

The Role of OzFlux in FluxNet

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Some Interesting Things About OzFlux and TERN

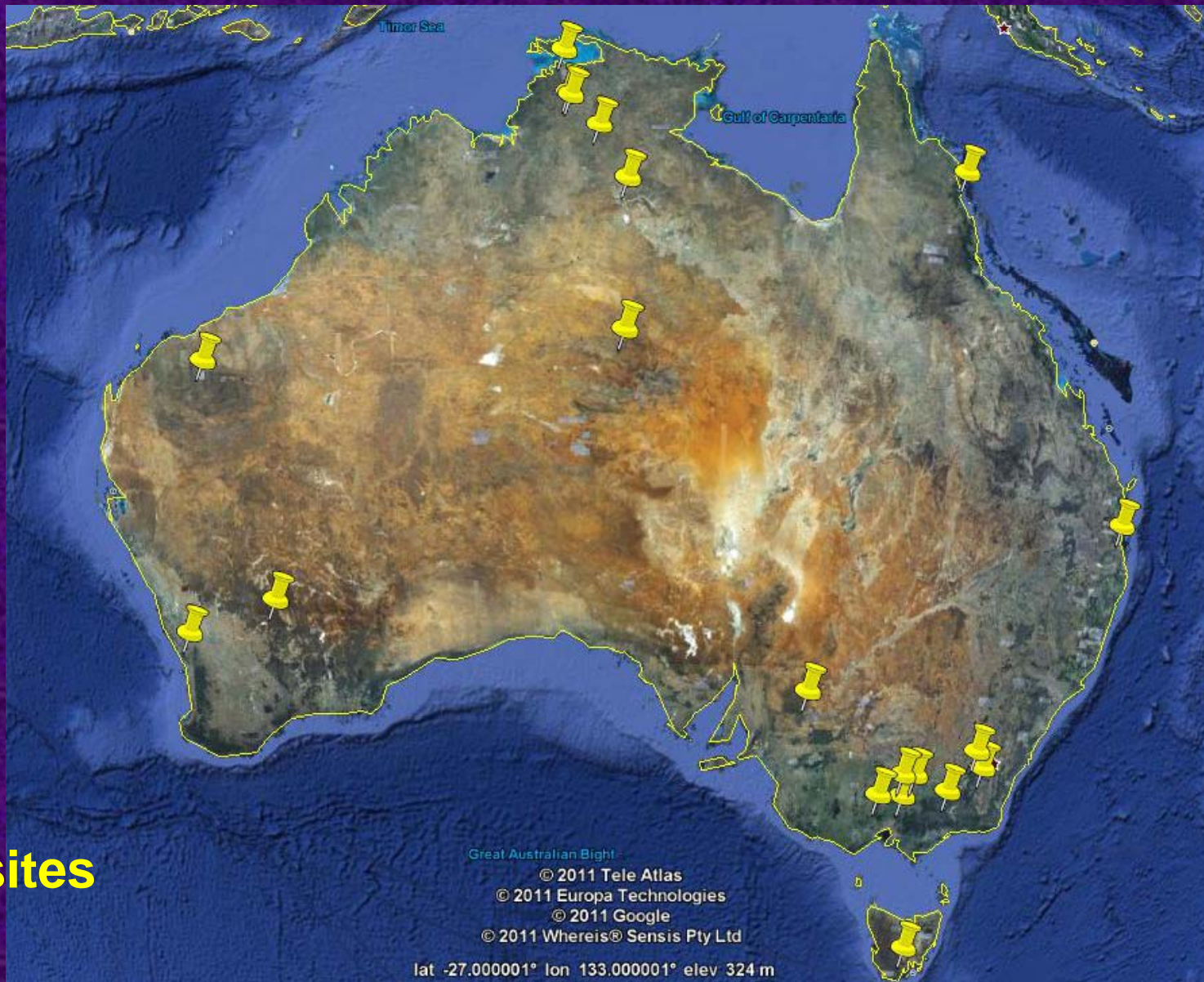
... and a little bit about FluxNet

Peter Isaac

Outline

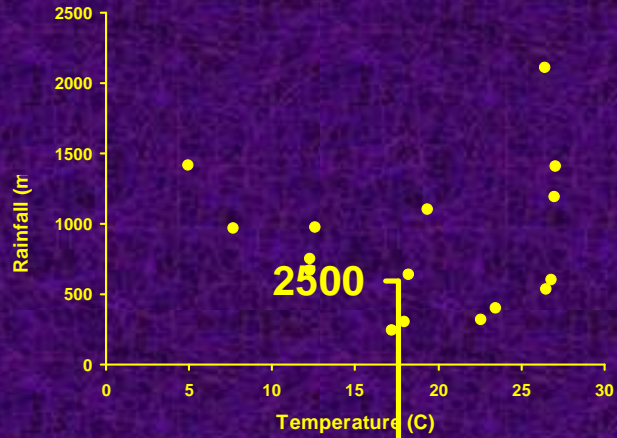
- Current status of the OzFlux network.
- Distribution of OzFlux sites by climate and vegetation type.
- OzFlux data portal usage.
- Some comments on OzFlux and TERN.
- Even fewer comments on OzFlux and FluxNet.

OzFlux Network: June 2011



20 sites

Climate and the OzFlux network



Rainfall (mm)

