

Preliminary EC and radiation observations from a subtropical sand island

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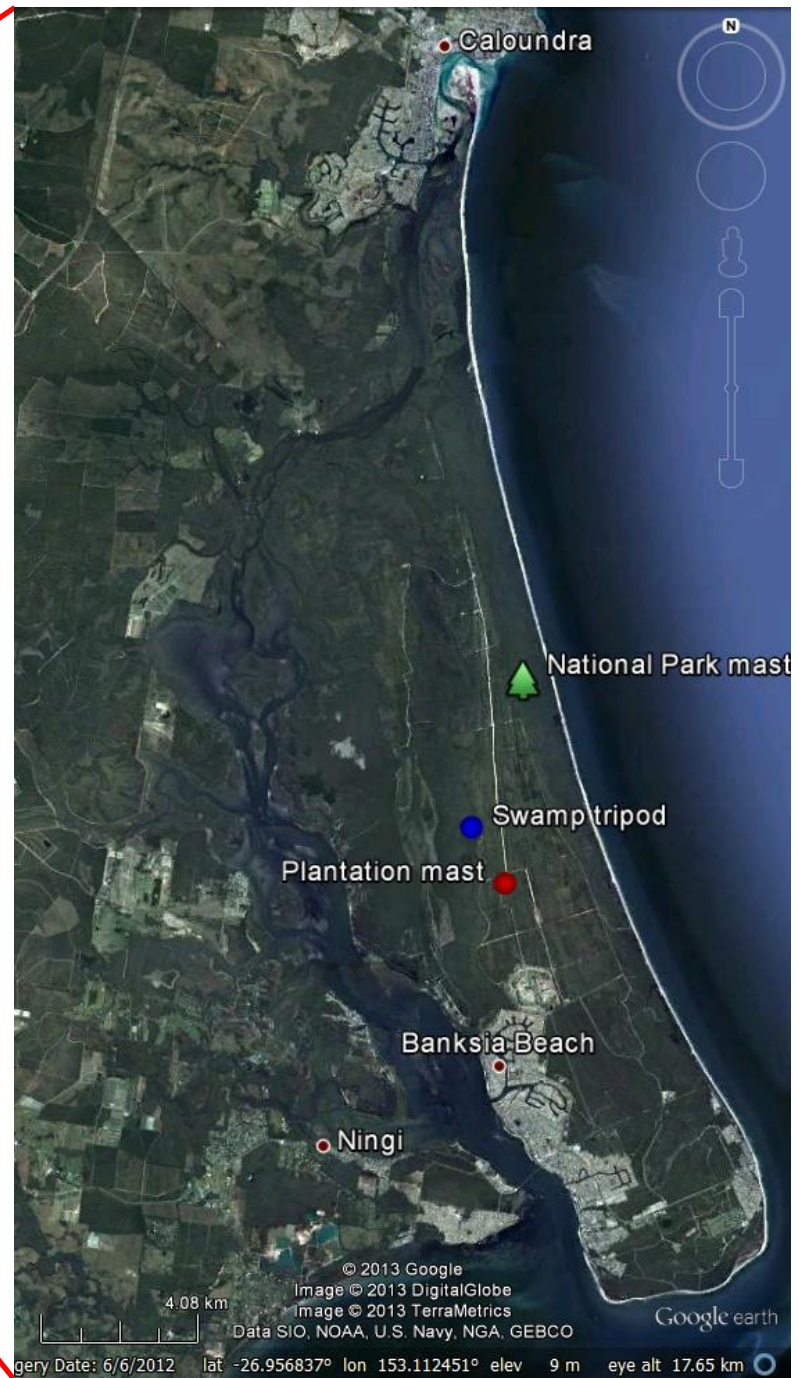
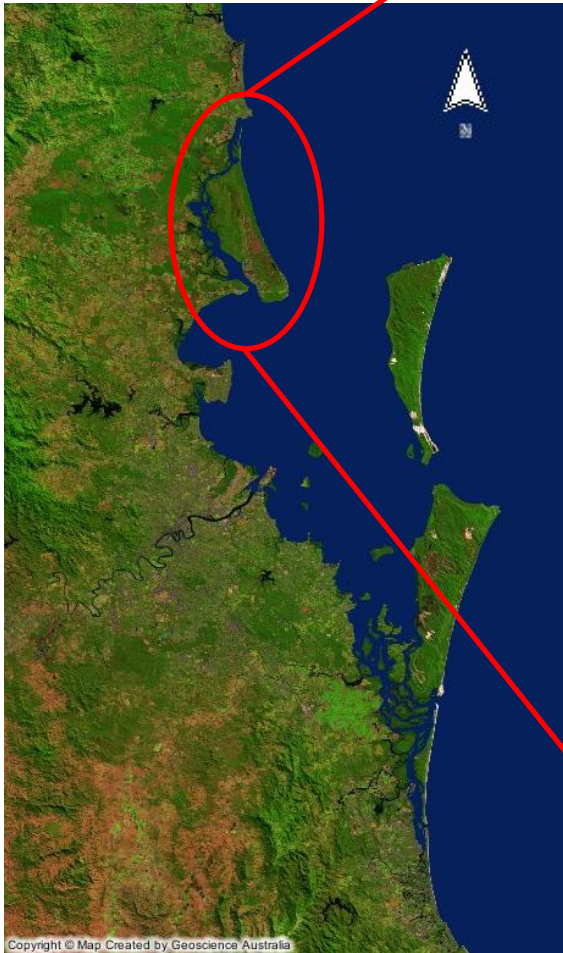
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Overview

- General study site
- Instrumentation
- Individual sites
- Significant events and happy snaps
- Early data (unprocessed)
- Questions/comments

