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/

Current Status within Met Office

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

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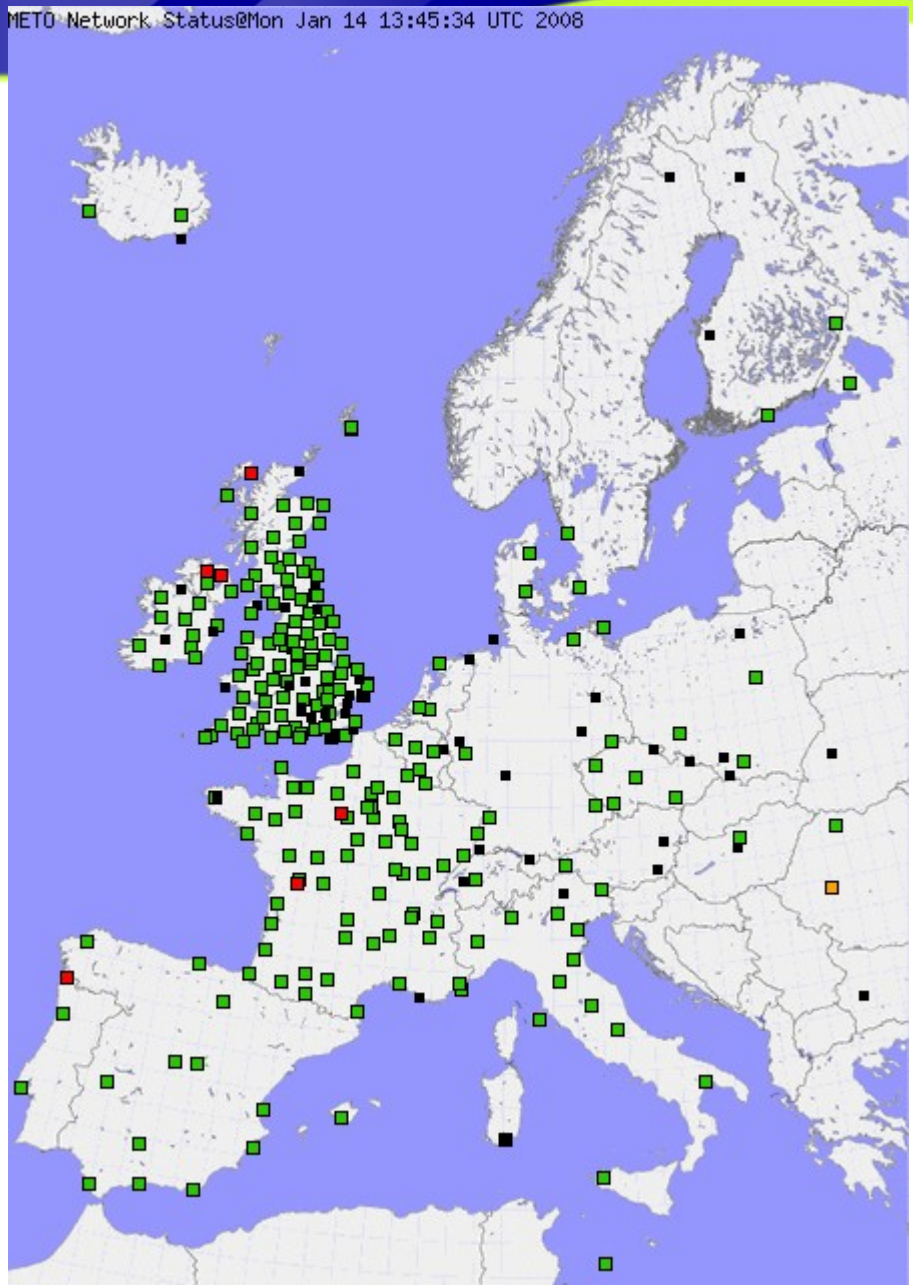
Current MetO Network 14/01/08



