Round Table Update WGCEF Meeting
26th and 27th of September 2019 in Dublin
Christian (ZAMG)

- Weather forecast division: Christian replacing former boss Klaus
- ZAMG participating in ARISTOTLE II Project, which is delivering multi-hazard information to the ERCC (Emergency Response Coordination Centre); SW member and EQU lead; single point of contact (alert system); End: December 2019; ARISTOTLE III from 2020 on
- New international activities from 2020 on (World Bank, e.g. Myanmar)
- Two new female forecasters since 2019
- Daily web-conference with national crisis management center since end of 2018
- New APP for weather observers (stakeholders, costumers, public)
- Political project: ZAMG merging with GBA and outscoring/privatising
- Joint forecaster training (DACH; November 2019 in Vienna)
Some developments in Met Éireann

- Push notifications of warnings successfully started on MÉ App
- Revised Warnings criteria published
- Two eGovernment awards: Universal Design Award for [www.met.ie](http://www.met.ie) and the Marketing and Social Media Award for our twitter page

- FD/NDFEM/LA’s first annual workshop in Tullamore. Excellent tri-lateral on Met Éireann’s warnings and FFC.
- FD management & Facilities engaging with architect and other specialists in preparation for relocation of Forecast Office to room G02 and provision of temporary radio studio in room 210
- Ongoing voice coaching with broadcasting staff by RTE

- 5 new RADARS to be installed over the next 3 years
Jos (KNMI)

- EWC ambition: Finance fixed for coming years 44 mE
- Starting up UWC: From 2023 Super computer on Iceland
- Launch Storm Naming had a lot of media attention
- KNMI 165 yr anniversary
- KNMI best weather app :-(
News from DMI

- Change in management:

- New Operation center

- 5 new forecasters starts October 1st

- Our ISO9001:2015 certificate is now valid for the Kingdom of Denmark within the scope: Civil Meteorological, oceanographical and Ice services (ICEMETOCEAN)
Janne (DMI)

- Climate atlas – the effects of climate changes in the danish commune
- Free data from ultimo October, we start with observations
- Fire Weather Index to the Emergency management Agency (DEMA)
Latest developments at DWD

- 2 big heat waves with numerous all-time records above 40 degrees (Max. 42.6 °C) last summer
- Intensified cooperation with disaster and risk management and the military (focus on extreme events in Germany and all over the world)
- DWD-President Mr. Gerhard Adrian elected as WMO-President
- Former WGCEF Member and Leader of Forecaster Division Mrs. Sabine Krenovsky retired, successor Mr. Franz-Josef Molé
Marjo (FMI)

- Global space weather center will start to operate 7th November and FMI has the lead of the PECASUS-Consortium. Forecasters have been training to be able to take over a totally new area of weather.
- Aristotle started again this year and FMI has continued to be a backup leader of Severe Weather group. The concept is being developed and there will be some changes in Aristotle this autumn.
- Small steps are taken to make the warnings more effect based.
- Aviation: Multiple drone weather services both commercial and public (e.g. the Finnish Border Guard) during this year.
- Aviation forecasters will get two new tools (low level product and TAF editor) still during this year and there has been lots of training this autumn.
- Work has been started to consider future workstation solutions.
Marjo (FMI)

• Several forecasters have been participating to FMI’s international projects and been teaching their colleagues abroad e.g. how to use SmartMet Workstation (e.g. in Vietnam, Nepal, Bahamas).
• Social media (such as twitter, YouTube, periscope) has become part of forecasters’ daily work. Some school teachers have found educational YouTube videos very useful.
• Forecasters are working more closely with customers e.g. consulting customers via chat/WebEx or being present at their events (e.g. big outdoor concert during this summer).
• FMI is responsible of EUMeTrain’s “Road weather week” which is held online 9 - 13 December 2019. They estimate even up to 100 operational forecasters and researchers participating mainly from Europe.
• Extensive renewal of instruments (including cameras) and AWOS (aviation weather observation system) at airfields. 13/23 airfields done and still 8 coming this year. Software made at FMI. Forecasters have better access to real-time observations and they have the same view as the air traffic controllers.
Steph (UK Met Office)

- **Weather Challenges** - Storm naming reaches ‘Hannah’ for the 2018/2019 season. New list of names for 2019/2020 season recently announced – with Met Office and Met Eireann now joined by KNMI. Significant weather over Summer 2019: Highest temperature ever recorded (38.7 Cambridge Botanic Gardens), then heavy rainfall (thousands of residents in Whaley Bridge evacuated).