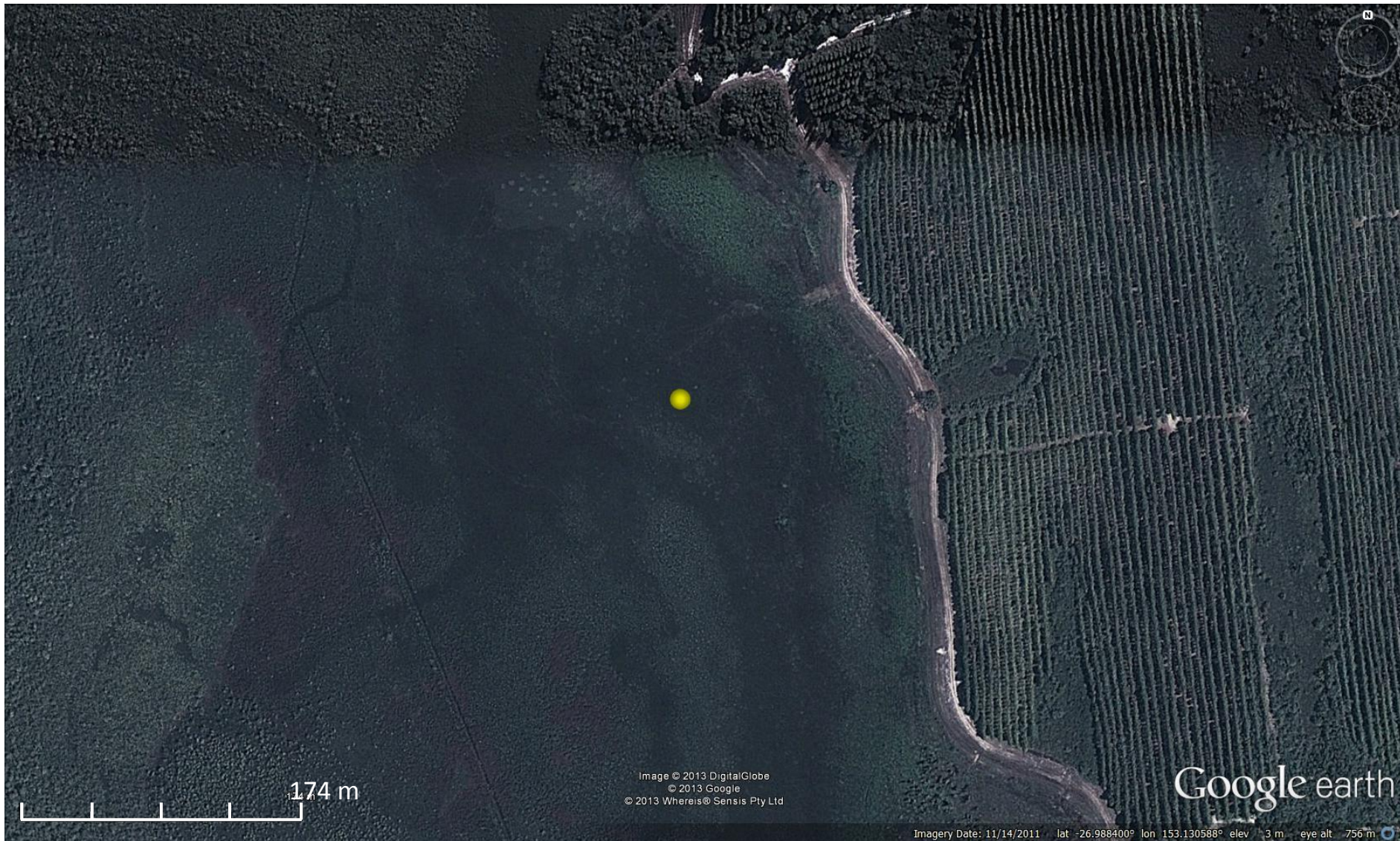
Study site



Instrumentation at each site

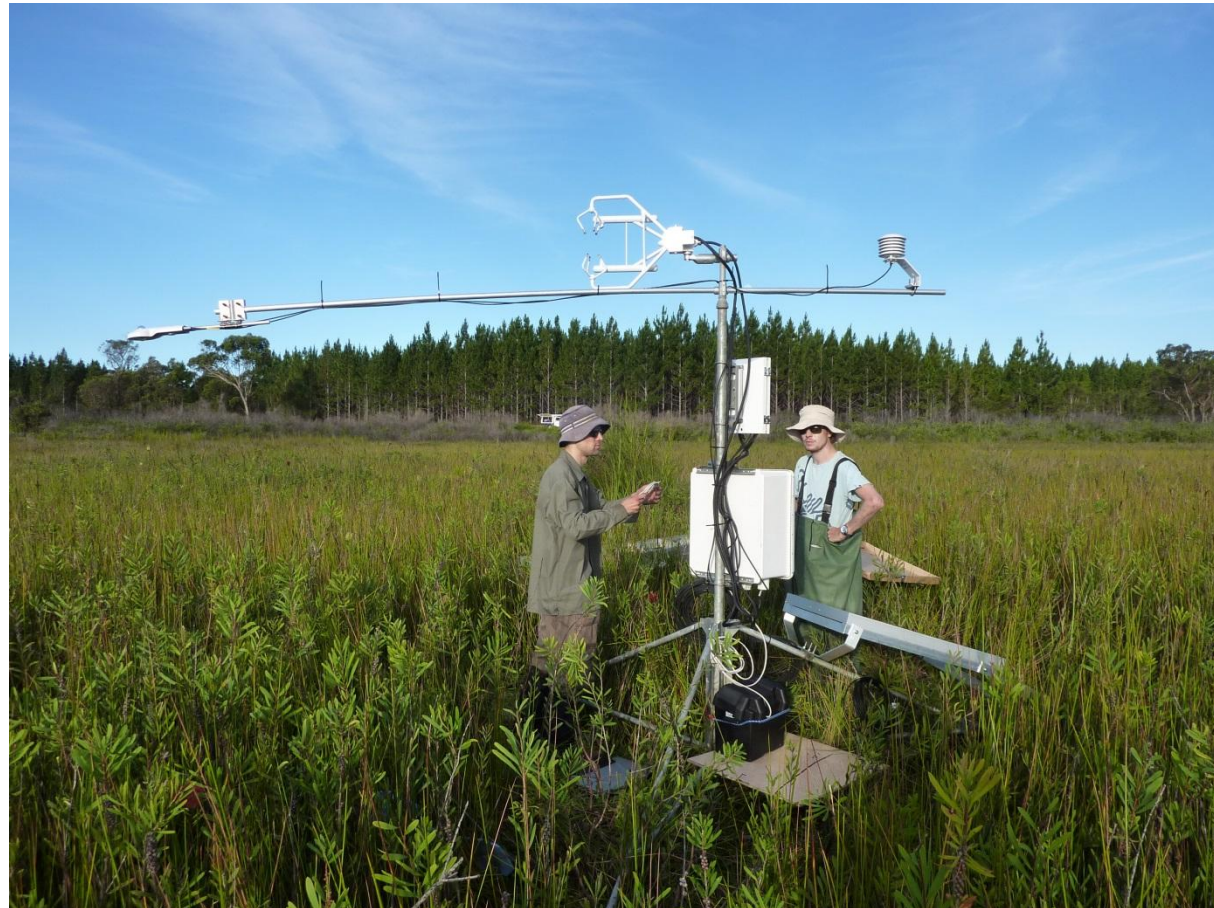
- Campbell Scientific
 - CSAT3A 3D sonic anemometer
 - EC150 open-path IRGA
 - EC100 electronics box
 - CR3000 logger
 - Betatherm Thermistor
- Kipp & Zonen
 - CNR4 net radiometer
- 30-minute averaged data logged

