

The **ECOMS UDG** provides access to a reduced number of variables for the available [datasets?](#). The following list of variables has been identified (and is periodically updated) according to the user's needs, receiving feedback from EUPORIAS WP22 (climate information indices, CIIs), WP23 (impact models), WP21 (calibration and downscaling) and SPECS WP61 (pilot applications) and WP52 (calibration and downscaling). See the section on the [assessment of user's needs](#) for more details.

Note that the **short names** below are internal codes which may not correspond to the naming conventions of the different datasets (boldface indicates standard variables according to the [NetCDF Climate and Forecast Metadata Convention](#) and to the naming convention within SPECS). These short names have been used for homogenization purposes to build the [vocabulary?](#) of the [R package for data access](#). Note that, **data homogenization and aggregation is only provided through the R data access package**.

In order to specify the particular **temporal frequency/aggregation** available for the variables in the different datasets, the following codes are used in the table below: **6h** (6-hourly instantaneous data). **12h** (12-hourly instantaneous data). **24h** (24-hourly instantaneous data). **DM** (daily mean value). **DX** (daily maximum value). **DN** (daily minimum value). **DA** (daily accumulated data). **DAr** (accumulated since the initialization time `?runtime`). **fx** (static field)

The variables available and ready to use through the ECOMS UDG are indicated using boldface codes. **e** indicates that variable exists in the original dataset, but is not currently available in ECOMS-UDG; **p** indicates that the variable exists in the original dataset and work is in progress to incorporate it to the ECOMS-UDG; **blanks** indicate that the variables do not exist in the original dataset. Codes ended by (*****) indicate variables which do NOT exist in the corresponding dataset, but are derived/approximated from other available variables through the [R data access package](#). More information on the particular approximations used are given in the [?variables-datasets mapping](#).

short name	Variable description	Availability for the following datasets:				
		?System4 seasonal_15	?System4 seasonal_51	?System4 annual_15	?CFSv2 seasonal_16	?SPECS-ESGF
tas	Near-Surface air temperature	6h	DM		DM	e
tasmax	Daily Maximum Near-Surface Air Temperature	DX	DX	DX	DX	e
tasmin	Daily Minimum Near-Surface Air Temperature	DN	DN	DN	DN	e
tp	Total precipitation amount	DAr	DAr	DAr	DA	e
psl	Sea Level Pressure	6h	6h	e	e	e
ps	Surface air pressure	P(*)			e	
wsp	Wind speed (at 10m)	P(*)	e	e	e	
tdps	2m Dewpoint Temperature	6h	e			e
huss	Surface (2m) specific humidity	P(*)			e	
rsds	Surface Downwelling Shortwave Radiation	DA	e		e	e
rlsds	Net Longwave Surface Radiation	DA	e		e	e
sst	Sea surface temperature	e	e	e		
uas	Eastward Near-Surface Wind	6h	e	e	e	e
vas	Northward Near-Surface Wind	6h	e	e	e	e
wspmax	Wind speed (at 10m)	e	e	e	e	
wgust	Wind gust	e	e			
mrso	Total Soil Moisture Content				e	e
mrros	Surface runoff flux	e	e		e	
mrro	Total Runoff	e	e			e
ssro	Sub-surface runoff rate	e	e			
prsn	Snowfall Flux	e	e			e
wcsl	Water Content of Soil Layer	e	e			
zg700	Geopotential 700mb	12h	e	e	e	
zg850	Geopotential 850mb	e	e	e	e	
zg925	Geopotential 925mb	e	e			
zg1000	Geopotential 1000mb	12h	e		e	
ua850	Eastward Wind	12h	e	e	e	
va850	Northward Wind	12h	e	e	e	
ua925	Eastward Wind	12h	e		e	
va925	Northward Wind	12h	e		e	
z700	Geopotential Height	P(*)	e	e	e	
z1000	Geopotential Height	P(*)	e		e	
sd	Snow Depth	24h	e		e	
zsfz	Orography	fx	e		e	

Data Homogeneization: The different nature of the datasets, and the idiosyncratic naming and storage conventions often applied by the modelling centres, makes necessary an homogeneization across datasets in order to implement a truly user-friendly toolbox for data access. To this aim, the [R package for data access](#) has been developed. Data homogeneization is achieved through the creation of a common vocabulary. The particular variables of each dataset are then translated -and transformed if necessary- into the common vocabulary by means of a *dictionary*. Both features -vocabulary and dictionary- are described [here?](#).