

# Minutes of WGCEF Annual meeting in RMI Uccle, Belgium

29-30<sup>th</sup> October, 2015



## List of Participants

*Mikko Laine (Finland), Lola Olmeda (Spain), Lovro Kalin (Croatia), Piotr Manczak (Poland), Michael Skelbaek (Denmark), Christian Csekits (Austria), Evelyn Cusack (Ireland), Fabian Debal (Belgium), Pascal Mailier (Belgium), Jean Nemeghaire (Belgium), Andre-Charles Letestu (Switzerland), Will Lang (UK), Klaus Baehnke (Germany), Zsolt Patkai (Hungary), Tim Hewson (ECMWF), Dick Blaauboer (EUMETNET), Jos Diepeveen (Netherlands), Thomas Vanhamel (Belgium), Bernard Roulet (France)*

*By videoconference: Panos Giannopoulos (Greece), Chryssoula Petrou (Greece), Paula Leitao (Portugal).*

## Chair's Introduction

Will Lang, WGCEF Chair and Chief Operational Meteorologist at the Met Office, thanked the Belgian Meteorological Service for hosting this year's meeting in particular Pascal, Fabian and Carina. He welcomed the group, both the longstanding and the new members. An extra warm welcome was extended to Mikko Laine, our new member. Mikko graduated in 2008 and is a weather forecaster in Finland for the general public and also the internet services.

## Chairman's Address

Will opened the meeting with some thought provoking questions along the lines of 'Why are we here?':

*"Why do we bother striving for excellence in forecasting? Is it for the money? The unsociable hours?"*

We do it because 'It is the right thing'. The Norwegian site is popular worldwide and provides 'free' forecasts. We don't all need to have a free data policy and forecast for the rest of the World but we do have to think internationally. There are a myriad of international problems such as refugees and 'cross-border' severe weather. An active discussion followed, which included discussion on the difficult relationship between private companies and NMSs in many European countries, and the availability of ECMWF web products at low cost.

## Round-table updates

There then followed the usual open discussion session in which members are invited to update the group on developments in their organisations over the last 12 months.

### AEMET (State Meteorological Agency of Spain)

- After almost four years the remodelling of the National Forecasting System has finished. The new scheme is based on specialized units by users' sectors. The last center to be created is the "High mountain forecasting and monitoring centre" located in Zaragoza, a town close to the Pyrenees. Its mission is to make mountain weather forecasts and avalanche warnings.

- For aeronautical centres a competency assessment system has been implemented for aviation forecasters in order to fulfill SES requirements.
- The Agency has recently improved its website introducing a new communication tool in audiovisual format which consists of a video where the daily weather forecast and climate information is explained just like on TV.
- The migration to the new supercomputer (BULL) finished last month. It allows us to replace Hirlam for the non-hydrostatic model HARMONIE, as well as to run GLAMEPS (a multimodel high resolution Ensemble Prediction System).
- On a different note, our Remote Sensing Department hosted the NWC SAF (Satellite Applications Facilities for Nowcasting) 2015 Users' Workshop. It took place from 24th to 26th of February at AEMET Headquarters.
- We have suffered a chain of exceptional heat waves last spring and summer, especially in July. They lasted 26 days. July 2015 was the hottest month in the historical series. In contrast during winter much snow fell in northern Spain. The snow melt and warm rains led to floods especially in the Ebro basin.
- AEMET has started providing meteorological services for air operations in a couple of new small airports. These new airports are incorporated into the existing network of 46 offices providing aeronautical services at civil and army airports in Spain.

#### **Meteo France (France)**

- New versions of French models started in April 2015 with improved resolution.
- ARP: 7.5km over France (stretched model eg over NZ 35km).
- ARP Ensemble 10km
- AROME 1.3km
- The pre-warning system is extended to Day+7
- New workstations are being set up for the forecasters called SYNOPSIS. This was designed in-house and is based on the web service.

#### **DWD (Germany)**

- Deutscher Wetterdienst has started a new global model "ICON" last summer.
- DWD has started a new website and a WarnAPP for smartphones.
- Project "AutoWarn" shall be in operation at the end of 2016 to fully centralize the warning process.
- With the new project "AutoRadio", observation and measurement of nuclear particles shall be automated at the end of 2019.
- With the new project "AutoMETAR" weather observation at airports shall be automated at the end of 2021.

#### **KNMI (Holland)**

- KNMI legislation is in its finishing stage. KNMI provide government agencies with forecasts. Non-governmental parties are served by the market, unless there is specific knowledge only available at KNMI.
- A weather room started this year providing forecasts for road management during winter for highways.
- From 2016, the weather room will provide full a forecast suite for the Dutch townships in the Caribbean: Saba, St. Eustatius and Bonaire.
- KNMI launched a new website on the 1<sup>st</sup> October.
- The revised warning system was also introduced on the 1<sup>st</sup> October.

