Variables	Frequency	Aggregation	ISUP_MPEG	ISUP_MPEG	ISUP_MPEG	ISUP_MPEG	Instrument	Available in SYSTEM external database	Available at GFZ_id_inform ed	Available at MPEG3	Comments
Air temperature	Daily	mean			GSE, HB, TRJ, HUB, GSC	AQUATRON, CLAVIS, CLAVIS, CLAVIS, CLAVIS, MORNOR (ICS)	GARFIELD, EMMA	mean2D3	Dataset (mean) - engine (Mi)	tas	
Air temperature	Daily	minimum			T1-LTC, J2	Vaisala, ALVIS, CLAVIS, (Academy - awaening)	GARGIS	min3D3	Dataset (minimum) - tasn (Mi)	asmin	
Air temperature	Daily	maximum			H, FIM	Vaisala, Vaisala, CLAVIS, (Academy - awaening)	GARGIS, EMMA	max3D3	Dataset (maximum) - tasx (Mi)	asmax	
Air temperature	Monthly	mean				(ICS)		Dataset (mean) - monthly (Mi)	Dataset (mean) - monthly (Mi)	tas	
Precipitation	Daily	mean			GSP, Hyl	AQUATRON, CLAVIS, CLAVIS, CLAVIS, CLAVIS, CLAVIS, MORNOR (ICS)	GARGIS, ICS	tp	Dataset (sum(tp)) - prsum (Mi)	pr	Are tp and pr the same, or different?
Precipitation	Monthly					(ICS)		Dataset (sum(tp)) - monthly (Mi)	Dataset (sum(tp)) - monthly (Mi)	pr	
Surface downwelling shortwave flux in air	Daily	mean				CLAVIS, CLAVIS, CLAVIS, CLAVIS, (MORNOR)	GARGIS, EMMA, ICS	rsds	Dataset (mean) - dsrads (Mi)	rsds	
Surface downwelling longwave flux in air	Daily	mean				CLAVIS, CLAVIS, CLAVIS		rsdl	Dataset (mean) - dslads (Mi)	rlds	
Longwave upward flux in air	Daily	mean					GARFIELD, EMMA	Dataset (mean) - (rlus (Mi)	Dataset (mean) - (rlus (Mi)	uls	
Longwave upward flux in air	Daily	mean					GARFIELD, EMMA	Dataset (mean) - (rlu (Mi)	Dataset (mean) - (rlu (Mi)	uls	
Wind speed at 10m	Daily	mean			FIM	vaisala, vaisala, (Academy - ps-wind)		Dataset (median, mean) - (ds, dm, dlx)	Dataset (median, mean) - (v,mean10m (Mi)	Dataset (median, mean) - sas (Mi), sas (Mi)	
Wind speed at 10m	Daily	maximum				(CLAVIS)		Dataset (median, maximum) - (v,max10m (Mi)	Dataset (median, maximum) - (v,max10m (Mi)	Dataset (median, maximum) - sas (Mi)	
Wind speed at 10m	Monthly	mean			LTC+			sensor - (mean,max) - ms, (m), m/s	Dataset (median, mean) - (v,mean10m (Mi)	Dataset (median) - sas (mean), sas (mean)	
Longwave flux 300m	Daily	mean					GARFIELD, EMMA	Dataset (mean) - dl50 (Ui)	Proxy - dl50 (Mi)	Proxy - rgl50 (mon)	
Longwave downward flux 300m	Daily	mean					GARFIELD	Dataset (mean) - dl50 (Ui)	Dataset (mean) - (dl50 (Mi)	Proxy - rgl50 (mon)	
Longwave upward flux 300m	Daily	mean					GARFIELD	Dataset (mean) - ul50 (Ui)	Dataset (mean) - (ul50 (Mi)	Proxy - rgl50 (mon)	
Longwave flux in air 1m	Daily	mean					GARFIELD	Dataset (mean) - ul20 (Ui)	Dataset (mean) - (ul20 (Mi)	No	
Longwave upward flux 1m	Daily	mean					GARFIELD	Dataset (mean) - dl20 (Ui)	Dataset (mean) - (dl20 (Mi)	No	
Longitude (single value)	Daily	44-12 UTC	X			MORNOR		Proxy - x100 (Ui)	Dataset (mean) - (x100 (Mi)	No	
Longitude (single value)	Daily	44-12 UTC	X			MORNOR		Proxy - x1000 (Ui)	Dataset (mean) - x1000 (Mi)	No	
Surface Pressure	Daily	mean				aquatrons		sea	Dataset (mean) - (psl (Mi)	No	
Sea level pressure	Daily	mean					GARFIELD	Dataset (mean) - slp (Ui)	Proxy - psl (Mi)	Dataset (mean) - psl (Mi)	
Sea water temperature	Daily	mean			UAC	jll (vmr96)		Dataset (mean) - tb (Ui)	Proxy - (Dataset(t) - (tw,t,tw,t) - (tw,t,tw,t) - (tw,t,tw,t) - (tw,t,tw,t)	Dataset (mean) - (tw,t,tw,t) - (tw,t,tw,t)	
Tower Temp	Monthly					aquatrons		Dataset (mean) - ta (Ui)	No	zero	Monthly ?
