

Table 4						
Parameter	Measurement Height	Sensor	Measurement principle	Manufacturer	Reference	Remarks
basic meteorology • Temperature / Humidity • wind speed • wind direction • pressure • precipitation • snow depth	2 m (Forest: 2.55 m)  10 m (Forest none) 10 m (Forest none) 1 m (Forest: 28.00 m) 1 m - (Forest none)	Frankenberger Psychrometer / HMP-35D/45D F460 wind dir. transm. PTB220A RPT410V Pluvio snow stick	Pt-100 / psychrometer Pt-100 / capacitive cup vane piezo-resistance piezo-resistance weighing manual reading	Th. Friedrichs  Vaisala Climatronics Thies Vaisala Lambrecht Ott Hydrometrie	<a href="http://www.th-friedrichs.com">http://www.th-friedrichs.com</a>  <a href="http://www.vaisala.com">http://www.vaisala.com</a> <a href="http://www.climatronics.com">http://www.climatronics.com</a> <a href="http://www.thiesclima.com">http://www.thiesclima.com</a> <a href="http://www.vaisala.com">http://www.vaisala.com</a> <a href="http://www.lambrecht.net">http://www.lambrecht.net</a> <a href="http://www.ott-hydrometrie.de">http://www.ott-hydrometrie.de</a>	ventilated, radiation shielded
Radiation • shortwave • longwave • surface temp. • Phar	2 m (Forest 28.95 m) 2 m (Forest 28.95 m) 2 m (Forest 26.10 m) 2 m (Forest none)	CM24 DDPIR KT15.82D LI190SZ	thermopile thermopile pyro-electric photo diode	Kipp & Zonen Eppley Heitronics LiCor	<a href="http://www.kippzonen.com">http://www.kippzonen.com</a> <a href="http://www.eppleylab.com">http://www.eppleylab.com</a> <a href="http://www.heitronics.com">http://www.heitronics.com</a> <a href="http://www.licor.com">http://www.licor.com</a>	ventilated ventilated
Soil • soil temperature • soil moisture • soil heat flux	-5, <b>-10</b> , -15, <b>-20</b> , <b>-30</b> , -45, -50, <b>-60</b> , <b>-90</b> , -100, -120, <b>-150</b> cm -8, -15, <b>-30</b> , -45, <b>-60</b> , <b>-90</b> cm - 5, -10 cm	Pt-100  TRIME EZ  HP3	Pt-100  TDR  flux plate	TMG  IMKO  RIMCO	<a href="http://www.imko.de">http://www.imko.de</a>	bold: measurement levels Forest  bold: measurement levels Forest, also -10, -20, -150 cm
tower • temperature / humidity • wind speed • wind direction	40 m, 98 m (Forest: 14.55 m, 28.3 m)  40 m, 98 m (Forest: 14.55 m, 28.3 m) 40 m, 98 m (Forest: 30.55 m)	Frankenberger Psychrometer / HMP-35D/45D wind transmitter F460 wind dir. transm. USA-1	Pt-100 / psychrometer Pt-100 / capacitive cup cup vane sonic	Th. Friedrichs  Vaisala Thies Climatronics Thies METEK	<a href="http://www.th-friedrichs.com">http://www.th-friedrichs.com</a>  <a href="http://www.vaisala.com">http://www.vaisala.com</a> <a href="http://www.thiesclima.com">http://www.thiesclima.com</a> <a href="http://www.climatronics.com">http://www.climatronics.com</a>  <a href="http://www.metek.de">http://www.metek.de</a>	ventilated, radiation shielded
turbulent fluxes • momentum • sensible heat • latent heat	2.4 m (Forest: 30.55 m) 2.4 m (Forest: 30.55 m) 2.4 m (Forest: 30.55 m)	USA-1 USA-1 LI-7500	sonic sonic infrared hygrometer	METEK METEK LiCor	<a href="http://www.metek.de">http://www.metek.de</a>  <a href="http://www.licor.com">http://www.licor.com</a>	after April 01, 2003