All fields are read in every three hours (black font: necessary, green font: desirable)

Model levels (3D):

Component	**validity**	**unit**
wind in x direction (u)	instantaneous	m s^{-1}
wind in y direction (v)	instantaneous	m s^{-1}
specific humidity	instantaneous	kg kg^{-1}
potential temperature	instantaneous	K
3D precipitation (if not available then 2D)	accumulated	mm (during meteorological timestep, 3 hrs)
3D cloud cover	averaged	%
convective updraft flux ("MF updrafts")	accumulated	kg m^{-2} (during meteorological timestep, i.e. 3 hrs)
convective downdraft flux ("MF downdrafts")	accumulated	kg m^{-2} (during meteorological timestep, i.e. 3 hrs)
convective updraft detrainment	accumulated	kg m^{-2} (during meteorological timestep, i.e. 3 hrs)
convective downdraft detrainment	accumulated	kg m^{-2} (during meteorological timestep, i.e. 3 hrs)
cloud liquid water content	instantaneous	kg kg^{-1}
cloud ice water content	instantaneous	kg kg^{-1}
convective precipitation	accumulated	mm (during meteorological timestep, i.e. 3 hrs)
sigma dot (at level boundaries)	instantaneous	s^{-1}
3D precipitation as snow	accumulated	mm (during meteorological timestep, 3 hrs)
Kz (vertical diffusion coeff. for heat)	instantaneous	m^2 s^{-1}

Surface level only (2D):

Component	**validity**	**unit**
surface pressure	instantaneous	hPa
2m temperature	instantaneous	K
sensible heat flux at surface	instantaneous	W m^{-2}
latent heat flux at surface	instantaneous	W m^{-2}
surface stress τ (or: friction velocity u*)	instantaneous	N m^{-2} (or: ms^{-1} in case of u*)
snow depth	instantaneous	m (water-equivalent)
sea surface temperature	instantaneous	K
fraction of ice cover	instantaneous	%
soil temperature (shallow and deep)	instantaneous	K
fraction of snow cover	instantaneous	%
volumetric soil water content (shallow and deep)	averaged	m^3 m^{-3}
PBL height	averaged	m
2m RH	averaged	%
z0 (roughness length)	averaged	m