



# Observations Programme Status report

E-GVAP Expert Team Meeting  
Kopenhagen, 28<sup>th</sup> - 29<sup>th</sup> November 2013

OBS Programme Management Team:  
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## Review EUCOS Performance Standards (I)

- A survey distributed to Obs-SET, Obs OSMs, Forecasting and Climate PM to collect user requirements
- The results are summarized as follows:

### **Data availability:**

- Keep monthly time window for most observation types as reference period, but might be shortened for radar data (daily)
- Improve horizontal spacing of surface stations (100-150 km or as dense as national automated networks)

### **Timeliness:**

- add a new “first point” HH+15 for observation types which have impact on Nowcasting (not reasonable for radiosondes, ASAP, marine obs), try to harmonize the targets
- Keep HH+50 target for short cut-off, HH+100 long cut-off

# Review EUCOS Performance Standards (II)

## **Accuracy:**

- Tighten P, Temp, Wind, humidity targets for land stations
- Agree on new targets for GNSS and radar data
- Add targets for correct position reporting in oceanic segment

## **New Nowcasting requirements:**

- More variables: precip rate, present weather, visibility, cloud base, cloud cover
- Add lidar/ceilometer targets, (MODE-S EHS)

## **New Climate requirements:**

- Uninterrupted datasets, high priority for long records sites, harmonize observations, reference network (long-term, high-quality data for calibration), document all relevant metadata
- Information on extremes

## Review EUCOS Performance Standards (III)

### **Small changings begin of 2014:**

- additional Decimal places
- Quarterly numbers (quarterly performances/ 3 months)
- Station map (datenverfügbarkeit timeliness)
- Selection for NWP by country or identifier
- Country totals

More changings planned in second half of 2014 after request for user requirements in 2014.

When shall monitoring of ceilometers be available?

The monitoring fault report can be set up for E-PROFILE, the fault reporting is available on the EUMETNET portal.

## 1<sup>st</sup> Monitoring Workshop - 3<sup>rd</sup> and 4<sup>th</sup> July 2013

- Discussion on relevant observation monitoring tools, procedures and aspects (participants: ECMWF, Obs-SET, Obs Programme, WMO, NCEP, Environment Canada)

The following actions were defined:

- Obs PMT, WMO, NMHSes will test the ECMWF Observation Monitoring Alarm System developed for anomaly detection
- Obs PMT, ECMWF, NMHSes will develop an **overall system performance map** to identify whether all monitoring centres receive the same number of observations/stations
- WMO will investigate the establishment of a (single) Lead Centre for monitoring of surface-based observing systems
- WMO will set up a 'Single point for station/fault information' data monitoring page on the WIGOS Information Resource

## Fault recognition and escalation procedure

- First fault recognition and escalation procedure of E-AMDAR and OPERA drafted
- Further procedures will be drafted for the other Operational Services as well as for surface land stations and radiosonde stations
- Draft procedures will be discussed at first Observations Advisory Group meeting
- Will be distributed to STAC Delegates / Heads of Observations for approval

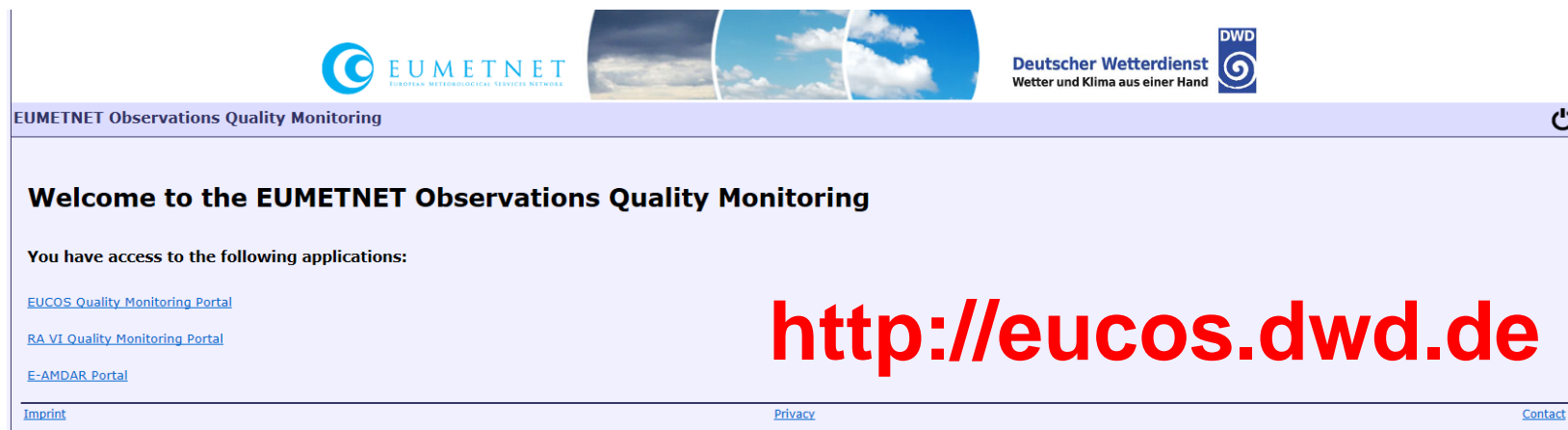
# Quality Monitoring Portal operations/improvements

