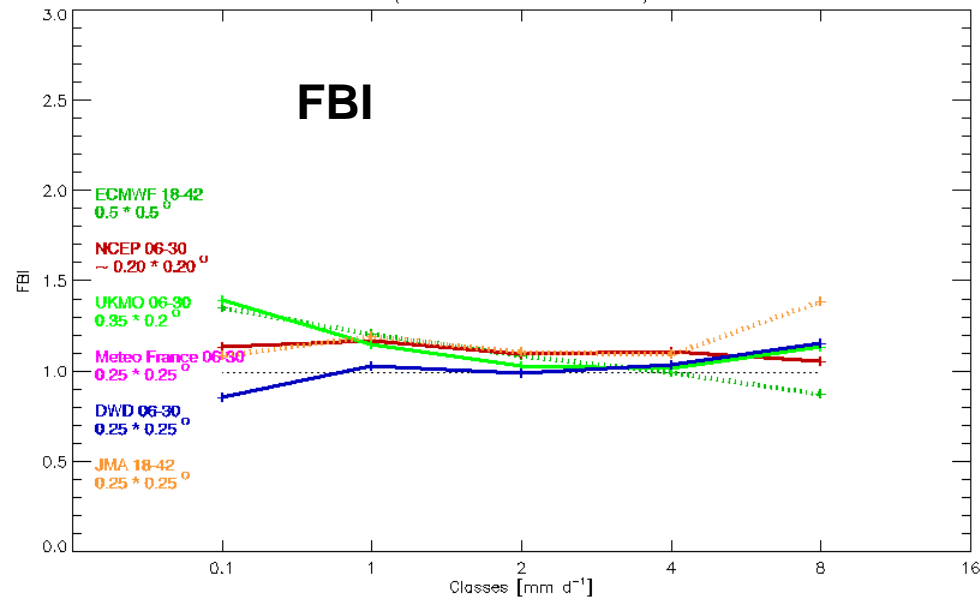
ETS

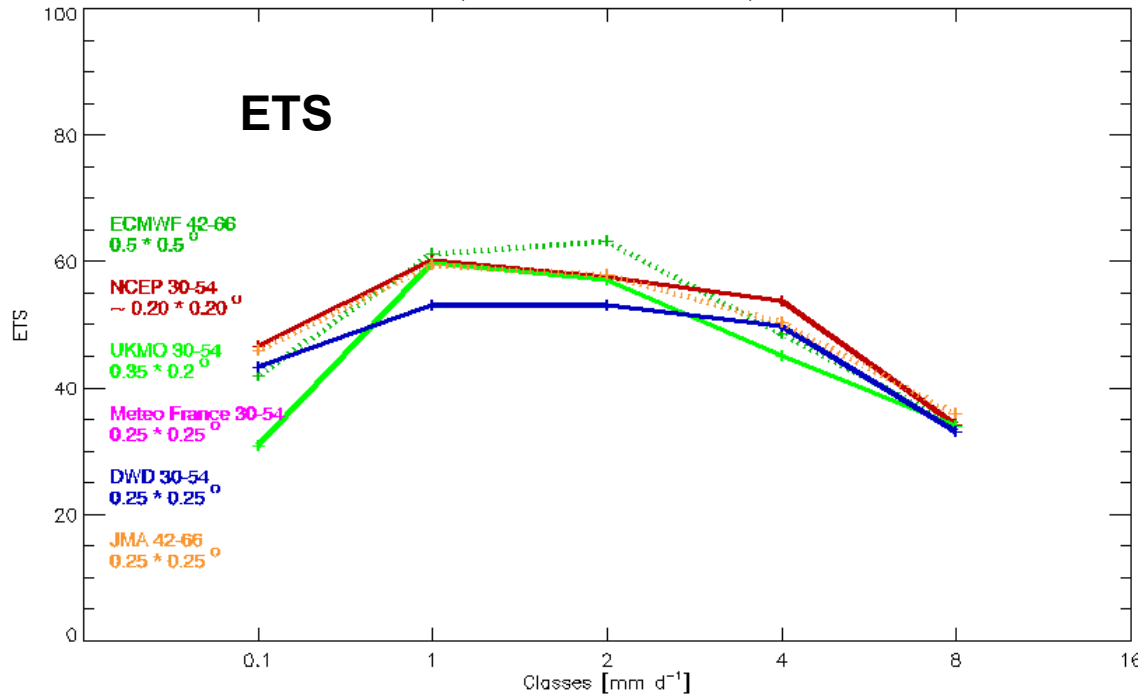


Autumn 2011

Forecast day 1

FBI

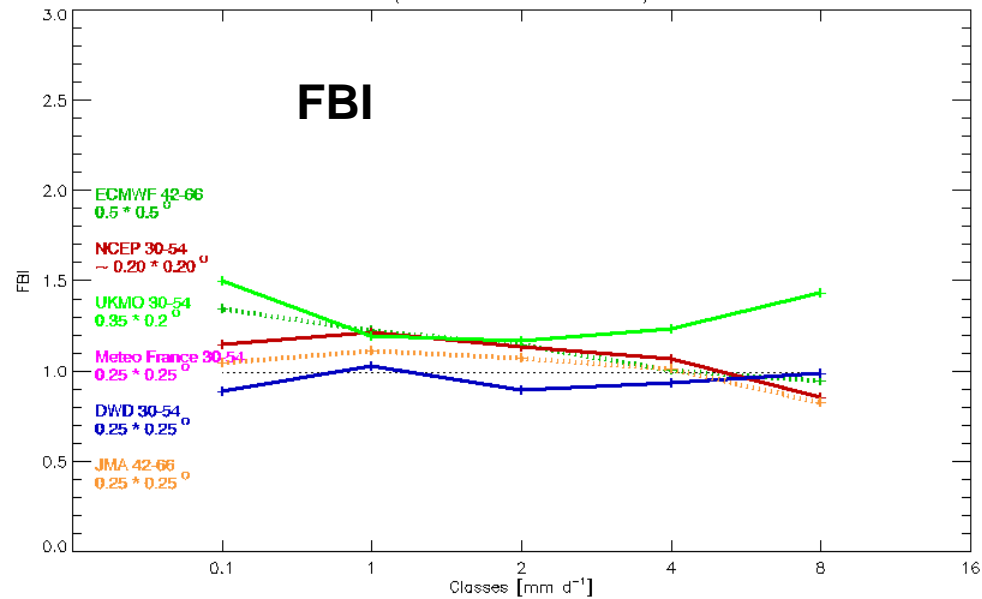




Autumn 2011

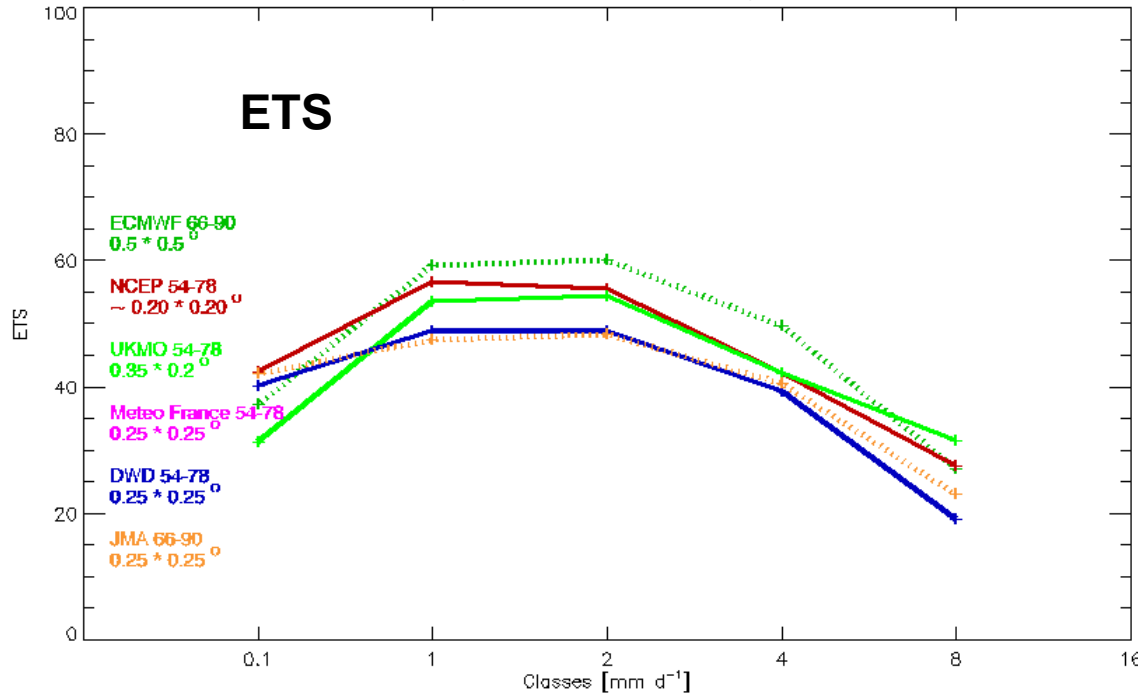
Forecast day 2

Period: 01.September 2011 till 30.November 2011
(area mean over $1^{\circ} \times 1^{\circ}$)





