



STATUS OF OF MEC-RFDBK IMPLEMENTATION AT COMET

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WG5/COSMO GM-2021, 10-17 September 2021





OUTLINE



- **Current national setup**
- **Open issues**
- **Future developments**



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National setup: OBS chain

SAPP SYSTEM INPUT BUFRs

-SYNOP

-TEMP

-CIVIL PROTECTION DEPARTMENT
RAINGAUGES NETWORK



ECFLOW SERVER

-Decompressing

-Filtering

-Bufr to Netcdf conversion

-Archiving

OUTPUT

3-hourly NETCDF data
for each observation system

National setup: FCST chain

HPC
INPUT RAW GRIBS
(00 UTC run)

-COSMO-ME

-COSMO-ME (GPU)

-COSMO-IT

-ICON-IT



ECFLOW SERVER

- Decompressing
- Filtering (Areal, Parameters)
- Time step splitting
- Partial archiving (real time production, CP)

OUTPUT

3-hourly processed 00 UTC run
for each model

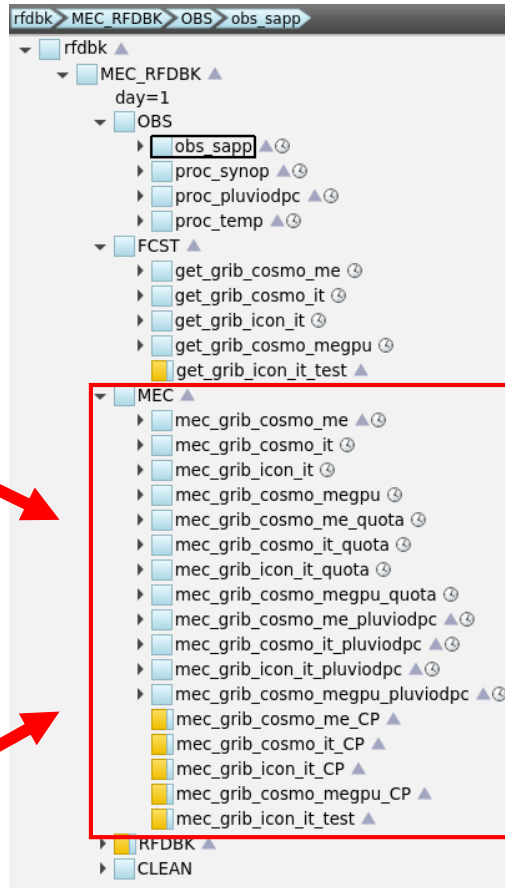
National setup: FF production chain

OBS INPUT

3-hourly NETCDF data
for each observation system

FCST INPUT

3-hourly processed 00 UTC run
for each model



ECFLOW SERVER

-Running MEC
-Archiving (real time production, CP)

OUTPUT

3-hourly Feedback Files
for each model and observation
system + FF with Common dataset

