



Status of E-GVAP Processing Working Group  
and  
Status of NRT GPS Processing at the UK Met Office

E-GVAP info available at <http://egvap.dmi.dk/>

GPS project fully operational in UK since May 2007, data BUFR encoded, assimilated in NAE (4km) model and put out on GTS

## E-GVAP/MetO servers

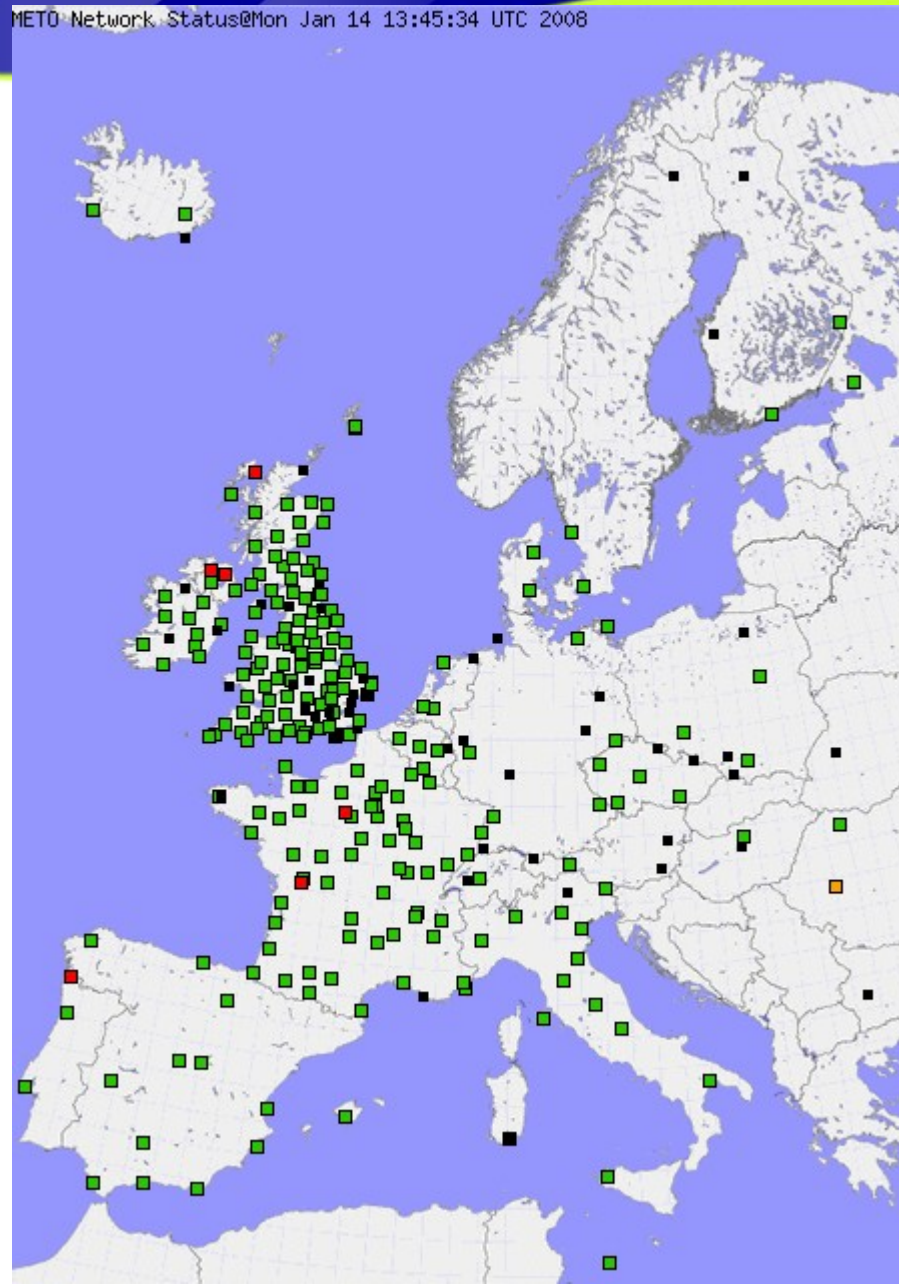
2 operational dual processor/dual core systems (8GB RAM) processing