2500

2000

1500

1000

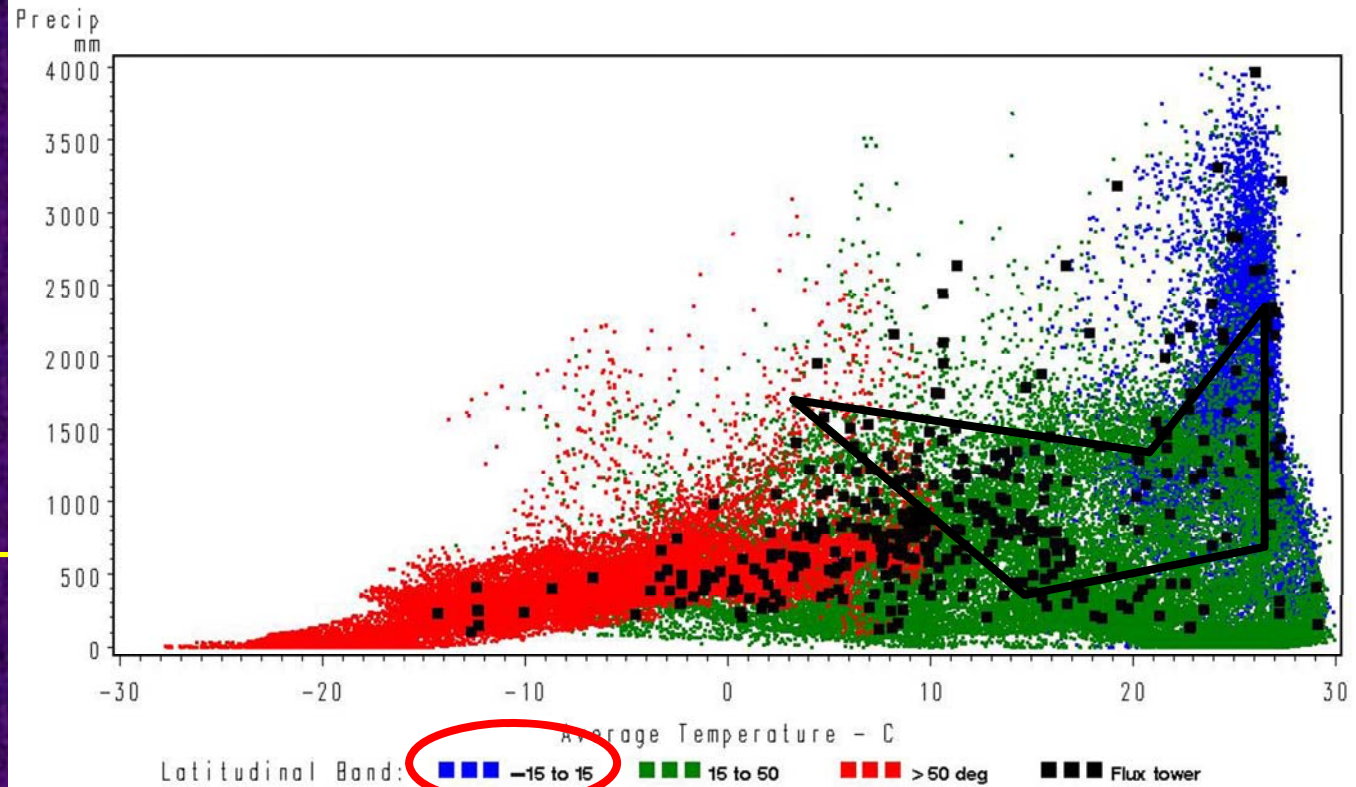