Snowfall flux	Daily	mean				AUESS, jll (vmr96)		sf	No	ptsn	
Water temperature near Surf	Daily					(CLAVIS)		x	No	wtem	What and if Water temperature
Water Temperature near Bott	Monthly					vaisala, aquatrons		Dataset (mean) - x (Ui)	No	wtem	Is wtem the same as wtbt?
Water Content of Surf Layer	Daily	mean				(CLAVIS)		Dataset (sum) - (wsm1, wsm2, wsm3, wsm4) (Ui)	Proxy - (wsm1, wsm2, wsm3, wsm4) (Mi)	No	Total?
Water Content of Surf Layer	Monthly					vaisala, aquatrons		Dataset (mean) - (wsm1, wsm2, wsm3, wsm4) (Ui)	Proxy - (wsm1, wsm2, wsm3, wsm4) (Mi)	No	Monthly ?
Mixed layer temperature	Daily	mean					GARFIELD	var	No	Proxy - tos (mon)	
Sub surface temp/Frozen	Daily	mean				aquatrons		snd	No	No	Monthly or hourly? Hourly data are only available from 2000 onwards. Daily data are more or less complete.
Longwave flux 300m	Daily	mean					GARFIELD, EMMA	Dataset (mean) - dl20 (Ui)	No	No	
Wind dyed	Daily	maximum				(CLAVIS)		Ufig	No	No	
Precipitation	30 mean	5 minutes/ 1 hr but rate			FIM			tm	Dataset (sum(tm)) - prsd (Mi)	pr (Ma)	
Total Soil Moisture Content	Daily	mean				aquatrons		Proxy - (wsm1, wsm2, wsm3, wsm4) (Mi)	Dataset (sum) - (wsm1, wsm2, wsm3, wsm4)(Mi)	mrso	
Surface air pressure	Daily	mean				AUESS, jll (vmr96)		Proxy - ms (Mi)	Dataset (mean) - (psmsl) (Mi)	Proxy - psl (Ma)	
Surface air pressure	Monthly					(ICS)		Proxy - ms (Mi)	Dataset (mean) - (psmsl) (Mi)	Proxy - psl (Ma)	
Specific humidity	Daily	mean				vaisala, (Academy - awaening) - (sv,rh)		hs	Dataset (mean) - (qm (Mi)	No	
Moisture in Upper Profile of Soil Column	Monthly					aquatrons		Proxy - wsm3 (Ma)	Dataset (mean) - (qsm1 (Mi)	No	What does it mean? Monthly?