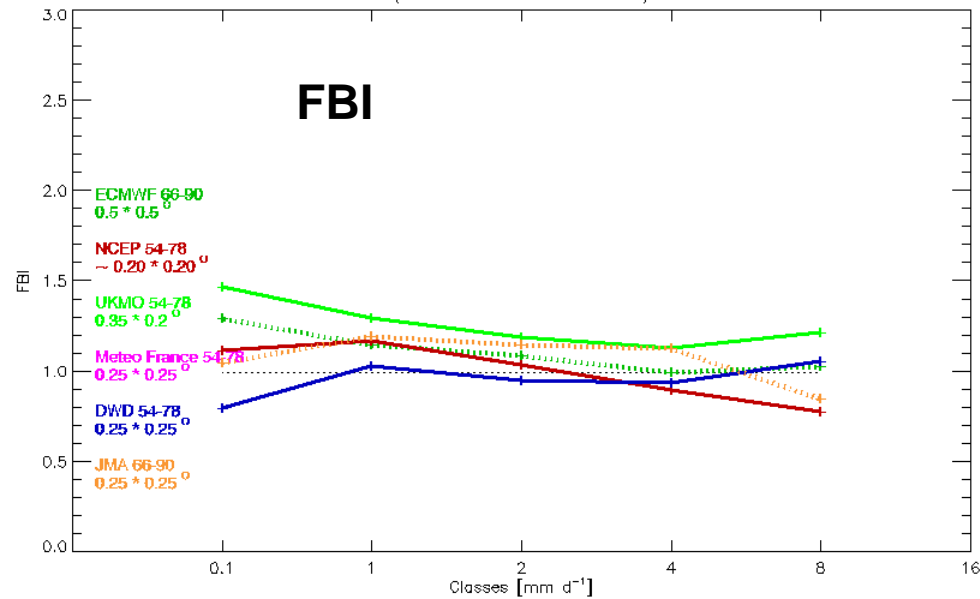
ETS

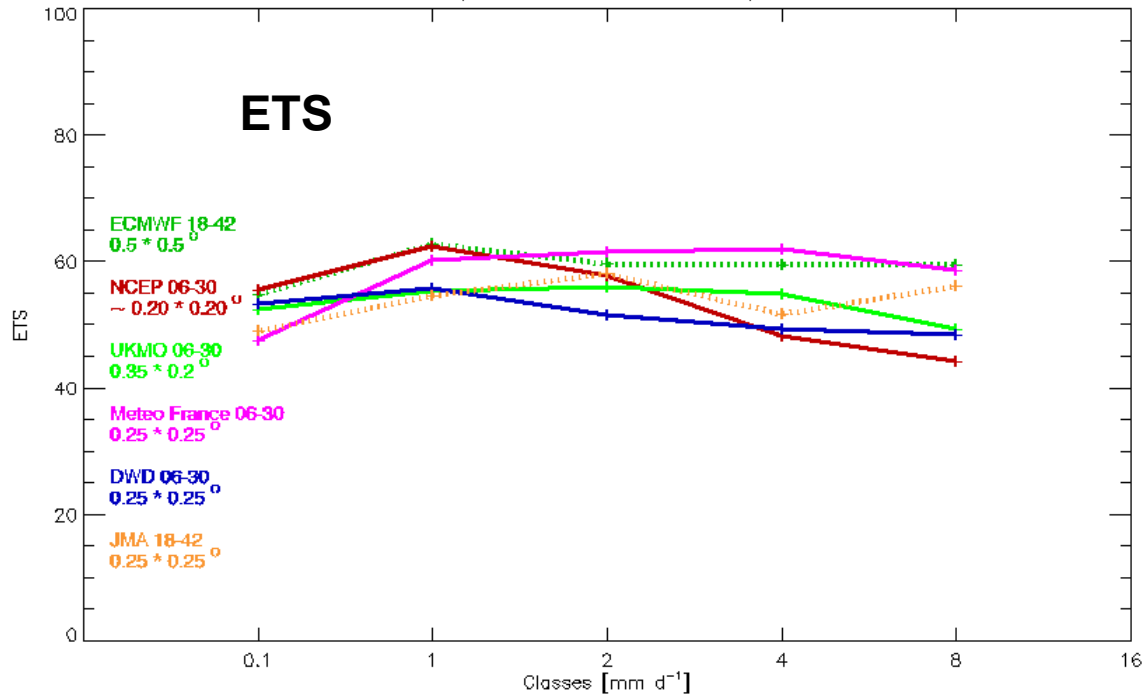


Autumn 2011

Forecast day 3

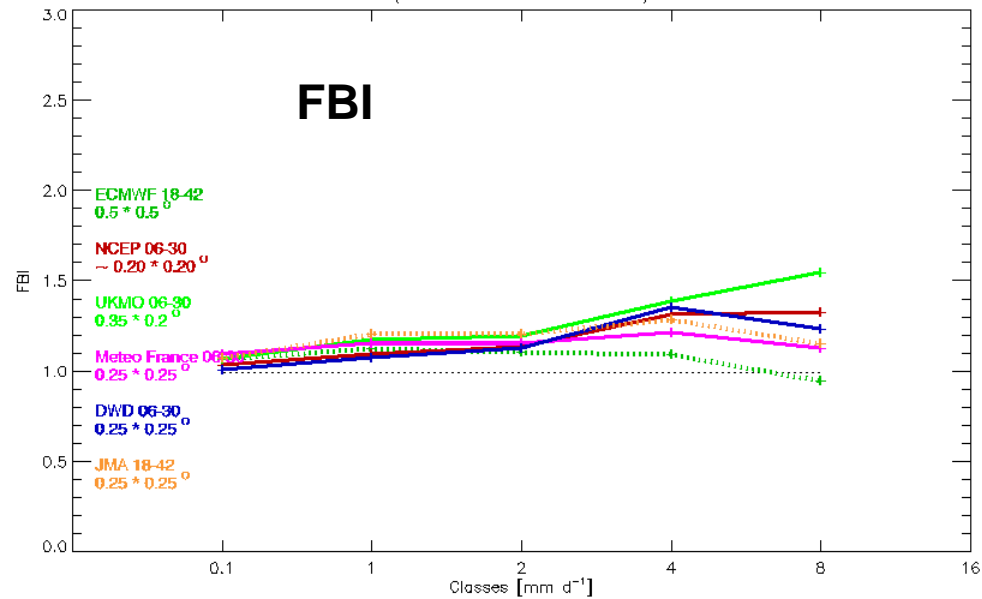
FBI





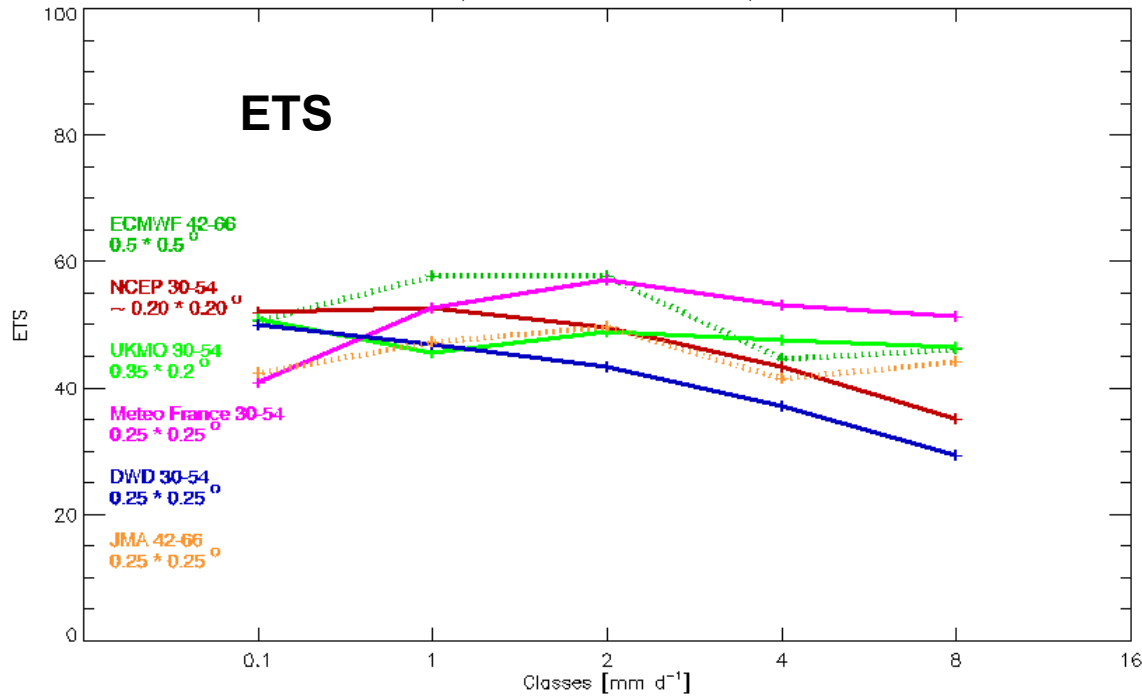
Winter 2011/12

Forecast day 1