#### **FMI (Finland)**

- FMI budget has been cut, resulting in a total staffing reduction of 25 workers.
- The regional office on Tampere (aviation weather) will be closed from next spring. Forecasters duties will be shared to other offices and some of the remaining workers will be relocated to Helsinki.
- In co-operation with the Swedish SMHI, a Nordic SWC (surface weather chart for civil aviation) will be created.
- Two new radars have been installed. The first one is located in Kesälahti, southeastern Finland, near the Russian border. This one will help us to detect thunderstorms coming across the border. Also during wintertime it will help to detect rain and snowfall from low clouds. Another new radar is located in Petäjävesi, in the middle of Finland. This radar will fill the gap over central Finland and will be useful especially during wintertime.
- FMI is actively developing post processing methods of model data (e.g. landscape correction of temperature) to improve forecasts.

#### **DMI (Denmark)**

- It has been an eventful period for DMI. We have been undergoing a major organisational change, with some replacement in the leadership. All of our strategies has been rewritten and it has been a tough period for all. One of the drawbacks has been that a brand new department has drained the forecaster resources for other purposes. This has resulted in some increased working pressures and some difficulties in the working environment.
- However, we are now seeing some of the benefit from the change e.g a closer contact to the research and development department. We now have a weekly meeting about the performances of the models, and weather cases.

- Another positive thing is a better contact with the communication department! We are having an exchange program, where a forecaster is lent to the communication department for 2 months to gain knowledge in writing stories for our homepage and using social media.
- DMI's next HPC will be placed in Iceland in 2016. Thereby we will save energy to the cooling system, which was becoming a great expense for us. Actually was it becoming a burden for us, since we only admitted to use a certain amount of power, due to our location in a green Ministry.
- Even though we have not got the HPC yet, the project for next HPC in 2020 is already initiated. It will be a HPC purchased in collaboration with Norway and Sweden, which will operate for all three countries.
- In general, DMI have very good cooperation with SMHI. We are doing aviation forecasts together and last year an agreement was made on naming storms. If a storm hits Denmark and then southern Sweden, then DMI will name the storm and otherwise it will be SMHI. It has worked quite well.

#### **IMGW (Institute of Meteorology and Water Management, Poland)**

- There has been further automation of our observing network. This process took place at the beginning of this year and it was connected with Staff redundancies. So now 25 of our 63 synoptic stations are automatic.
- Modernisation of our radar network has started. A few single-polarisation radars have been replaced by dual-polarisation. So now in Poland 3 of 8 radars have dual-polarisation. Further modernization will be carried out within the next few years.
- At the end of last year, operational exploitation of a 2.5 km version of the AROME model started. Since October this year a Polish version of the INCA nowcasting model has been working on the basis of 2.5 km AROME.

#### **LHMS (Lithuanian Hydrometeorological Service)**

- 2015 was a year of challenges for Lithuanian weather forecasters, with a reduction in staff numbers by 60%.
- LHMS has joined MeteoAlarm. The IT team is working on technical adjustments of our warning system to MeteoAlarm and we hope in the near future data from Lithuania will be available on an official webpage.
- The Aeronautical Forecasts Centre has got a new young head, Laimonas Januška. His background is hydrometeorology.

- “Baltic+” – the 5 year training programme under the sponsorship of EUMETSAT started in March 2015.
- The webpage of the Lithuanian Hydrometeorological Service [www.meteo.lt](http://www.meteo.lt) was renewed. The creation of online services to customers is a new branch of activity for weather forecasters as well.
- The Lithuanian Hydrometeorological Service has got a Facebook page. <https://www.facebook.com/Meteolt>

#### **MeteoSwiss (Federal Office of Climate and Meteorology)**

- The fine mesh model COSMO 1 (1.1 km) is pre operational. It covers the alpine region. It will be fully operational in 6 months. 8 runs a day are available with ranges up to 33 hours, with 48 hours for the 03z forecast.
- COSMO E (ensemble fine mesh forecast, 2.2 km with 21 members) will be pre operational in November with 2 runs per day and forecasts up to 5 days.
- A new computer has been installed in Lugano (type Cray CS-Storm) which run the COSMO model.
- The building of the latest radar is completed on the Weissfluh. The tests are starting and it will be operational next year.
- The modernisation and extension of the observing station network is completed. 260 stations measure the weather parameters every 10 minutes. In addition, MeteoSwiss has integrated 50 measuring stations in its database from partners such as the counties, road operators and MeteoGroup network.
- The observation at Geneva-Airport will cease between 24h and 5h during the winter, AutoMETARs will be issued.

