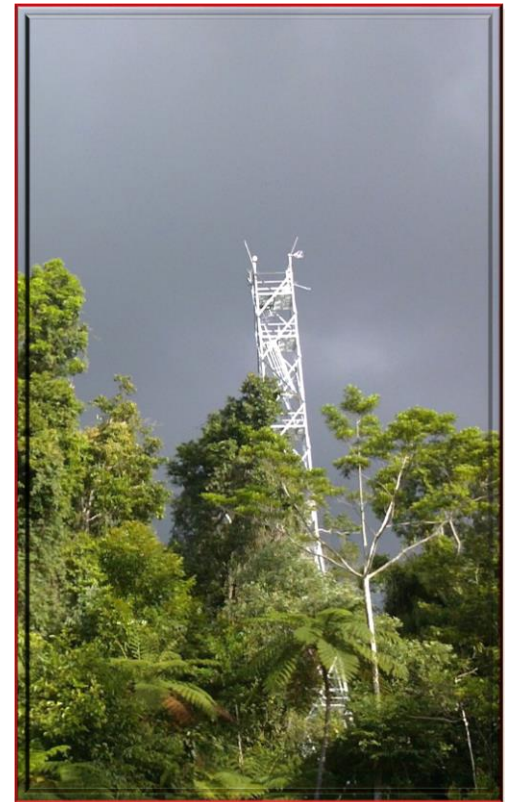




FNQ Tropical Rainforest: Robson Creek

The First Year or Two of fluxes



Presentation by :
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James Cook University
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Robson Creek : Upland Rainforest

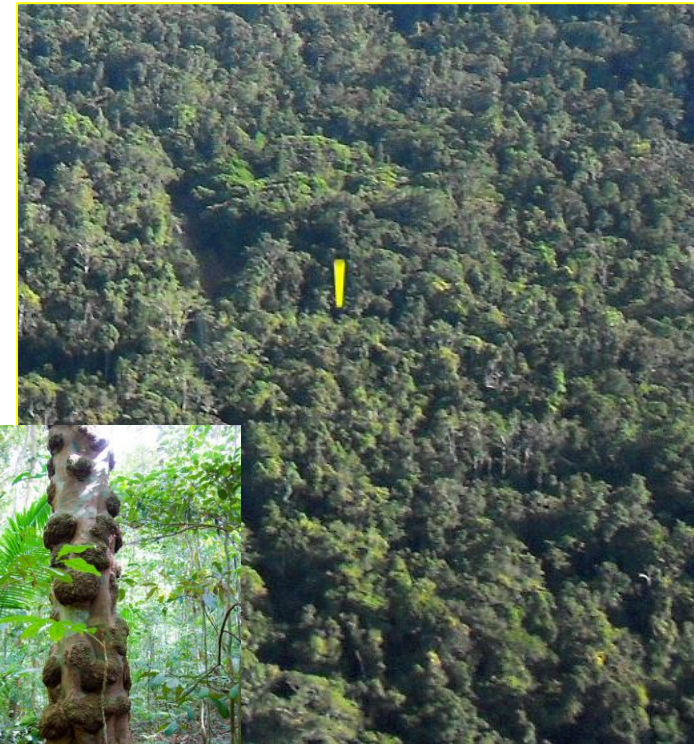


Lamb Range

**Simple Notophyll Vine Forest
(SNVF) 26 – 40m canopy**
25 Ha Census Plot (CTFS type)

- ❖ 23 401 stems (>10cm dbh)
 - ❖ 211 species
 - ❖ AGB **420.3 t ha⁻¹**
- 1 Ha Core Plot**
- ❖ all vascular plants 270 species

- ❖ **Vertebrate fauna : 28%**
- ❖ **Native flora : 10%**
- ❖ **Landmass : 0.2%**



FNQ Supersite OzFlux sites

The relevance of locations

	Regional Ecosystem (1:25 000)	BVG (1:1 million)	BVG (1:2 million)	BVG (1:5 million)
Robson Creek upland	340 ha [7.3.36a]	30,000 ha [1b:CMVF-NVF on Tablelands]	60,000 ha [complex mesophyll to notophyll vine forests]	700,000 ha [type 1: rainforests, scrub]
Daintree Rainforest upland	4,000 ha [7.3.17]	30,000 ha [1a: CMVF-NVF in very wet locations]		

