Data assimilation status at DHMZ
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ALADIN-HR4 data assimilation

- ## ALARO-0 (cy38t1)
  - Domain: Δx=4km, 73 vertical level, time step 180s, 432x480 GP, quadratic trunc.
  - 3h space consistent coupling
  - lagged LBC from ECMWF
  - 00, 06, 12 and 18 UTC +72h forecast
  - DFI initialization

- ## Upper air analysis
  - 3DVar (cy38t1)
  - 3h cycle no DFI
  - NMC B matrix
  - VarBC – 3h cycling; REDNMC=1.4
  - Assimilated observations – SYNOP,(Ps), TEMP(T, q, u, v), AMDAR(T, u, v), AMV, SEVIRI (ch 2,3), Mode-S MRAR SI

- ## Surface analysis
  - OI based on SYNOP (T2m, RH2m)
  - MESCAN correlation function

ALADIN-HR 4
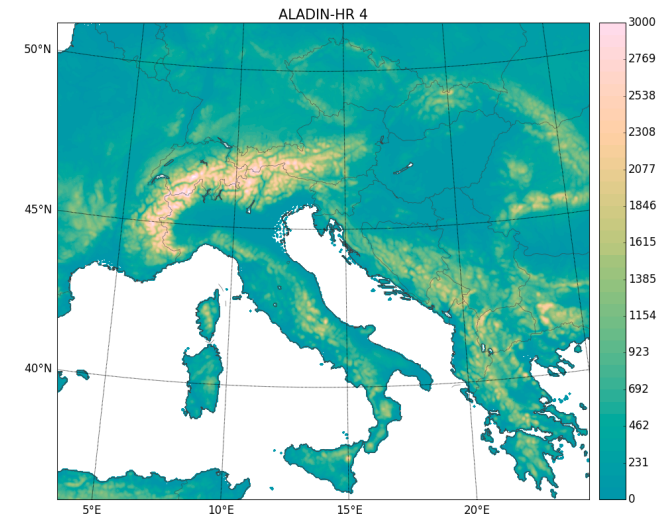
GNSS ZTD data assimilation

- GNSS zenith total delay
  - ROM SAF GBGP (Ground-Based GNSS package) for the conversion from COST ASCII to BUFR format
  - param.cfg

```
BUFR gpssol
1 0 0 11
codage     1  307022
values     1  001015  Station or site name
values     2  004001  Year
values     7  005001  Latitude (high accuracy)
values     8  006001  Longitude (high accuracy)
values     9  007001  Height of station
values    10  008021  Time significance
values    11  004025  Time period or displacement
values    15  033038  Quality flag for ground based GNSS data
values    20  007021  Elevation (see Note 2)
values    21  015031  Atmospheric path delay in satellite signal
values    22  015032  Estimated error in atmospheric path delay
/BUFR gpssol
```

GNSS ZTD data assimilation

- Bator – ASI processing center

  ******* Donnees archivees *******

  observations : synop   744
  synop de surface   0
  synop ship   0
  synor   0
  radome   0
  gps sol   744
  autres   0
  Nb total d'observations :   744