Surface downwelling longwave flux in air	30 Tem. Sym and Sym (local time)	point			HCT			Proxy - sw4 (Ma)	Proxy - (rlsds(Mi)	No	
Surface downwelling shortwave flux in air	30 Tem. Sym and Sym (local time)	point			HCT			Proxy - sw4 (Ma)	Proxy - (rssds (Mi)	No	
Cloud area fraction	Daily	mean					EMMA	Proxy - wcl(Mi)	No	Dataset (mean) - cl (Mi)	
Air temperature	30 Tem. Sym and Sym (local time)	point			HCT			Proxy - 2t (Mi)	Proxy - (tas (Mi)	Proxy - tas (Mi)	
Relative humidity	30 Tem. Sym and Sym (local time)	point			HCT			Proxy - 2d (Mi)	Proxy - (Dataset(rh) - (hurs(Mi), tas(Mi) - (hurs (Mi)	Proxy-hurs (Ma)	
Relative humidity	30 mean or 10 minutes standard time or daily mean	point			FIM			Proxy - 2d (Mi)	Proxy - (Dataset(rh) - (hurs (Mi), tas(Mi) - (hurs (Mi)	Proxy - rdys (Ma)	
Relative humidity	Daily	mean				(CLAVIS), jll (vmr96)		Proxy - rh(Mi)	Proxy - (Dataset(rh) - (hurs (Mi), tas(Mi) - (hurs (Mi)	Proxy - rdys (Ma)	
Wind speed (at 10m)	30 Tem. Sym and Sym (local time)	point			HCT			Proxy - (fs) - (fs)	Proxy - (v,mean10m - (v,mean10m (Mi)	Proxy - sas (Ma) - (sas (Ma)	
Wind speed (at 10m)	30 mean local standard time	point			FIM			Proxy - (fs) - (fs)	Proxy - (v,mean10m - (v,mean10m (Mi)	Proxy - sas (Ma) - (sas (Ma)	
Cloudiness (Fractional)	30 Tem. Sym and Sym (local time)	point			HCT			Proxy - tcc (Mi)	No	Proxy - cl (Ma)	
Relative humidity at 300mb	Daily	mean					GARFIELD	Proxy - (r300,q 1000) (Ui)	No	No	
Ozone	Daily	mean				(CLAVIS)		Proxy - (O3,Ozone, Ozone,Ozone, ratio (Ui) - or Proxy - and Total Column Ozone (Ma)	No	No	Is wtem clarification
Skin temperature	Daily	mean				Meteorvaisala		No	Proxy - (mean) (Mi)	No	
Air temperature	30 mean local standard time	point			FIM			No	No	No	
Daily Temperature over Sea	Daily	mean				(CLAVIS)		No	No	No	
Daily Temperature over Sea	Daily	maximum				(CLAVIS)		No	No	No	
Daily Temperature over Sea	Daily	minimum				(CLAVIS)		No	No	No	
Precipitation	Hourly rate	maximum				(CLAVIS)		No	No	No	
10 meter zonal component of wind	Daily	mean				ICS, (MORNOR)		No	No	No	
10 meter zonal component of wind	Monthly					ICS		No	No	No	
10 meter meridional component of wind	Daily	mean				ICS, (MORNOR)		No	No	No	
10 meter meridional component of wind	Monthly					ICS		No	No	No	
Longitude zonal wind	Daily	mean					GARFIELD, EMMA, ICS	No	No	No	
Longitude zonal wind	Daily	mean					GARFIELD, EMMA, ICS	No	No	No	
Surface pressure	Daily	mean				CLAVIS		No	No	No	
Sea Ice (0, ice) surface Sol flux	Daily	mean				ICS, (CLAVIS)		No	No	No	What does it refer to? Monthly? Hourly or daily?
Sea Ice (0, ice) surface Sol flux	Monthly					ICS		No	No	No	
Water surface Sol flux	Daily	mean				(CLAVIS)		No	No	No	
Total Cloud Cover	Daily	mean				(CLAVIS)		No	No	No	
Surface surface	Daily	mean				jlderiflux		No	No	No	Site specific - needs clarification
Net primary productivity	Daily	mean				jlderiflux		No	No	No	What does it mean?
Net primary productivity	Daily	mean				jlderiflux		No	No	No	What does it mean?
Sea level pressure (at 0m, Sea Ice Free)	Daily	mean				(CLAVIS)		No	No	No	
Surface flux	Daily	mean				(CLAVIS)		No	No	No	
Energy Storage/Heat flux	Daily	mean				aquatrons		No	No	No	
Temperature Energy	Daily	mean				aquatrons		No	No	No	
Sea Ice Area Fraction	Daily	mean				aquatrons		No	No	No	
Compressive	Monthly					aquatrons		No	No	No	Monthly ?
Half Power Water Content	Monthly					aquatrons		No	No	No	Monthly ?
Water Equivalent Cover Horizontal Resolution	Daily	mean					GARGIS, EMMA, ICS	No	No	No	Is wtem clarification Horizontal?