National setup: FF Processing and graphical output chain

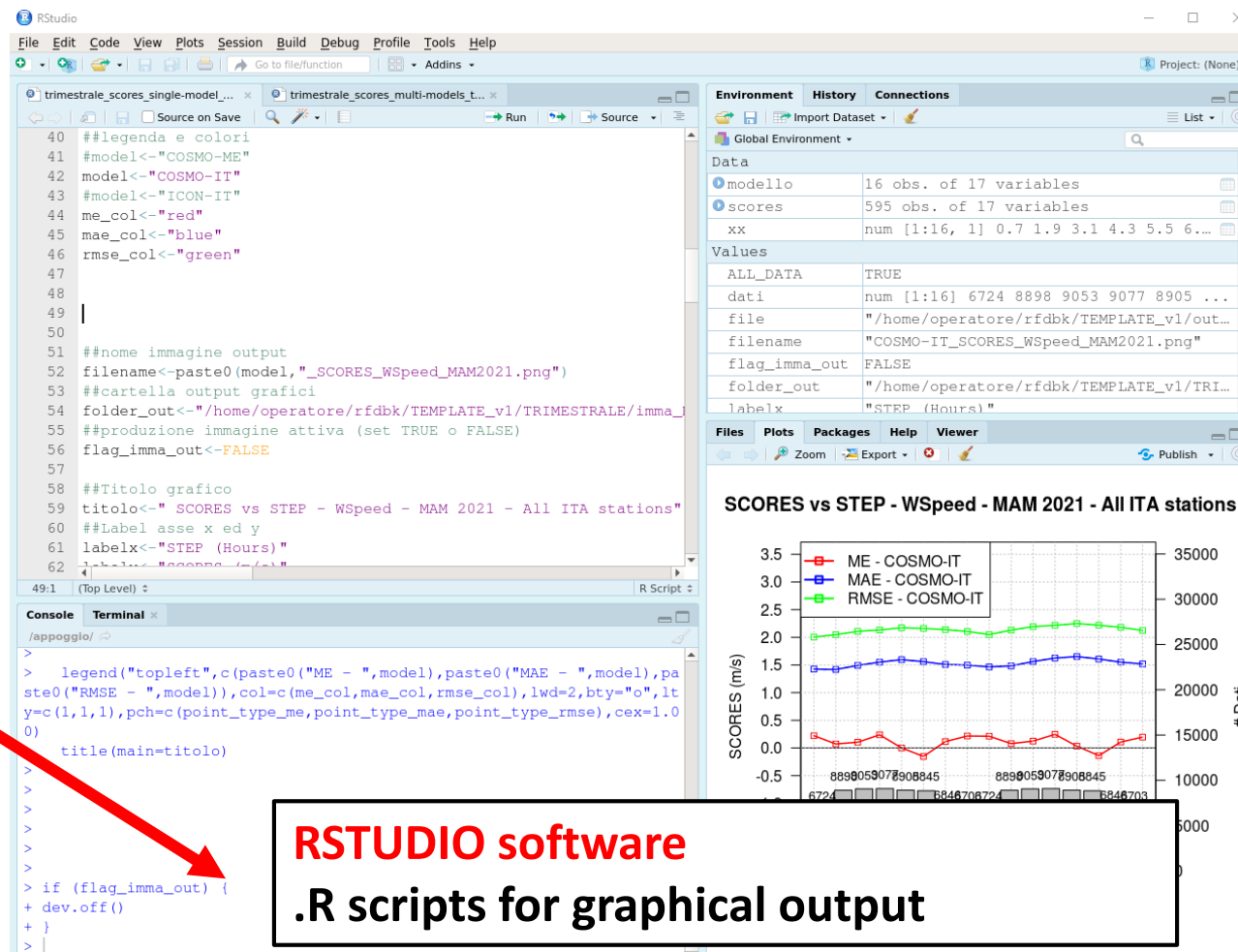
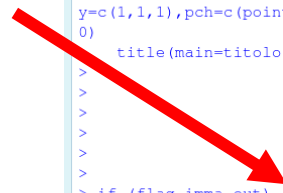
FF INPUT

3-hourly Feedback Files
for each model and observation system



DWD Processing scripts

.Rdata statistical files
for each model and observation system



RSTUDIO software

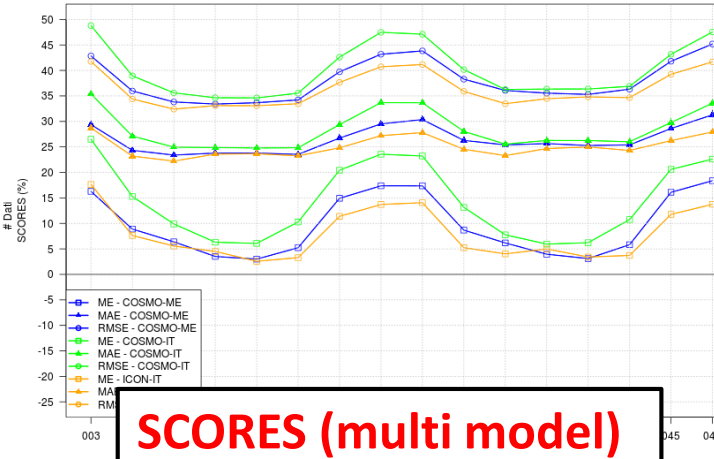
.R scripts for graphical output

Graphical output (monthly/ quarterly reports)

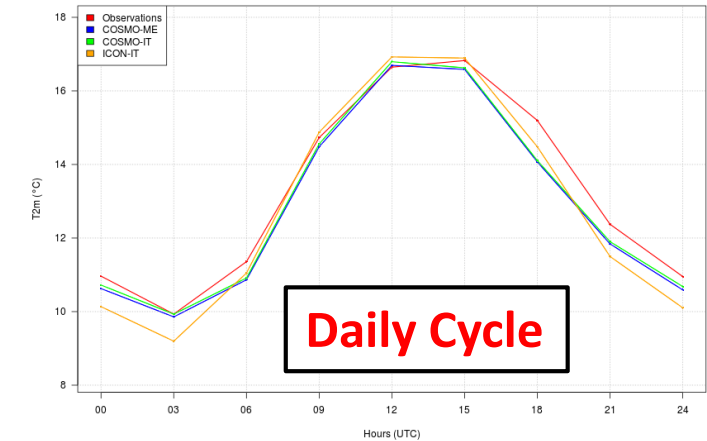
SCORES vs STEP - T2m - MAM 2021 - All ITA stations