Globally : 6% of earth surface

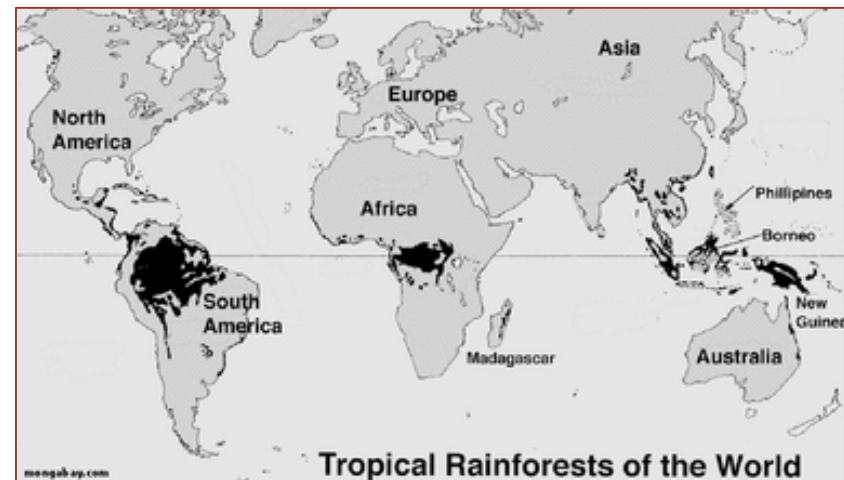
Amazon rainforest :

❖ **Mammals : 10%**

❖ **Native flora : 25%**

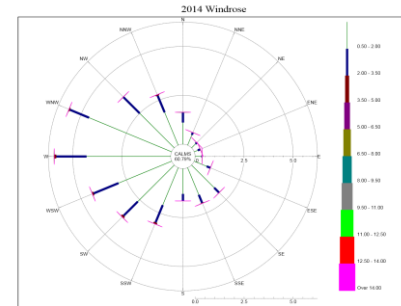
**20% of C in terrestrial plants
carbon sink is diminishing**

[W. Brien 2015]





Robson Creek Tower site



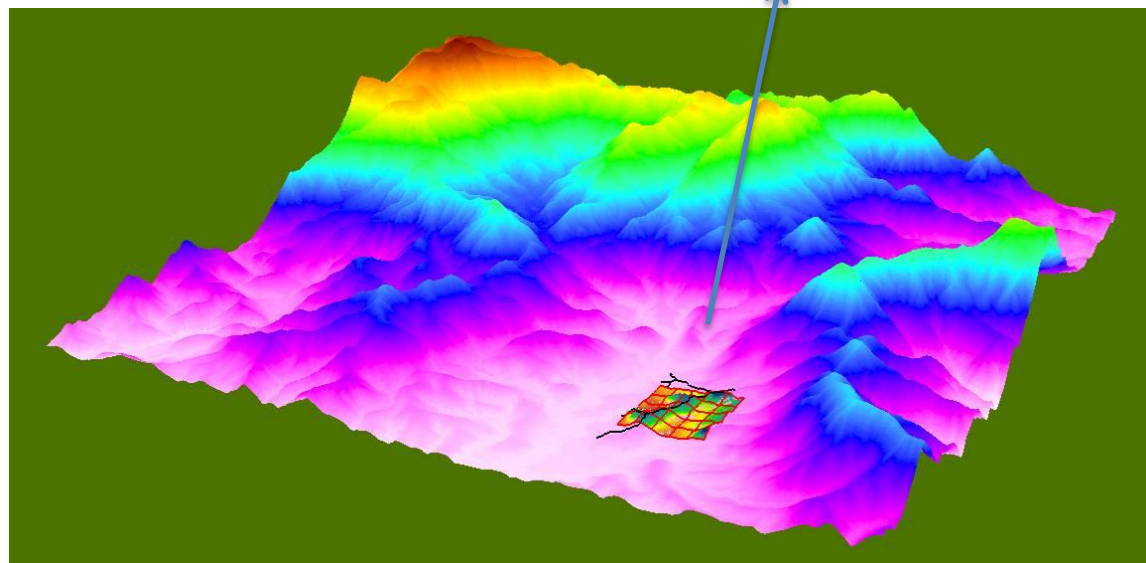
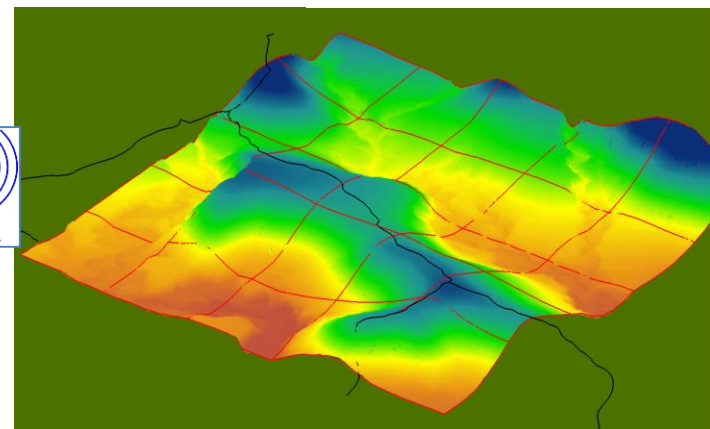
❖ **Soil** : Acidic, Dystrophic,
Brown Dermosol