Processing network of <350 stations in NRT

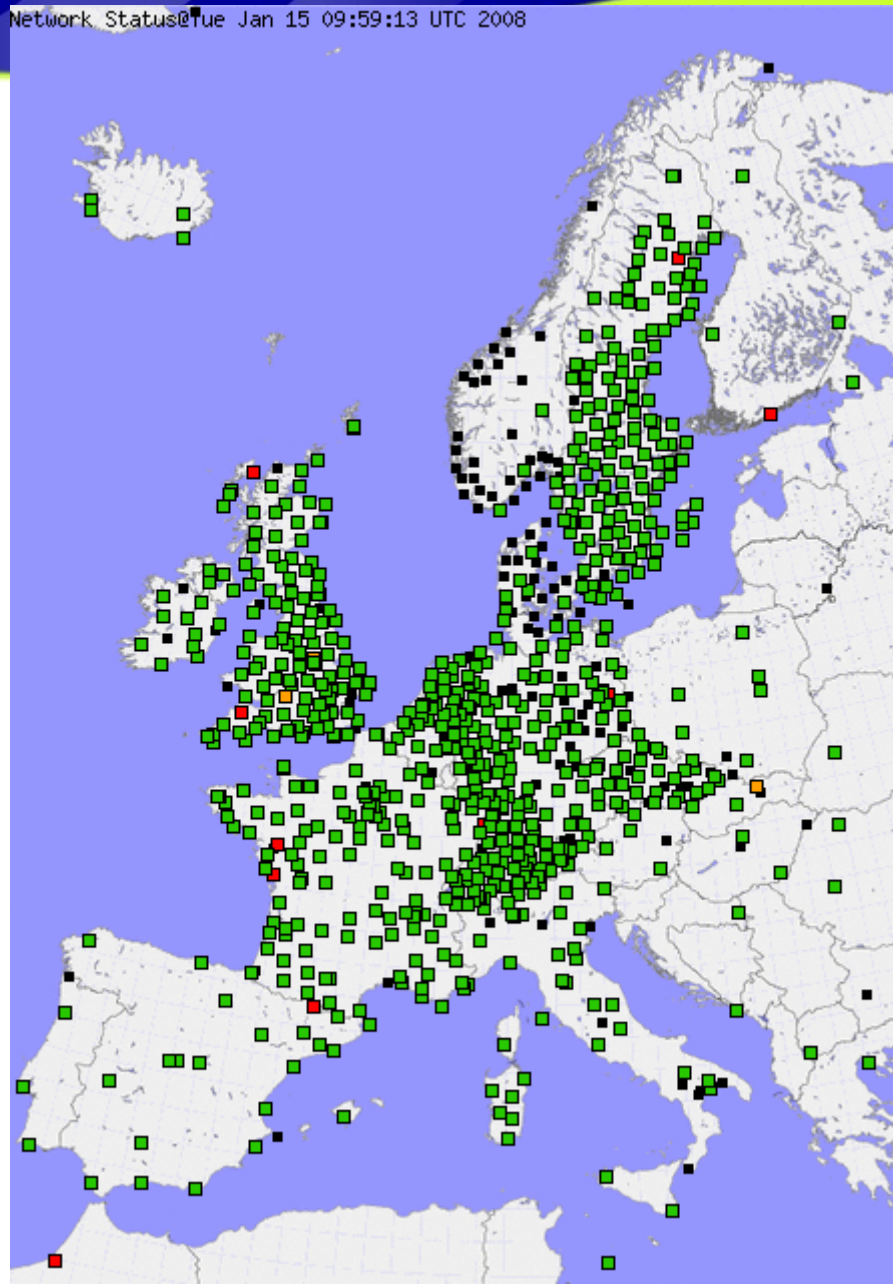
Processing takes ~30mins to complete

MoUs in place with EUREF and Ordnance Survey

# Current MetO Network 14/01/08



# Current E-GVAP Network 15/01/08



- 1 Super Sites and Validation
- 2 E-GVAP Server
- 3 Relative Constraints
- 4 Plots for forecasting



