

TITLE: BALTEX_Norunda_Norunda_20021001_20030930.sfc

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1.0 DATA SET OVERVIEW:

Time period: 1 October 2002 to 30 September 2003.
Location: Norunda site, 60.08 N, 17.48 E, alt. 45 m.
The site represents a mixed pine-spruce forest.
The measurements are taken in a 102 m tall tower.

The numerical values in the file (after 8 metadata parameters) are:

Variable	Sensor position	Comment
Air pressure	house, 1.66 m	
Air temperature	tower, 31.7 m	
Dew point temp.	tower, 28 m	calculated
Relative humidity	tower, 28 m	measured
Specific humidity	tower, 28 m	calculated
Wind speed	tower, 31.7 m	
Wind direction	tower, 31.7 m	
U wind comp.	tower, 31.7 m	
V wind comp.	tower, 31.7 m	
Incoming shortwave	tower, 102 m	
Outgoing shortwave	tower, 98 m	
Incoming longwave	tower, 98 m	calculated
Outgoing longwave	tower, 98 m	calculated
Net radiation	tower, 98 m	
Incoming PAR	tower, 98 m	
Outgoing PAR	tower, 98 m	

These numerical values are followed by their Flags.

We do not have any ground station, thus, the meteorological data are picked out from our tower data. We intend to submit Meteorological Tower Data separately, and that will contain profiles of air temperature, humidity and wind. The air humidity here is measured by a Rotronic sensor, but the profiles will be measured by a Li-Cor gas analyser.

2.0 INSTRUMENTATION DESCRIPTION:

Variable	Instrument type	Manufacturer
Air pressure	PTA-427	Vaisala
Air temperature	thermocouple	In-Situ Instrument, Sweden
Relative humidity		Rotronic
Wind speed	model 425	Vaisala (Handar)
Wind direction	model 425	Vaisala (Handar)
Incoming shortwave	CM-21	Kipp&Zonen
Outgoing shortwave	CM-11	Kipp&Zonen
Net radiation	LXV-055	Dr. Bruno Lange
Incoming PAR	LI-190SZ	Li-Cor
Outgoing PAR	LI-190SZ	Li-Cor

3.0 DATA COLLECTION AND PROCESSING:

All the signals have been measured and recorded using a Campbell CR-10 datalogger. The measurements have been taken at 6 s intervals and originally 5 min. average values were recorded. The latter have been used to form 30 min, which are presented in the present data set.

The time stamps in the file represent the end moments of these 30 min periods.

The units are given according to recommendations.

The net radiometer measures the sums of radiative fluxes from the upper and lower hemispheres separately. This in combination with separate shortwave component measurements allowed to calculate the longwave radiative fluxes. In addition, dew point temperature, specific humidity and wind components have been calculated, too.

4.0 QUALITY CONTROL PROCEDURES

The data have been passed a visual control. They were plotted vs. time and obviously erroneous data were deleted.

5.0 GAP FILLING PROCEDURES

No gap filling

6.0 DATA REMARKS:

During winter time, occasionally snow may cover radiation upwards facing sensors and good quality cannot be guaranteed.

Snow and rain may also cause problems for the sonic anemometer.

The Rotronic humidity sensor occasionally exceeds 100% humidity.

7.0 REFERENCE REQUIREMENTS:

A reference describing the site and instrumentation is given below.

8.0 REFERENCES:

Lundin, L.-C., Halldin, S., Lindroth, A., Cienciala, E., Grelle, A., Hjelm, P., Kellner, E., Lundberg, A., Mölder, M., Morén, A.-S., Nord, T., Seibert, J. and Stähli, M., 1999. Continuous long-term

measurements of soil-plant-atmosphere variables at a forest site. *Agricultural and Forest Meteorology*, 98-99: 53-73.