



The use of ECMWF products at the Met Office

Paul Gundersen, 2nd February 2010



Operations Centre Guidance Unit

- Chief Forecaster – responsible for forecast guidance T+0 to around T+36
- Deputy Chief Forecaster – Medium Range - forecast guidance days 2-15
- Defence Met Unit – Defence/Aviation guidance, nowcasting and overseas guidance

All make use of ECMWF products

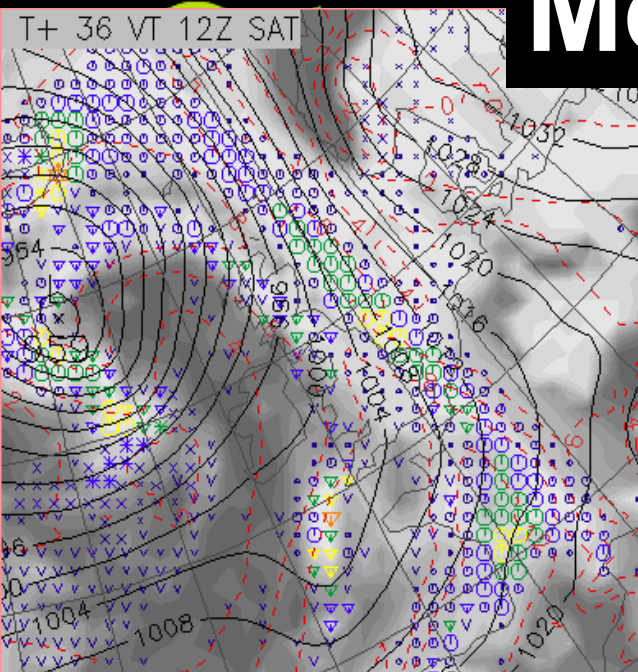


Field Modification

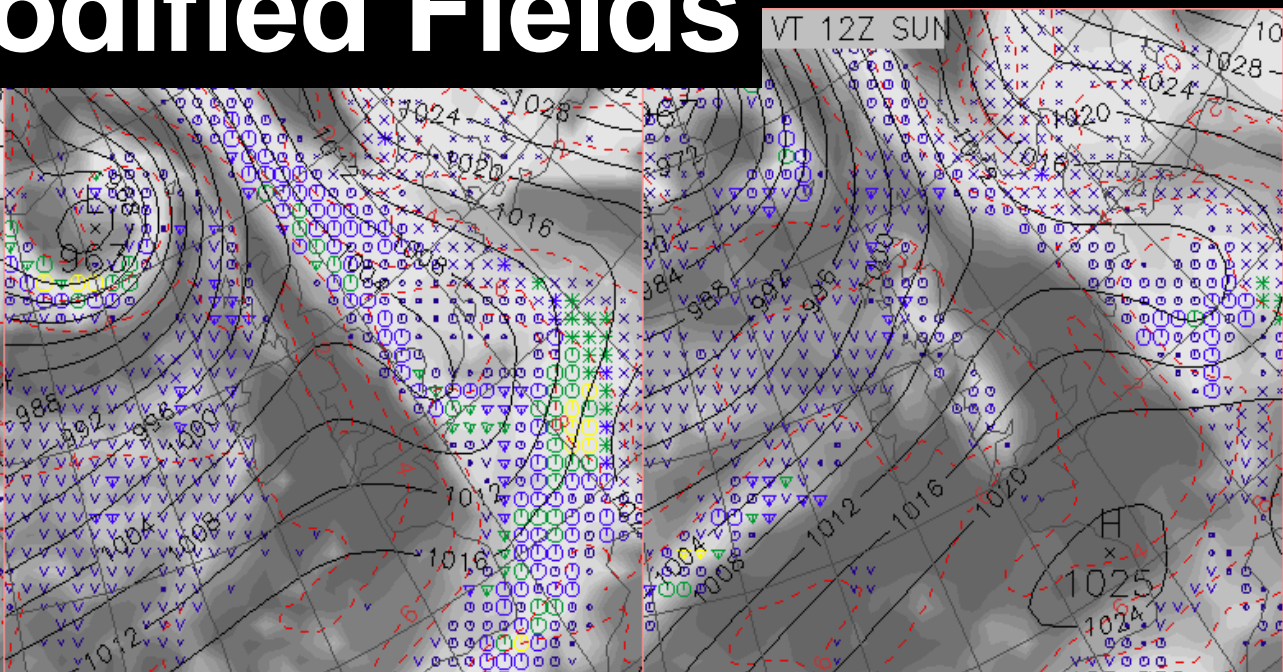
- Met Office Global Model (GM) assessed
 - Consistency with previous runs
 - Comparison with other deterministic models (eg ECMWF, GFS, JMA, Arpege, DWD)
 - GM a good fit to its ensemble (MOGREPS)?
 - GM a good fit to ECMWF EPS?
- GM fields modified towards best estimate of evolution from all of the above

