



Daisy Newsletter no. 27

1 The Daisy code, v. 6.22

New version released on all platforms.

Compared to 6.09, the changes in 6.22 are mainly in calculation of reference evapotranspiration (ET₀) and in root development.

The default calculation of ET₀ by Daisy when you have hourly weather data including humidity and wind has changed. Specifically, the cloudiness model chosen is now ASCE, with modifications from Kjaersgaard et al. (2007). This combination gives the best match to measurements made at the UCPH weather station in Taastrup, especially at low sun angles.

In general, the “default” bioclimate model will try to pick the best submodels based on the available weather data. If you provide your own values for ET₀ in the weather file, those will be used.

A new bioclimate submodel for calculation of ground heat flux (G) has been added: Specify (ghf surface) to use the value calculated by the Daisy soil heat module, or (ghf FAO56) to use a value estimated from net radiation.

Three bioclimate parameterizations have been added to select multiple submodels at once: ‘FAO56_daily’ and ‘FAO56_hourly’ for selecting the submodels recommended by FAO for daily and hourly weather data respectively, and ‘SSOC’ for selecting submodels to be used in conjunction with the SSOC SVAT model.

Also, new parameters have been added to influence root growth. A root_retardation parameter can be specified for a horizon, changing the root penetration speed for a specific horizon. Furthermore, PenDSFac and PenpFFac

allows you to change root penetration based on development stage or soil moisture.

For all changes, look at [github](#).

2 Courses

Our MSc-course on modelling is presently running.

3 Events

Daisy Lunch Meetings are starting again last Wednesday in September. The first talk will be by Per Abrahamsen, describing the implemented changes in reference evapotranspiration. As this drives many other processes in Daisy, it is worth listening in.

A **Daisy Workshop** is planned for **5th November 2021** (note that the date has been changed) at PLEN, UCPH. We hope this will be a chance to get together and network.

Please send title and a short abstract of your presentation as well as type (oral or poster) to ed@plen.ku.dk and styczen@plen.ku.dk. The deadline for abstract submission is 30th Sept. We will compile the abstracts in the beginning of October and release the detailed program on the 15th of October.

The tentative program and details about participation and submission of abstract are found at the Daisy [homepage](#).

References

- Allen, R.G., Pereira, L.S., Raes, D., Smith, M., 1998. Crop evapotranspiration: guidelines for computing crop water requirements, FAO irrigation and drainage paper. Food and Agriculture Organization of the United Nations, Rome.
- Kjaersgaard, J.H., Plauborg, F.L., Hansen, S., 2007. Comparison of models for calculating daytime long-wave irradiance using long term data set. *Agricultural and Forest Meteorology* 143, 49–63. <https://doi.org/10.1016/j.agrformet.2006.11.007>.