❖ **Tower at 691m**

❖ **Rainfall**: ≈ 2316 mm

❖ **T_{mean}** : $\approx 19.^\circ\text{C}$

❖ **$T_{\text{min}} - \text{max}$** $^\circ\text{C}$
 $\approx 2.9 - 39.1$

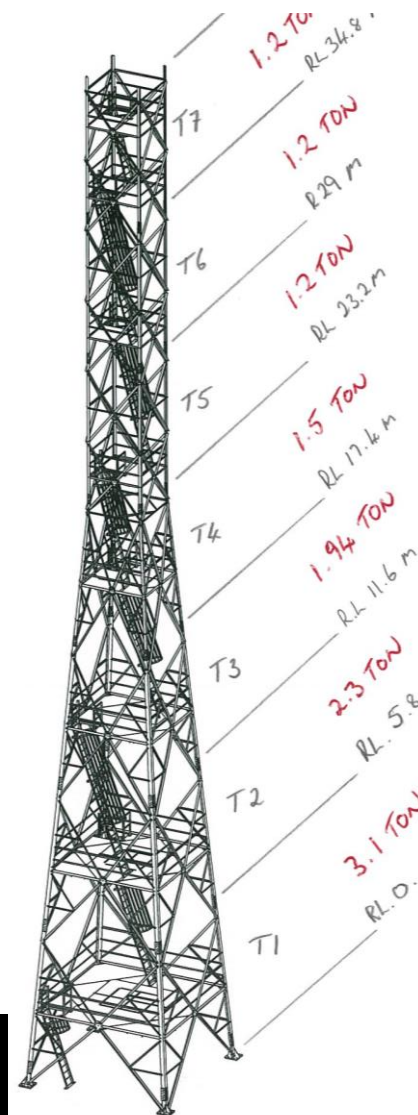
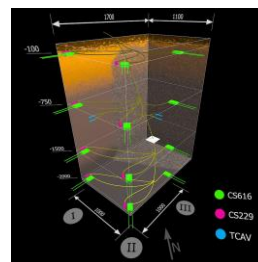


Robson Creek : The Tower

- ❖ **Operational : June 2013 :**
- ❖ **TERN OzFlux Standard system.**
- ❖ **All tower sensors → L3 1/8/2013**