Modified Fields

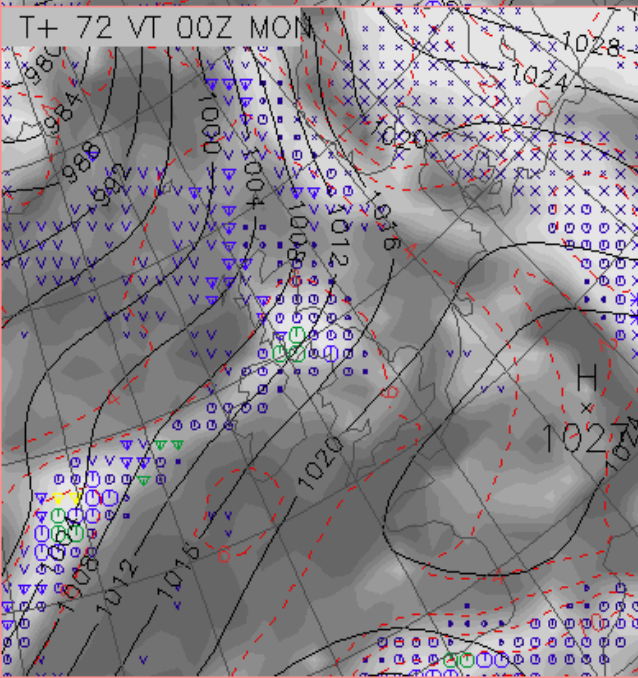
T+ 36 VT 12Z SAT



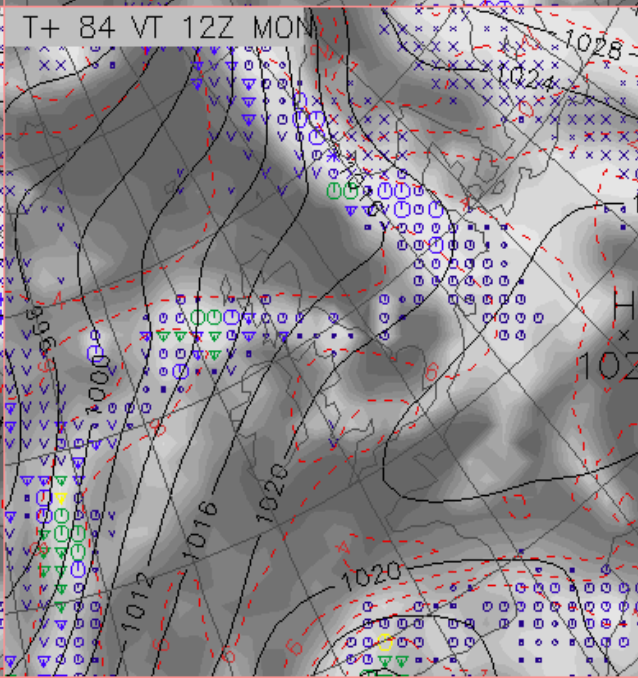
VT 12Z SUN



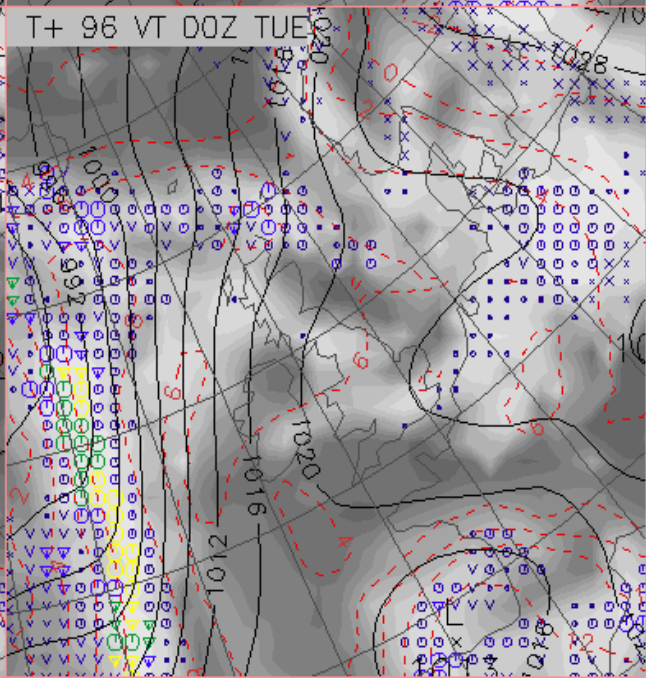
T+ 72 VT 00Z MON



T+ 84 VT 12Z MON

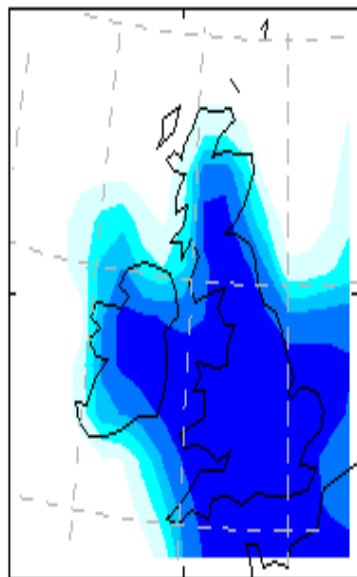


T+ 96 VT 00Z TUE

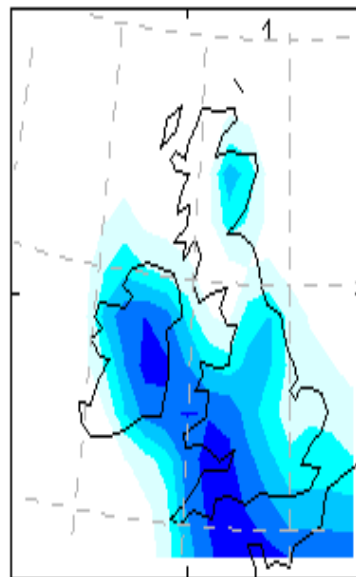


Example – Recent snow event

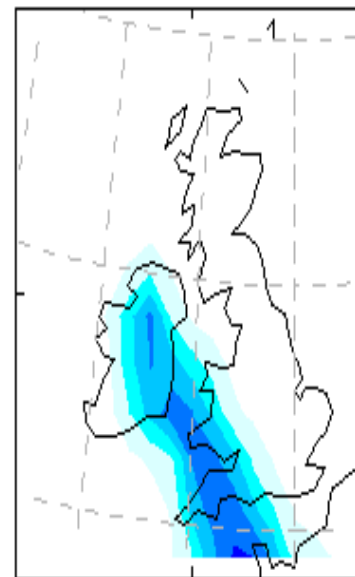
EPS Snow Probs for D+03, VT Tuesday 12th Jan 2010



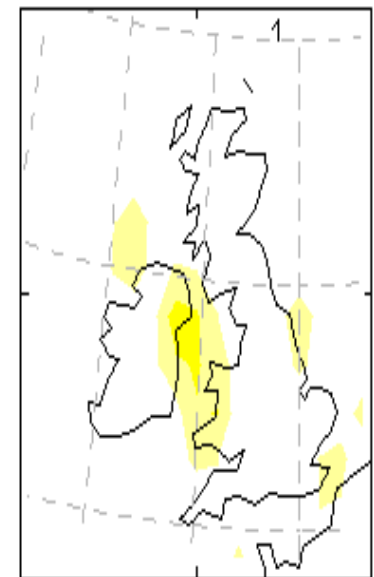
snow > Trace



snow > 1.0 mm



snow > 5.0 mm



snow > 1mm & wind > 20 kn



Result

- GM fields modified towards EPS signal
- Early Warning of Heavy Snow issued to authorities, emergency responders, media
- Verification not perfect, but a vast improvement on raw GM

➤ ***Use of EPS output allowed forecaster to add significant value to raw model output***



Feedback

- ECMWF data invaluable and very accurate
- Presentation on website could be improved:
 - Zoom functionality?
 - Different thresholds (eg prob>70KT winds)?
 - Higher spatial/temporal resolution of diagnostics from deterministic model?
 - Snow diagnostics?



Questions & answers