## New E-AMDAR Portal:

- Final acceptance test July/August 2013, final acceptance stated 29/08/13

## Migration of the EUCOS and RA VI Quality Monitoring Portal (QMP):

- First live version provided to OSMs on 22/08/13 for feedback
- Next steps: acceptance test, inform Members about new portal version



## Display of ECMWF comparison results in the EUCOS and RA VI QMP:

- Work in progress to add missing WP and WRWP stations to the ECMWF quality monitoring (problem: local tables / template not conform to what is expected by ECMWF decoding system)

# Network Monitoring I

## Fault reporting:

- 30 fault reports raised in Q2 and Q3 2013
- Fault log chaser available on EUMETNET Portal (EUCOS QM)
- Most of the fault reports closed again within the period
- Examples of longer lasting faults:
  - E-AMDAR issues with warm biases
  - low burst height performance of ASDK01 due to problems with the antenna – unit out of service

## EUCOS network changes – SYNOP stations:

- 12160 Elblag, Poland was moved to other site on 01/04/13
- Icelandic stations 04048, 04064 stopped service on 30/04/13 and 04067, 04061 on 31/07/13



## Network Monitoring II

- KNMI has confirmed recently that the remote-sensing activities by KNMI at the Cabauw super-site will have to be stopped due to serious budget cuts
- E-PROFILE and thereby the Obs Programme and the 'EUCOS' are affected (see following three slides)

# INSPIRE

Obs PMT requirement no 12: The Obs PMT shall work towards fully INSPIRE compliant data production chains and INSPIRE compliant data itself.

WEBEX on 11. October 2013 with KNMI INSPIRE Team: Wim Som de Cerff; Raimond Sluiter; Jan Willem Noteboom (KNMI), EUMETNET Secretariat: Sergio Pasquini and Obs PMT OaPM, Sabine Hafner, DWD

Wim described technical and governmental issues. The deadline for INSPIRE compliant data is December 2019.

Next step: EUMETNET Obs programme to make an impact analysis and describe the structure of the data in INSPIRE compliant way.

# INSPIRE

Next step: EUMETNET Obs programme to make an impact analysis and describe the structure of the data in INSPIRE compliant way. Obs PMT will develop a template.

- INSPIRE legislation and guidance documents can be found on JRC INSPIRE website, ([inspire.jrc.ec.europa.eu](http://inspire.jrc.ec.europa.eu)). Most relevant documents are mentioned (including weblink) below:
- [INSPIRE Metadata Implementing Rules: Technical Guidelines based on EN ISO 19115 and EN ISO 19119 \(Version 1.2\)](#)
- [INSPIRE Data Specification for the spatial data theme Atmospheric Conditions and Meteorological Geographical Features](#) (V3, RC3)
- [INSPIRE Download Services](#)
- [INSPIRE View Services](#)
- [Technical Guidance for INSPIRE Discovery Services](#)

# What is the INSPIRE Directive?

- The INSPIRE directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2019.
- The INSPIRE directive aims to create a European Union (EU) spatial data infrastructure. This will enable the sharing of environmental spatial information among public sector organisations and better facilitate public access to spatial information across Europe.
- A European Spatial Data Infrastructure will assist in policy-making across boundaries. Therefore the spatial information considered under the directive is extensive and includes a great variety of topical and technical themes.

# What is the INSPIRE Directive?

## **INSPIRE is based on a number of common principles:**

- Data should be collected only once and kept where it can be maintained most effectively.
- It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
- It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
- Geographic information needed for good governance at all levels should be readily and transparently available.
- Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.

# STAC meeting in October in Toulouse

- 14-15 October STAC meeting took place in Toulouse
- E-PROFILE request to for cooperation with Earlinet was accepted
- Next STAC/PFAC meeting 7-11 April 2014 in Norrköping
- Next OPT meeting in 13-16 January 2014 in Offenbach

## Special Projects – medium-term outlook

- European-led THORPEX regional campaign T-NAWDEX (THORPEX-North Atlantic Waveguide and Downstream Impact Experiment)
  - Some more detailed information has been provided by scientists engaged in this project (see following slides).