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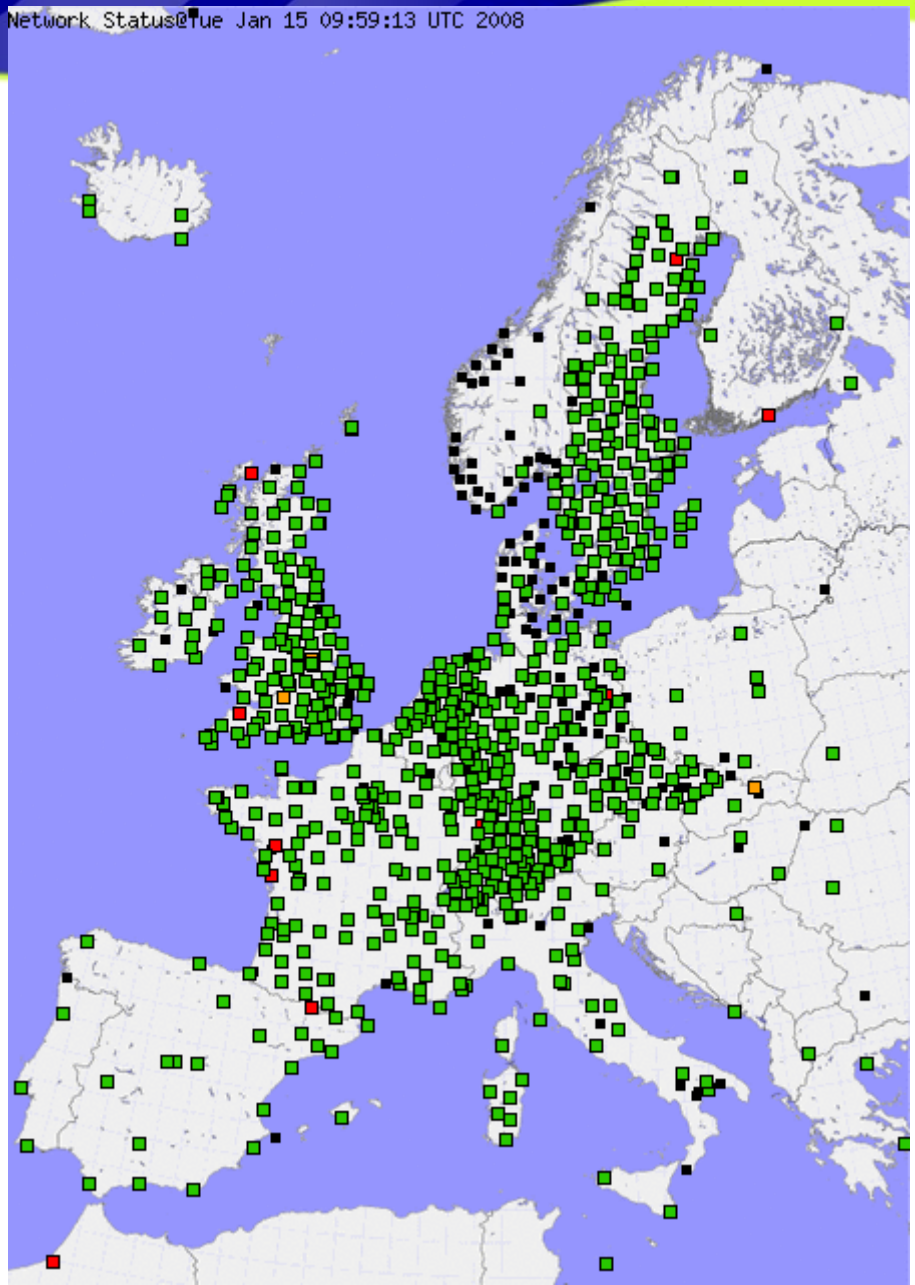
Current E-GVAP Network 15/01/08



