Convection Working Group (CWG) Splinter Meeting – Minutes of Meeting

Date: Sept. 22, 2022

Location: Blue Point, Brussels, Belgium (EUMESAT Meteorological Satellite Conference Venue)

Participants: see appendix A

Review of open actions

6th CWG Action 3*:* All meeting participants are reminded and encouraged to share relevant scientific articles with the CWG co-chairs for publication on the CWG website.

7th CWG Action 1: Member-state survey done by Stephan Bojinski and colleagues at EUMETSAT can potentially save some work regarding the investigation of practices in warning operations in severe convective situations within different Met Services. Apart from that, no progress has been made.

7th CWG Action 3: All meeting participants are reminded to contact the co-Chairs if they wish to have their product added to the CWG Product Guidance.

8th CWG Action 1: EUMETSAT has confirmed issue with LI test data, where the accumulated flash and accumulated flash area datasets are providing the same information. No corrected version of the test data is foreseen. Action can be closed.

8th CWG Action 2: Inquiry about the nowcasting initiative on the European Weather Cloud (EWC) has been communicated and circulated within the relevant community. Action can be closed.

8th CWG Action 3: Non-European scientists are encouraged to engage in the MTG developments. During commissioning the possibilities are, however, limited given data distribution limitations before operational data production status. If you have further questions related to this action let the co-chairs know.

8th CWG Action 4: The observed issue with low-level clouds in the NWCSAF CTTH algorithms has been discussed and confirmed to be a known problem that tend to occur in situations with thermal inversion (independent of model used). Further analysis and implementation of a solution is planned, but has secondary priority given the upcoming MTG-I1 launch and commissioning. Action can be closed.

8th CWG Action 4: Not discussed given absence of Jean-Mark Moisselin.

Nowcasting initiative in the European Weather Cloud

An initiative has been started for installing different nowcasting algorithms in the EWC for near-real-time processing. Main goal is to facilitate the comparison and evaluation of different algorithms in order to better understand strengths and limitations and thus advance the future developments. This will be achieved by coupling the output from the different algorithms to a common data visualisation framework (ADAGUC) that can be used for effective data cross-comparisons and analysis.

Current status

NWC-SAF SW has been installed in the EWC. It pulls the input data from the EUMETSAT Data Store.

Instance of ADAGUC has been installed for visualization of data. Currently, ADAGUC is not running and also not coupled to the NWC-SAF SW output.

Next steps

Configure NWC-SAF software to process full SEVIRI disk. Finish installation of ADAGUC and setup a webserver that can be accessed externally and used to visualize the output data from the nowcasting algorithms.

Installation of convective environment detection with PHSnABI.

Installation of algorithm from FU Berlin for the retrieval of water vapour using future FCI 0.9µm channel. Product will be retrieved in the EWC and its output linked to ADAGUC web server.

Roundtable discussion

More algorithms concerning NWC are welcome to be installed.

Anyone interested can subscribe to the mailing list by writing to Xavier Calbet (xcalbeta@aemet.es) or Vesa Nietosvaara (vesa.nietosvaara@eumetsat.int).

The NWC output data can also be made available for other activities, like the ESSL test beds. To be discussed offline whether some NWC-SAF SW data can already be available for the next ESSL testbed.

It was noted that some optional input data are not available and therefore not used for the NWC-SAF SW processing, including OSTIA and lightning network data. Inclusion of ground based lightning data remain a problem given data sharing restrictions.

Action: check which version of the NWC-SAF SW that is installed and potentially upgrade to a newer version if possible.

Data from the EUMETSAT data store can be accessed from the EWC. A EUMETCast Terrestrial data stream will also be setup.

Access to ECMWF NWP data will also be possible. However, all ECMWF parameters will not be added to the data stream meaning that some parameters might be missing depending on the input data needs for a given algorithm.

The main purpose of the EWC is for sharing data and knowledge within the community and using the platform for commercial purposes is not allowed. Nevertheless, it is possible to transfer and work with code and data which have restricted access.

It was suggested to define a set of metrics for objectively comparing the different NWC output datasets, noting progress in the definition of common datasets for verifying nowcasts and forecasts. It was, however, also noted that this is generally not easy given the different nature of different NWC datasets and retrieval algorithms.

It was recommended to setup a case study based processing environment alongside the near-real-time environment, where the output from different algorithms can be compared for selected interesting severe weather situations that for example pose particular challenges for nowcasting. Such environments would also be useful to support nowcasting research and intercomparison experiments

AOB

EUMETSAT is planning several rapid scanning tests with FCI during the MTG-I1 commissioning. It was recommended that the CWG creates a common dataset with these observations that the community can use to advance their nowcasting and severe weather detection algorithms in preparation for the launch of MTG-I2 and start of the operational FCI rapid scanning service. It was noted that the data might be made available by EUMETSAT at a later occasion compared to the actual acquisitions and depending on the commissioning progress other tests may have higher priority. The possibility to have Rapid Scan tests collected over Africa should be investigated.

Another CWG splinter meeting is foreseen during the European Conference on Severe Storms which will take place in Bucharest, Romania, 8-12 May 2023. There will be a dedicated session on satellite observations called *Satellite Studies of storms and their environment*. Registration will open in late October (2022).

Appendix A - List of participants

Name	Surname	Affiliation
Thomas	August	EUMETSAT
Stephan	Bojinski	EUMETSAT
Xavier	Calbet	AEMET
Cintia	Carbajal Henken	FUB
Jan	El Kassar	FUB
Steve	Goodman	GOES-R/NESDID/TGA
Jochen	Grandell	EUMETSAT
Pieter	Groenemeijer	ESSL
Ulrich	Hamann	MeteoSwiss
Gerrit	Holl	DWD
Pao	K. Wang	Academia Sinica, Taiwan, Univ. of Wisconsin-Madison
Zsofia	Kocsis	OMSZ
Sherrie	Morris	NOAA/NESDID/GOES
Richard	Mueller	DWD
Blanka	Piskala Gvozdikova	CHMI
Heikki	Pohjola	WMO
Simon	Proud	RAL Space/NCEO
Martin	Raspaud	SHMI
Pilar	Ripodas	AEMET
Benjamin	Roesner	DWD
Joachim	Saalmuller	EUMETSAT
Tracy	Scanlon	ECMWF
Loredana	Spezzi	EUMETSAT
Jindrich	Stastka	CHMI
Johan	Strandgren	EUMETSAT
Natasa	Strelec Mahovic	EUMETSAT
Piotr	Struzik	IMGW-PIB
Roope	Tervo	EUMETSAT