500

0

0

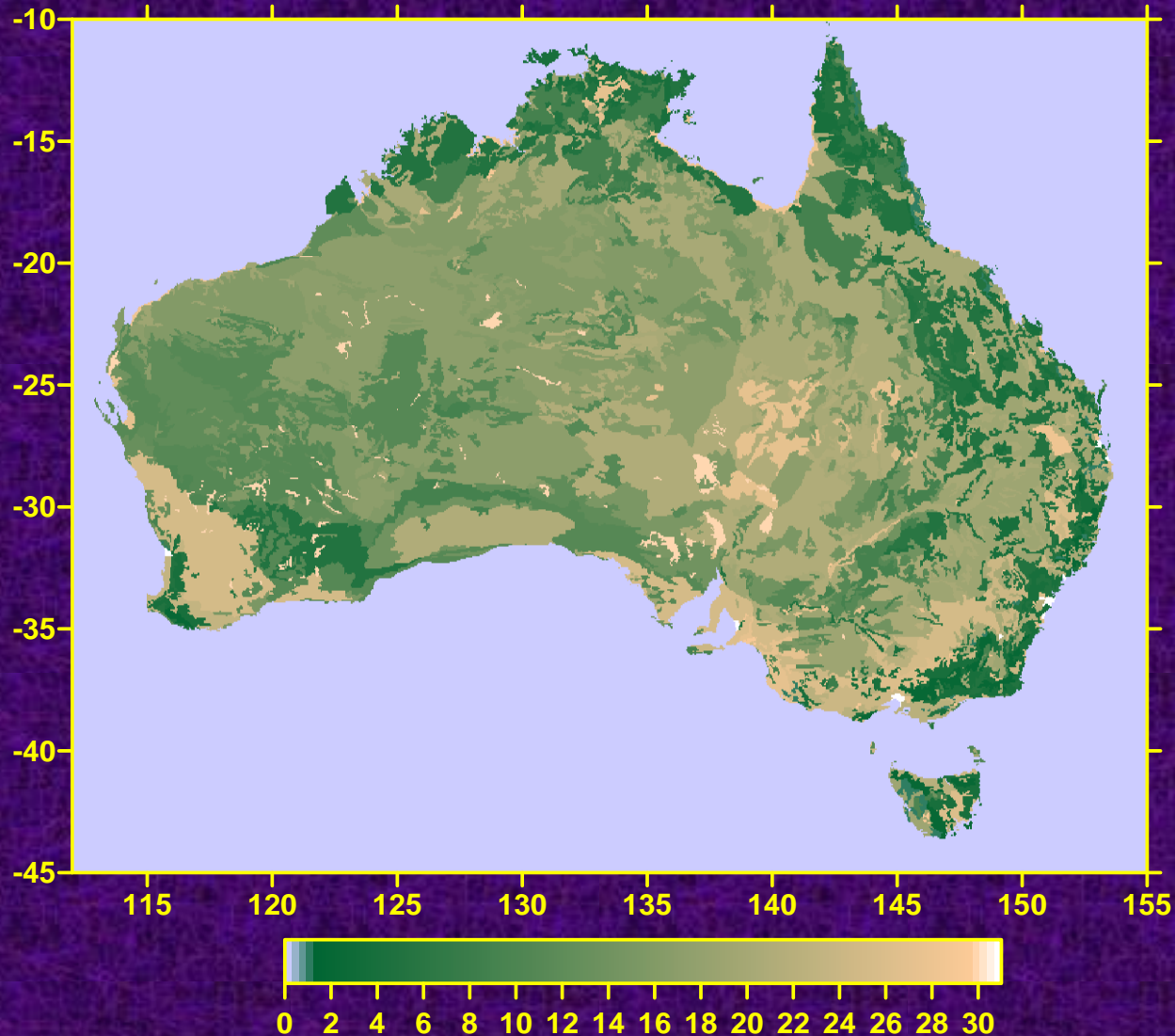
Temperature (C)