40.6m



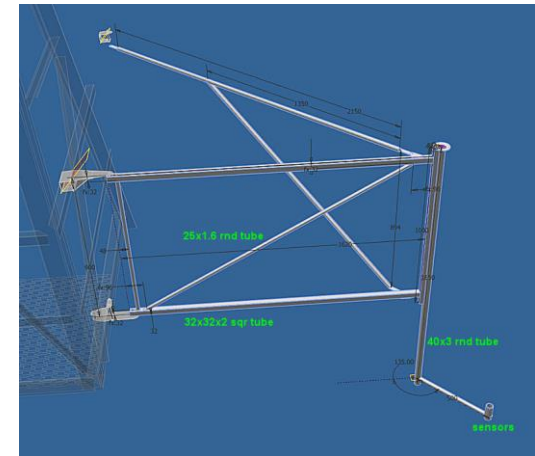
5.8m

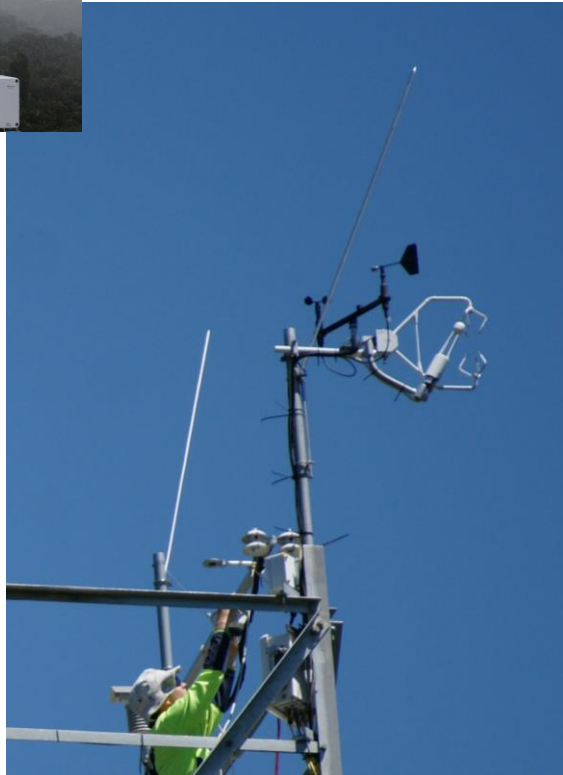
→ **L3 31/1/2014**



Robson Creek : Profile system

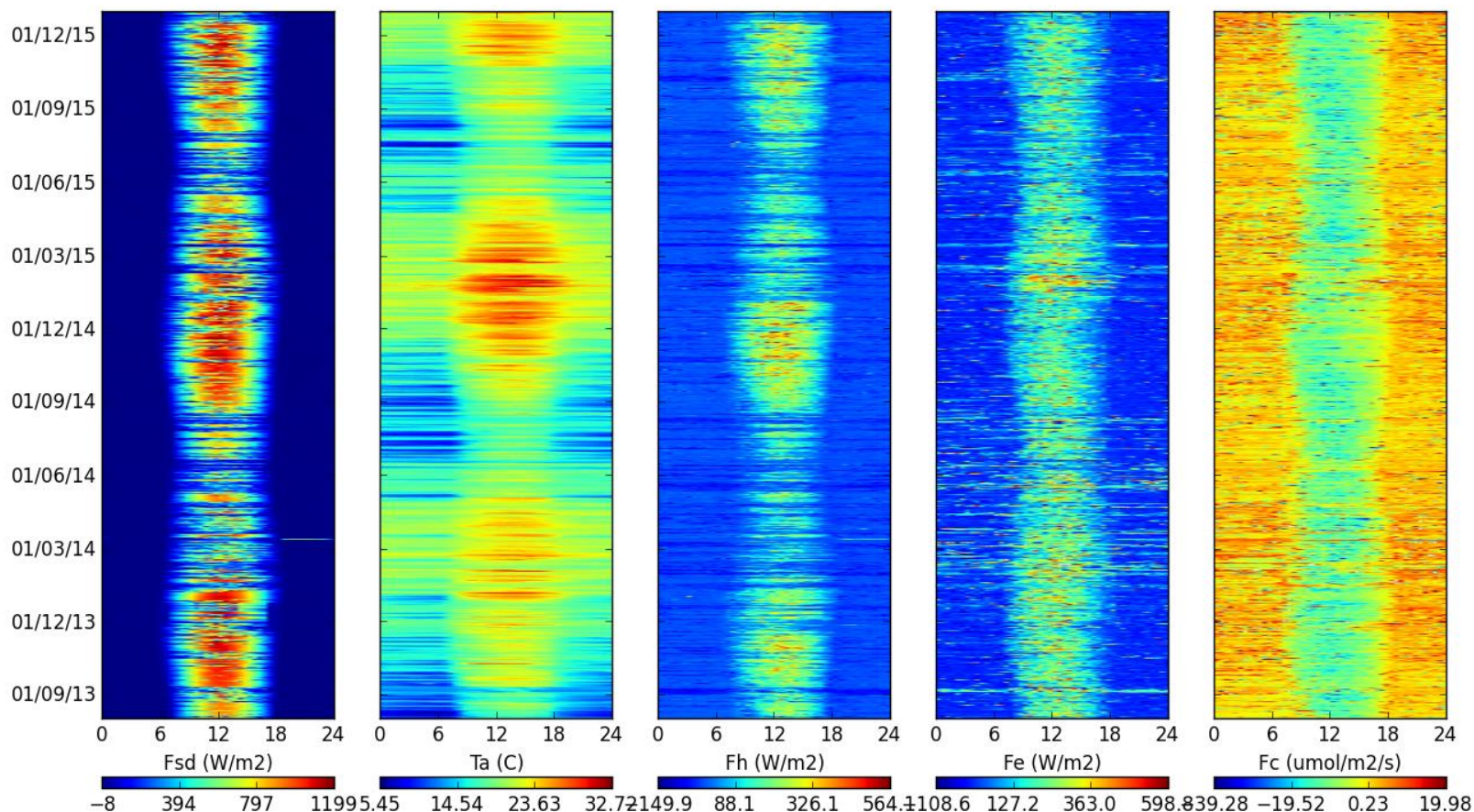
- ❖ **Operational : July 2015 :**
- ❖ CO₂ from 6 levels
1m, 2m, 4m, 9m, 25m and 40m
Temp/RH/Pressure at the box