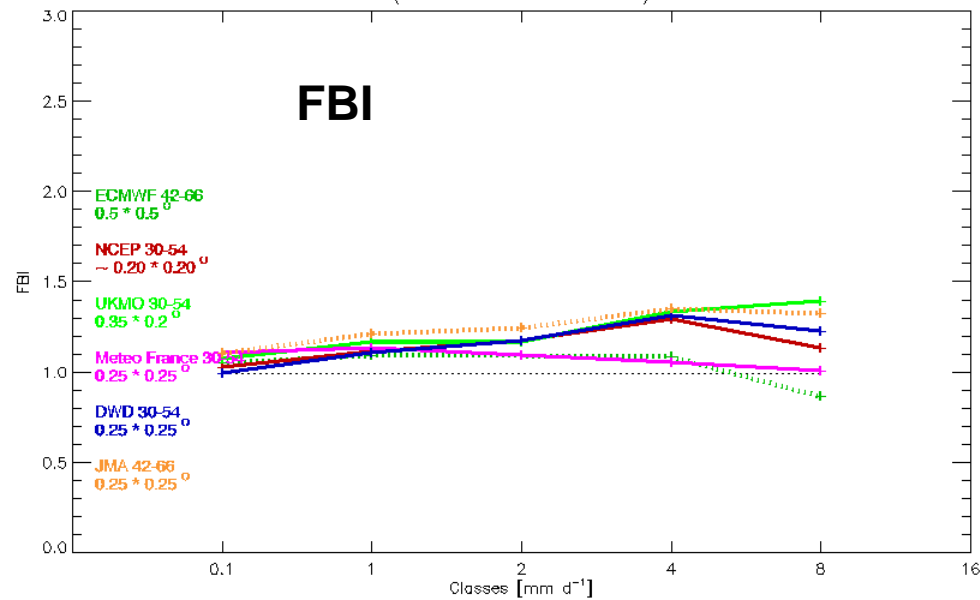
ETS



Winter 2011/12

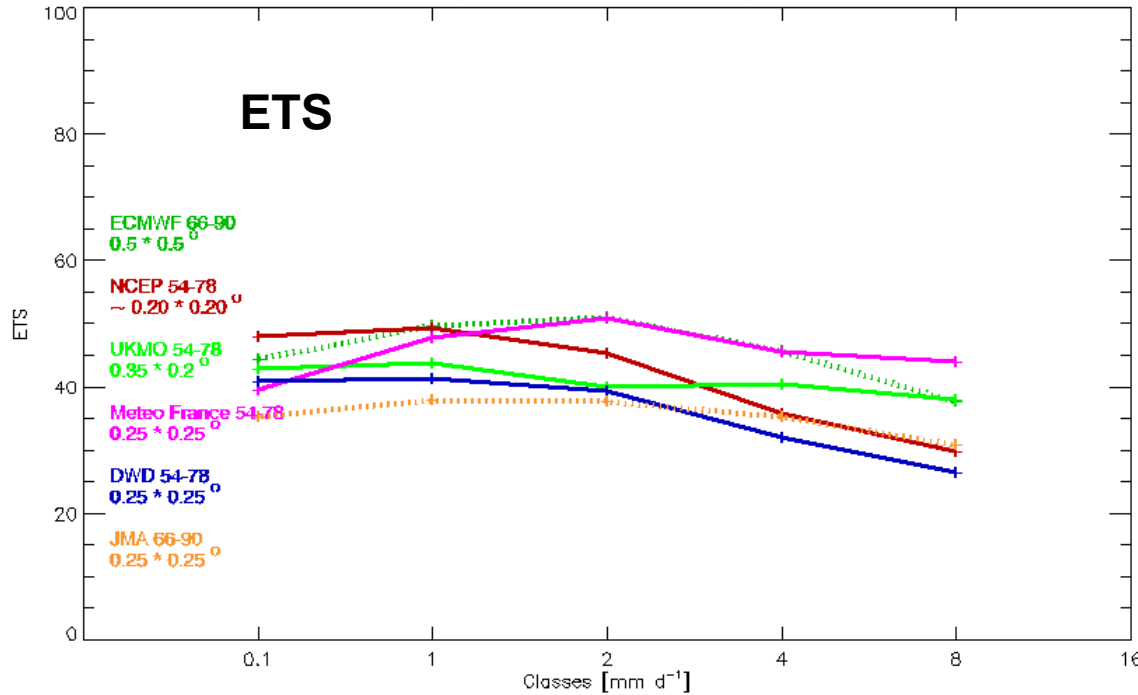
Forecast day 2

FBI





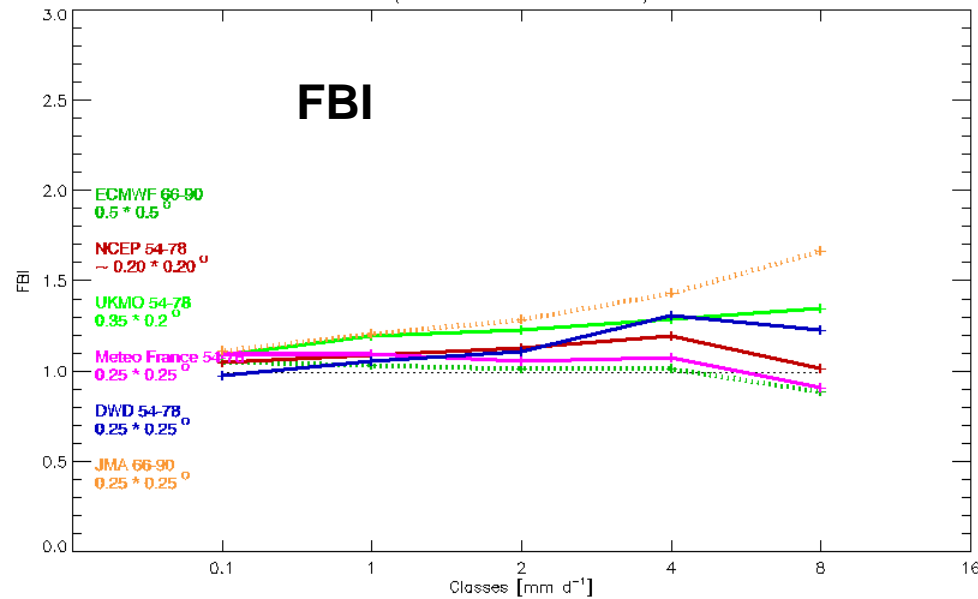
ETS



Winter 2011/12

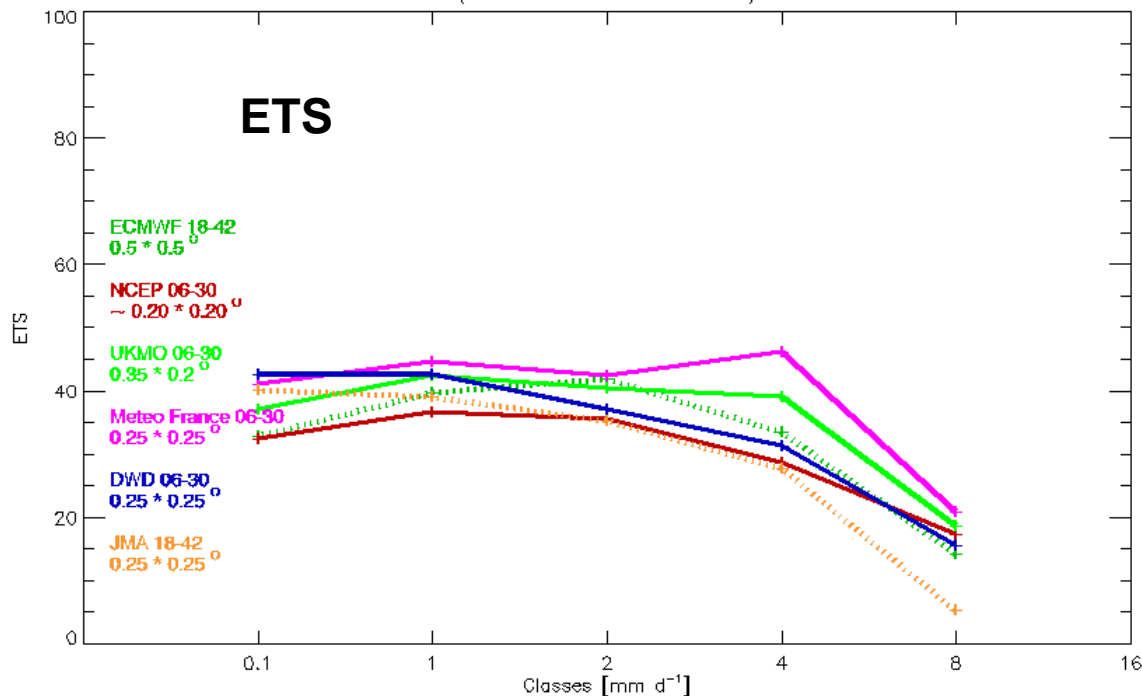
Forecast day 3