# E-GVAP Supersites

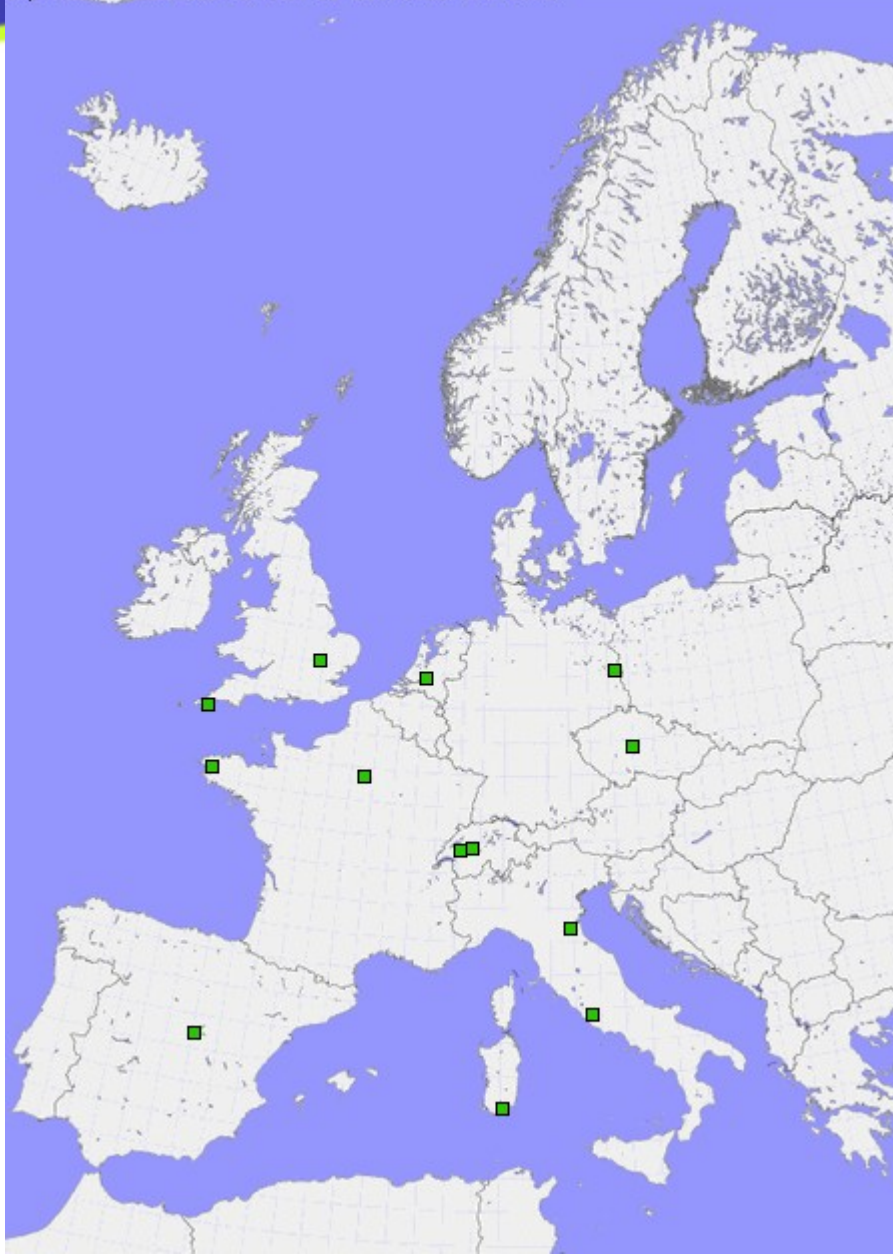
13 sites identified for validation of GPS IWV against other remote sensing instruments