THE DATA... AU-ROB

Robson Creek L5 from 2013-08-01 17:30:00 to 2015-12-31 23:30:00

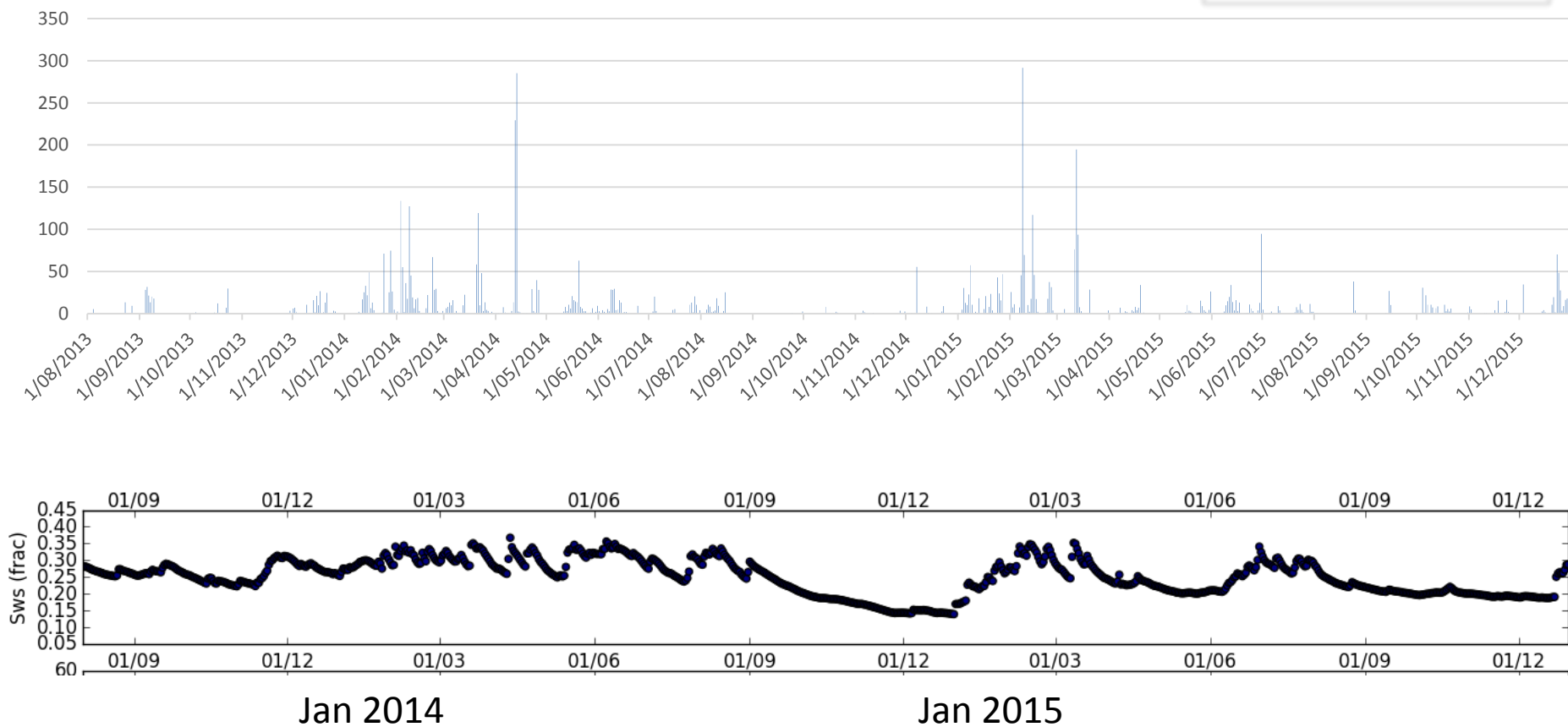