FBI





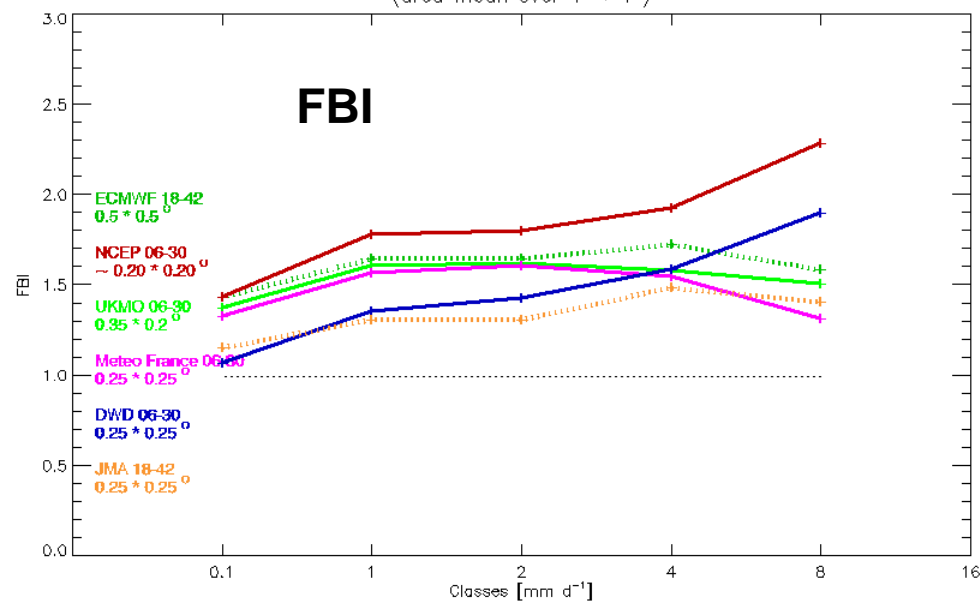
ETS

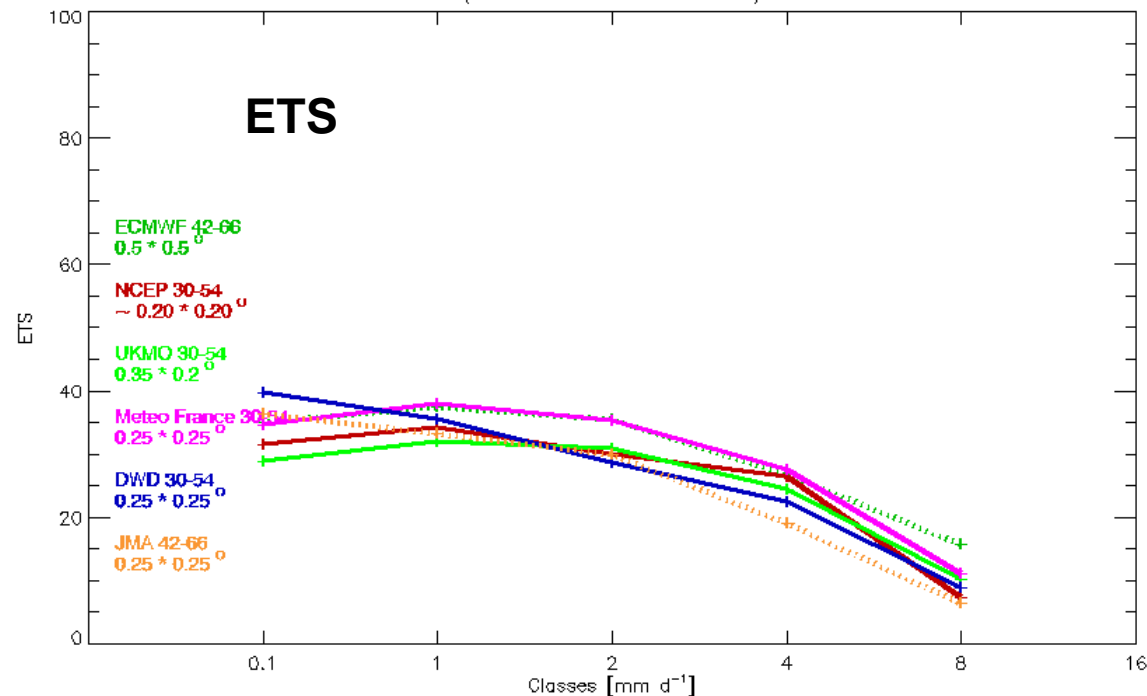


Spring 2012

Forecast day 1

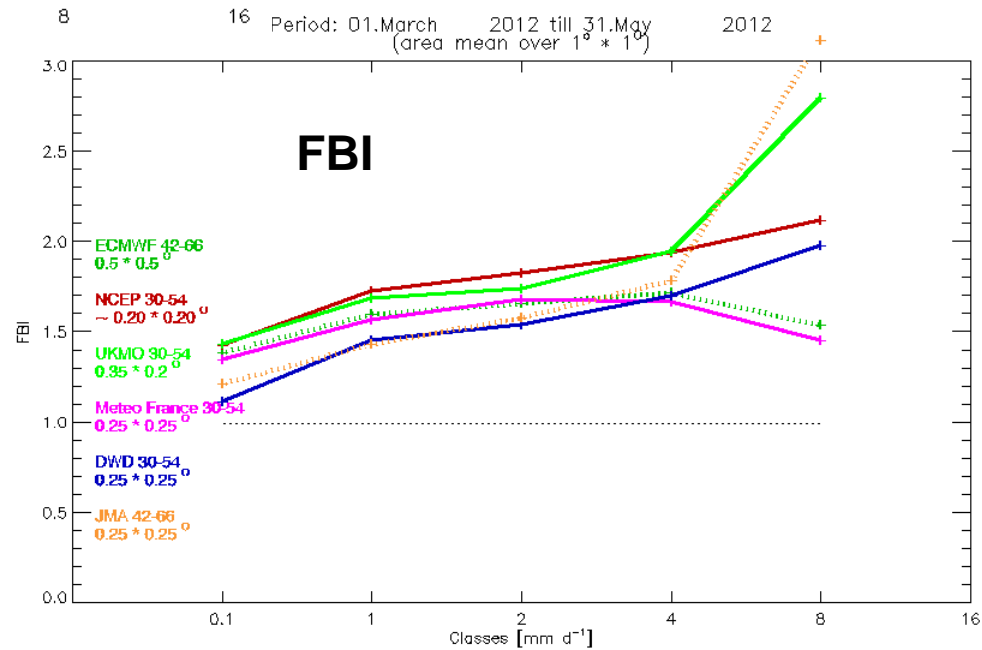
Period: 01.March 2012 till 31.May 2012
 (area mean over 1° * 1°)





