# PP-AWARE: Appraisal of "Challenging WeAther" FoRecasts

**Project leaders**

Flora Gofa (WG5) and Anastasia Bundel (WG4)

**WebConference: Status of Tasks 1 & 2**

**Date: 14.05.2020**

**Participants:** Flora Gofa (FG), Anastasia Bundel (AB), Andrezj Mazur (AM), Chiara Marsigli (CM), Dmitrii Mironov (DM), Dimitra Boucouvala (DB), Maria Stefania Tesini (MST), Joanna Linkowska (JL), Pirmin Kaufmann (PK), Ekaterina Tatarinovich (ET), Daniel Cattani (DC), Michael Hoff (MH) and more.

**Agenda**

1. Overview of PPAWARE status
2. Task 1.1.1 and 1.1.2. Overview of CW/HIW observational data sources characteristics, AM, AB
3. Task 1.1.3 review of non-conventional observations and their use in verification: CM
4. Task 1.2 Approaches to introduce observation uncertainty, AB
5. Task 2.1 Survey for assessment of proper verification of phenomena, AB
6. Task 2.2 Role of SEEPS and EDI-SEDI for the evaluation of extreme precipitation, DB/FG
7. Task 2.3 EVT approach- Fitting precipitation object characteristics to different distributions, AB (on behalf of Anatoly)
8. Participation of PP-AWARE to WMO HIWAY project, FG/AB

## Minutes

Agenda item 0: FG presented a quick overview of the status of Tasks 1 and 2 of PPAWARE, the FTEs that were provided, and the main questions that have to be answered through the various subTasks.

Agenda item 1 (Task 1.1.1): AZ provided a short presentation on some general issues related to HIW observations and listed the main categories. He also mentioned briefly an intercomparison of diagnostic methods for thunderstorm activity.

**Action:** AB highlighted that the presentation focused only on thunderstorms diagnostic observations. Also, as the Task was described, the overview of observations report must include data sources not only on a national level. As each country has its own network and radar networks, this overview can list international open sources of observations not only dedicated on thunderstorm metrics description. The main Task work is completed and AM will extend work for a few months to prepare the deliverable report.

Task 1.1.2: AB presented the RHM work status for tasks 1.1.2. Task work is ongoing, but slightly delayed. An overview of global and region sources of thunderstorm observations is being prepared. It is proposed to include a study on identification of the areas of deep convection based on satellite data by Irina Gorlach and Andrey Shishov (RHM) into task 1.1.2 with extension of the task until the end of the project and

additional 0.1FTE. CM asked if the same algorithms can be used both in observation and forecast data in order to facilitate the use for verification purposes. AB answered that up to now this information is aimed mainly to forecasters, but she would like to use it in verification if corresponding model characteristics were available. CM agreed to send some related literature that can help to this direction.

**Action:** Prepare an update plan and ask for SMC approval of this additional Task work.

Agenda Item 2: CM mentioned that the outcome of this work is a report that is already prepared by the WMO JWGFV group and will be officially ready and published in June. CM with the chance of this discussion, announced some news connected with the activities of this group. First the IVM workshop is postponed for November 2020 that will take place in a remote manner, more details will be announced soon. Second, the challenge for the new user-oriented verification metric is ongoing and contributions are expected.

**Action:** The WMO/JWGFV report will serve as deliverable of this Task and CM will present it in the COSMO GM 2020.

AB noted the importance of making a summary unifying the contributions from all the participants of Task 1.1. This has to be coordinated between the participants.

Agenda Item 3 (Task 1.2): Task work is started by delayed. An extension is required until November 2020 without additional FTEs. AB presented a brief overview of methods to incorporate observation uncertainty into verification. A question will be addressed in the task deliverable about how to deal with rare events in case of lacking long observation time series. One of the ways is to use reanalysis based on high-resolution models. To finish the overview of existing methods to introduce observation uncertainty and novel verification scores accounting for observation uncertainty. It is planned within Task 1.2 to test different scores adapted for observation uncertainties (CRPS in particular) using the MesoVICT data focusing on extreme precipitation.

**Action:** Update plan with new duration of Task 1.2. Task work will be presented in COSMO GM2020.

Agenda Item 4 (Task 2.1): AM presented the progress of the ongoing work. So far bried research is completed to assess applicability of particular verification methods. There is an ongoing work on the comparison and judgment whether continuous or discrete methods may/should be applied, and later on the Task work will be focused on the recommendations as described in the project plan.

**Action:** As with all other Tasks, effort must be given in the preparation of the deliverable to carefully provide answer to the main question of Task 2 with is listed in the project plan. Task 2.1 deliverables preparation in order to include all the necessary information will be extended until August 2020.

Agenda Item 5 (Task 2.2): On behalf of the project participants DM presented the work that is accomplished. Following a climatological analysis that was performed on Greek SYNOP stations, SEEPS score was employed for COSMO-GR1 and COSMO-GR4 on 6h precipitation for a whole year of data. In order to calculate the area score over Greece, a weighting distance factor for each station was applied. Then ongoing work is

using the same thresholds that define percentile values higher than 90% for the medium to high precipitation for each station on SEDI calculation.

**Action:** Report will be prepared with the interpretation of results combining all scores and by analyzing their strengths and weaknesses (deadline end of August).

Agenda Item 6 (Task 2.3): Discussion of this agenda Item was postponed due to lack of time. This point will be discussed the next PPAWARE videoconf in early June.

Agenda Item 7: FG presented the idea of including PPAWARE in the WMO international project HIWeather. The benefits of being part of HIWEATHER were presented as well as the requirements and the impact that this have in the work of AWARE participants. A discussion took place with the participation of DM, COSMO SPM. In general, there is a positive perception on this issue, even if additional effort must be given from all participants in the preparation of the deliverables as these will be published also in HIWAY web page once AWARE is accepted as part of this.

**Action:** It was decided that if any PPAWARE participants oppose this application, to send email ASAP to AWARE mailing list. Otherwise, PLs will prepare the paperwork with the application to be sent to WMO and in the same time will notify the STC for this initiative as the opportunity was already mentioned during the last SMC meeting (Jan2020).