- **Corporate** - Chief Executive, Professor Penny Endersby (in role since Dec 2018) developing new corporate strategy - being launched Oct 2019.

- **Technology** – Ongoing changes to technology infrastructure – move to Amazon Cloud, implementation of Service Hub, replacement of other support tools (ServiceNow, PIMS). Updates to Met Office website.

- **Operations** – Ongoing resourcing challenges, but these soon to be addressed with recent recruitment of new trainees and the development of a new ‘Operational Meteorologist Technician’ role.

- **Science** – OS42 went live March 2019 – MOGREPS-UK increased resolution to an 18 member time-lagged ensemble out to T+120, hourly updates. MODE-S data now assimilated in to UK models. Increased number of SST obs. PS43 planned for operational release Nov 2019.

- **Observations** – Overhaul of current land surface observing system, with new system (SurfaceNet) being developed, operational early 2021.

- **Climate** – UKCP18 launched in November 2018, providing a significant update to the UK’s climate change projections out to 2100.
• Not a lot of changes within the Department of Forecasting and Warnings in the past year, but more drastic changes coming in 2020.

• Have acquired 3 new forecasters with MSc. In meteorology along with one currently in school and an second grad student starting in 2020.

• 50% position of remote sensing specialist for monitoring secured, the position goes to an who also works 50% as a natural hazard specialist.
Elin (VEDUR)

- Decreased the working hours of shift workers from 38 to 37 hours a week in January.

- Has resulted in happier workers, less sickness and better morale.

- IMO will most likely take over TAF for Faroe Islands from DMI in January 2020. TAFs have increased by 4 domestic airports in 2019 – and with this addition we hope to increase to 3 forecasters during the day.
Lovro (DHMZ)

- staff level improved (all young forecasters fully employed), age structure changed – generation shift
- still infrastructural problems (operational room, inadequate facilities) refurbishment project in progress, new building expected 2023?
- IBL VW visualisation in full operational, forecast production 95% new products (tailored, automated end products, tailored diagnostic/forecasting parameters)
- warnings improvement (more elements, cold waves introduced this winter, demand for County based warnings, automatization, impact based, thresholds improvements...VW Alert Editor module purchased – in customization)
- new web page meteo.hr (last summer), new DHMZ Twitter (this summer)
- forecasters communicate via Slack, other social networks still wait
- DHMZ budget cut for 2019, for 2020 cca 7% !
- New Hydrometeorological law
Lovro (DHMZ)
student from Toulouse on summer internship
Paula (IPMA)

During this year

new head of Meteorology and Geophysics Department – Fátima Espirito Santo
new head of Azores Regional Delegation – Carlos Ramalho
new head Climate and Climate Change Division – Ricardo Deus
new head Aeronautical Division – Fernando Rei

✓ new bulletin GAMET (21-03UTC) - Low level area forecast for aviation over mainland

✓ New RADAR at Madeira started operating on Jan2018. (SELEX – METEOR 735CDP10)
✓ Upgrade RADIOSONDE at Lisboa, Madeira and Azores (Vaisala MW41)

Until December 2019

➢ AUTOSONDE AS41 installation at Lisboa
➢ Upgrade of the LIGHTNING NETWORK in Portugal mainland and implementation of a lightning network in Madeira (Vaisala LS7002)

➢ New Weather Display System (SYNERGIE – MFI)
Weather forecasting for wildfire

- Better understanding weather rule on wildfires prevention, developing and fighting
  - close interaction with civil protection, fireman and fire experts
  - course on fire weather

- New weather products
  - Dry thunderstorm probability
  - FWI and sub-index ensemble
  - More model parameter outputs

- New 3 days weather forecast bulletin for strategic fire analysis

- IPMA forecaster support at Civil Protection Head Quarter during fire warning periods issued by civil protection
Andre-Charles (Meteoswiss)