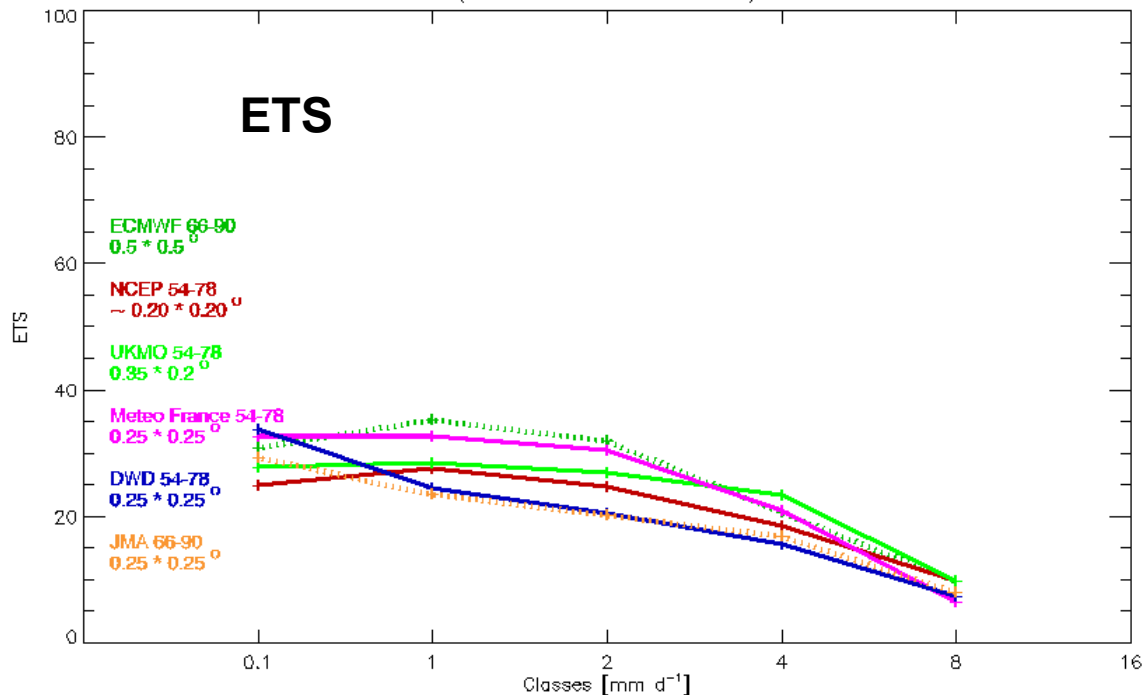
Spring 2012

Forecast day 2



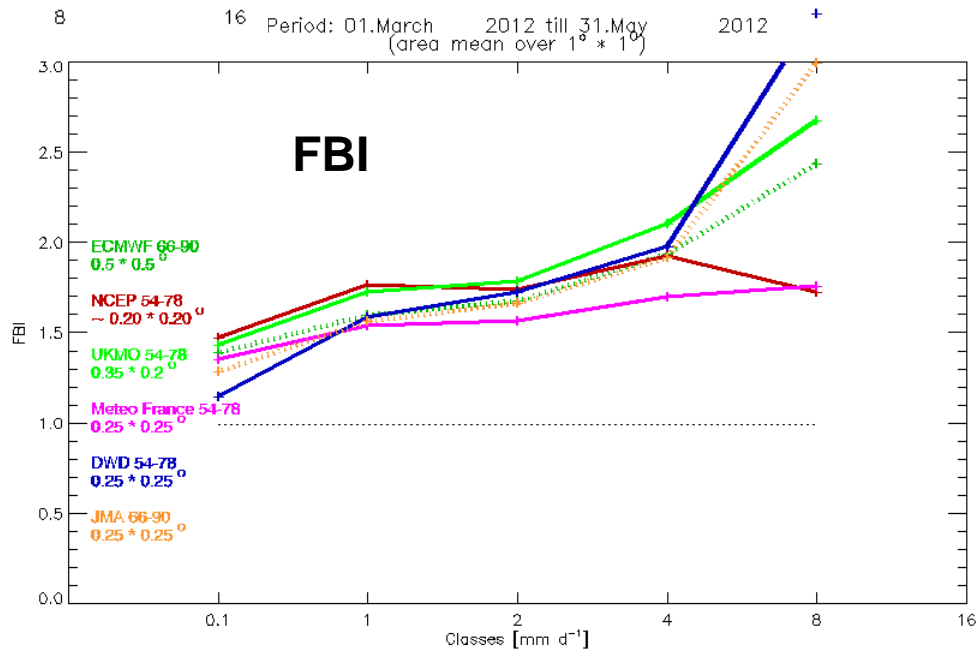


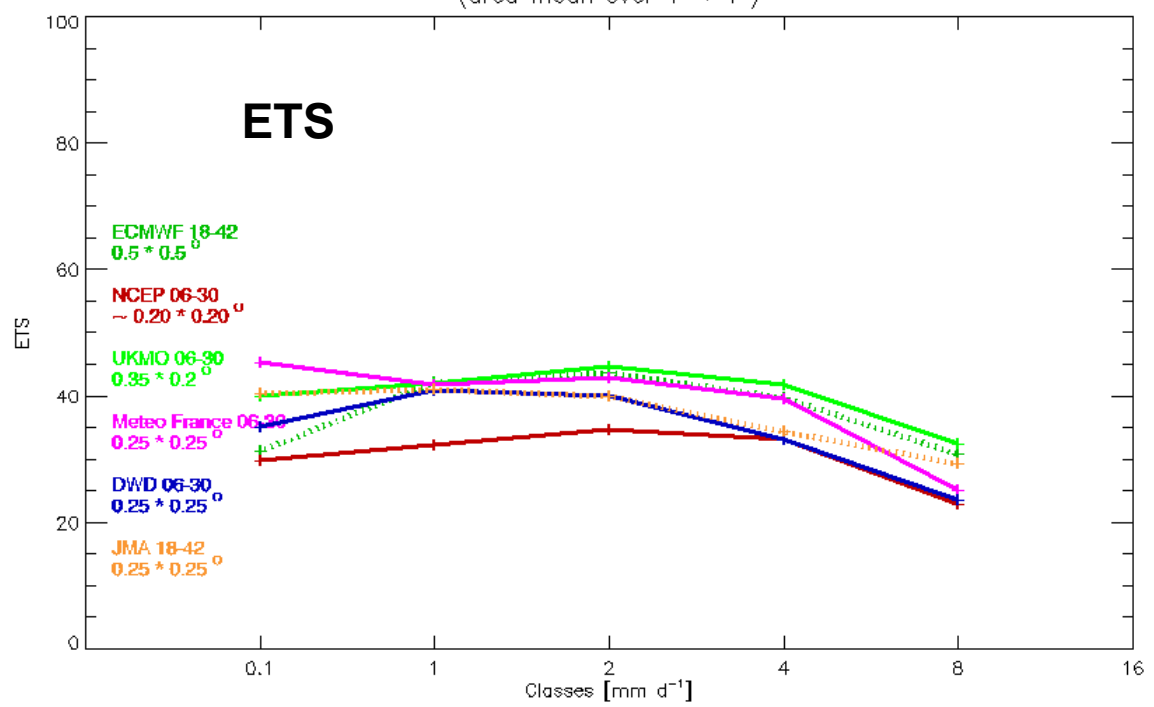
ETS



Spring 2012

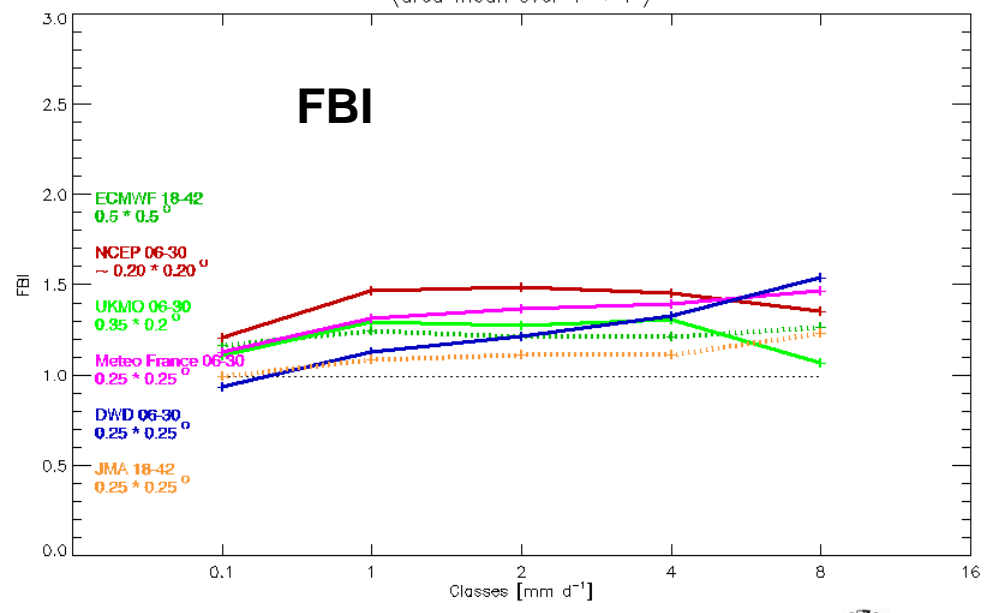