  Decompte global : nb obs =   744

  ** INFO - BATOR : HDF5 Fortran interface closed*
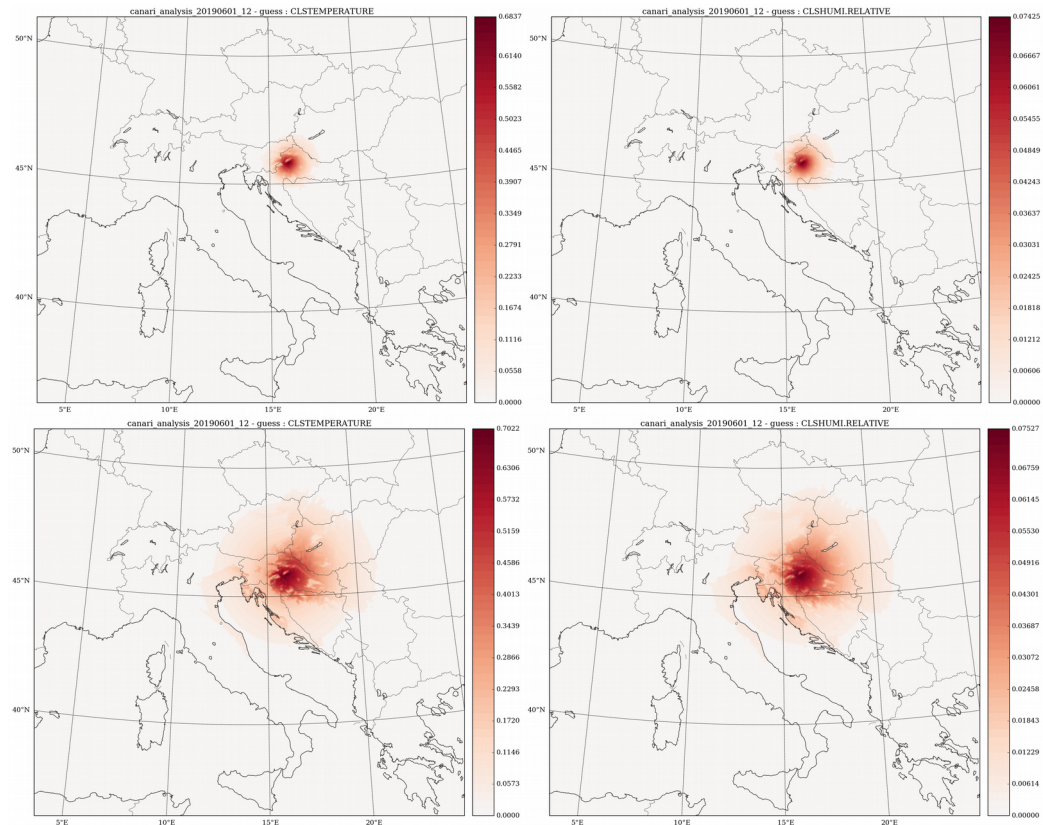
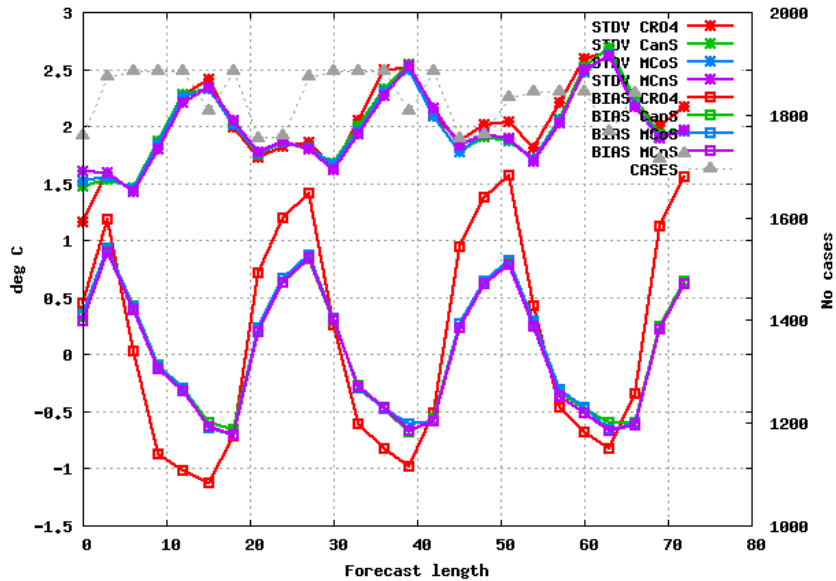 *-> Finished for ECMA.gpssol*
  -> MERGE subbases: gpssol

Zagreb earthquake

CY43 on cca (ECMWF)

- Initial version
  - Clim files, e927, e001, operational postprocessing
  - Init from unperturbed A-LAEF analysis

- CY43 CANARI tests
  - CANARI/MESCAN
    REF_A_H2=55000.,
    REF_A_T2=55000.,
    REF_S_H2=0.18,
    REF_S_T2=2.2,
  - MESCAN
    REF_A_H2=160000.,
    REF_A_T2=160000.,
    REF_S_H2=0.181,
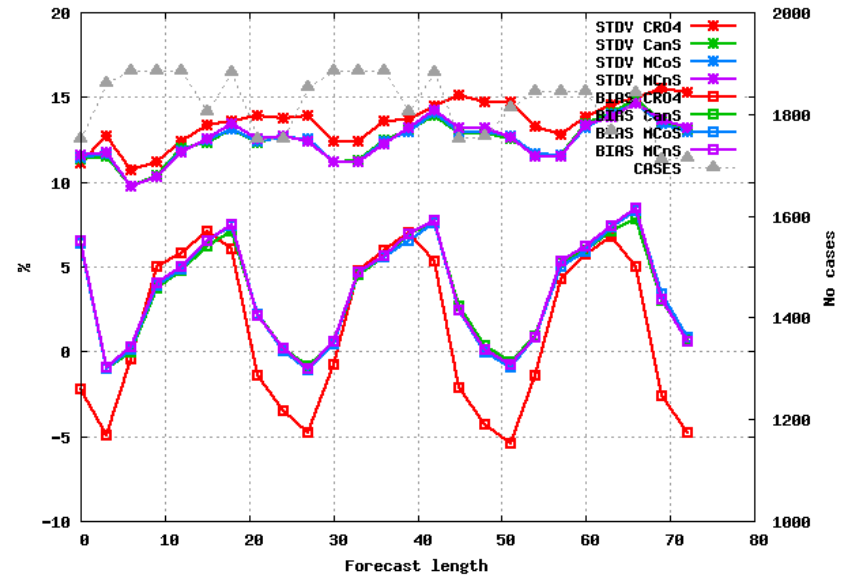   REF_S_T2=2.26,