Swamp (National Park)

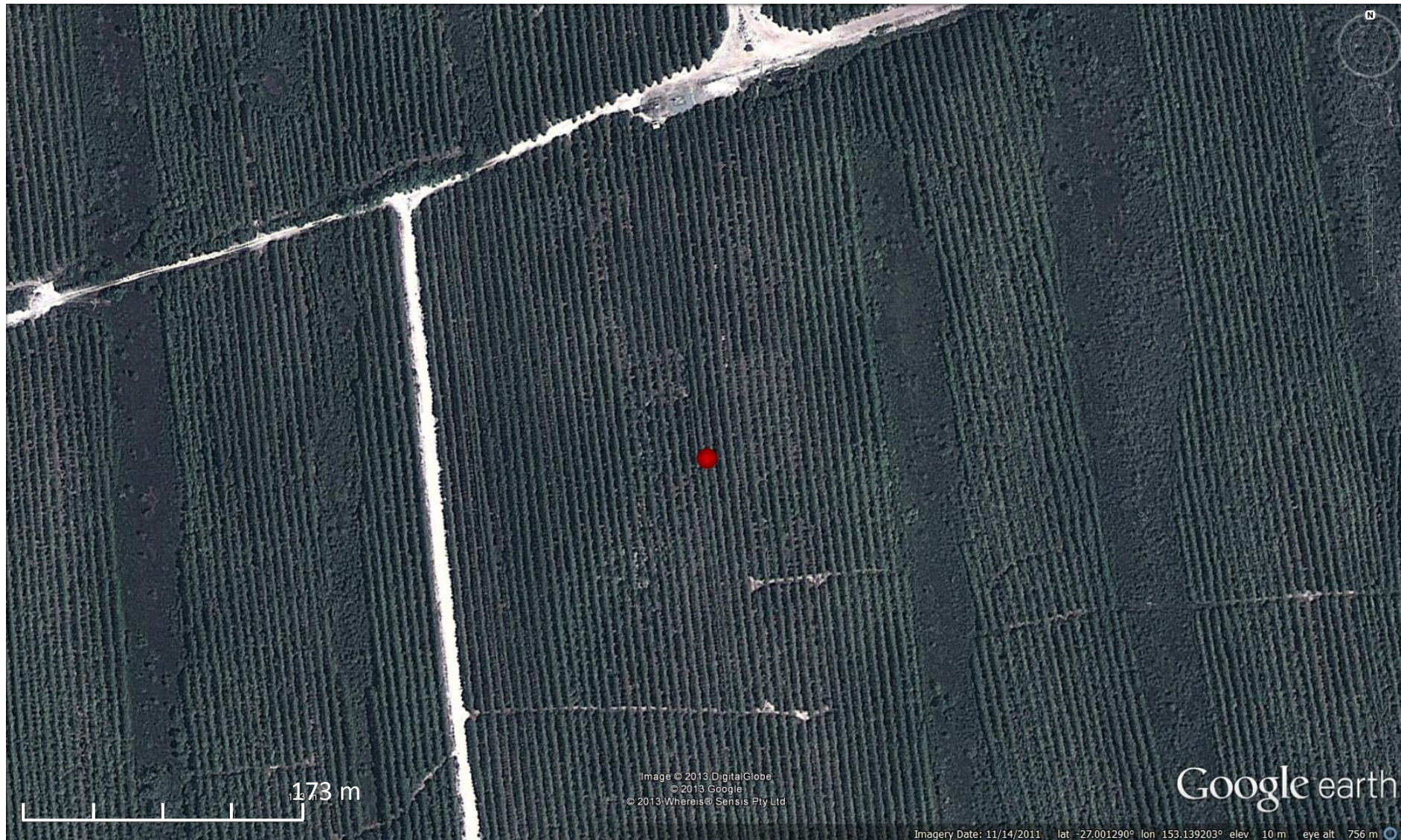


Swamp

- Operational since 26/11/2012
- Instruments mounted on a cross arm at a height of 2.3 m, attached to a 2.4 m tripod
 - EC instruments 1.1 m above vegetation
 - Temperature probe 0.8 m from tripod
 - Radiometer 2.45 m from tripod and 1 m above vegetation
- Effective instrument height has varied as a result of changes in vegetation following bushfire, regrowth, and flood
- Palustrine wetland, freshwater
- Vegetation predominantly sedges
- Vegetation classification to be completed