Forecast day 3





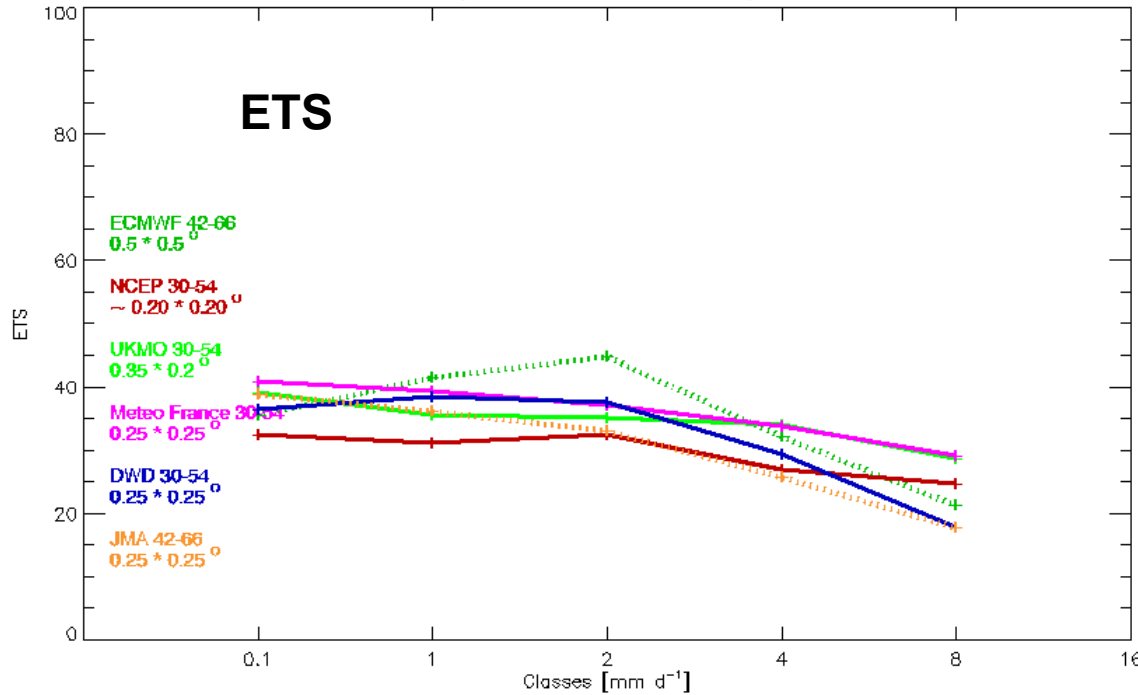
Summer 2012

Forecast day 1





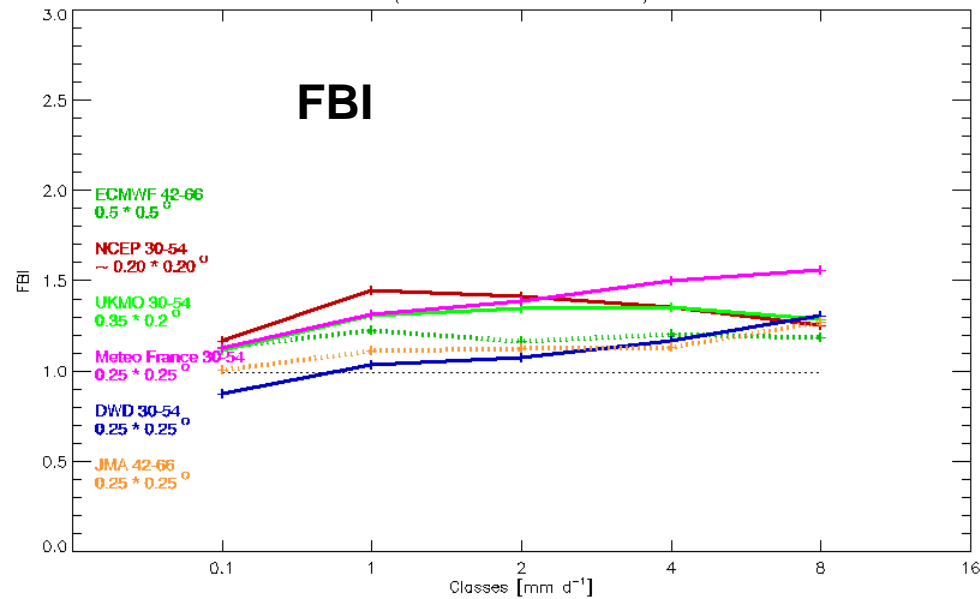
ETS



Summer 2012

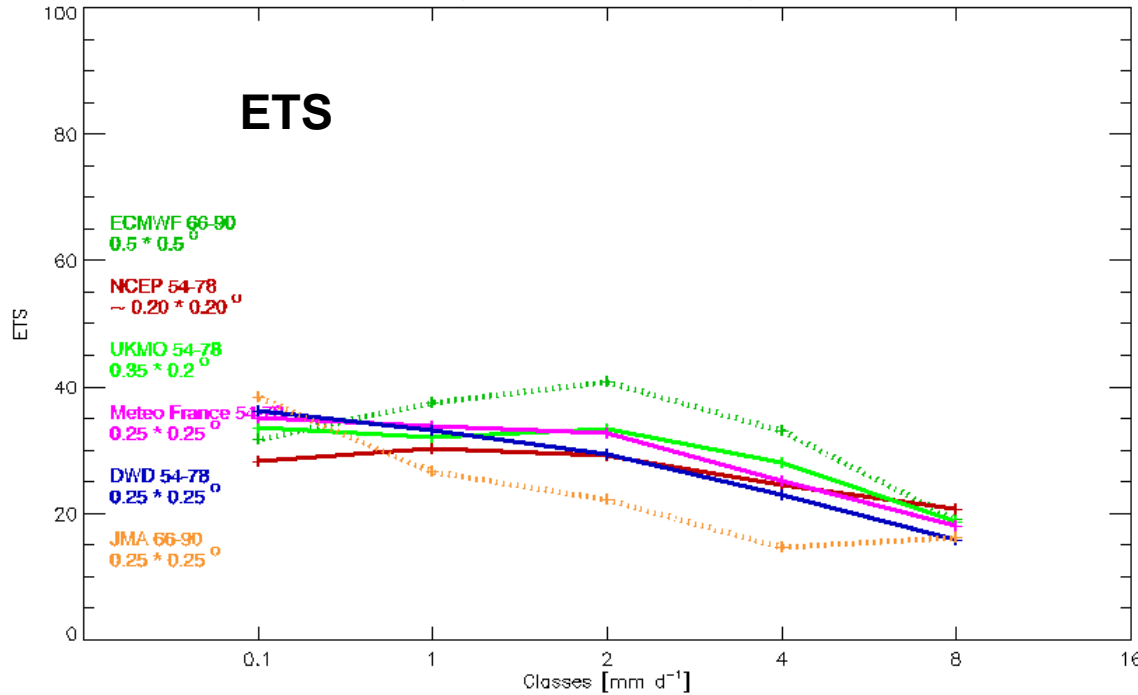
Forecast day 2