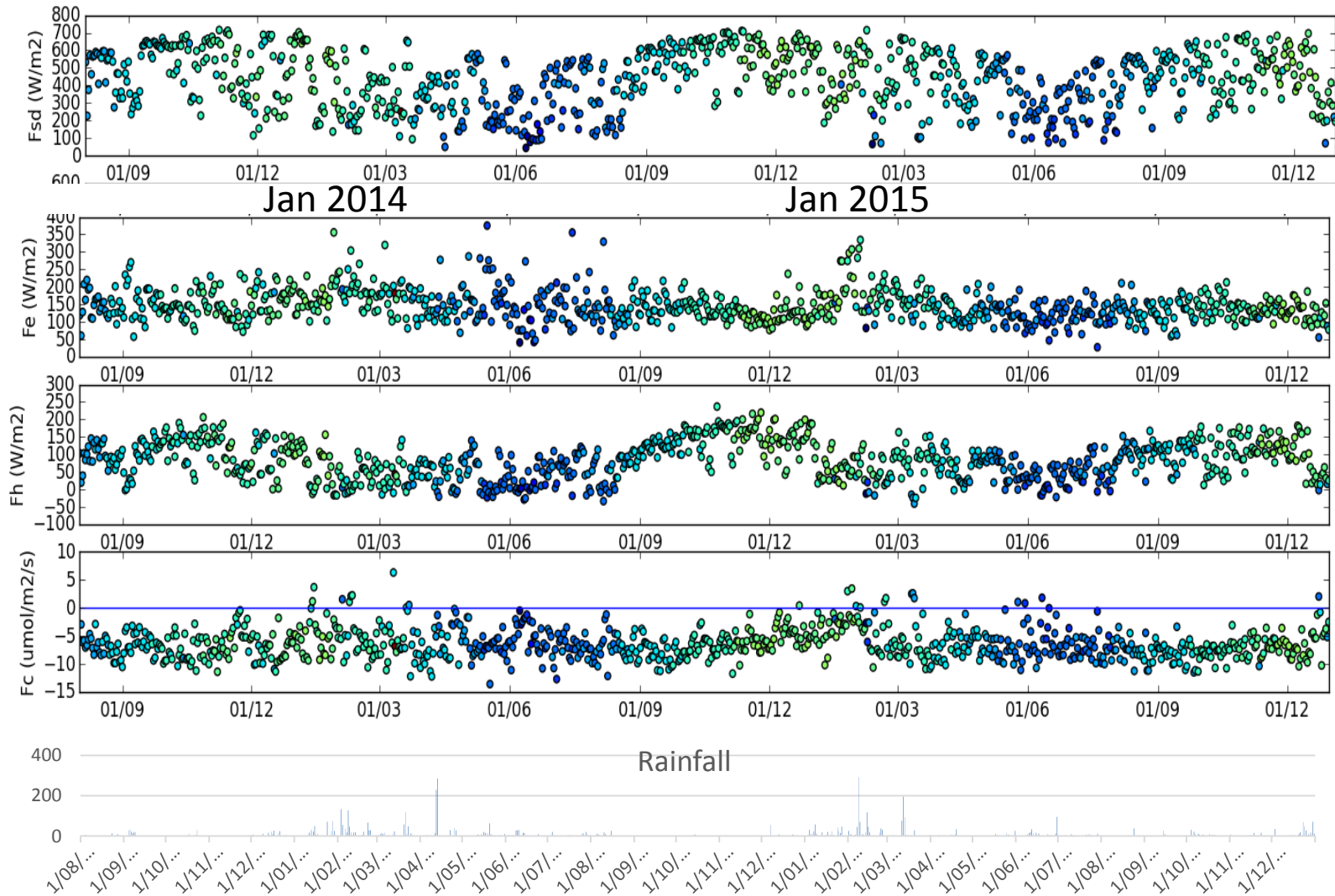
THE DATA... RAINFALL

Precip (mm)	
Annual	Year
	1969
	2011
	1974
	2012
	2336
	2013
2666	2014
2637	2015
2316	MAP
340	SD