Pine plantation

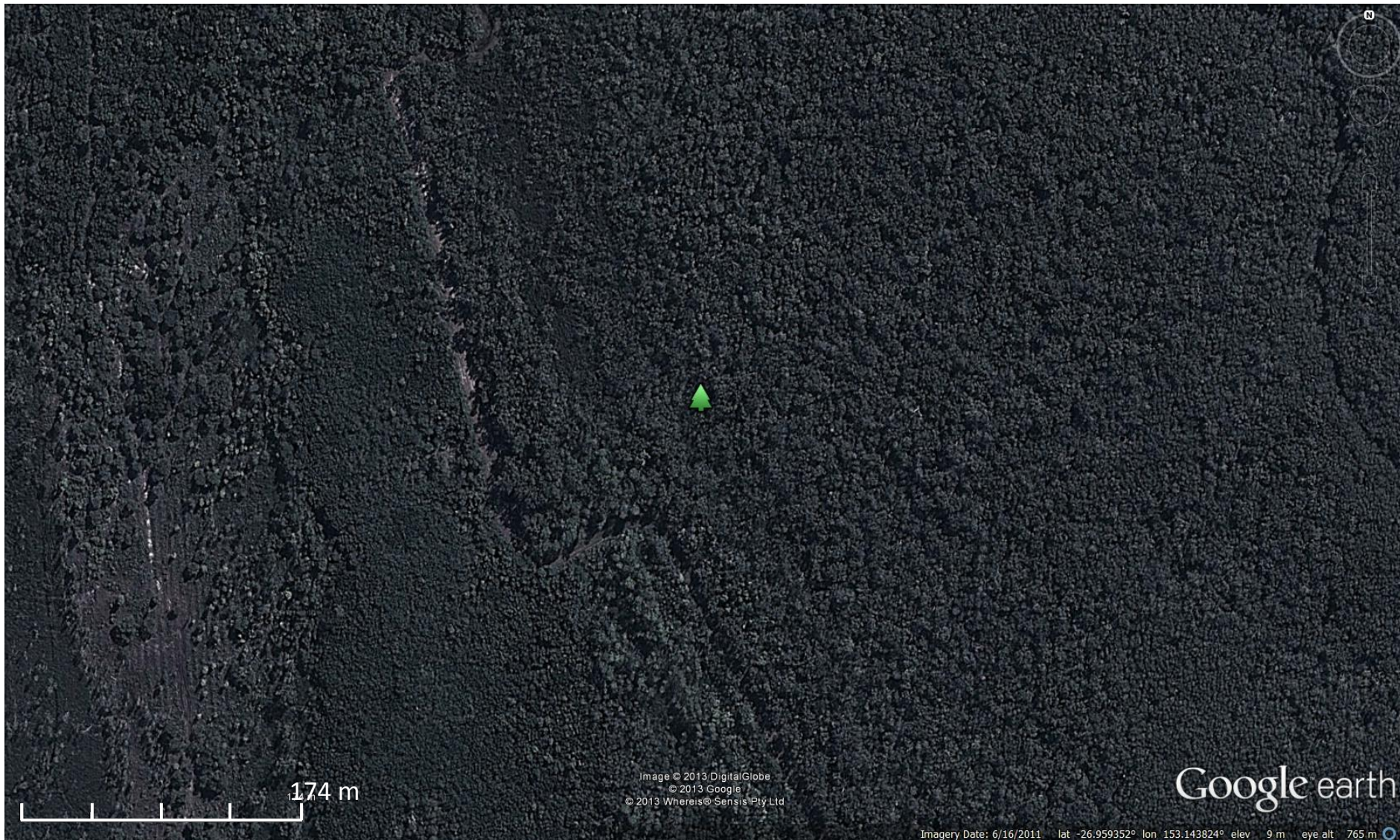


Pine plantation

- Operational since 26/11/2012
- Instruments mounted on a mast at 17 m
 - EC instruments 1.2 m from mast
 - Temperature probe 0.5 m from mast
 - Radiometer 3.4 m from mast
- Vegetation (up to 15 m)
 - Honduran Caribbean Pine (*Pinus caribaea* var. *hondurensis*)
 - Slash Pine (*Pinus elliottii* var. *elliottii*)
 - A hybrid of both (*Pinus elliottii* var. *elliottii* x *Pinus caribaea* var. *hondurensis*)



Wetland (National Park)



Wetland

- Operational since 26/6/2013
- Instruments mounted on a mast at 15.5 m
 - EC instruments 1.5 m from mast
 - Temperature probe 0.8 m from mast
 - Radiometer 2.8 m from mast
- Vegetation is non-uniform (up to 13.8 m)
 - Palustrine wetland, *Melaleuca quinquenervia* or rarely *M. dealbata* open-forest on sand plains