FBI





ETS

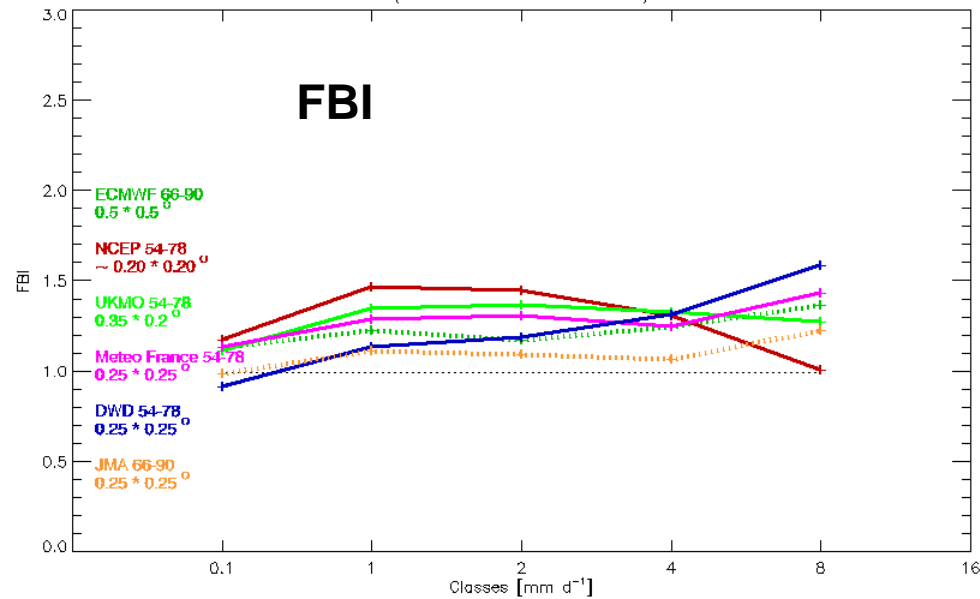


Summer 2012

Forecast day 3

Period: 01.June 2012 till 31.August 2012
 (area mean over $1^{\circ} \times 1^{\circ}$)

FBI



Verification against analysis?

