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 **R names** below correspond to the vocabulary names used in the R data access package, which may not correspond to the different vocabularies of each particular dataset. These names have been used for homogenization purposes to build the vocabulary of the R package for data access. Note that, **data homogenization and aggregation (i.e. daily means from 6h data) 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`) NOTE: The R package performs deaccumulation on a daily basis to match the standard definition. **fx** (static field)

In the table below, boldface codes (e.g. **6h**) indicate variables already available through the ECOMS UDG. **Italics** are used for work in progress (variables to be included in the next update). **e** indicates that a variable exists in the original dataset but it is not planned to be included yet in 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 dataset, but are derived/approximated from other available ones through the R data access package . More information on the particular approximations used are given in the ?variables-datasets mapping. Variables ended by **(#)** indicate daily aggregated values obtained from the corresponding original 3-hourly data.

		Observations:	Reanalysis:		Seasonal forecasting models:				
R name	**Variable description**	?WFDEI	?NCEP_reanalysis1	?ERA_Interim	?System4_seasonal_15	?System4_seasonal_51	?System4_annual_15	?CFSv2_seasonal_15	?SPECS_ESGF
Surface variables									
tas	Near-Surface air temperature	**DM**	**6h**	**DM**	**6h/DM**	**DM**		e	e
tasmax	Daily Maximum Near-Surface Air Temperature	**DX(#)**	**6h**	**DX**	**DX**	**DX**	**DX**	**6h**	e
tasmin	Daily Minimum Near-Surface Air Temperature	**DN(#)**	**6h**	**DN**	**DN**	**DN**	**DN**	**6h**	e
tp	Total precipitation amount	**DA**	**6hA**	**DA**	**DAr**	**DAr**	**DAr**	**6h**	e
psl	Sea Level Pressure		**6h**	**DM**	**6h**	**6h**	**12h**	**6h**	e
ps	Surface air pressure	**DM**		e	**6h(*)**			e	
wss	Wind speed (at 10m)	**DM**		e	**6h(*)**	e	e	**6h(*)**	
tdps	2m Dewpoint Temperature			e	**6h**	e			e
huss	Surface (2m) specific humidity	**DM**	**6h**	e	**6h(*)**			e	
rsds	Surface Downwelling Shortwave Radiation	**DA**	**6hA**	e	**DAr**	e		e	e
rlds	Net Longwave Surface Radiation	**DA**	**6hA**	e	**DAr**	e		e	e
sst	Sea surface temperature			e	e	e	e		
uas	Eastward Near-Surface Wind		**6h**	e	**6h**	e	e	**6h**	e
vas	Northward Near-Surface Wind		**6h**	e	**6h**	e	e	**6h**	e
wssmax	Wind speed (at 10m)			e	e	e	e	e	
wgust	Wind gust			e	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			
wcsl	Water Content of Soil Layer				e	e			
prsn	Snowfall amount	**DA**			e	e			e
sd	Snow Depth				**24h**	e		e	
3D vars @ isobaric surface levels									
ua	Eastward Wind		**6h** @ standard levels	**DM** @ standard levels	**12h** @ standard levels	e	e	e	
va	Northward Wind		**6h** @ standard levels	**DM** @ standard levels	**12h** @ standard levels	e	e	e	
zg	Geopotential height		**6h** @ standard levels	**DM** @ standard levels	**12h** @ standard levels	e	e	e	
ta	Air temperature		**6h** @ standard levels	**DM** @ standard levels	**12h** @ standard levels	e	e	e	
hus	Specific humidity		**6h** @ standard levels	**DM** @ standard levels	**12h** @ standard levels	e	e	e	
Static fields									
zgs	Surface geopotential height				**fx**	e		e	

@ standard Levels: 1000,850,700,500,300,200 mb, except for hus, which is not available at 200mb in some models

Data Homogeneization: The different nature of the datasets, and the idiosyncratic naming and storage conventions often applied by the modelling centres, makes necessary an homogenization 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 homogenization 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. In particular, some typical transformations performed by the `loadECOMS` interface are deaccumulation of initialization-accumulated variables to daily accumulated (i.e.: **DAr** --> **DA**) and scaling and/or offset of variables to match standard units (e.g. -273.15 for conversion K --> ºC).