<https://www.facebook.com/Meteolt>

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## **Presentations 2015**

On Friday 30<sup>th</sup> October, WGCEF members gave a number of presentations, which are summarised below. The presentations themselves are available via the WGCEF website.

### **1. EUMETNET Update**

**by Dick Blauboer (EUMETNET Forecasting Programme Manager - Seconded from KMNI)**

Dick gave a very interesting overview of the current work of EUMETNET and EUMETCAL as well as plans for future projects. Of specific interest to our group he told us that the Science and Technology Advisory Committee of EUMETNET approved the continuation of the WGCEF as a STAC working group on a permanent basis. Later in this session we voted unanimously to stay in EUMETNET as advised by Will. Also of special interest he outlined that a NMS's budget was in order of increasing magnitude: Personnel; Observations; IT. Therefore EUMETNET are proposing some conglomeration on IT resources within Europe. Also a new NOWCASTING group is set to meet this December.

### **2. Task Team Naming Storm in Europe Update**

**by Christian Csekits (Head of Task Team)**

Christian gave an update of the storm naming task team he heads up in Eumetnet. The recommendations of the team reflect a compromise which it is hoped will bring further cooperation and integration, but will also acknowledge the existing authority of existing schemes run by the NMSs and others such as the Free University of Berlin. The recommendations support local groups of countries which are co-operating with storm naming such as Ireland and the United Kingdom.

### **3. Forecast Verification at the Meteorological and Hydrological Service in Croatia**

**by Lovro Kalin (Deputy Head of Forecasting)**

There are 15 forecasters in forecasting department. Some are on 'half pay' which was introduced as a temporary measure but has continued unfortunately now due to financial constraints. Only one person is working on a verification, which has been modelled on the Austrian system. It is a question that is always asked: how good are your forecasts? Comparisons between human and models are made for temperatures at 40 sites.

### **4. Project Cluster**

**by Christian Csekits (Head of Forecasting, ZAMG, Austria)**

Work has been undertaken in clustering of ensemble forecasts from medium range to long range. We have been comparing two clustering methods; ECMWF and a specially designed one for Austria based on Hungarian clustering. Its use needs intensive training of both the forecaster and user.

### **5. Forecast of Mean Precipitation in Catchments**

**by Piotr Maczak (Poland)**

This project has enhanced cooperation between the Meteorological and Hydrological Institutes. There are 6 Hydrological Offices in Poland, mostly working day shifts but with nights when necessary. They are staffed by 1 hydrologist and 1 IT person. The hydrologists require meteorological products detailing amount and type of precipitation, and any warnings. The hydrologists visit the weather office every day and get briefings. There is an extra shift for meteorologist during floods.

To prepare forecasts of mean precipitation in catchments, hydrologists prefer the human/synoptic forecast rather than NWP. Forecasters must prepare ppt forecasts for 153 catchments for input for hydrological model, but there are regional offices which prepare groups of catchments to send to the central office, totalling 484 catchments for the hydrologists.

### **6. Hail in Summer 2015 in Estonia**

**by Taimi Paljak (Chief Forecaster)**

Taimi described the events of July 17th, 2015, when widespread hail, exceptionally large for Estonia, caused extensive damage. The details are presented later in this newsletter.

### **7. Some Recent and Upcoming Developments at ECMWF**

**by Tim Hewson (Evaluation/Quality control in ECMWF)**

A new cycle, 41R1, was introduced in Nov, 2013 and verification shows good improvement. Amongst the changes are the following:

- Lake Model now in operation. About 1km square.
- New Land-Sea mask. Pacific Islands have disappeared.
- New EFI/SOT products for 10-15 day range. They take a climate window of 5 weeks, two either side of the 5 days in question.
- New EFI for Convection (Cape/Cape Shear etc... wind shear calculated between 925 and 500hPa).
- New Freezing rain forecasting capability, with a new model diagnostic.
- New precipitation rate and fog/vis diagnostic on Hires model.

*Upcoming developments will include:*

- A new website.
- The next cycle, 41R2: 9km for hires and 18km for ensembles/with better physics/wet bulb freezing – Flash flood forecasts using global model ensemble (Part of EFAS/GLOFAS). This is consistent with ECMWF's mission over the next few years, to focus on disaster reduction from extreme weather events.
- Improved monthly forecasts....work in progress.

Finally, Tim reminded the group of the useful ‘forecast user’ page on the ECMWF website.

#### **8. Severe Freezing Rain in Mountainous Area,**

**1 December 2014**

**by Zsolt Patkai**

Freezing rain occurs regularly on plains and mountains in Hungary, but on 1<sup>st</sup> December 2014 was more widespread. The presentation showed how a major Low over the western Mediterranean fed warm air up from Africa which clashed with Polar airmass across Hungary.

