

ICOS Sweden Ecosystem stations parameters

Ecosystem stations	Hyltemossa (SE-Htm)	Norunda (SE-Nor)	Svartberget (SE-Svb)	Mycklemossen (SE-Myc)	Degerö (SE-Deg)	Abisko-Stordalen (SE-Sto)	
ecosystem type	forest	forest	forest	mire	mire	palsa mire	
Latitude	56°06'N	60°05'N	64°10'N	58°21'N	64°11'N	68°21'N	
Longitude	13°25'E	17°29'E	19°47'E	12°10'E	19°33'E	19°03'E	
Height a.s.l.	115 m	46 m	270 m	81 m	270 m	360 m	
climate zone (Köppen classification)	marine west-coast (Cfb)	humid continental (Dfb)	sub-arctic (Dfc)	marine west-coast (Cfb)	sub-arctic (Dfc)	sub-arctic (Dfc)	
biome	temperate	hemi-boreal	boreal	hemi-boreal	boreal	tundra	
Dominating species	<i>Picea abies</i>	<i>Picea abies</i> , <i>Pinus sylvestris</i>	<i>Pinus sylvestris</i> , <i>Picea abies</i>	mosses: <i>Sphagnum rubellum</i> , <i>Sphagnum fallax</i> , <i>Sphagnum austinii</i> and sedges	bog mosses: <i>Sphagnum papillosum</i> Lindb., <i>Sphagnum lindbergii</i> Schimp., <i>Sphagnum balticum</i> (Russow) C.E.O. Jensen	<i>Sphagnum</i> spp. <i>Eriophorum</i> spp. <i>Carex</i> spp, ericaceous shrubs	
Mean tree height/ age	19 m	25 m	20 m	-	-	-	
Mean stand age	35 yrs	120 yrs	100 yrs	-	-	-	
Understorey and ground vegetation	mosses	<i>Vaccinium myrtillus</i> L., <i>Vaccinium oxycoccus</i> , mosses, flowers	<i>Vaccinium vitis-idaea</i> L., <i>Vaccinium myrtillus</i> L.	<i>Ericaceae</i> , <i>Eriophorum</i> , dwarf-shrubs	<i>Eriophorum</i> , dwarf-shrubs: <i>Vaccinium oxycoccus</i> , <i>Andromeda polifolia</i> , <i>Trichophorum cespitosum</i>	<i>Empetrum nigrum</i> , <i>Vaccinium vitis-idaea</i> L., <i>Rubus chamaemorus</i> ; <i>Cyperaceae</i> , <i>Eriophorum</i>	
mean annual temperature	7.0 °C	5.6 °C	1.8 °C	6.4 °C	1.2 °C	-0.1 °C	
mean annual precipitation	830 mm	544 mm	614 mm	709 mm	523 mm	332 mm	
Continuous measurements							
Turbulent fluxes	CO ₂	27 m	36 m	34.5 m	2.2 m	2.1 m	CO ₂
	H ₂ O	27 m	36 m	34.5 m	2.2 m	2.1 m	2.2 m
	CH ₄	-	-	-	2.2 m	2.1 m	2.2 m
	Momentum	27 m	36 m	34.5 m	2.2 m	2.1 m	2.2 m
	Sensible heat	27 m	36 m	34.5 m	2.2 m	2.1 m	2.2 m
	Latent heat	27 m	36 m	34.5 m	2.2 m	2.1 m	2.2 m
Radiative fluxes	Incoming short-wave	150 m, 50 m	101.5 m, 55 m	2 x 50 m	4 m	4 m	2.2 m
	Outgoing short-wave	50 m	55 m	50 m	4 m	4 m	5 m
	Incoming long-wave	50 m	55 m	50 m	4 m	4 m	5 m
	Outgoing long-wave	50 m	55 m	50 m	4 m	4 m	5 m
	Net radiation (from 4 components)	50 m	55 m	50 m	4 m	4 m	5 m
	Incoming PAR	150 m, 50 m	55 m	50 m	4 m	4 m	5 m

	Diffuse incoming PAR	150 m	55 m	50 m	4 m	4 m	5 m
	Outgoing PAR	50 m	55 m	50 m	4 m	4 m	5 m
	PAR below canopy	4 x 4 transects	4 x 4 transects	4 x 4 transects	-	-	5 m
	Spectral reflectance	100 m	55 m	50 m	4 m	4 m	-
Soil fluxes	Soil heat flux	4 x -0.05 m	4 x -0.05 m	4 x -0.05 m	4 x -0.05 m	4 x -0.05 m	5 m
State variables	Air temperature profile	14 levels	14 levels	14 levels	5 levels	5 levels	4 x -0.05 m
	CO ₂ profile	14 levels ¹	14 levels ¹	14 levels ¹	5 levels	5 levels	5 levels
	H ₂ O profile	14 levels	14 levels	14 levels	5 levels	5 levels	5 levels
	CH ₄ profile	-	-	-	5 levels	-	5 levels
	Relative humidity	24 m, 27 m	37 m, 29 m	32.5 m	2.2 m	2.0 m, 2.2 m	2.5 m
	Wind speed/direction (sonic)	30 m	36 m	34.5 m	2.2 m	2.1 m	2.2 m
	Air pressure	3.5 m	1.5 m	2 m	1 m	1.2 m	1.7 m
	Soil temperature profile	4 x 5	4 x 5	4 x 5	4 x 5	4 x 5	4 x 5
	Soil moisture profile	4 x 5	2 x 5	4 x 5	4	4	4
	Ground water level	4	2	4	4	4	4
	Snow depth	1	1	1	1	1	1
	Precipitation	2	2	2	2	2	2
	Tree trunk surface temperature	4 x 4 x 3	4 x 4 x 3	4 x 4 x 3	-	-	-
	Canopy IR temperature	50 m	55 m	50 m	4 m	4 m	5 m
	Ground height	-	-	-	2 m	2 m	1.5 m
Periodic measurements							
soil	soil carbon stocks	1 / 10 years	1 / 10 years	1 / 10 years	1 / 10 years	1 / 10 years	1 / 10 years
trees	GAI (hemispherical pictures)	6/year	6/year	6/year	-	-	-
	above ground biomass (AGB)	1/ 3 years	1/ 3 years	1/ 3 years			
	Nutrient analysis and Leaf Mass Area (foliar sampling)	1/year	1/year	1/year			
herbaceous plants and dwarf shrubs	GAI				1-2/month	1-2/month	1-2/month
	non-woody AGB	1/year	1/year	1/year	1-2/month	1-2/month	1-2/month
	woody AGB	1/year	1/year	1/year	2/year	2/year	2/year
litter	Litter biomass	1-2/month	1-2/month	1-2/month			
	Woodie debris	1/year	1/year	1/year			
mosses	GA (percentage cover)	2/year			2/year	2/year	2/year
	NPP (yearly net change in biomass)	1/year			1/year	1/year	1/year