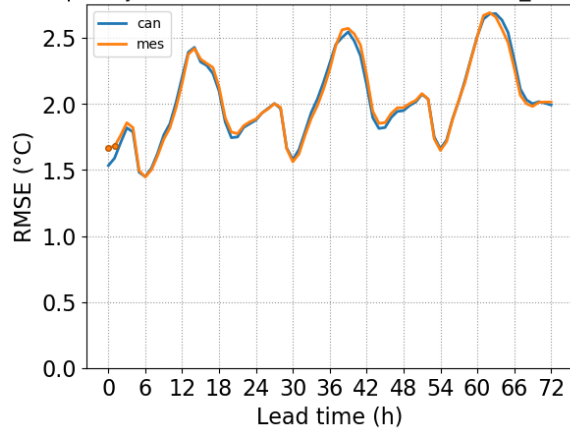# CY43 on cca (ECMWF)
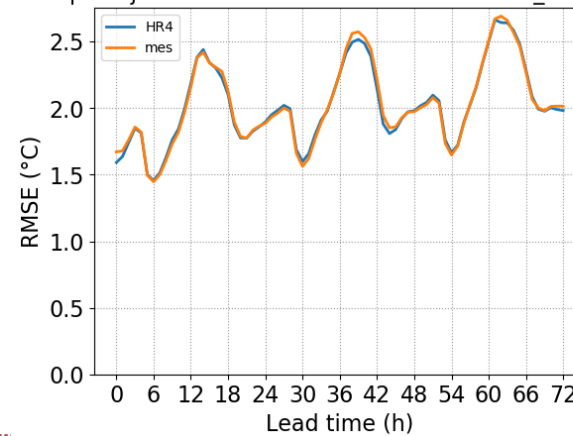
CY43 on cca (ECMWF)

- Soil wetness index after 2 month of DA cycle
  - CANARI (left)
  - MESCAN (right)
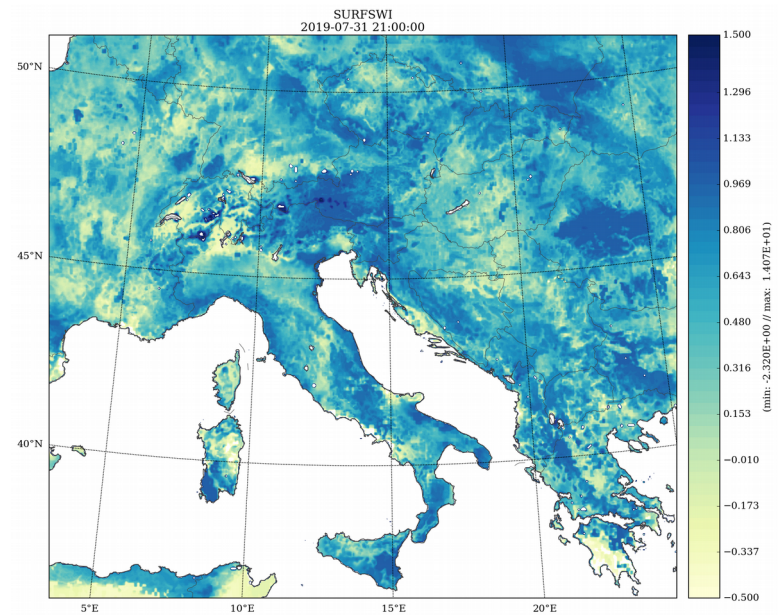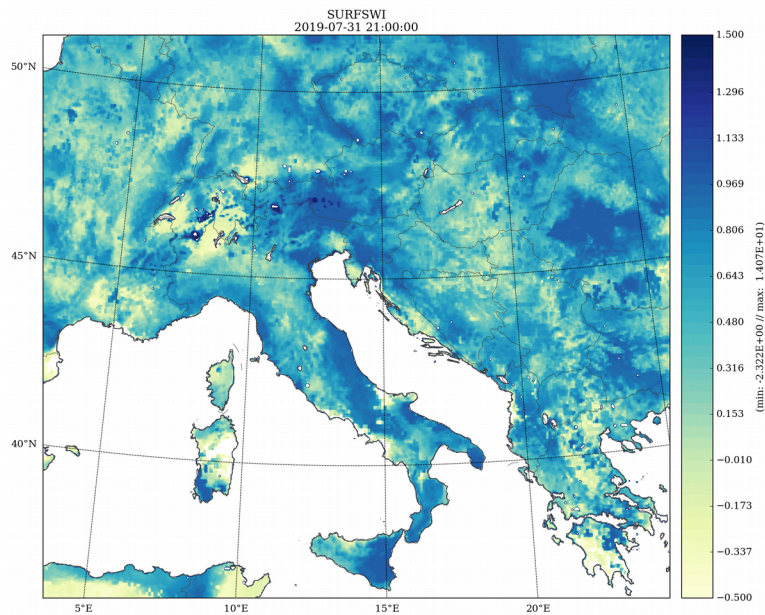
Plans for 2021

- Continue with cy43 data assimilation tuning
- Continue with GNSS data assimilation tests
- Start with radar data assimilation in cy43
- Test Jk in cy43
- New HPC