Thousands of trees were felled, along with electrical cable masts. This was a very rare situation which was difficult to predict. At HMS no one could remember a similar case from recent history.

#### **9. New Challenge for Forecasters: Strong Differences between Global Models and High Resolution Models**

**by Bernard Roulet**

This presentation asked how confident forecasters can be in high resolution models. Bernard gave a couple of case studies comparing models with reality. The details of the presentation are given in the article later in this newsletter.

#### **10. Verification Browser**

**by André-Charles Letestu**

The presentation outlined an interesting new verification system used at Meteo-Suisse, which can track the forecasts and performance of individual forecasters!

#### **11. Update of the Warning System in KNMI (2015)**

**by Jos Diepeveen**

An article in this newsletter expands on this presentation, which explained KNMI's recent changes towards an impact-based warning system for the Netherlands.

#### **12. A Forecaster Training System,**

**by Lola Olmeda (AEMET, Spain)**

Every AEMET forecaster now has

- 40 hours/year for formal training and an annual training programme. Some courses are mandatory. Test for evaluation.

- 6 hours/month for individual training. A monthly report is produced for the Head of unit.

There is an annual questionnaire about the impact of the forecasters training and needs for the next year.

- Special course are run in which the users are the teachers (civil protection, pilots, hydrologist, disaster management, search and rescue, regional governments authorities, etc.)

### **Special Discussion Topic: ‘The Shifting Role of the Forecaster’ by Pascal Mailier (RMI)**

Pascal led an interesting and open discussion about the changing nature of our profession. Some issues raised are presented here:

- Anyone can open up their own forecasting service. Are forecasters becoming redundant? Many post processing methods are better than the forecaster. Remember bank clerks? They are mostly gone now!
- Perhaps the forecaster is a little like a translator....Google can translate but can be very poor in places, suggesting that an automated approach has its limitations.

- Forecasters have a key role to play in the further development of models.

- Meteo France make a monthly report to the modellers and a twice yearly round-up.

- Speaking to a user/verbal briefings are an excellent way of communicating uncertainty.

- The role of NWP is to get the forecast right most of the time and the forecaster to get it right when it matters. We shouldn't be trying to beat the model on say degrees of temperature.

- Communicating uncertainty is a vital role for forecasters. It is essential they receive adequate training and experience.

- Will proposed that forecasters use the Meteoalarm forecaster chat room....a good idea but we all agreed that it is difficult to email in a severe weather situation. One other point that came up many times, and it has in previous years and at other meteorologists' meetings, is that there is not enough communication and discussion between forecasters and modellers. Michael and Bernard told us about their weekly/monthly meetings between forecasters/ modellers/ R and D colleagues.

## Annual Newsletter

The 20th edition of ‘The European Forecaster’ was published in September 2015. This, and previous issues of the newsletter, is available on the WGCEF website.

Will sincerely thanked Bernard and Météo-France for continuing to publish the Newsletters and in particular for maintaining such high production values. It is considered the best journal for forecasters as, for example, it gives relevant case studies. Also a hard copy in the forecast office will be read more by forecasters during any quieter moments on shift than the myriad of information on-line.

## Election of new Chair/Vice-Chair for 2017

Will and Evelyn’s term of office will end in 2016 so it was decided to vote on a new Chair/Vice-chair for the new term of office from autumn 2016 to autumn 2020. Evelyn proposed Christian Csekits (ZAMG, Austria) as the new Chair and Jos Diepeveen (Netherlands) as the new vice-chair. The group were in unanimous agreement that both would make excellent officers and would work splendidly together. Both were deemed elected, pending agreement from their respective NMSs, and they will assume their positions by the 2016 meeting. Congratulations et bon chance!

## Next Meeting

Tim Hewson kindly offered to host the next meeting on behalf of ECMWF in Reading. After the success of the inaugural one and a half days this year we decided to also run the meeting for 1.5 days in 2016.

## Thanks

The Belgium Meteorological Institute has three ‘names’.

IRM: Institute Royal Meteorologic

KMI: Koninklijk Meteorologisch

RMI: Royal Meteorological Institute.

But as William Shakespeare said:

*What's in a name? that which we call a rose*

*By any other name would smell as sweet.....*

WGCEF would like to thank our colleagues in Uccle for a wonderful meeting and excellent hospitality. We also had an enjoyable tour of the Forecast Office. The official Meeting Dinner at the Best Western County House Hotel was delicious and helped bond the participants further providing a splendid end to our 2015 meeting in Brussels.

**Evelyn Cusack**  
Vice Chair, WGCEF  
May 2016