- Two heat waves with many record broken, many heavy thunderstorms events.
- Forecast for “la fête des Vignerons” during a month, many extra shifts scheduled.
- Started Twitter in June (735 followers), 3 accounts for the 3 languages.
- Measure campaign in Geneva, various instruments installed temporally: Cloud radar, wind profiler, lidar, ceilometer, temperature profiler, hemispheric visible camera, hemispheric IR camera. To prepare Automatic METAR 24/7.
- Implementing aviation regulation in order to be compatible with the EU; Take-Off forecast, new limits for the cloud observation, SIGMET new format (polygons).
- 10 forecaster/assistants to retire until 2025 (over 30); need of a plan for the replacement.
Andre-Charles (Meteoswiss)

- 3 new forecaster next spring in Geneva, 1 in Zurich and 1 in Locarno. Job description include forecasting and development (postprocessing)
- January 2020, forecast for the Youth Olympic Games (Lausanne) 8 sites.
- PROJETS:
  - ModInterim: new configuration if COSMO-1 model, 10 members, RUC of 3 hours, up to 33 hours (spring 2020)
  - AMAROC: AutoMetar round the clock
  - OWARNA II: developing automatic alerts based on impacts and consolidating existing alerts.
  - CHAPO: New project for the automatic measurement of pollen.
  - Postprocveri: postproc for T, pp,CCC,wind (spacial, probabilistic).
  - Produce a seamless forecast 6h to 14 days with verification.
Piotr (IMGW)

- **June 2018:** **PrOsMet**, new software for issuing warnings, with common data base for all of the offices.
- **June 2018:** smaller warning areas and higher number of areas (increase from 63 to 380).
- **July – December 2018:** **Alert RCB** – governmental project of sending text messages to the society with information about different kinds of threats, not only related to weather (since July test phase – alerts for 16 voivodships, since December – fully operational, alerts for 380 administrative districts). In a dangerous situation all the mobile operators send text messages from the Government Centre for Security to mobile users located in the risk area. IMGW is a provider of meteorological data. An alert is always sent when a red weather warning is issued. When an orange warning is issued, the Government Centre for Security decides if the alert should be sent to the public.
Piotr (IMGW)

- September 2018 – January 2019: IMGW-PIB restructuring i.e. collective redundancies (150 people, mainly from administration), dissolution of branches (no directors, no administration, only operational, technical, scientific departments).

- January 2019: 2 in place of 3 offices with aviation forecasts.

- February 2019: Teresa Zawiślak, Head of Meteo Service, retired; Agnieszka Harasimowicz is the new Head, Mateusz Barczyk is the Deputy Head.

- February 2019: intranet forum for cooperation between forecasters and NWP has started.

- June 2019: IMGW on Twitter and Instagram.

- August 2019: tragedy in the Tatra Mountains, 5 people killed by lightnings, over 100 injured.


- October 2019: reorganisation will be continued – NWP and satellite sections are leaving the meteo department 😞
• After last year’s 7% (17 person) staff reduction (including 2 forecasters), in 2019 9 more people quit HMS (including 2 aviation meteorologists). New colleagues were hired instead of them.
• Starting Open Data policy announced from next year, but its financial implication is uncertain.
• Some reorganization happened
  – The Weather forecast division formerly consisted of two units: Aviation meteorology and General & Severe weather unit.
  – Now we have three units, Severe weather and General weather forecasting units were divided. There is an interoperability between these.
• Refurbishment of the forecasters room is planned this fall.
Continuation of reorganization. Aviation forecasts subdivision was incorporated into a larger one – Forecasts and Warnings division.

Direct cooperation with municipalities was initiated. For better mutual understanding we started live video conferences using WebEx. This help us with impact oriented forecasting.

Automation of the network of observations continued. Five more meteorological stations were fully automatized and left without observers.

The radar of Vilnius broke down (broken torsion mechanism) in the beginning of the summer. The process of diagnostics, purchase of spare parts and finding a company, that is able to make such repairs took a while and during the period of active convection no information was available.

