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**WMO AMDAR PANEL  
(Fifteenth Session)**

(BOULDER, USA, 6-9 NOVEMBER 2012)

ITEM: 3.3.10

Original: ENGLISH ONLY

**AMDAR PROGRAMME STATUS**

***Status Reports on National and Regional Programmes***

Regional UK AMDAR Programme Status Report

*(Submitted by Stewart Taylor, Met Office)*

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**SUMMARY AND PURPOSE OF DOCUMENT**

Provides a progress and activity report  
for the development status of the Regional UK AMDAR  
Programme.

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**ACTION PROPOSED**

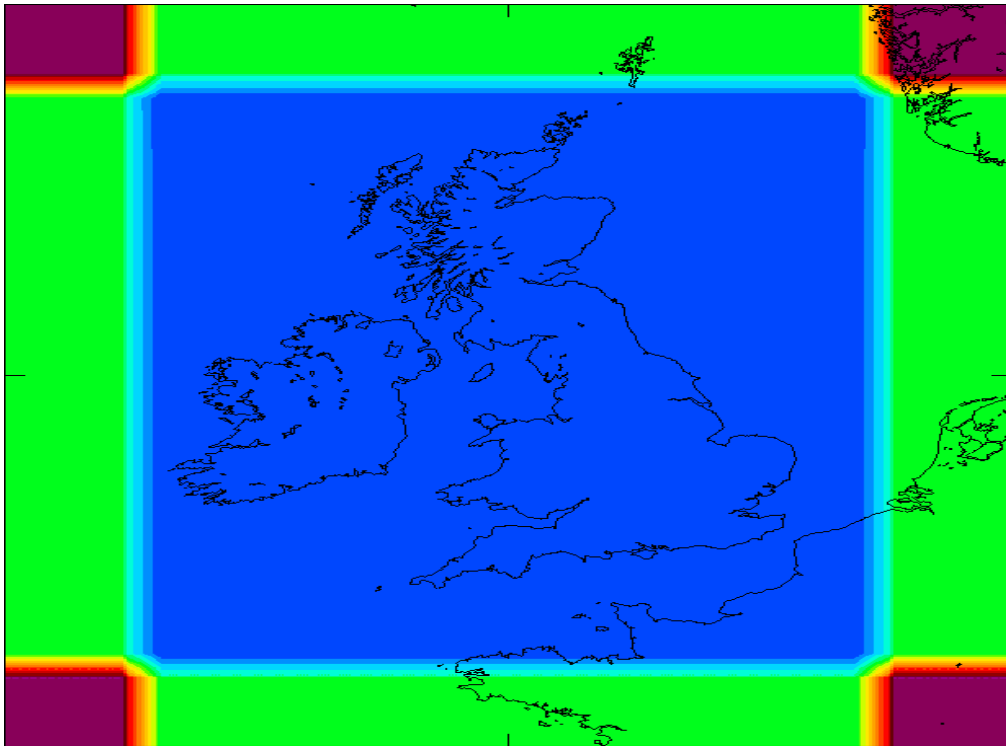
1. The Panel is invited to note the information contained in the document.
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## PROGRESS AND ACTIVITY REPORT

### Current Status

#### 1. The UKV Model

As part of the NWP suite, UKMO has a 1.5km model. The domain area is shown below in Figure 1. The UKV is used to produce short range forecasts, up to 36 hours, over the UK at convection resolving resolution.



**Figure 1 – UKV 1.5km Atmospheric Model domain area.**

The domain area has a total of 744x928 grid points with 70 vertical levels (model top ~40 km).

The data assimilation has a resolution of ~3 km using an incremental 3D-Var plus nudging for precipitation.

The assimilation has a nominal analysis time of 0800-1000 and a “data dump” run time of 0700-1200 (both based on the 09UTC run).

As well as surface observations, sondes and satellite data, the UKV assimilates on average 16,000 AMDAR observations daily.

2. UKMO Requirements.

The UKMO has implemented a set of performance tasks, these are listed in Table 1 below.

