Soil state file

Required:

Always

Name:

The name is expected to be of the format Soil.State.`<MM.DD.YYYY.hh.mm.ss>.<ext>`, where `<MM.DD.YYYY.hh.mm.ss>` is the time for which the model state is valid, and `<ext>` is either `bin (Format = BINARY or Format = BYTESWAP) or nc (Format= NETCDF).`
The file is located in the `Initial state directory.`

Read by:

`InitModelState()`

Format:

A series of 2D matrices.

Purpose:

Contains the model state associated with soil variables. This allows a model restart with exactly the same initial conditions.

Comments:

The state files are not meant for analysis. They are difficult to read unless you write some dedicated program or script. However, if you use `Format = NETCDF`, the files are readable by any program that reads and display NetCDF files.

Details:

The soil state files contains the following state variabls, which **MUST** be in the order specified if you use the binary format. For the NetCDF files the order is arbitrary, as long as you provide the correct variable names.

If the format is `BIN` or `BYTESWAP`, the variables are:

1. Soil moisture for every layer, including the deep soil layer below the root zone (float).
2. Soil surface temperature in °C (float)
3. Soil temperature for each layer in °C (float)
4. Ground heat storage in J (float)
5. Surface ponding in m (float)

If the format is NETCDF, the variables are:

1. Soil moisture for every layer, including the deep soil layer below the root zone.
   The variables names are x.Soil.Moist, where x is the number of the soil layer (note that in this case the upper layer is 0, the layer below that 1, etc.).
   The number type is NC_FLOAT.

2. Soil surface temperature in °C.
   The variable name is Soil.TSurf.
   The number type is NC_FLOAT.

3. Soil temperature for each layer in °C
   The variables names are x.Soil.Temp, where x is the number of the soil layer (note that in this case the upper layer is 0, the layer below that 1, etc.).
   The number type is NC_FLOAT.

4. Ground heat storage in J
   The variable name is Soil.Qst.
   The number type is NC_FLOAT.

5. Surface ponding in m
   The variable name is Soil.Runoff.
   The number type is NC_FLOAT.