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Topics of Working Group

1 Super Sites and Validation

2 E-GVAP Server

3 Relative Constraints

4 Plots for forecasting

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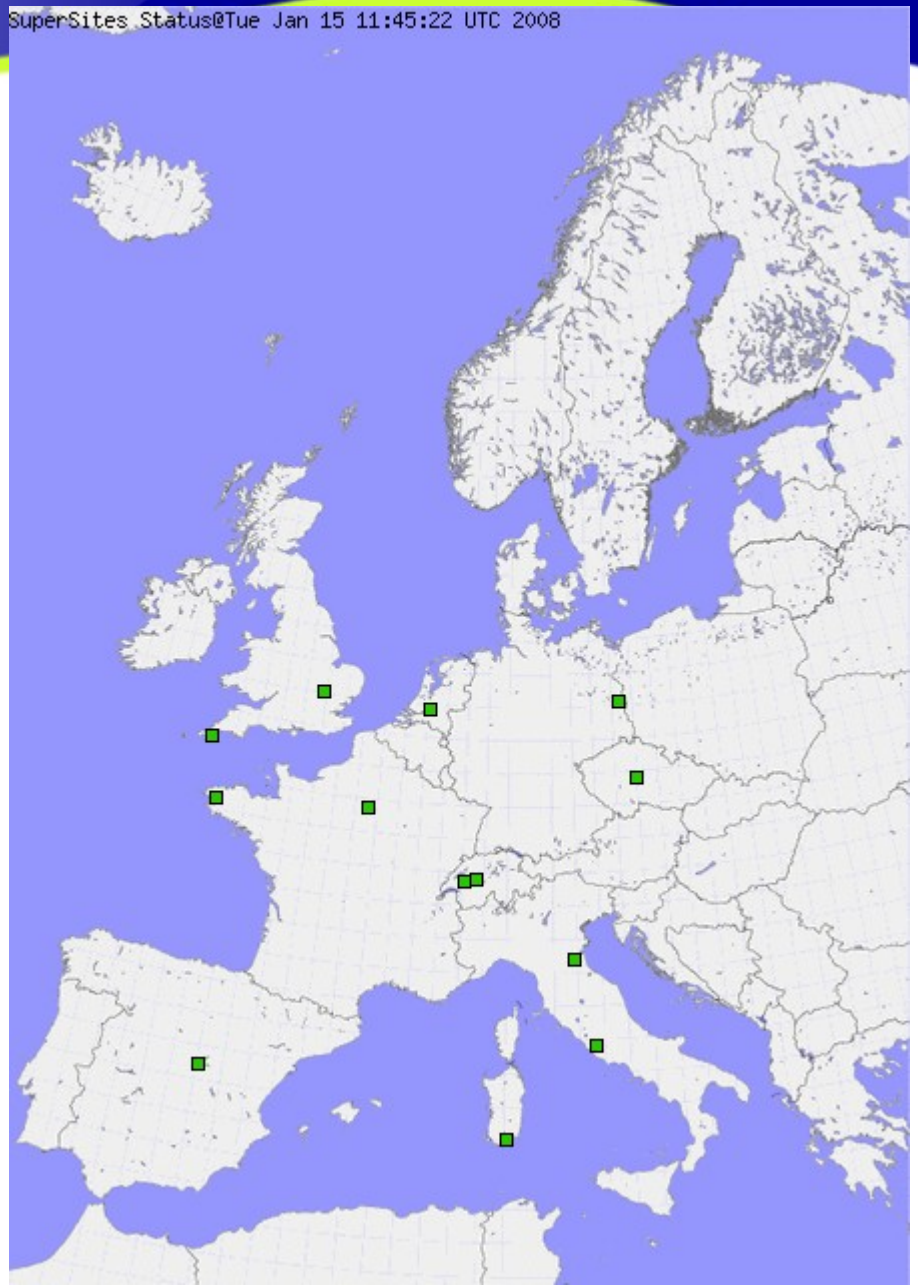
E-GVAP Supersites

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 Inaza 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



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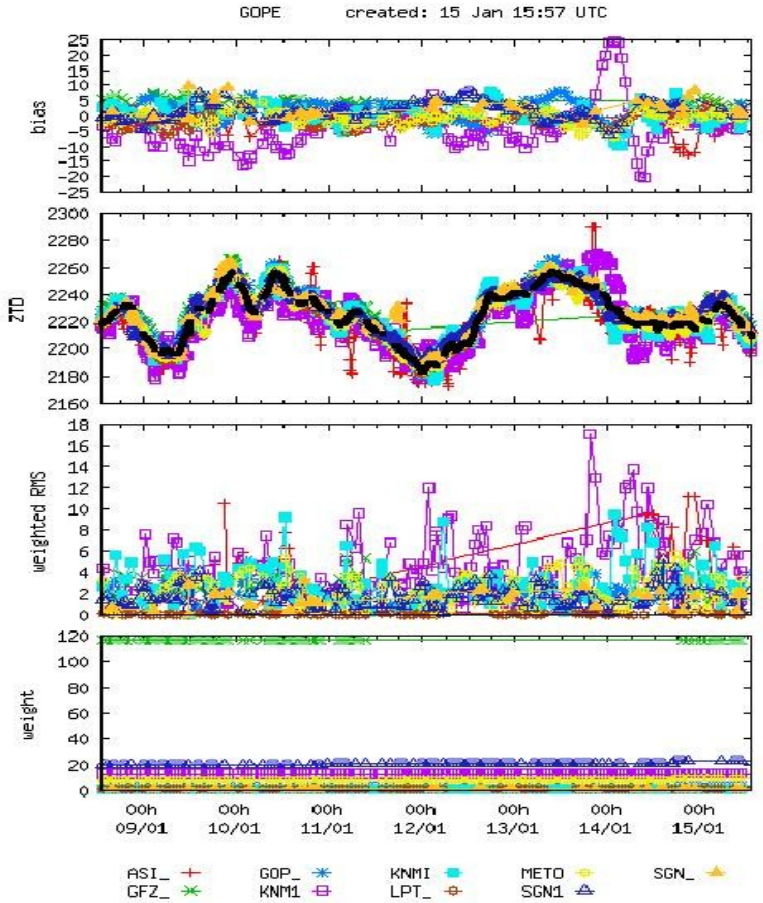
Validation of Supersites