Flux Tower Climate Relative to Global Climate (Cramer et al)
April 2009



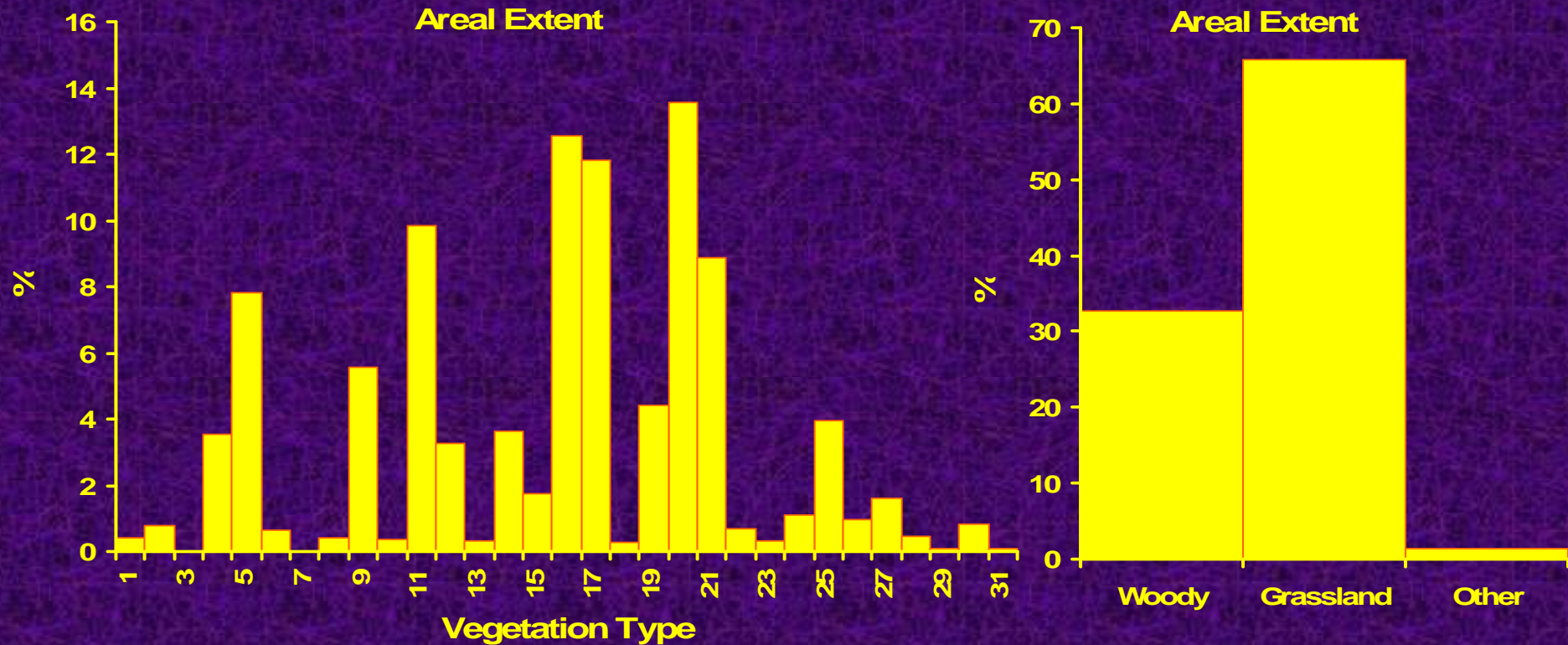
Australian Vegetation Type

Vegetation: 1988



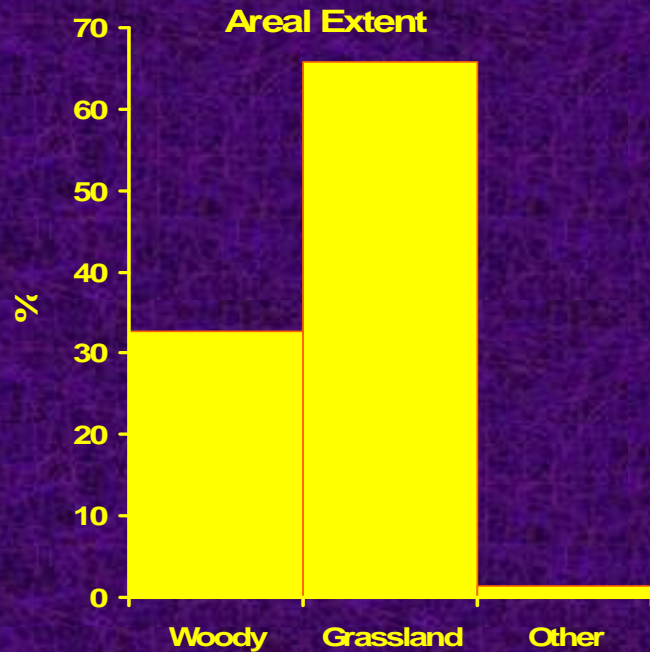
- Based on AusLIG vegetation map for 1988
- 31 vegetation types
- Types based on floristic traits rather than functionality
- CABLE uses IGBP vegetation types (see later)

