

Description of model file format

NWP-model data are downloaded from the WDCC. The same parameters are calculated as for the VERA data and finally all model data are interpolated on the VERA grid. Most of the information for the model file format is equivalent to that given in the file: Description of VERA file format. Model Data are saved in ASCII format on a Cartesian grid. The first 46 lines are the header section and contain some necessary information for users (the important lines are **painted yellow**). Following the header the model field starts organized in 19 columns starting at the SW corner increasing to the north. The domain is 1664 km in W-E direction and 1536 km in S-N direction (209 x 193 = 40337 GP for a resolution of 8 km).

File name

cmh_8km_2007101618+12.dat

gives information on:

short for model type (cmh or co2)

resolution (8km)

forecast valid for YYYYMMDDHH

forecast period (+12), therefore forecast started at 2007101606

precipitation accumulation period is in general one hour

NOTE: file names which contain the extension `_03`, `_06` or `_12`, differ only in the accumulation period for precipitation.

Header information

cmh	model type
40337	number of grid points
12	forecast period
2007101618	
06	
7.000000	
2007071500	
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	
832	max. distance to origin in E-direction
832	max. distance to origin in W-direction
768	max. distance to origin in N-direction
768	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
@
@
@
@
@

```

01 precipitation accumulation period (x hours)

Field of forecasted values:

Note:

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

19 columns:

```

-832.0000  -768.0000   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

```

1. x – coordinate (km, distance from origin)
2. y – coordinate (km, distance from origin)
3. z – coordinate (not used)
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 (kg/kg*10⁻³, post processing)
19. moisture flux divergence (kg/kg*s⁻¹*10⁻⁴, post processing)

Latitude and longitude values of Cartesian grid points for all forecast models are given in the file: VERA_8km_coordinates_lam_phi.txt. Values are organised in the same way as for the analysis data.