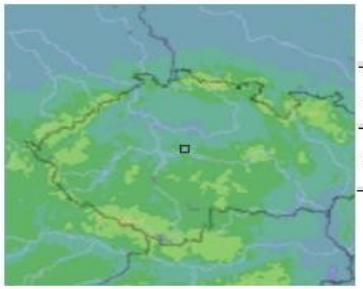


HIRLAM(KNMI) AN - GPS ZTD
7day stat. 2008/01/08 - 2008/01/14

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

E-GVAP Server

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)

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Met Office/E-GVAP Plots

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

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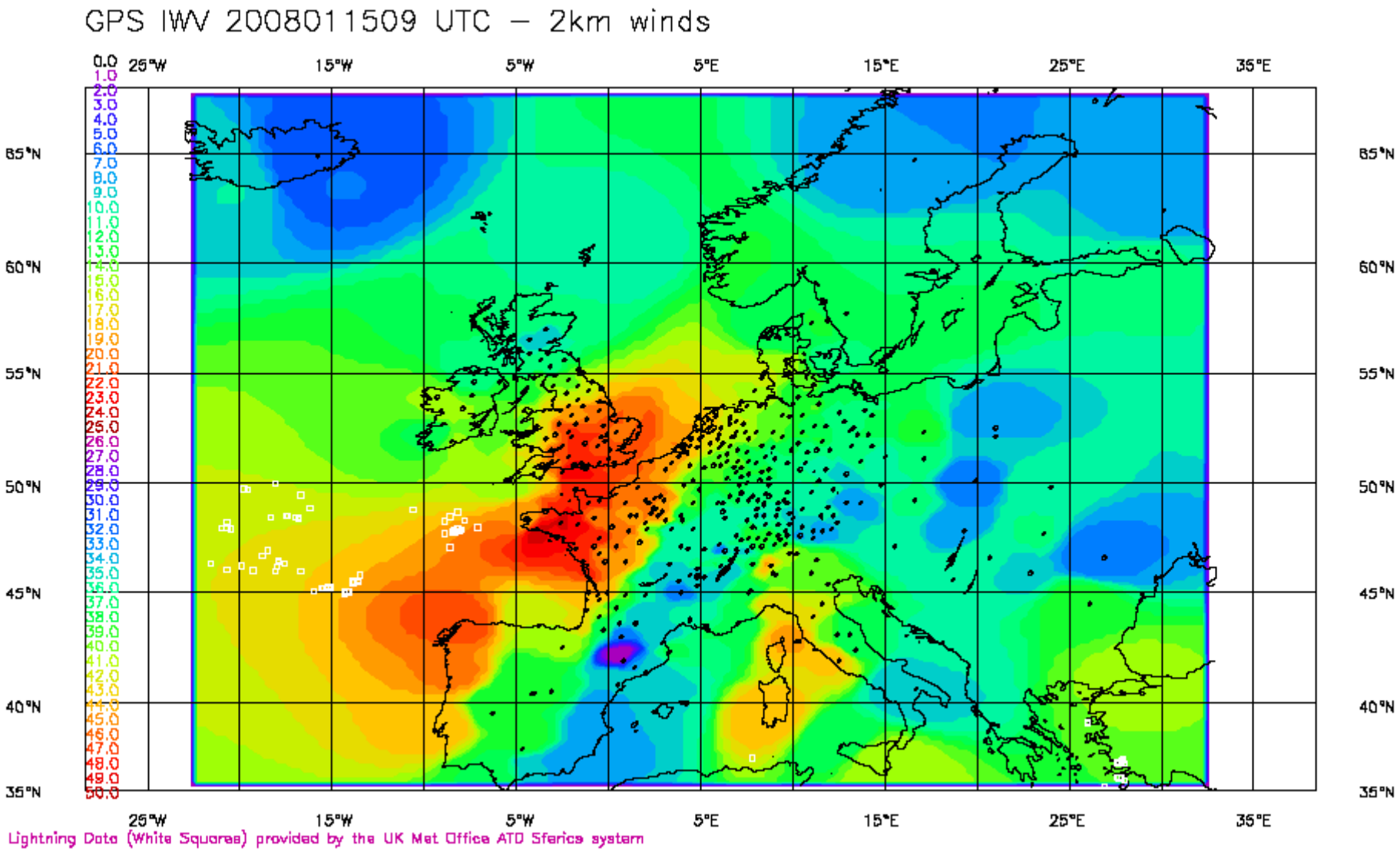
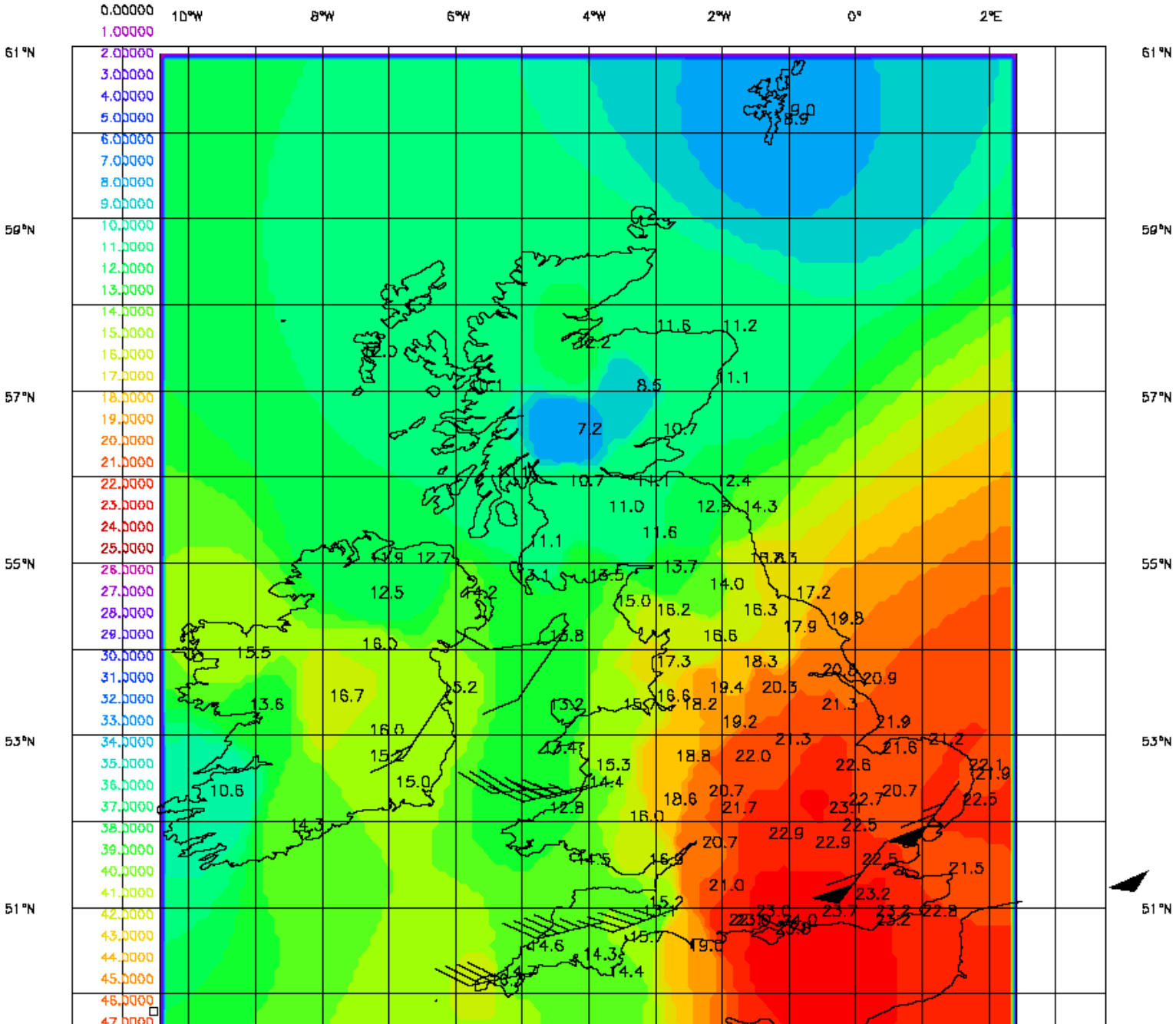