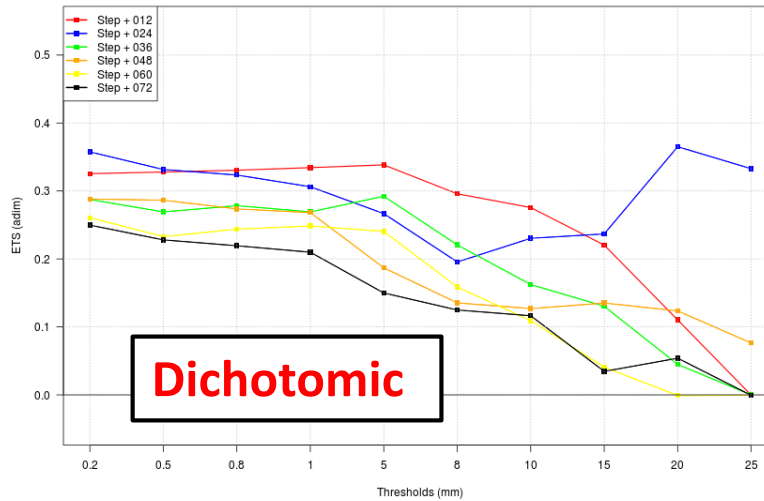
SCORES vs STEP - TCC - MAM 2021 - ALL ITA stations



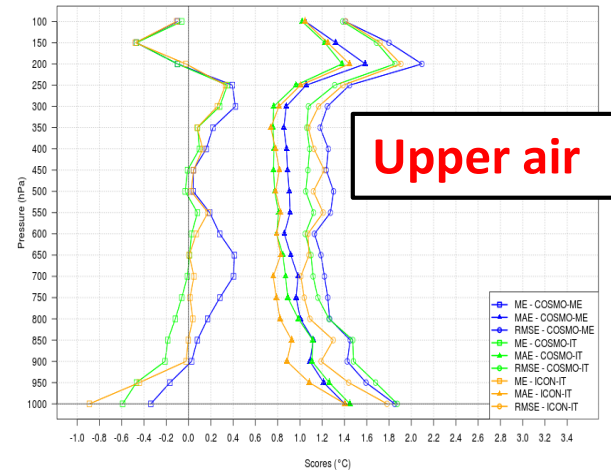
Daily Cycle - T2m - May 2021 - ITA_North_stations



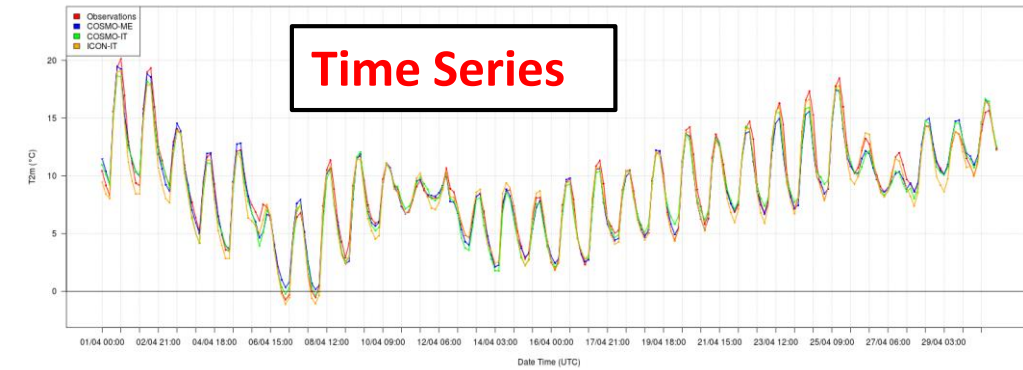
COSMO-ME - Prec06h - MAM 2021 - All ITA stations



SCORES - T - MAM 2021 - All ITA TEMP stations - step048



Time Series - T2m - April 2021 - ITA_North_stations



Open issues

- Accumulated precipitation values (currently only native integration times are processed, missing 24h and 6h windows twice a day for SYNOP data).
- 3D grib on full model levels (high memory demanding).
- Missing data in OBS time series (only for stations without WMO identifier).
- Mean Sea Level Pressure?

Future plans

- **ECMWF HRES operational verification.**
- **Wave model (national + ECMWF-WAM) operational verification.**
- **Precipitation: Spatial verification (e.g. FSS with radar data and high density Civil Protection raingauges network). Synergies within WG5?**



THANKS FOR YOUR ATTENTION!



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