All sites collocated with radiosonde and/or microwave radiometer

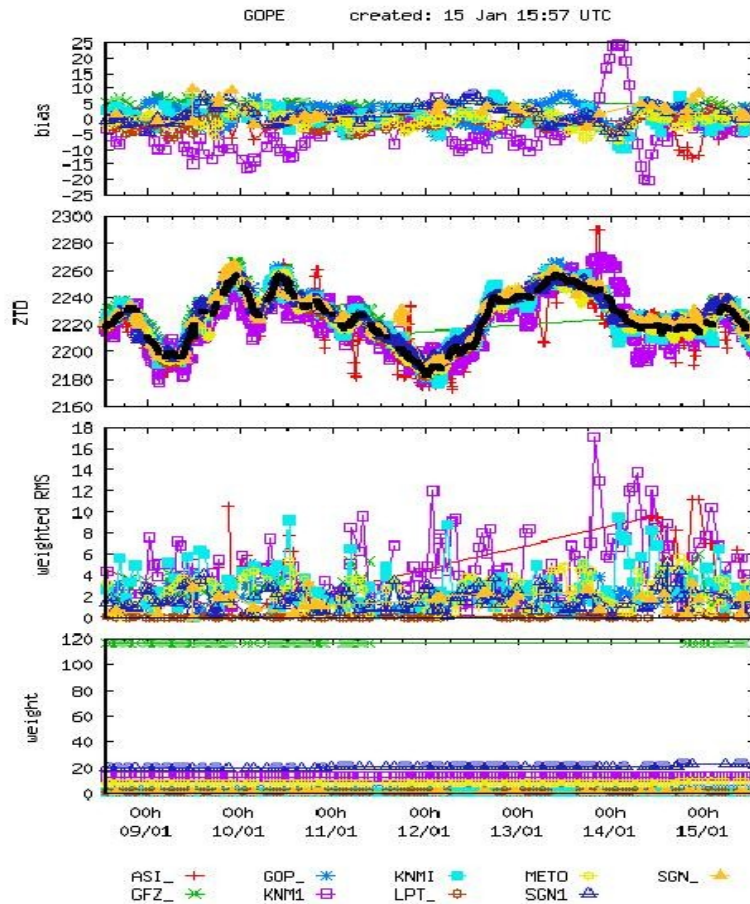
Access to data from site at Inza Observatory, Tenerife (GPS, RS, MWR, Infrared Spectrometer)

We need to find out the true value of IWV before effects of different models/constraints on processing can be recommended

SuperSites\_Status@Tue Jan 15 11:45:22 UTC 2008



# Validation of Supersites



HIRLAM(KNMI) AN - GPS ZTD  
7day stat. 2008/01/08 - 2008/01/14

AC	num	bias	RMS	stddev
ASI	43	4.6	11.9	10.9
GFZ	26	-3.6	6.4	5.3
GOP	56	0.5	7.0	7.0
KNM1	56	8.3	14.9	12.4
KNMI	56	1.4	6.1	6.0
LPT	56	3.2	5.9	5.0
METO	56	2.3	6.6	6.1
SGN	32	-1.1	7.9	7.9
SGN1	56	-0.2	5.2	5.2

## Notes

Statistics are updated daily  
GPS ZTD are interpolated to NWP  
analysis time



latitude	49.91
longitude	14.79
altitude	547.55

## Server allows:

- Upload/Download of 'raw' GPS data for some Supersites

- Upload/Download of processed GPS data (ascii format)

## Server will soon provide:

- Download of Met data for EUREF/E-GVAP partners (according to terms of E-GVAP/EUREF MoU)

- Upload/Download of IWV data from other remote sensing instruments (e.g. MWR)



