

Summary Document about Changes in EXTPAR since Version 1.6

ALBEDO:	Completely new feature of EXTPAR 2.0. The MODIS data set is supported, which is used to produce external parameters for the visible, the near infrared and the ultra violet Albedo. The ultra violet Albedo is mainly driven by the soil type and thus not yet usable in combination with the HWSD soil data.
AOT:	no special adaptation
FLAKE:	no special adaptation
LAND-USE:	<p>The raw land-use data set Globcover is supported by EXTPAR. The shift around the 44° N latitude is corrected in the raw data set and is now available in 6 tiles instead of 1. Thus the input routine must have been changed (similar to the routine used in the topography). The data is additionally shifted by half a grid point in both directions, as the raw data values are now located on the pixel centers instead of the upper left corner of every grid point (adaptation in EXTPAR not in raw data file).</p> <p>For Globcover also the consistency check concerning the ice fraction and soil type “ice” has slightly changed in order to obtain a more reasonable result for the glaciers in the Alps.</p>
NDVI:	no special adaptation
SOIL:	<p>The FAO raw data is now available in double precision. Additionally also a slight shift has been corrected. This leads to changes in the land-use data after the consistency check (values set to zero for vegetation parameters over ice).</p> <p>The new raw data set HWSD has been introduced in EXTPAR. It gives information about the top (0 – 30cm) and the deep soil (30 – 100cm). The old variable “SOILTYP” does only contain the special soil types, whereas the soiltypes “sand”, “sandy loam”, “loam”, “loamy clay” and “clay” are not available any more. In return the soil compounds sand, silt, clay and organic carbon are given in percent. These can be used in pedotransfer functions. Note that HWSD is not supported by the COSMO 5.0 and Int2Im 2.0.</p> <p>Possibly several consistency checks are still missing.</p>
T_CLIM:	The deep soil temperature climatology supports a finer resolved raw data set. This data set additionally contains elevation information, which allows to compute a height corrected temperature climatology. This is an advantage for the regions containing complex topography.
TOPOGRAPHY:	<p>The high resolution orography data set ASTER is supported. Furthermore the parameters, used for the calculation of the topographical corrected radiation, can be computed. The calculation of z0 and the SSOs using a scale separation is supported as well (data set not yet available).</p> <p>Several switches have been introduced to choose between the raw data sets, and to allow the user to decide whether the topographical corrected parameters, the computation of the sub-grid scale orographic parameters or a smoothing of the topography is desired.</p>
General:	OPEN-MP is supported, special treatment of single points is available (especially for land-use and soil type) and several bugs have been fixed.