

Description of CLEPS file format

COSMO-LEPS (CLEPS) provided from ARPA-SIMC during MAP-SOP has been selected as ensemble model for verification. It consists of 16 ensemble members on a mesh size of 10km and forecast range of 132 hours. The data have been downloaded from the WDCC. They have been interpolated on the VERA-grid (8km) of the VERA ensemble domain (see file: Description of VERA ensemble file format) and the VERA parameters have been calculated. Data are saved in ASCII format on a Cartesian grid. The first 46 lines are the header and contain some necessary information for users (the important lines are **colored yellow**). Following the header the analysed field starts organized in 19 columns starting at the SW corner of the domain increasing to the north. The model ensemble domain is smaller than the original VERA ensemble-domain. Forecasts are provided for the period 15-22 June 2007 on a 3-hourly period.

File organisation

The filename would be unreadable long if all properties of the data should be reflected in the file name. It is therefore organized at different levels.

1. Level
cle_exx.zip cle stands for COSMO-LEPS, it contains all forecasts runs for ensemble member xx (01,02,...15,16)
2. Level
cle_exx_8km_200706yy12.tar forecast run of the ensemble member xx for the initial date 200706yy12. yy stands for day of run (15...22)
3. Level
cle_xx_8km_200706DDHH+hhh.dat xx...ensemble member,
8km...mesh size
200706DDHH... forecast valid for this date
hhh...forecast period

Header information

cle	short for COSMO LEPS
19773	number of grid points
123	forecast period (hours)
2007062615	forecast valid for YYYYMMDDHH
10.00000	longitude of origin
47.00000	latitude of origin
2007062112	initial date of forecast (YYYYMMDDHH)
0	
1	
1	
0	
0	
3	

```

@
1.000000
50
50
50
1
9
3 field resolution (2^x km, here: 2^3=8 km)
3
672 max. distance to origin in E-direction
672 max. distance to origin in W-direction
464 max. distance to origin in N-direction
464 max. distance to origin in S-direction
500
200
10
5
2
0
1 1 1 1 1 0 0 1 0 0 0 0 1 0 0
@
@
@
veraxx3.0_alpha-fg
dyn.sn.FP_xy_W45.N17.0.0_6721.3601.1.1_1
dyn.wo.FP_xy_W45.N17.0.0_6721.3601.1.1_1
thermfp2k2mi.3000.2000.1.1.bin
@
@
@
@
@
03 precipitation accumulation period (x hours)

```

Field of forecast values:

Note:

Model domains have been blown up to VERA ensemble domain with filling 9999.00 values at the edges to make read and write processes similar for all model ensemble and VERA ensemble fields.

19 columns:

```

-672.0000 -464.0000 0.0000 0.0000 -0.07 1.16 0.36 21.87 39.48
9999.00 9999.00 1016.19 1016.45 9999.00 9999.00 9999.00 9999.00 10.32 7.08

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1. x – coordinate (km, distance from origin)
2. y – coordinate (km, distance from origin)
3. z – coordinate (model topography)
4. t – coordinate (not used)
5. precipitation (mm/ x hours, x hours are defined in the last line of the header and in the file name – some values may be below zero because of spline curvatures – ignore them)
6. 10m wind u - component (m/s)
7. 10m wind v - component (m/s)
8. 2m potential temperature (°C)
9. 2m equivalent potential temperature (°C)
10. not used

11. not used
12. msl – pressure (hPa), reduced with model formulae
13. msl – pressure (hPa), reduced with standard pressure reduction formulae
14. not used
15. not used
16. not used
17. not used
18. mixing ratio ($\text{kg/kg} \cdot 10^{-3}$, post processing)
19. moisture flux divergence ($\text{kg/kg} \cdot \text{s}^{-1} \cdot 10^{-4}$, post processing)

Latitude and longitude values of Cartesian grid points are given in the file: VERA_ensemble_8km_coordinates_lam_phi.txt. Values are organised in the same way as for the analysis data.