# T-NAWDEX (THORPEX-North Atlantic Waveguide and Downstream Impact Experiment)

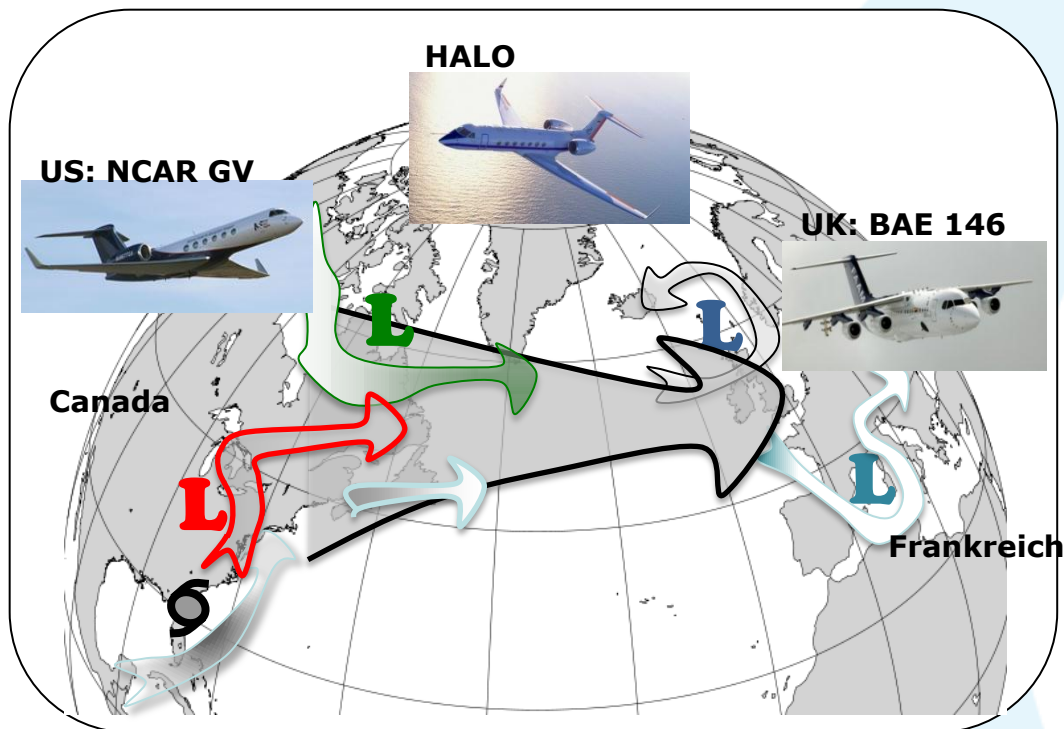
Overarching hypothesis:

**There are systematic errors in model representation of waveguide perturbations** that are attributable to diabatic processes. Errors are manifested as errors in PV distribution that correspond to **errors in the jet stream.**

- Focus on:
  - Features modifying wave guide disturbances
  - Evolution of Rossby waves
- **How do these features influence forecast errors of high-impact weather (floods, blockings) downstream i.e. over Europe?**
- Need for detailed observations of wind, temperature, humidity, precipitation over the Northern Atlantic and Europe
- Evaluate NWP models and determine analysis and forecast errors



## Internationally coordinated field program:



- scheduled for 2016
- need for observations over the North-Atlantic and Europe
- Coordination of aircraft
- Additional aim:  
Validation of ADM satellite  
(first spaceborne wind lidar):



## Contributors:

- D: LMU Munich, DLR Oberpfaffenhofen, University Mainz, University Karlsruhe
- CH: ETH Zürich
- UK: University of Reading
- US: Naval Post Graduate School, National Center for Atmospheric Research
- F: CNRS and MétéoFrance,  
> Elaborate links to met-services: DWD, UK MetOffice, ECMWF, Meteo France

# Special Projects – medium-term outlook

THORPEX legacy projects: two activities are under preparation which will have a strong observation-related part in their list of deliverables:

1. ‘Polar Prediction Project’ (PPP), already approved by WMO EC.
  - Science plan and implementation plan exist. It is envisaged organising a so-called Year of Polar Prediction (YOPP) from mid 2017-mid 2019.
  - One of the aims is improving the observational coverage with e.g. more VOS data in the Arctic and Antarctic.

## Special Projects – medium-term outlook

2. ‘High Impact Weather’ (HIW) project aims at improving prediction and communication of forecasts of such high impact weather events.
  - One of several cross-cutting activities within this project: ‘design of observing strategies’;
  - Observations PM is member of the drafting team of the HIW proposal;
  - Project proposal still under preparation.

**Conclusion: During the next few years measurement campaigns in relation to these THORPEX legacy projects will be launched.**

Questions and comments?

