Common Plot Activity: next phase (1)

- Concerns the **calculation and representation of verification results** of statistical indices for main weather parameters derived using **operational ICON-LAM and/or COSMO model** in each service.
- Domain, resolution, statistical scores/methods, frequency and graphical representation, are decided on an **annual basis from WG5**.
- The main findings **presented during the GM plenary session** together with the long term trend of them, providing a basis to track the performance of models.
- Through **PP-CARMA**, a Common Verification platform based on MEC-Rfdbk was developed for the unified production of the Common Plots (CP). Spatial verification is performed with other available tools (**VAST/Arpa-PT**).
- Moreover, a centralized transfer and visualization of CP statistics on COSMO web server facilitates the easier analysis of the verification results.

By the end of PP-CARMA, most services (**DWD, MCH, CoMET, HNMS, IMGW-PIB, NMA, RHM, IMS**) have migrated to **MEC-Rfdbk framework for CP** point statistics production.

Critical issue: unfinished work that concerns the installation in the remaining services and the **inclusion of additional features/capabilities** that can be part of **SPRT-CP activity.**

Common Plot Activity: next phase (2)

MEC-Rfdbk Responsible Person: 0.25 FTEs

- Retrieve obs from MARS and convert to netcdf **(daily basis)**
- Align FF files from various services and run Rfdbk (station information, dates, etc.)
- When alignment will be problematic, Rfdbk will have to run separately for some models and connect all Rdata files for graphs production through available script **(to be avoided!)**
- Upload correctly named Rdata files on shiny web pages for ComA-1, ComA-2, NoComA and for all different statistical outputs (continuous, categorical, by station, upper air, etc.)
- **<u>Incorporate new features in CP activity</u>**:, 6h precipitation in all intrevals, conditional verification
- Update the system with new versions of Rfdbk and distribute to users new versions of MEC for FF production

Common Plot Activity: next phase (3)

VAST Responsible person: 0.1 FTEs

- Collect and adapt as VAST input precipitation GRIB files from all participants for ComA-2
- Extract and adapt OPERA precipitation files (WG5 Coordinator)
- Run VAST for the calculation of FSS and other neighborhood methods scores
- Include updates in the capabilities of VAST software
- Prepare seasonal/annual summary of results (COSMO-GM presentation)

All COSMO services: 0.05 FTEs (per contributing service)

- Produce Feedback Files (FF) through MEC for ComA-1, ComA-2, NoComA and send them to MEC-Rfdbk responsible person
- Extract GRIB precipitation files and distribute them to VAST responsible person
- Produce FF for global models: IFS and ICON for all seasons

Reporting Responsible person(s): 0.05 FTEs

- Prepare annual guidelines for the activity (WG5C)
- Prepare seasonal/annual verification reports on COSMO webpage and present them during COSMO-GM

CP Activity: operational model updated info

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- **DWD:** <u>No change</u>, **ICON-EU (0.0625)**, **ICON-EU-EPS(0.0625)**, **ICON-D2 (0.02)**, **ICON-D2-EPS (0.02)**
- **COMET:** <u>No change</u>, **COSMO-ME (0.045)**, **COSMO-IT (0.02)**, **COSMO-ME-EPS (0.0625)**, **COSMOIT-EPS (0.02)**, **ICON-IT (0.02)**
- **IMGW-PIB:** ICON-LAM "Operational implementation depends on positive feedback from forecaster's evaluation and availability of institutional ICON license" **COSMO-PL7 (0.0625)**, **COSMO-PL2.8 (0.025)**, **COSMO-PL2.8-eps (0.025)**, **ICON-PL (0.025)**
- **HNMS: COSMO-GR4 (0.04)**, **ICON-GR (0.025)**
- **MCH:** Cease COSMO-7, **COSMO-1E (0.01)**, **COSMO-2E (0.02)**, ICON-1 (0.01) and ICON-2 (0.02) in testing phase
- **RHM: COSMO-Ru7 (0.0625),** COSMO-Ru2 (0.02) (over the same area, soon to gain operational status. ICON configuration is something I can not say much about. **ICON-Ru7 (with some nested LAM).**
- **IMS: COSMO-IL-ENS (0.025), COSMO-IL-CAMS (0.025), COSMO-IL-IFS (0.025), ICON-IL-ICON (0.025), ICON-IL-IFS (0.025), COSMO-IL-RUC (0.025)**
- **NMA:** no updated info, **COSMO-RO7 (0.0625)**, **COSMO-RO3 (0.025)**, **ICON-RO2p8 (0.025)**
- **ARPAE-SIMC: COSMO-5M (0.045)**, **COSMO-2I (0.02) COSMO-2I-EPS (0.02 operational Sept 2021),** ICON (testing phase)

CP Activity: Basics

- ❑ **ComA1 models:** COSMO and ICON-LAM: ICON-EU, COSMO-ME, COSMO-PL7, COSMO-RU7, COSMO-GR4, COSMO-5M Driving Models: ECMWF-IFS, ICON
- ❑ **ComA2 models:** ICON-D2, COSMO-PL2.8, ICON-PL2.8, COSMO-IT, ICON-IT, COSMO-2I COSMO-2E (control), ICON-IL-ICON
- ❑ **NoComA models:** All models on national domains, additional **focus on COSMO/ICON-LAM comparisons**
- ❑ **ONLY MEC-RFDBK derived stats will be included**
- ❑ **FSS with VAST for ComA2**
- ❑ Including Conditional Verification (?)
- ❑ Guidelines to be sent **in Oct 2021**, effort to resolve some open Rfdbk issues until then