Significant events

- Swamp bushfire
 - 8-10/1/2013



Afternoon of January 9

Significant events - Swamp bushfire 8-10/1/2013



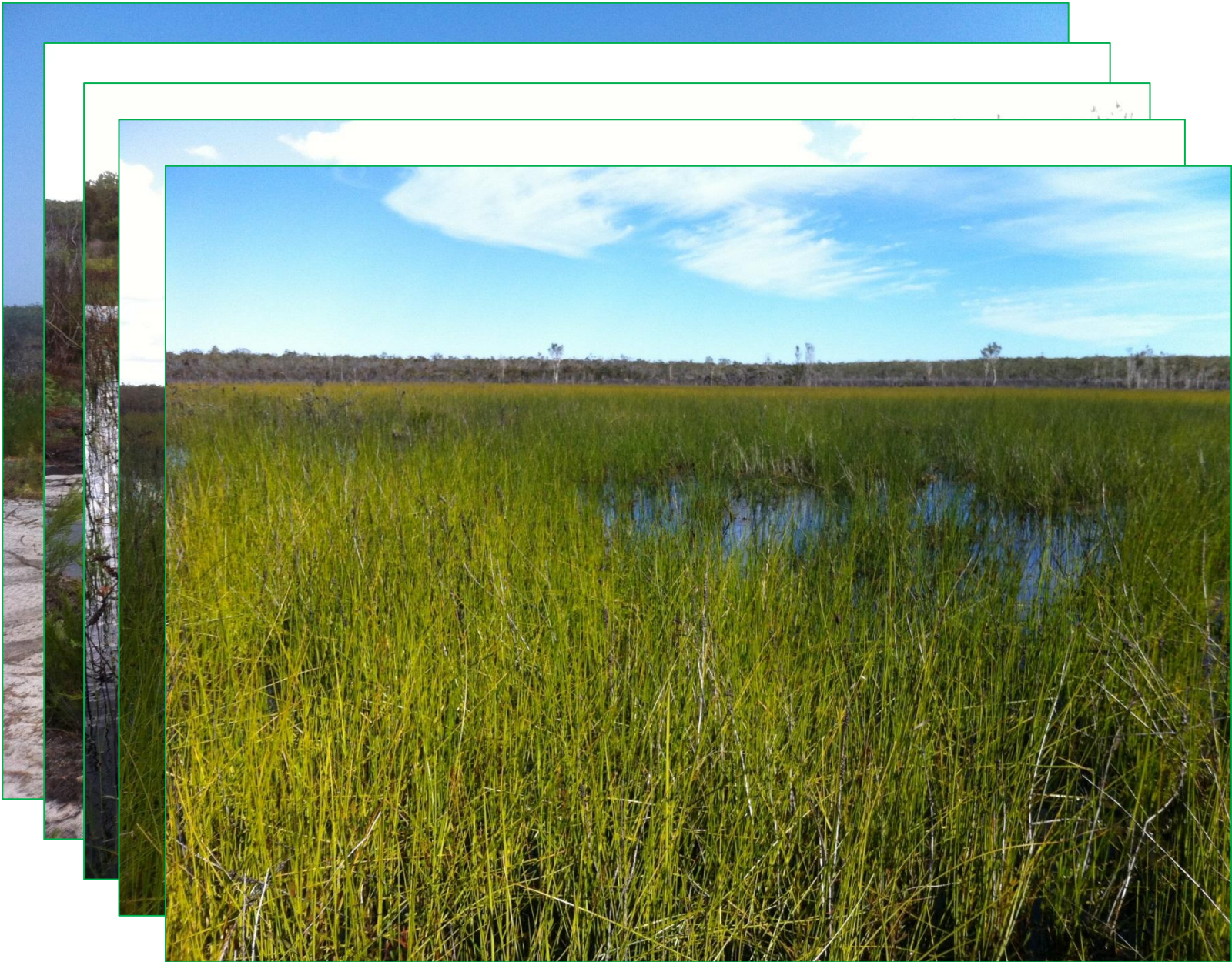
19/1/2013

Significant events – early 2013 rainfall

- Ex-TC Oswald 24-27/1/2013

Date	Bribie Island Alert (mm)	Godwin Beach (mm)
24-27/1	224	276.6
15-19/2	188	235.8
24-26/2	143	174.8
2/3	107	101.4

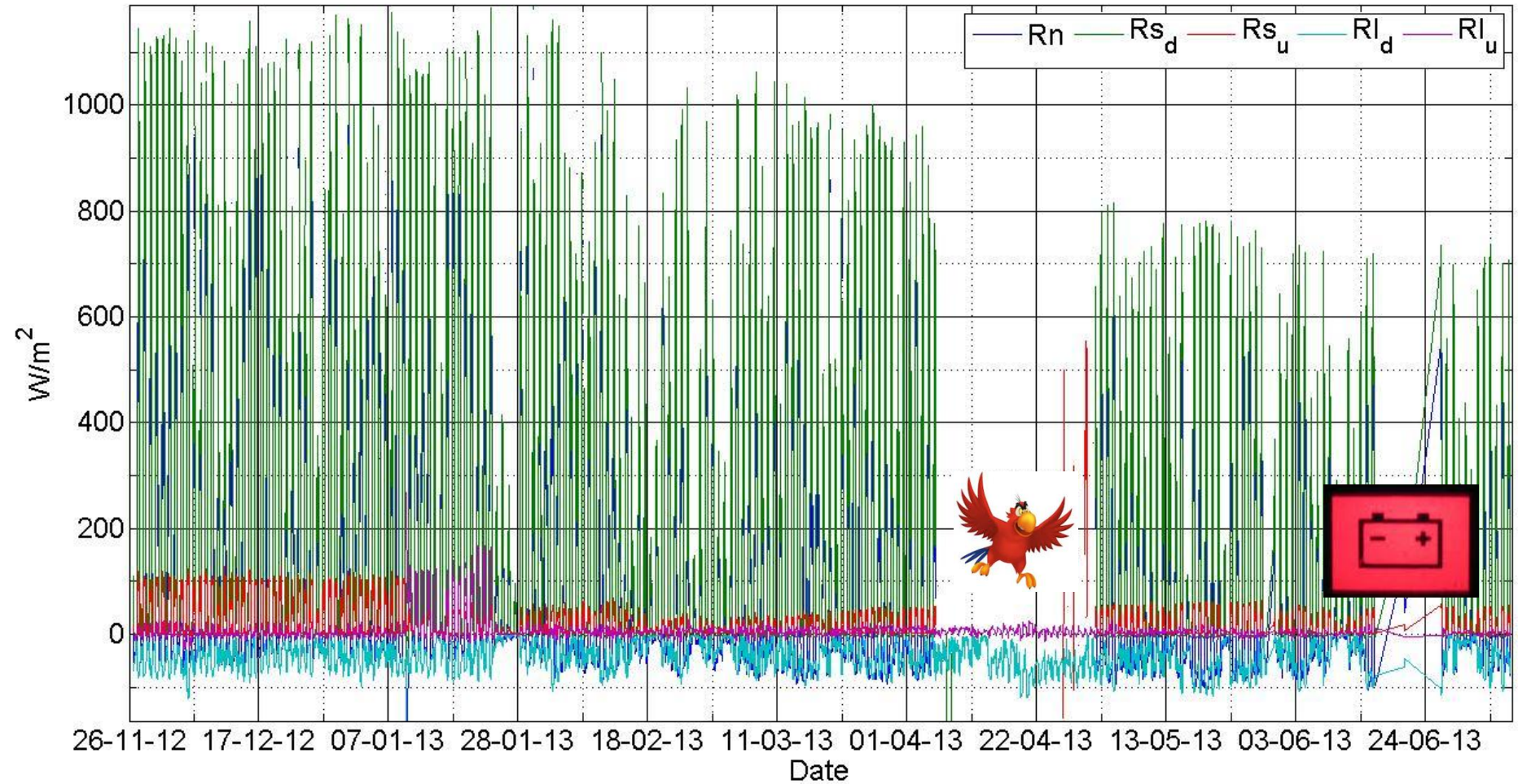
Significant events – early 2013 rainfall