Rainfall

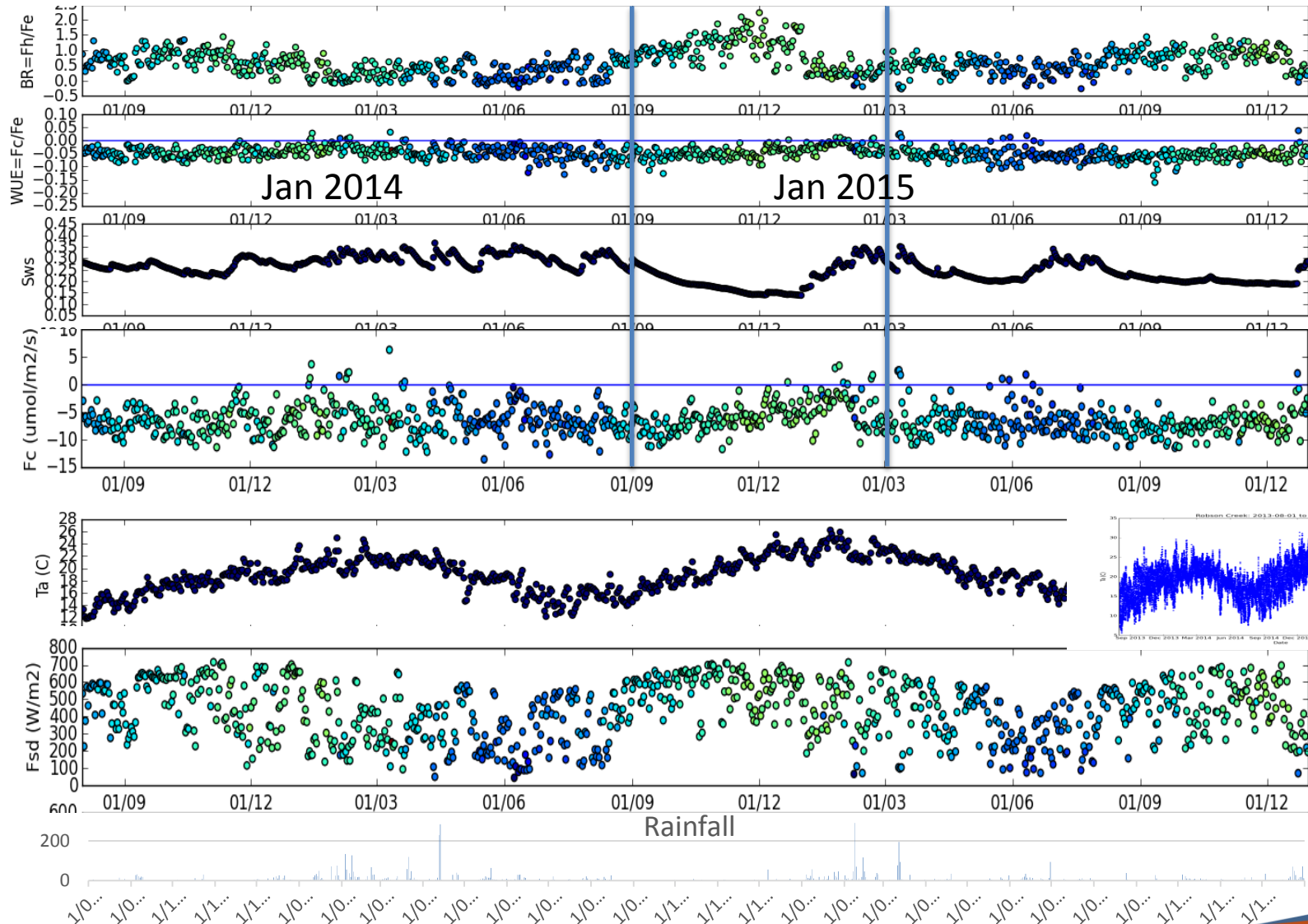


THE DATA... THE FLUXES





CARBON FLUXES vs DRIVERS

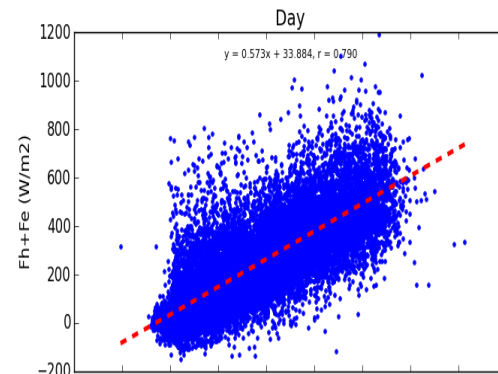
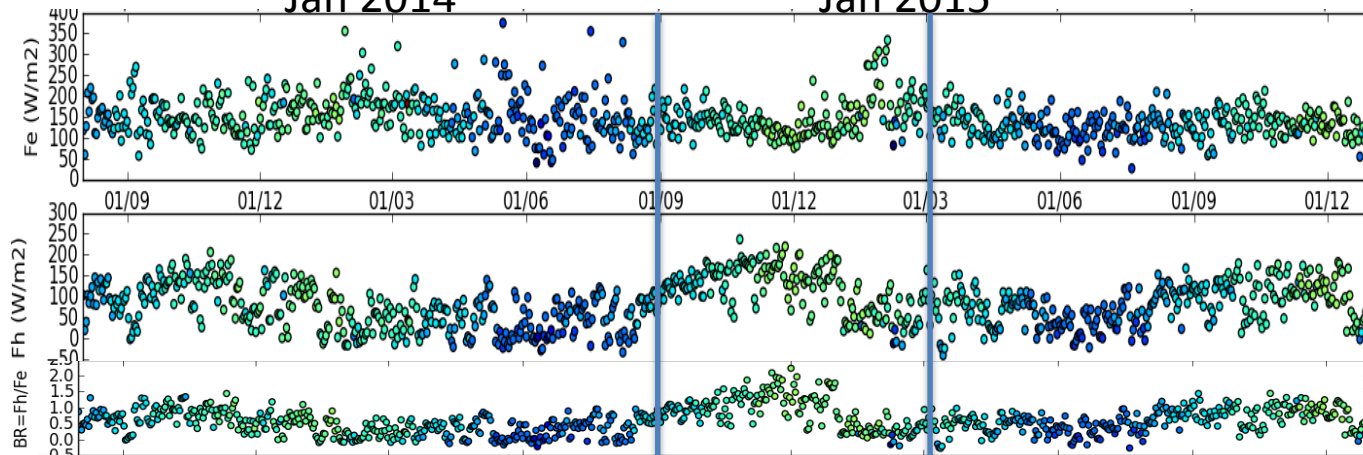




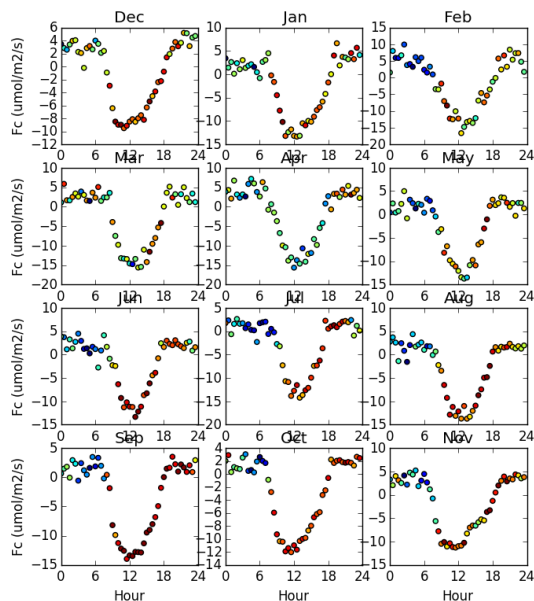
THE DATA... JOINING THE DOTS

Jan 2014

