

TIGGE data from Met Office, UK – November 2014 update

Summary

The TIGGE dataset now includes data from the higher resolution, 7-day MOGREPS-G global ensemble (rather than MOGREPS-15, as used up to 00Z 15th July). The new data are being provided in near-real time from 00Z 6th November, and it is planned to back-fill the missing data in due course. MOGREPS-G includes 12 members run four times a day. The number of TIGGE parameters available from the new MOGREPS-G feed is significantly reduced.

Details

The Met Office TIGGE data is now taken from the higher-resolution short-range global ensemble, MOGREPS-G, rather than the medium-range ensemble system MOGREPS-15. This is part of a continuing Met Office strategy to wind down its focus on 'week 2' and concentrate instead on 'week 1' and monthly/seasonal forecasting. The Met Office is committed to using ECMWF data and data from our UM partners and other data centres going forward for the medium-range as defined by the forecast period days 7-14.

MOGREPS-G is a 33km, 70 level (N400L70) global ensemble system, which is run 4 times a day with 12 members (1 control + 11 perturbed members) on each cycle run to T+174 (7 days, 6 hours). The majority of our products from this system then use 6-hour lagging to create updated 24 member ensembles, enabling products to be produced out to 7 days (T+168). The TIGGE data includes 12 members run to T+174 four times a day.

MOGREPS-G includes a range of significant science changes, notably the use of the new "ENDGAME" dynamical core, which is a grid-point, semi-implicit, semi-Lagrangian scheme which contains some significant improvements over the previous "New Dynamics". Several other changes the physical parameterizations have been introduced in conjunction with ENDGAME – together they make up the GA6 (Global Atmosphere version 6) version of the Unified Model.

MOGREPS-G was extended from a 3-day ensemble to a 7-day ensemble on 15th July, and from that point the TIGGE archive ceased to be fed from MOGREPS-15. Work was then undertaken to produce MOGREPS-G output data in GRIB2 format and to TIGGE specifications. The new data are being delivered in near real-time starting 00Z 6th November. The number of parameters available from MOGREPS-G are significantly reduced; the parameters dropped are, in summary, soil moisture & related fields; CAPE & CIN, total column water, U & V on PV surface, and specific humidity on pressure levels. At a later stage, it is hoped to introduce additional customisations to re-introduce the humidity and wind on PV surfaces. It is planned to fill in the missing dates (from 12Z 15th July to 18Z 5th November) in due course – but with a reduced set of fields, since the parameters customised for TIGGE are not available.

MOGREPS-15 is now scheduled for retirement in about a year (during FY 2015/16). In July 2014, MOGREPS-15 was updated in line with MOGREPS-G (including GA6 changes), but since the model has been 'frozen' with no further changes anticipated. A project to move remaining downstream products to other models is already underway and will carry on for the rest of this financial year and the beginning of next. When all services have been successfully moved, MOGREPS-15 will then be switched off.