



Dry Dipterocarp Forest Flux Phayao Site Thailand (DPT)

Micrometeorology **Lab**oratory (**MiLab**), School of Energy and Environment (SEEN), University of Phayao (UP), Thailand



Fig. 1 Monitoring tower (42 m.)



Fig. 2 Dry dipterocarp forest



Fig. 3 CO₂/H₂O analyzer (EC150)



Fig. 4 PAR sensor,
Air temperature and Camera

Site Name	Dry Dipterocarp Forest Flux Phayao Site Thailand (DPT)
Location	SEEN (School of Energy and Environment), University of Phayao, Tambon Maeka, Amphur Muang, Phayao, Thailand
Position	Latitude: 19° 02' 14.38" N, Longitude : 99° 54' 10.96" E (measured with GPSMAP 60CSx,GARMIN in June 2012)
Elevation	512 m
Slope	The slope is relatively high

Terrain Type	Slope terrain
Area	80 ha (more than 500 rai for monitoring)
Climate	Tropical monsoon climate
Mean annual air temperature	min 16.94°C, max 35.72°C (1998-2007, reported by TMD station)
Mean annual precipitation	1,262.40 mm (1998-2007, reported by TMD station)
Vegetation Type	Dry dipterocarp forest
Dominant Species (Overstory)	xxx
Dominant Species (Understory)	
Canopy height	15-20 m
Age	xxx years old (measurement 2013)
Soil type	xxx

Measurement Period	May 2013 ~ Continuing now
Measurement Frequency	Continuous

Contact Address

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System	Open-path
Wind speed	Three-dimensional sonic anemometer-thermometer (Campbell CSAT3)
Air temperature	Three-dimensional sonic anemometer-thermometer (Campbell CSAT3)
Water Vapor	Open-path CO ₂ /H ₂ O analyzer (EC150, Campbell Sci.)
CO₂	Open-path CO ₂ /H ₂ O analyzer (EC150, Campbell Sci)
Measurement height	42 m

Sampling frequency	10, 20 Hz
Averaging time	30 min
Data logger	CR1000, Campbell Sci.
Data storage	PC and SSD memory
Original data (Raw data or statistics)	Raw data

Observation items	Levels / Depth	Instrument
Short-wave radiation (incoming)	30 m	Kipp & Zonen CNR1
Long-wave radiation (incoming)	30 m	Kipp & Zonen CNR1
Short-wave radiation (outgoing)	30 m	Kipp & Zonen CNR1
Long-wave radiation (outgoing)	30 m	Kipp & Zonen CNR1
Photosynthetically active radiation (PAR)	42 m	LI-190SZ Quantum Sensor
Air temperature	30 m	WXT520 Weather Transmitter, Campbell
Humidity	30 m	WXT520 Weather Transmitter, Campbell
Soil temperature	-2.5, -15, and -50 cm	Thermocouple
Soil heat flux	xxx cm	xxx
Soil water content	-2.5, -15, and -50 cm	Campbell Water content reflectometer CS616
Precipitation	30 m	WXT520 Weather Transmitter, Campbell

Other

Soil respiration	Continuous automated static close chamber will be started in 2013
Ecological Investigation	Tree height, diameter, root growth and turnover, phenology, LAI and canopy structure, litter dynamics, sap flow velocity, water potential in tree and soil, soil water content, and all will be started in 2013

Researchers

Flux monitoring: Montri Sanwangsri, SEEN, UP

Soil respiration: Pimsiri Suwannapat, SEEN, UP

Air pollution monitoring: Dr. Sittichai Pimonsree, SEEN, UP

Ecological monitoring: Dr. Rattapoom Prommana, SEEN, UP

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Infrastructure

Tower, 42 m, climbable.

Electrical power: Solar panel and DC

Facilities for communication: Telephone at an adjoining laboratory

Accommodation: possible at SEEN building 1 km away

Research Fund

IMPAC-T Project, JICA, Japan (2012-2014)

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