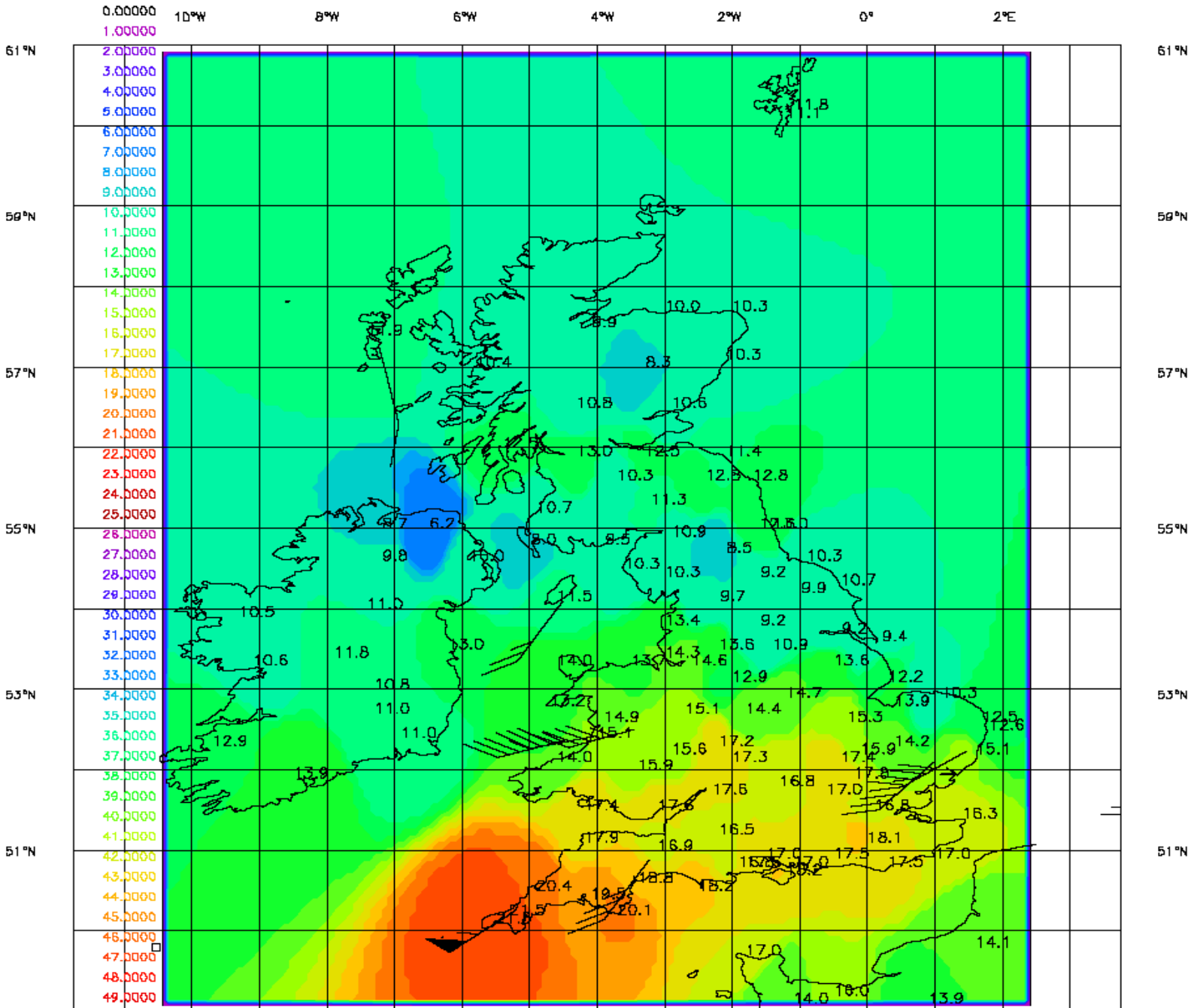
E-GVAP Example Plot



GPS IWV 200801151000 UTC – 2km winds



GPS IWV 200801150000 UTC – 2km winds



The Future…

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

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