Dependency on the lead time

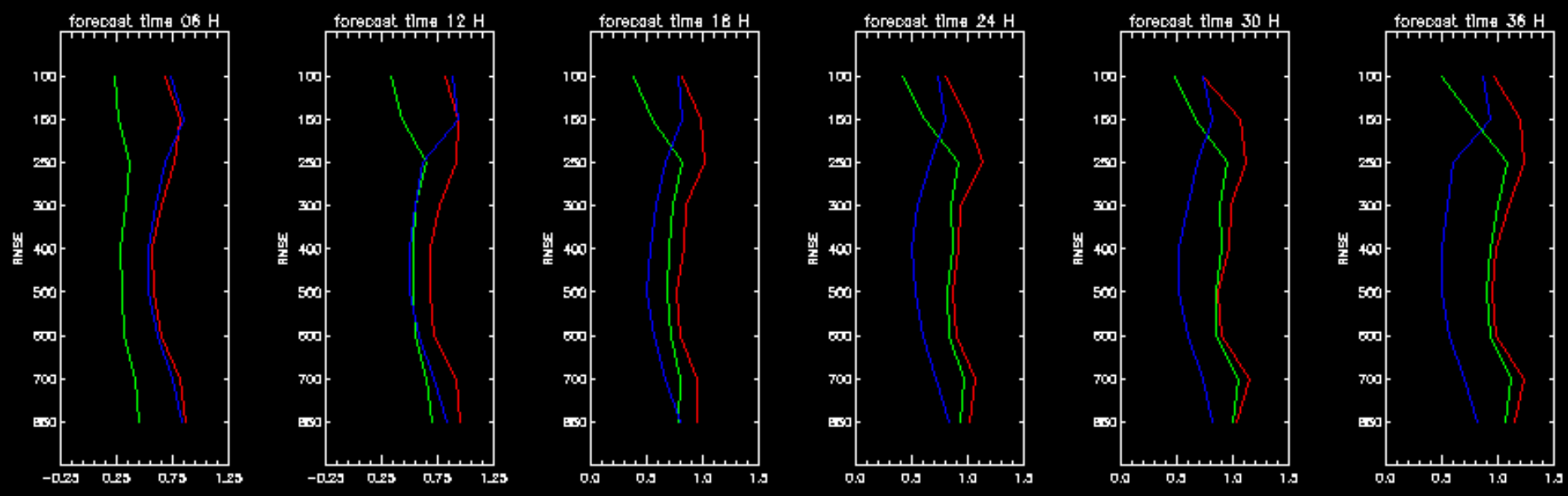
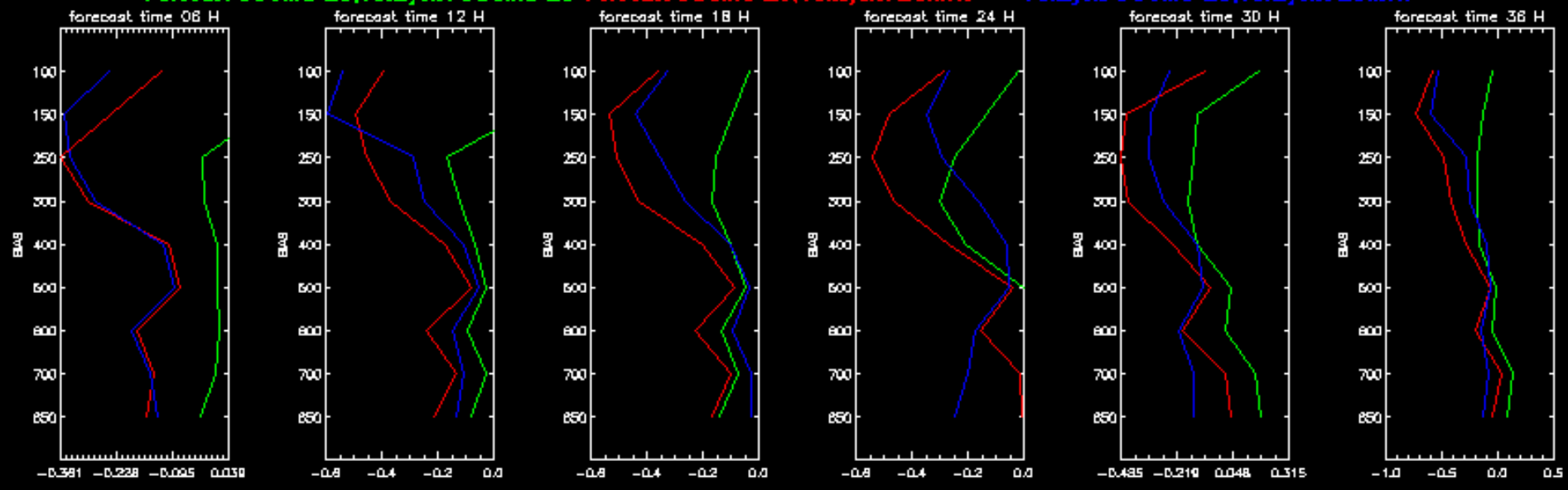
U. Damrath (DWD)

Verification of COSMO-EU forecasts over the region of Central Europe against different analysis
 Parameter: Temperature Period: 29.09.2012 - 10.10.2012

Forecast COSMO-EU, Analysis: COSMO-EU

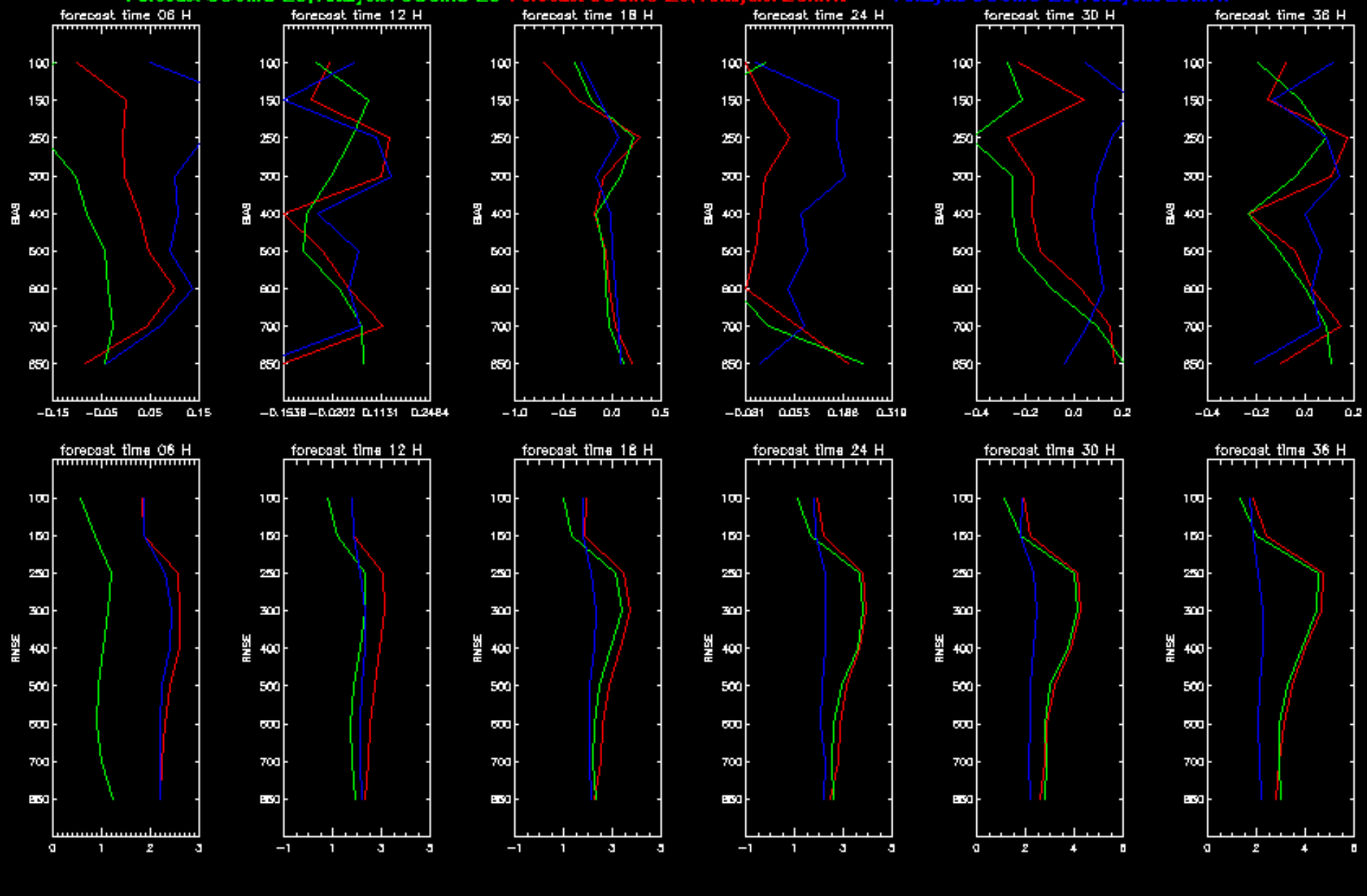
Forecast COSMO-EU, Analysis: ECMWF

Analysis COSMO-EU, Analysis: ECMWF



Verification of COSMO-EU forecasts over the region of Central Europe against different analysis
 Parameter: u-wind Period: 29.09.2012 - 10.10.2012

Forecast COSMO-EU, Analysis: COSMO-EU Forecast COSMO-EU, Analysis: ECMWF Analysis COSMO-EU, Analysis: ECMWF



Verification of COSMO-EU forecasts over the region of Central Europe against different analysis
 Parameter: γ -wind Period: 29.09.2012 - 10.10.2012

Forecast COSMO-EU, Analysis: COSMO-EU Forecast COSMO-EU, Analysis: ECMWF Analysis COSMO-EU, Analysis: ECMWF

