Building Resilience to Disasters in Western Balkans and Turkey

WORKSHOP REPORT

Nowcasting applications course for DAWBEE meteorological services

17-21 March 2014, Darmstadt, Germany

1. Introduction

In the framework of the IPA/2012/290552 multibeneficiary project “Building Resilience to Disasters in Western Balkans and Turkey”, workshop on Nowcasting applications for DAWBEE meteorological services was organized for the beneficiary institutions.

The overall objective of the project is to reduce vulnerability of IPA beneficiary countries to disasters caused by natural hazards in line with the Hyogo Framework for Action and increase their resilience to climate change. The direct beneficiaries are the national authorities in charge for the disaster risk reduction and disaster risk management and the National Meteorological and

Hydrological Services (NMHSs) of Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia, Kosovo*, the former Yugoslav Republic of Macedonia and Turkey.

2. Activity objectives and format

The workshop aimed to strengthen the capacities of the National Meteorological and Hydrological Services of the project beneficiaries in DAWBEE Satellite Nowcasting Applications. The DAWBEE Satellite Nowcasting Applications workshop was held on 17-21 March 2014, at the premises of EUMETSAT HQ in Darmstadt, Germany, organised at request of the Meteorological Services and co-sponsored by the WMO, in the framework of 'Building Resilience to Disasters in Western Balkans and Turkey', funded by the EU Instrument for Pre-Accession Assistance (IPA).
The workshop was held with representatives of the Meteorological Services from the Western Balkan, Eastern European and Caucasian regions.

The 22 participants were all forecasters from national meteorological and hydrometeorological services (NMHS), who are part of the DAWBEE (Data Access for Western Balkan and Eastern Europe) project. These were: Albania, Bosnia-Herzegovina, Montenegro, FYR Macedonia, Kosovo (UNSCR 1244), Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine, Serbia and Turkey (see Annex II).

3. Activities

The workshop concentrated on MSG SEVIRI imagery and RGB products for nowcasting (rapid) cyclogenesis; severe convection, and fog detection (see Annex I). Special focus was given to the analysis of satellite images, in terms of conceptual model such as synoptic fronts; deformation zones; jets; Potential Vorticity anomalies, and convection.

Information on the status of the DVB-S2 migration was also given, to prepare the NMHSs in the transition of the DAWBEE EUMETCast stations to DVB-S2 (see Training Programme attached as Annex 1 of this document).

The following points were raised during the round-table feedback session:

- List of satellite indicators for severe convection
- RGB products are much better understood after this training
- Fog nowcasting lecture/exercise was very useful for winter nowcasting
- ePort conceptual models exercises very useful
- Cloud top lectures with feature recognition very important
- Further SatManu training is needed
- More case studies should be included
- More practical nowcasting exercises are needed - eventually weather simulator
- Next time, a full Nowcasting system / process should be presented, including all available data
- Daily weather briefings should be included, or a testbed for real-time weather forecasting
- Some participants would like to receive a certificate

Overall, the participants were very happy with the course and with what they have learned. Many said that it was their first satellite course and that many concepts and ideas were new for them.

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence

4. Conclusions, recommendations and the way forward

The overall feedback is positive and the training is very useful, especially for some NMHS which still have limited training human resources with knowledge on satellite meteorology.

There is a general recommendation to hold this type of training on a regular basis, with an increased focus on Nowcasting (applications to follow extreme weather event, mostly used for early warning) and with more practical examples. Possible way forward to answer this recommendation could be:

- to run a training event for these countries with involvement of the nowcasting SAF (http://www.nwcsaf.org/HD/MainNS.jsp), whose software and outcomes is freely available for these countries,

- to involve expert users in satellite meteorology for nowcasting applications from the NMHS in the regions in the preparation of the training course, e.g. to gather case studies and to include materials on integrating satellite data with other observations in an operational environment.

These recommendations will be discussed at the occasion of the next EUMETSAT Information Days planned to be organised in 2015 (one for the western Balkan countries and one for the Eastern Europe and Caucasian countries), with involvement of the NMHS in these countries at director level.

ANNEX I: PROGRAMME - DAWBEE SATELLITE NOWCASTING APPLICATIONS WORKSHOP

Time\Day	Mon	Tue	Wed	Thu	Fri
9.30-10.30		WV Channels (JP + JK): Analysis of WV images in terms of Jets, Deformation Zones, Vorticity Centres & Cyclogenesis	Conceptual Models (VN): Introduction to the SatRep method	Conceptual Models (VN): Presentation of several conceptual models	Tour of EUMETSAT
		Coffee	*Coffee*	*Coffee*	*Coffee*
11.00-12.00		WV Channels exercise (JP + JK)	Conceptual Models exercise (VN)	Conceptual Models exercise (VN)	Discussion Evaluation Closing
		Lunch	*Lunch*	*Lunch*	
14.00-15.00	MSG Overview (JK): Overview presentation on all MSG SEVIRI channels with focus on convective clouds. Presentation of a list of satellite indicators for severe convection.	Day Microphysics RGB (JK): Introduction to RGB products and their color interpretation. Use of the day microphysics RGB for cloud phase and droplet size, Identification of precipitating clouds and severe thunderstorms.	Low-level Moisture (JK): Finding areas of high moisture in MSG difference images, RGB products and derived products.	Low Clouds & Fog (JP): Presentation on detecting fog clouds in satellite images and typical problems that may arise.	
	Coffee	*Coffee*	*Coffee*	*Coffee*	
15:30-16.30	MSG Overview (JK) - continued	Airmass RGB (JK): overview of this RGB products and its application for rapid cyclogenesis and convection.	Low-level Moisture exercise (JK)	Low clouds & Fog exercise (JP)	
16:30-17.00			Introduction to EUMETCAST (KPR)		

Presenters: Jochen Kerkmann (JK), José Prieto (JP), Vesa Nietosvaara (VN), Klaus-Peter Renner (KPR)

ANNEX II: LIST OF PARTICIPANTS – EU IPA PROJECT

No	IPA Project beneficiary	Title, Name & Position	Contact address
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