26/6/2013

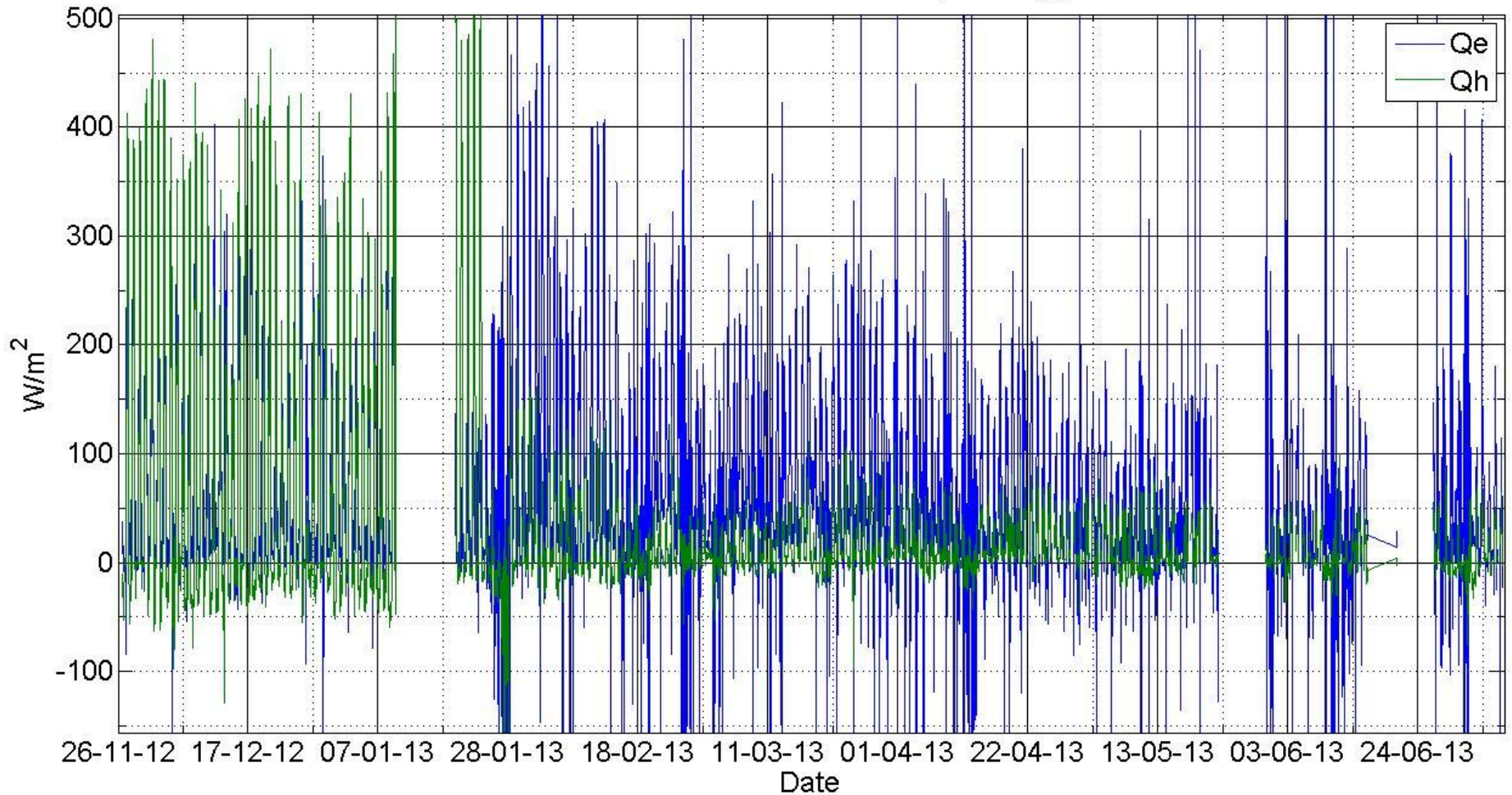
Preliminary swamp radiation data

Bribie Island National Park swamp radiation budget



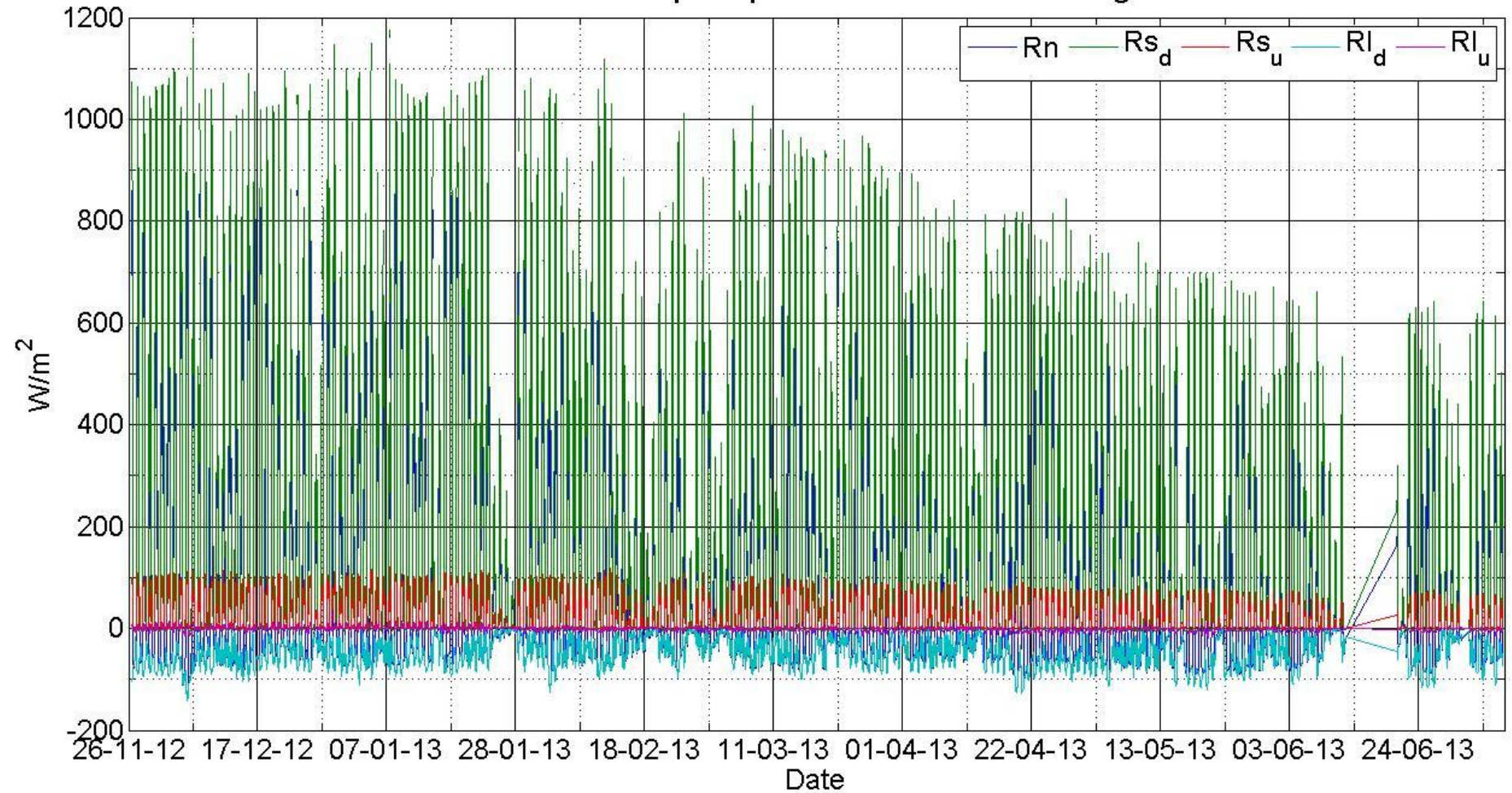
Preliminary swamp data, with WPL correction but not processed