Vegetation Extent



- Types up to 15 are “woody”, types from 16 to 27 are “grassy”
- Tumbarumba and Howard Springs are both classified as type 4 (mid-dense forest)

Vegetation Types and Sites



- Using a broad “woody” or “grassy” classification based on the AusLIG data set
 - 16 OzFlux sites are over “woody” vegetation
 - 4 OzFlux sites are over “grassy” vegetation
- Total coverage of vegetation types with at least one tower is 50.3%

OzFlux Data Portal

Welcome to Ecosystem page - Mozilla Firefox

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Welcome to Ecosystem page

http://ozflux.its.monash.edu.au/Welcome to Ecosystem page

Google

OzFlux Australian and New Zealand Flux Research and Monitoring

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Cape Tribulation QLD

Introduction

OzFlux is a national ecosystem research network consisting of 10 flux stations at present with a further 6 planned for installation in 2011, all funded under the TERN 1 initiative. Funding for 6 more sites has been requested under the TERN-EIF initiative. The final network of 21 sites will provide the Australian and global ecosystem modelling communities with nationally consistent observations of energy, carbon and water exchange between the atmosphere and key Australian ecosystems. OzFlux is part of an international network (FluxNet) of over 500 flux stations that is designed to provide continuous, long-term micrometeorological measurements to monitor the state of ecosystems globally.

A Central Node administered by CSIRO Marine and Atmospheric Research coordinates the OzFlux network, determines protocols for measurements, data processing and quality control, provides a database to archive data from each site and provides training to site operators as required. A 7 member Steering Committee chaired by Dr Helen Cleugh (CMAR) and Associate Professor Mike Liddell (James Cook University) provides scientific leadership for the network and coordinates logistics as required.

MONASH University MONASH University e-Research Centre ands TERN

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OzFlux Data Portal Usage

- 5 institutions have submitted data.
 - University of Technology Sydney, Monash University, Charles Darwin University, Queensland University of Technology, University of Melbourne.
- Data for 8 sites has been submitted, two of which are no longer operating.
- There are 40 data files on the site covering the years from 2007 to 2011 to date at various sites.

Why is it important to submit
data to the OzFlux data portal?

Terrestrial Ecosystem Research Network

TERN
Terrestrial Ecosystem Research Network

Welcome to TERN

The Terrestrial Ecosystem Research Network (TERN)

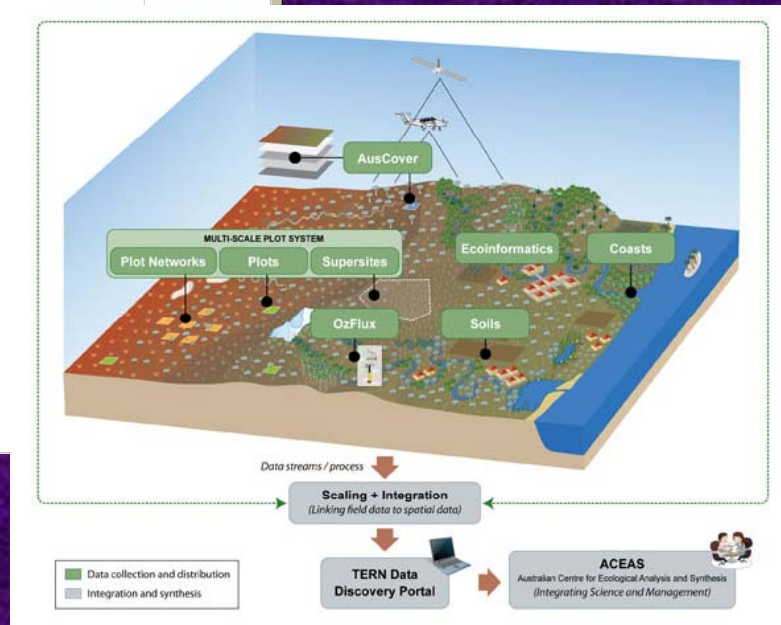
- A national collaboration of world-class researchers and infrastructure supporting the collection, storage, management and sharing of scientific data and knowledge.
- Consists of a coordinating office, and seven facilities, covering key ecosystem features and processes in Australia.
- Links ecosystem science and management through the Australian Centre for Ecological Analysis and Synthesis (ACEAS).
- Vital to the understanding and sustainable management of Australian ecosystems.