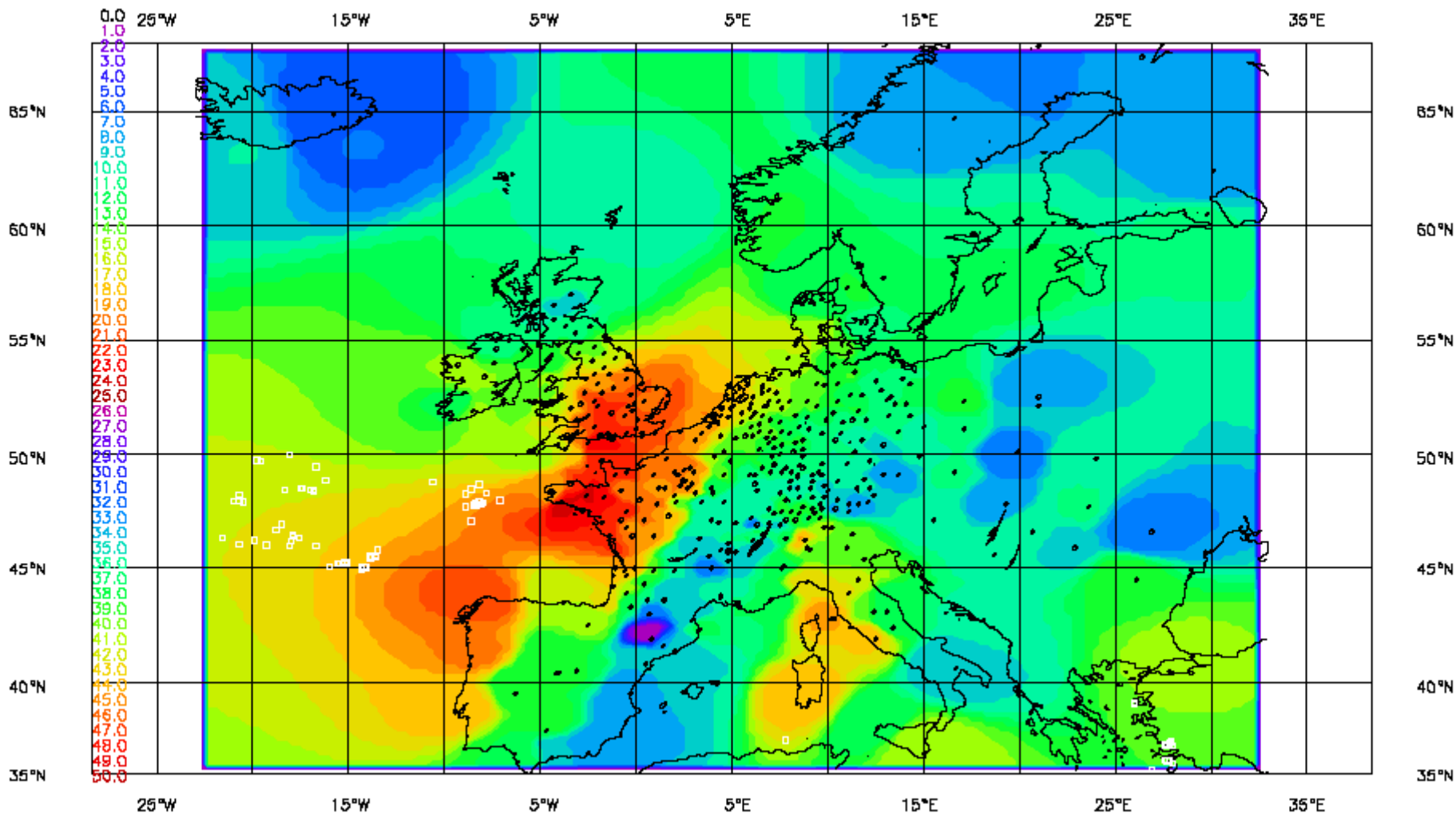
Near Real Time plots used by forecasters to assist in 'nowcasting'