# Fault recognition and escalation procedure (E-AMDAR I)

## Observations Programme: Fault recognition and escalation process *Scenarios E-AMDAR*

Problem category <b>Scenarios E-AMDAR</b>	1	2	3	4
Definition of category	One obs site (of one obs system) of one Operational Service/Member/ 3 <sup>rd</sup> party is affected	All obs sites (of one obs system) of one Operational Service/Member/ 3 <sup>rd</sup> party are affected	All obs sites (of one obs system/type) of the Operational Service/all Members are affected	Monitoring tools are not available
E-AMDAR categories	One or several aircraft (of one airline) is affected	All aircraft of one airline are affected	All aircraft of all airlines are affected	QEvC, E-AMDAR Portal not available
Potential problems	<b>Data availability:</b>  Not applicable  <b>Timeliness:</b>  Not applicable  <b>Accuracy:</b>  T bias/T RMSE exceed the agreed targets (>2K)	<b>Data availability:</b>  Data outage (transmission problems at airline operator)  <b>Timeliness:</b>  Late arrival of data (transmission problems at airline operator)  <b>Accuracy:</b>  No potential problems foreseen	<b>Data availability:</b>  Data outage (transmission / IT problems at airline operator e.g. E-ADOS or E-ADAS)  <b>Timeliness:</b>  Late arrival of data (transmission / IT problems at airline operator e.g. E-ADOS or E-ADAS)  <b>Accuracy:</b>  No potential problems foreseen	<b>Data availability:</b>  Data outage in QEvC or E-AMDAR Portal  <b>Timeliness:</b>  Late arrival of data in QEvC or E-AMDAR Portal  <b>Accuracy:</b>  No potential problems foreseen

# Fault recognition and escalation procedure (E-AMDAR II)

Fault recognition step				
<b>Action required</b>	<ol style="list-style-type: none"> <li>1. E-AMDAR TC to deactivate aircraft in E-ADAS from reporting when targets exceeded at least for 2 days</li> <li>2. Contact airline operator (technical support)</li> <li>3. Raise fault report (E-AMDAR TC to Obs QMOM)</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact airline operator (technical support) and E-AMDAR OSM</li> <li>2. Raise fault report (E-AMDAR TC to Obs QMOM)</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact E-ADOS/E-ADAS operator and E-AMDAR OSM</li> <li>2. In case of E-ADAS fault: Identify and solve problem within UKMO</li> <li>3. Raise fault report (E-AMDAR TC to Obs QMOM)</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact QEvC or E-AMDAR Portal operator</li> <li>2. Raise fault report (E-AMDAR TC to Obs QMOM)</li> </ol>
<b>Time period until next step</b>	<b>If no response of airline technical support received:</b>  <b>2 weeks</b>	<b>48-72h</b>	<b>24h</b>	<b>1 week</b>
Fault correction – escalation step 1:				
<b>Action required</b>	Contact:  E-AMDAR OSM  Airline responsible at higher level  E-AMDAR Expert Team Member	Contact:  Airline responsible at higher level  E-AMDAR Expert Team Member	Contact responsible NMHS to urge the corresponding departments to solve the fault within defined period of time:  <b>UKMO: E-ADAS</b>  Head of Observations xxx	Contact responsible NMHS to urge the corresponding departments to solve the fault within defined period of time  <b>KNMI: QEvC</b>  Head of Observations xxx

# Fault recognition and escalation procedure (E-AMDAR III)

			<p>STAC Delegate xxx</p> <p><b>DWD: E-ADOS</b></p> <p>Head of Observations Volker Kurz (volker.kurz@dwd.de)</p> <p>STAC Delegate Axel Thomalla (Axel.Thomalla@dwd.de)</p> <p>E-ADAS/E-ADOS responsible at higher level</p>	<p>STAC Delegate xxx</p> <p><b>DWD: E-AMDAR Portal</b></p> <p>Line Manager Obs PM Stefan Klink (Stefan.Klink@dwd.de)</p> <p>STAC Delegate Axel Thomalla (Axel.Thomalla@dwd.de)</p>
Time period until next step	---	Not applicable due to missing direct contracts between EUMETNET and airlines	1 month	1 month
<b>Fault correction – escalation step 2:</b>				
Action required	---	---	<p>EUMETNET Secretariat to encourage responsible NMHS to solve the problem within an agreed time period by contacting Assembly Member</p> <p>UKMO: E-ADAS</p> <p>DWD: E-ADOS</p>	<p>EUMETNET Secretariat to encourage responsible NMHS to solve the problem within an agreed time period by contacting Assembly Member</p> <p>KNMI: QEvC</p> <p>DWD: E-AMDAR Portal</p>

# Contact Details

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