This spring (April and May) deficit of rain resulted a drought which had a big influence on the agricultural sector. A high risk of forest fires and hydrological drought was recorded as well.
1. New Forecasting Offices at Area control centers (ACCs)
   - 1st phase: Barcelona, Madrid and Gran Canaria
   - 2nd phase: Sevilla and Palma de Mallorca
   - Barcelona is already working and will be fully operational in January 2020
   - On-site advisory -> stress
   - 12 or 16 hours shifts, but already asked for 24 hours
   - Intended to be covered with experienced forecasters but...
2. High resolution ensemble (γSREPS)
   - Multimodel and multiboundaries

AccPcp PROB > 40
Spagueti MBRS 40mm/3h

Multi-BCs
- ECMWF / IFS
- NCEP / GFS
- MF / ARPÈGE
- JMA / GSM
- CMC / GEM

Multi-NWP
- HARMONIE-AROME
- HIRLAM
- HARMONIE-ALARO
- WRF ARW
- NMMB

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Bernard (MeteoFrance)

- New director Ms Virginie Schwarz
- New versions of Models with higher resolution
- New supercomputer with gain x 5.6 operational in early 2020
- Two red vigilance for heat waves in June and July
- Ippc meeting in Toulouse 25-31/8/19
Marjan (CHMI)

Year 2018 in numbers

• 721 employees, 293 women, 428 men
• 460 college education
• 23 meteorological forecasters in CFO, 36 in 6 RFO
• 7 hydrological forecasters in CFO, 14 in 6 RFO
• 154 800 meteorological and hydrological forecasts
• 159 hydrometeorological warnings
• 327 040 Aladin map outputs for the public
• 40 000 daily access to CHMI‘s mobile applications (2)
• 6926 number of articles in the media about the Czech Hydrometeorological Institute
Sources of financing of the CHMI

- Subsidies from the special program: 0.1%
- Commercial activities: 21%
- State contribution: 69.9%
- Grants: 9%
Some characteristics of 2018 in the Czech Republic

- With an average temperature 9.6 °C and a deviation +1.7 °C from 1981—2010 (and +2.1 °C from 1961—1990), 2018 was extremely abnormal, similar to previous years 2014 and 2015, years 2016 and 2017 were only strongly above normal. The year 2018 has become the hottest year in a number of temperature averages for the Czech Republic since 1775.
- The annual rainfall of 521 mm places the year between the years heavily below normal (the normal for the period 1981—2010 is 686 mm in the Czech Republic)
- 2018 was the continuation and provisional culmination of a very dry period, which began in 2014.
- In 2018, some smaller watercourses completely dried up.
- In 2018, the highest number of forest fires in the last 30 years was recorded.
Marjan (CHMI)

Media issues

Last year we finalized creation of our new Media department for the whole CHMI which contains:

- press agent
- product manager
- technical and data support
- expert consultants

priority: coordination of warnings to all press channels (nationwide media, regional media, social media, web pages...)

• If is not valid warning – minimally one contribution daily (actual weather, interesting topics, education...)

• Since last year CHMI has only one common profile at facebook with 25 editors across CMHI (meteo, hydro, air pollution; editors are from center as well as from regional branch offices)
Marjan (CHMI)

Mobile applications

New mobile applications from May (Android) and from October (IOS) 2018

• The first application, which is called CHMI, includes a weather forecast for the Czech Republic for the coming days, rainfall forecasts, alarms for dangerous phenomena and during the season also a forecast of tick activity. The weather forecast can be displayed for the current location as well as for the user-selected and saved locations (municipalities).

• The second application CHMI + includes information from several dozen professional weather stations, an estimate of fallen rainfall, water status or the risk of flash floods and mapping of air quality.
Marjan (CHMI)

Continuation of project (2017-2020)

• Prevention of security risks caused by extreme meteorological phenomena - their specification and innovation of forecasting and warning systems with respect to climate change

• The project is financed by the Ministry of Foreign Affairs

• Main goals:
  ➢ Analysis of impacts caused by extreme meteorological phenomena
  ➢ Definitions and Database of Extremes
  ➢ Impact analysis and draft criteria for issuing impact-based alerts
  ➢ Evaluation of the success of predictions of dangerous hydrometeorological phenomena
  ➢ Estimation of the evolution of frequency of dangerous phenomena with regards to climate change
After six years of preparation, a new Central Forecasting Office began to build.

The architect design of the Central Forecasting Office from 2017

Future CFO – completion in 2021