Variable scale (temporal + spatial) plots

Added value to plots by inclusion on wind (2km) and lightning data

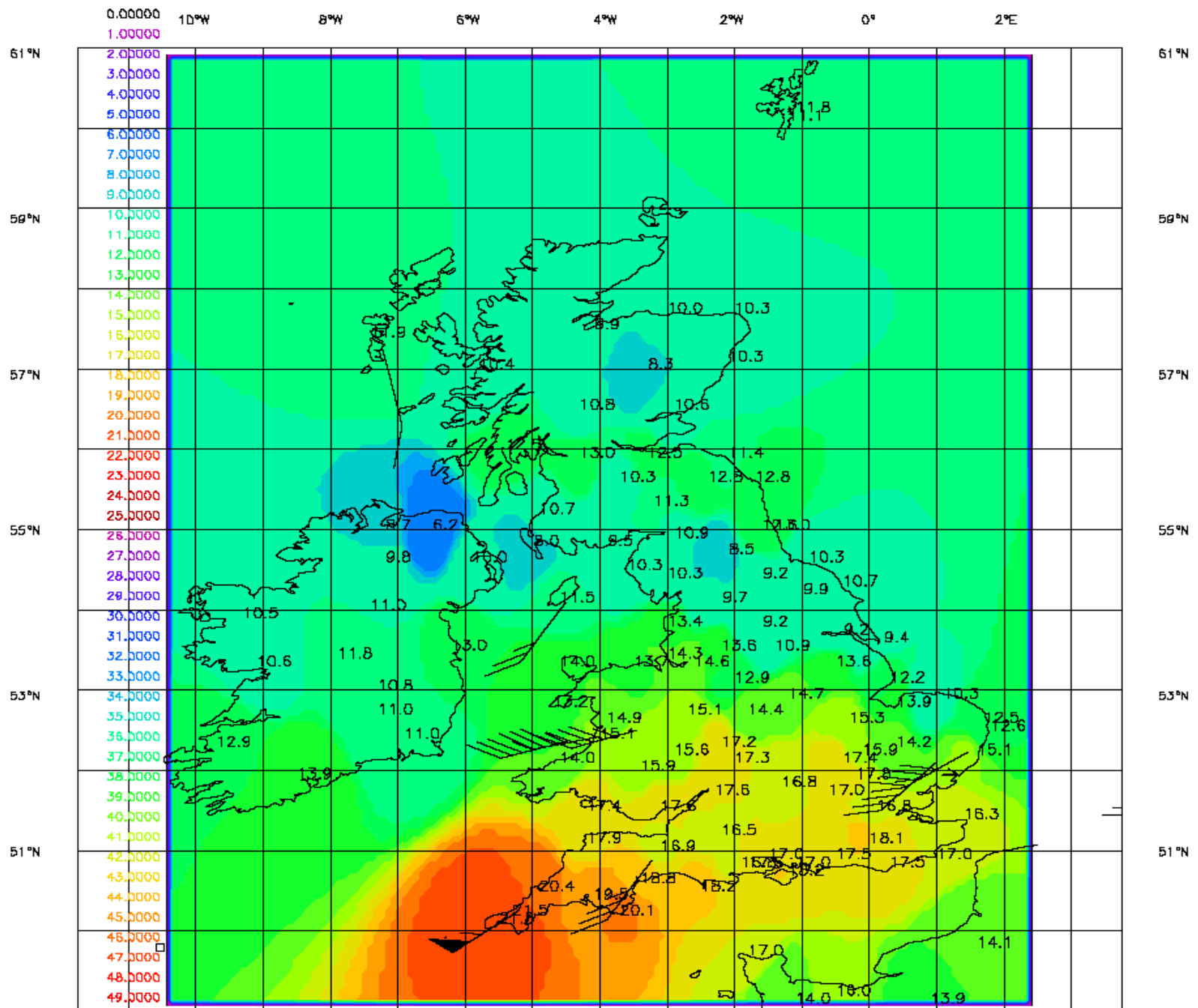
# E-GVAP Example Plot

GPS IWV 2008011509 UTC – 2km winds





# GPS IWV 200801150000 UTC – 2km winds



## **E-GVAP**

**Start flow of Met data to EUREF**

**Ensure all analysis centres are processing all SuperSites**

**Compile table of processing best practices and upload to E-GVAP website**

**Analyse effects of different relative constraints and equation stacking on processing**

## **UK Met Office**

**Further validation of GPS IWV against other instruments (and impacts on GPS processing)**

**Investigate potential of sub-hour processing**

**Improve NRT maps using NWP data as 'background' to increase confidence of forecasters**

**Investigate potential by integration with other instruments – FUND Project**