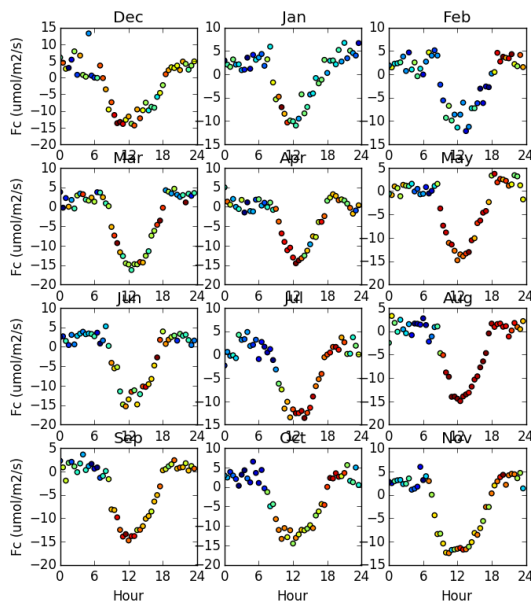
Jan 2015



Robson Creek: 2014-01-01 00:30:00 to 2015-01-01 00:00:00



Robson Creek: 2015-01-01 00:30:00 to 2016-01-01 00:00:00



THE TEAM



Team: Nico Weigand (& his dad)
Matt Bradford (CSIRO, site coordinator)

Funding: TERN DIISRTE, DET, DEEDI (Qld), JCU