Latest News

ACEAS FUNDING
The next round for ACEAS funding opens in May 2011
[read more](#)

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 FAX +61 7 336 51423
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OzFlux is a facility under TERN

Why is TERN important?


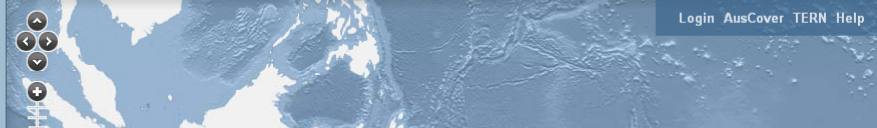
- TERN is handing out the money ...
 - NCRIS (OzFlux got \$2.5M)
 - EIF (OzFlux got \$?M)
- ... but TERN wants things for the money.
 - gather all ecosystem data under 1 umbrella (TERN)
 - data to be publicly available in timely manner
 - comprehensive and well documented meta-data
 - intra- and inter-facility collaboration
- Doing these things is required, not optional.
 - doing them will also cause the TERN gods to look favourably upon your efforts

AusCover/TERN Portal - Mozilla Firefox

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AusCover/TERN Portal

http://portal.auscover/TERN Portal

Layers Search Links

Base Layer: World Bathymetry

Select a layer below...

Login to save this map! Clear Layers Reset

AusCover Upcoming Agencies User Defin

- Land cover
- Surface reflectance
- Burned areas
- Earth system
- Satellite sensors


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ACEAS


http://www.aceas.org.au/

Welcome to the ACEAS



aceas
Australian Centre for Ecological Analysis & Synthesis

es: Targetted call funding and will ing terrestrial



About ACEAS

ACEAS is designed to foster the development of teams of scientists and re define and address critical regional to national-scale natural resource mar that require new understanding of ecosystem dynamics.If you think you car team to...

Read More

ACEAS

The Australian Centre for Ecological Analysis and Synthesis (ACEAS) is a virtual and physical Facility within the Terrestrial Ecosystem Research Network (TERN) for both disciplinary and inter-disciplinary integration, synthesis and modelling of ecosystem data to aid in the development of evidenced-based environmental management strategies and policy at regional, state and continental scales.

Read more

THIRD PARTICIPATION ROUND MAY 2011

If you think you have an important question that needs attention, some data that will inform this problem, and people that could be put together to find a solution but have not yet applied for ACEAS funding, think about it for the next round open on May 16 2011 (closes June 24; note extension).

LATEST REPORTS FROM ACEAS-FUNDED GROUPS AND FELLOWS

Joint Synthesis Centre meeting attended by ACEAS Sabbatical Fellow

Richard Thackway, the first ACEAS sabbatical fellow, attended a meeting sponsored by the major Synthesis Centres in the USA hosted by NESCent (the National Evolutionary Synthesis Center) in North Carolina, USA, in April 2011. After juggling hurricanes, as hoped, this provided a unique opportunity for collaboration and networking which was indeed the case, both for Richard and for ACEAS. [Click here for more](#)

Important ecosystem question/problem

many opinions, multi-disciplinary, patchy knowledge & understanding unrelated to management question

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Who is what?

MONASH University

MONASH University

TERN

Wombat State Forest

dry sclerophyll Eucalyptus forest Site administered by University of Melbourne

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OzFlux and FluxNet

- There are 21 sites listed under Regional Websites, OzFlux is one of them.
- OzFlux occupies a sparsely populated part of the

FLUXNET

FLUXNET, a "network of regional networks," coordinates regional and global analysis of observations from micrometeorological tower sites. The flux tower sites use eddy covariance methods to measure the exchange of carbon dioxide (CO₂), water vapor, and energy between terrestrial ecosystems and the atmosphere.

The FLUXNET database contains information about tower location and site characteristics as well as data availability. View the [availability of data](#).

The site characteristics and ancillary database may be queried by [site](#).

A new [Synthesis Activity](#) has been initiated, building on the [La Thule 2007 Synthesis](#). To submit a Proposal for a Paper, contact the [Synthesis's Co mmittee](#).

Berkeley but needs to focus on next synthesis.

Challenges for OzFlux

- Long term survival and long term funding.
- Data licensing and public availability.
- Calibration.
- Greater collaboration between groups within OzFlux.
 - More frequent small gatherings?
- Greater collaboration with other TERN facilities:
 - e-MAST, PALS, AusCover, EcoInformatics

... And the Last Words

- Thanks to all of the people currently wrestling with towers and data, particularly the new entrants.
 - Keep persevering because the cause is worthwhile.

