

ICON-DREAM Parameter Table

Note: All provided parameters are in grib2-format.

Table 1: 2D parameter

Parameter (grib name)	Description	Level	Type	Unit	Daily and monthly statistics
CLCT	total cloud cover	-	instantaneous	%	average
PMSL	pressure reduced to mean sea level	surface	instantaneous	Pa	average
PS	surface pressure (not reduced)	surface	instantaneous	Pa	average
RELHUM_2M	2m relative humidity	2 m	instantaneous	%	average
QV_S	surface specific humidity	surface	instantaneous	kg/kg	average
TD_2M	Dew point	2 m	instantaneous	K	average
TMAX_2M	2m maximum temperature	2 m	time interval	K	maximum
TMIN_2M	2m minimum temperature	2 m	time interval	K	minimum
TOT_PRECIP	total precipitation	surface	accumulated	kg/m ²	sum
T_2M	2m temperature	2 m	instantaneous	K	average
EVAPT	Evapotranspiration	surface	average	kg/m ² s	average
U_10M	10m zonal wind speed	10 m	instantaneous	m/s	Not computed
V_10M	10m meridional wind speed	10 m	instantaneous	m/s	Not computed
WS_10M	10m wind speed	10 m	instantaneous	m/s	average
VMAX_10M	Maximum wind	10 m	maximum	m/s	maximum
ASWDIFD_S	Surface down solar diffuse radiation	surface	average	W/m ²	average

ASWDIR_S	Surface down solar direct radiation	surface	average	W/m ²	average
Z0	surface roughness	surface	instantaneous	m	average

Table 2: 3D parameters

Parameter	Description	Level	Level type	Type	Unit	Daily and monthly statistics
TKE	turbulent kinetic energy	the 11 lowest model levels	half levels	instantaneous	m ² /s ²	average
U	zonal wind speed	the 10 lowest model levels	full levels	instantaneous	m/s	Not computed
V	meridional wind speed	the 10 lowest model levels	full levels	instantaneous	m/s	Not computed
WS	wind speed	the 10 lowest model levels	full levels	instantaneous	m/s	average
DEN	density of moist air	the 10 lowest model levels	full levels	instantaneous	kg/m ³	average
QV	specific humidity	the 10 lowest model levels	full levels	instantaneous	kg/kg	average
P	pressure	the 10 lowest model levels	full levels	instantaneous	Pa	average
T	temperature	the 10 lowest model levels	full levels	instantaneous	K	average

Height of the full and half levels over zero topography, e.g. the oceans.

Level index (full levels)		height	Level index (half levels)		height
Global	EU	[m]	Global	EU	[m]
111	65	892,082	111	65	971,624
112	66	739,009	112	66	812,540
113	67	598,144	113	67	665,478
114	68	469,899	114	68	530,811
115	69	354,776	115	69	408,988
116	70	253,409	116	70	300,565
117	71	166,626	117	71	206,253
118	72	95,582	118	72	126,999
119	73	42,083	119	73	64,166
120	74	10,000	120	74	20,000
			121	75	0

Invariant parameters can be found in the files
ICON-DREAM-Global_constant_fields.grb and
ICON-DREAM-EU_constant_fields.grb

Table 3: Invariant parameters

Parameter	Description	Type	Unit
HSURF	Geometric height of the earth's surface above msl	constant	m
HLL	Geometric height of model half levels above msl	constant	m
FR_LAND	Fraction of land	constant	range 0 – 1
h	Geometric height of the full model levels above the earth's surface	constant	m

Information about the grid can be found in these files (netCDF):
ICON-DREAM-Global_grid.nc
ICON-DREAM-EU_grid.nc