

- + new write codes for every grid: Now 1xxx and 2xxx are available to indicate that an additional grid should be written with balances for the vegetation period only. The start and stop date for the vegetation period is individually calculated for each cell by using the land-use parameters and the local climate. Each land-use code may have some additional parameters:
  - *StartVegetationPeriodForBalance*: an integer indicating the index in the vector of Julian day sample points for the phenological cycle when the vegetation period starts
  - *StopVegetationPeriodForBalance*: an integer indicating the index in the vector of Julian Day sample points when the vegetation period stops
  - *JDVegetationResetForBalance*: the Julian Day when the balance grid must be reset. Default=1, but can be e.g. 183 for southern hemisphere
  - *JDVegetationWriteForBalance*: the Julian Day when the balance grid must be written to the disk. Default=365, but may be different for southern hemisphere, e.g. 182.

Important: The “reset day” must be after the “write day” in such constellations. The name of the outputgrids will be <gridname>\_<year>\_vegper.sum or <gridname>\_<year>\_vegper.mit.

Writecode 1xxx is for sums, 2xxx is for average values. A global grid counts the number of model intervals, so the internal sum-grid may simply be divided for each cell by the value in this countgrid to get average values.

There are three more grids (for each vegetation layer) for internal use:

- *VEGSTART1..n*: internal identification string: VegetationStart1; JD for vegetation start in land-use layer 1..n (1=uppermost layer, n=lowest layer, usually 1 layer is used)
- *VEGSTOP1..n*: internal identification: VegetationStop1; JD for vegetation stop in land-use layer 1..n (1=uppermost layer)
- *VEGDURAT1..n*: internal identification VegetationDuration1; number of time steps between VEGSTARTn and VEGSTOPn -> duration of the vegetation period.

These grids may be added in the [variable\_grids] section of the control file. They should be initialized with -1 (which is the internal value for a still not started or stopped vegetation period in grids VEGSTART and VEGSTOP, respectively).

*JDVegetationResetForBalance* and *JDVegetationWriteForBalance* should be defined as variables and then used in the same way for at least one land-use type. If different values are used in different land-use types, then the first occurrence of all those values will win. It's impossible to write or reset a grid for individual grid cells! Each value must be used in at least one land-use code to take effect, otherwise the default values of 1 (Reset) and 365 (Write) will be used.