<b>Objective</b>	<b>Target</b>	<b>Performance (Sep 2012).</b>
Timeliness (Ob Time – TOR in MetDB) Percentage of EU AMDAR observations received at T+60 in the UKV domain	Optimal = 95.0% Min = 90.0%	<b>98.19%</b>
Timeliness (Ob Time – TOR in MetDB) Percentage of EU AMDAR observations received at T+15 in the UKV domain	At least 30% of agreed data to be available by OT+15 in the Met DB	<b>32.91%</b>
Aim of one profile per airport per hour, per day- During core fly time 0600-2100	Minimum to be achieved (50%)	<b>60.2%</b>
Timeliness (Ob Time – TOR in MetDB) Percentage of EU AMDAR observations received at T+90 in the UKV domain	Pending awaiting metrics	<b>99.09%</b>
Timeliness (Ob Time – TOR in MetDB) Time that 90% of EU AMDAR observations received in the UKV domain		<b>OT+25 (@92.35%)</b>

**Table 1 –UKV Network Performance Targets.**

The excellent timeliness of data for the E-AMDAR Programme is reflected in the UKV performance for September 2012.

**Development & Other Activities**

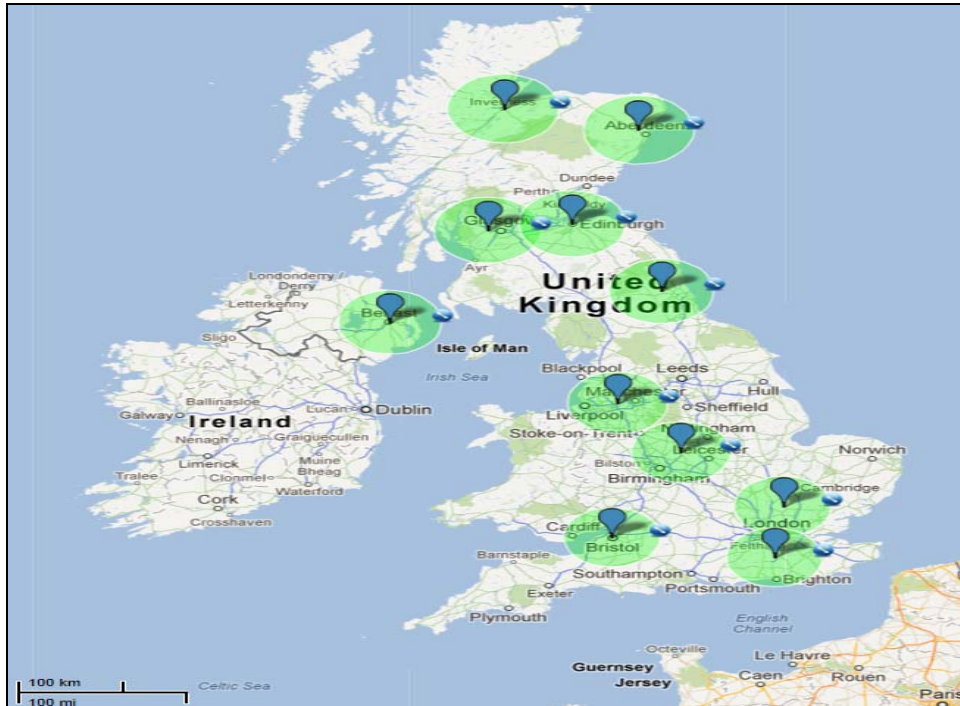
3. Enhancement of data coverage.

An objective for the UKMO Data Assimilation (DA) Team is the defining of “reliable coverage” – which aligns to the objective of one profile per airport per hour (during 06:00-21:00). This is currently estimated at ~35% of UK land coverage.

This is based on a 50km radius around UK airports providing profiles. The 50km figure was decided as the maximum value to be of use in the UKV (for information, radiosonde is given 100km value in the models). This is represented in Fig 2.

With the addition of a new airline, serving regional airports, it is believed that land coverage could increase to around 60%.

As can be seen, there will always be areas with no coverage (e.g. Wales, most of airspace designated MTMA military training areas, eastern England and Scotland).



**Fig 2 – Land coverage of AMDAR data of use to UKV.**

## Future Plans

### 4. Addition of Regional Airlines

The UKMO are currently receiving datasets from AirDat for model evaluation. It is hoped that following further discussions with AirDat, data from flyBe will become available. The addition of this regional carrier would provide data coverage at Exeter, Newquay, Southampton and Norwich – filling gaps in the land coverage over southwest, southern and eastern England.

### 5. Software Upgrades

With the addition of flyBe, humidity icing and turbulence parameters become available. Not only will this assist the Regional UK AMDAR Programme, but will allow supplementary data to the E\_AMDAR Programme over Europe.