Bribie Island National Park swamp energy balance



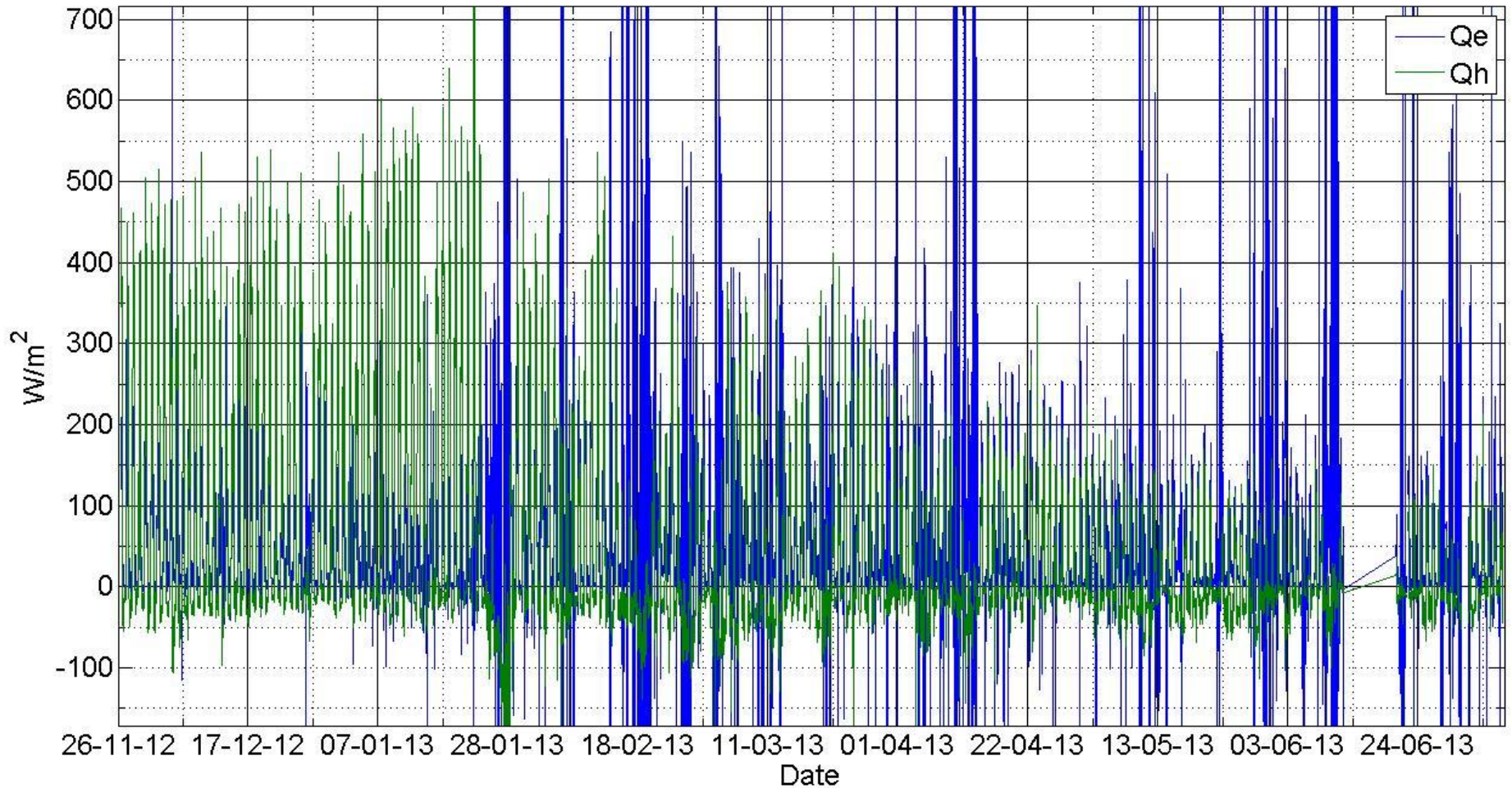
Preliminary pine plantation data

Bribie Island pine plantation radiation budget



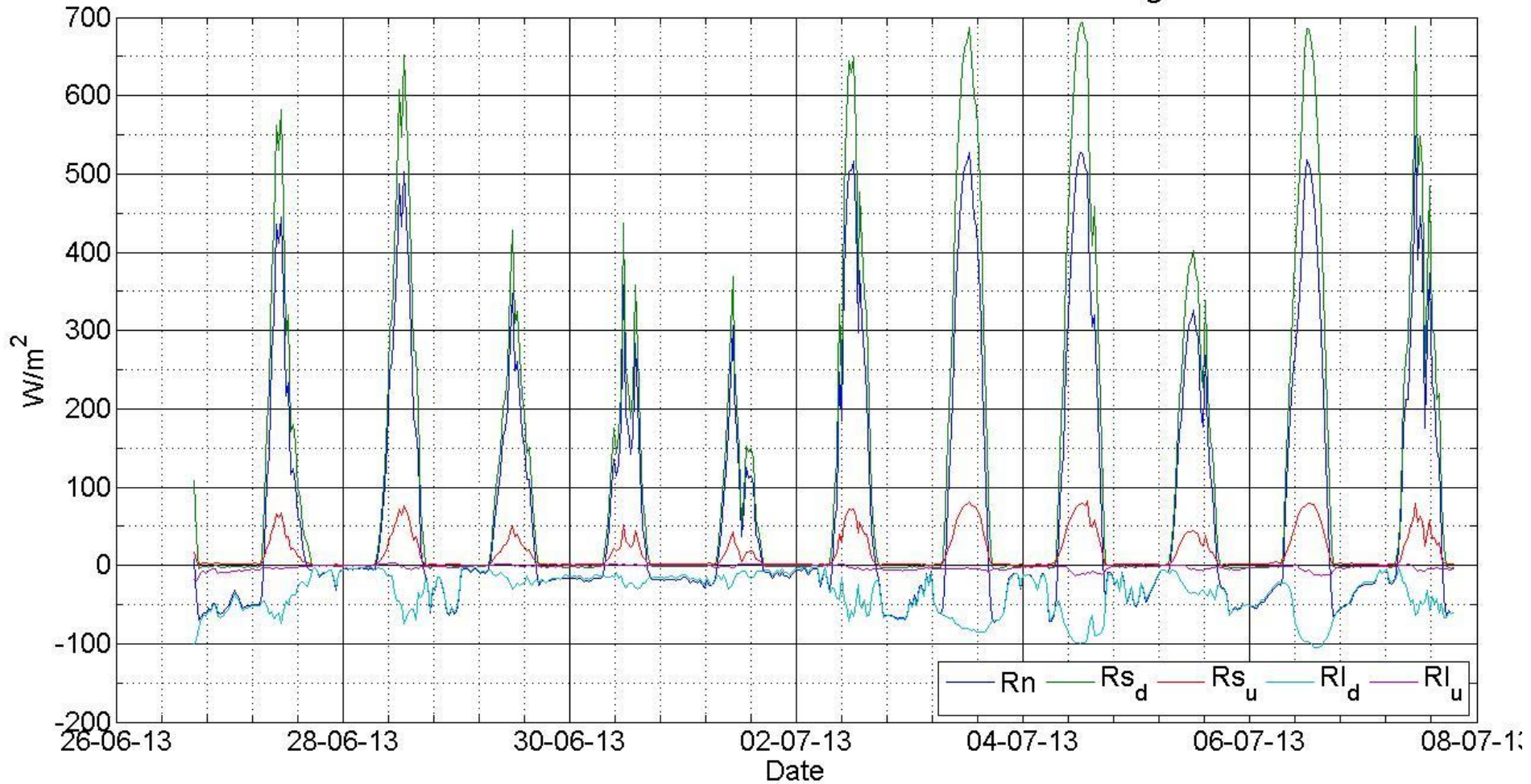
Preliminary pine plantation data, with WPL correction but not processed

Bribie Island pine plantation energy balance



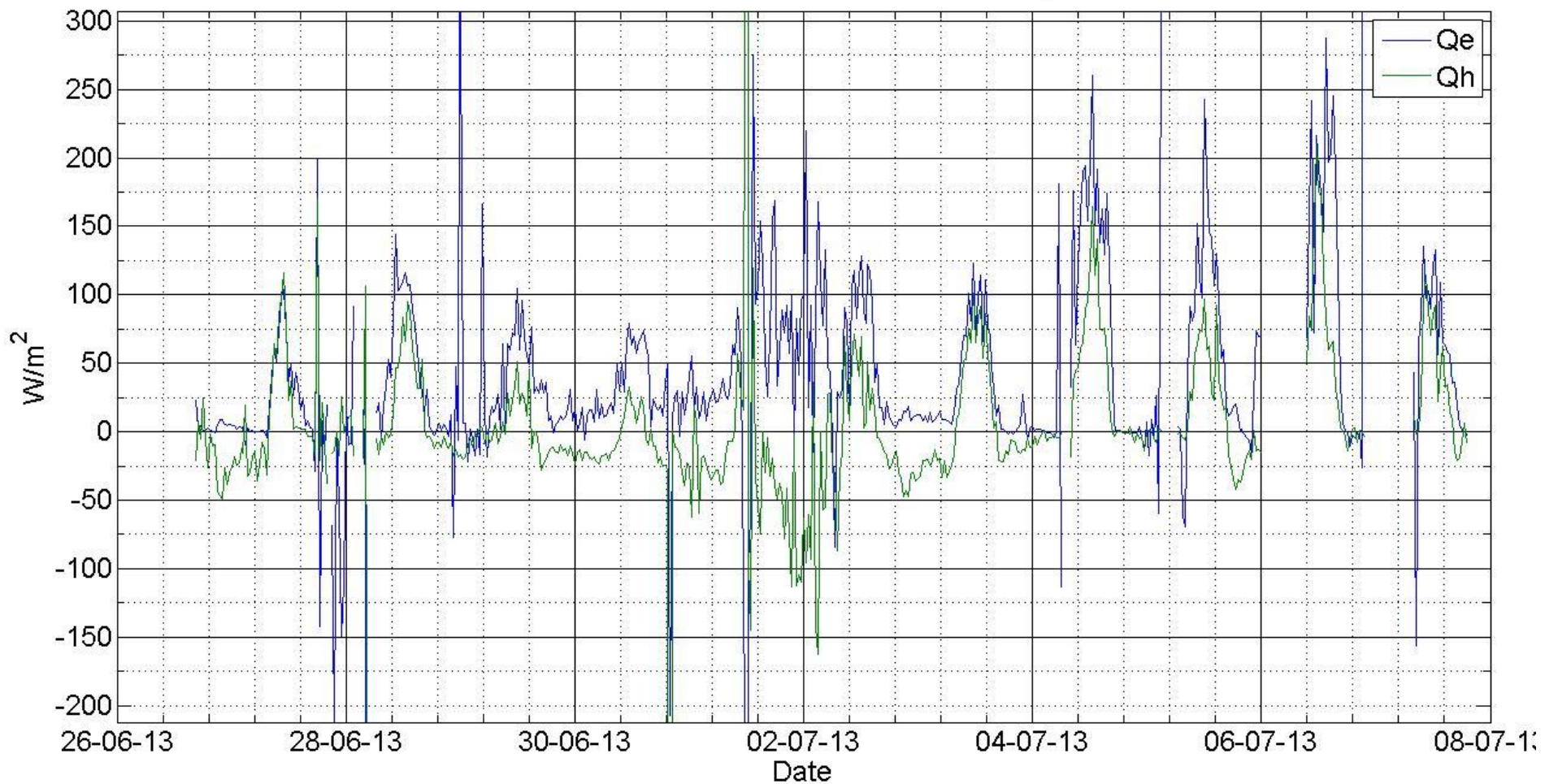
Preliminary wetland data

Bribie Island National Park wetland radiation budget



Preliminary wetland data, with WPL correction but not processed

Bribie Island National Park wetland energy balance



What's next?

- Refinement of set-ups
 - Continued observations until mid-2015
 - Data processing
 - Potential installation of an EC unit on North Stradbroke Island
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- Feedback welcome

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