

TITLE: Tumbarumba

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<http://www.dar.csiro.au/lai/ozflux/monitoringsites/tumbarumba/index.html>

1.0 DATA SET OVERVIEW:

Introduction or abstract

<http://www.dar.csiro.au/lai/ozflux/monitoringsites/tumbarumba/index.html>

Time period covered by the data:

data submitted for CEOP EOP-3 and CEOP EOP-4

(1 Oct 2002 - 30 Sept 2003 and 1 Oct 2003 - 30 Sept 2004)

Physical location (including lat/lon/elev) of the measurement or platform:

[-35.65043S](#) [148.15125 E](#) [1200.00](#) m asl

landscape, and soil characteristics

Bago State Forest, where Tumbarumba Flux station was established in March 2000, is a native forest of 50,000 ha that has been managed for wood production for over 100 years. It is a moderately open ($L_{ai} \sim 2.4$), wet sclerophyll forest, 40 m tall, in which the dominant species are *Eucalyptus delegatensis* and *Eucalyptus dalrympleana* of mixed ages ranging up to 90 years. Climate is wet temperate, where typical annual rainfall is 1000 mm and temperature ranges between -10° and 30° C.

The soil (classified as an acidic, eutrophic, red Dermosol) has the following Profile Morphology

O1 0 - 0.02 m Organic Layer;

A1 0.02 - 0.08 m Dark reddish brown (5YR3/3-Moist); Mechanical, 2-10%, , Faint; Clay loam; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Moderately moist; Very weak consistence; Field pH 4.5 (pH meter); Many, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Abrupt, Smooth change to -

A2 0.08 - 0.2 m Dark reddish brown (2.5YR3/3-Moist); Brown (7.5YR4/4-Dry); Biological mixing, 2-10%, , Faint; Light clay; Weak grade of structure, 2-5 mm, Polyhedral; Rough-ped fabric; Moderately moist; Very firm consistence; 2-10%,

- fine gravelly, 2-6mm, angular tabular, dispersed, Coal, coarse fragments; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Clear, Smooth change to -
- B21 0.2 - 0.4 m Dark reddish brown (2.5YR3/4-Moist); Biological mixing, 2-10%, , Faint; Light clay; Massive grade of structure; Earthy fabric; Moderately moist; Firm consistence; 2-10%, fine gravelly, 2-6mm, angular tabular, dispersed, Coal, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to -
- B22 0.4 - 0.72 m Dark reddish brown (2.5YR3/4-Moist); Clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; 0-2%, coarse gravelly, 20-60mm, subrounded, coarse fragments; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Diffuse, Smooth change to -
- B23 0.72 - 1.62 m Reddish brown (2.5YR4/4-Moist); Clay loam; Massive grade of structure; Earthy fabric; Moist; Weak consistence; Field pH 5 (pH meter); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Diffuse change to -
- C 1.62 - 2.42 m Yellowish brown (10YR5/4-Moist); Medium sandy clay loam; Sandy (grains prominent) fabric; Moderately moist; 2-10%, Granodiorite, coarse fragments; Field pH 5 (pH meter)

World Wide Web address references

<http://www.dar.csiro.au/lai/ozflux>

2.0 INSTRUMENTATION DESCRIPTION:

Description of instrumentation

<http://www.dar.csiro.au/lai/ozflux/monitoringsites/tumbarumba/measurements.html>

3.0 DATA COLLECTION AND PROCESSING:

Description of data collection as well as description of derived parameters and processing techniques used are described in:

Leuning, R., Cleugh, H.A., Zegelin, S.J., and Hughes, D. 2005. Carbon and water Auxes over a temperate Eucalyptus forest and a tropical wet/dry savanna in Australia: measurements and comparison with MODIS remote sensing estimates. *Agric.For.Meteorol.* 129, 151–173.

4.0 QUALITY CONTROL PROCEDURES

Description of quality control procedures are described in:

Leuning, R., Cleugh, H.A., Zegelin, S.J., and Hughes, D. 2005. Carbon and water Auxes over a temperate Eucalyptus forest and a tropical wet/dry savanna in Australia: measurements and comparison with MODIS remote sensing estimates.

Agric.For.Meteorol. 129, 151–173.

5.0 GAP FILLING PROCEDURES

Gap filling procedures are described in

Leuning, R., Cleugh, H.A., Zegelin, S.J., and Hughes, D. 2005. Carbon and water Auxes over a temperate Eucalyptus forest and a tropical wet/dry savanna in Australia: measurements and comparison with MODIS remote sensing estimates. Agric.For.Meteorol. 129, 151–173.

For nighttime CO₂-Fluxes please refer to

van Gorsel, E., Leuning, R., Cleugh, H. A., Keith, H. and Suni, T. 2006. Nocturnal Carbon Efflux: Reconciliation of eddy covariance and chamber measurements using an alternative to the u*-threshold filtering technique. TellusB, (accepted for publication).

6.0 DATA REMARKS:

In 2004 (21.04. - 08.07.) there is a period where flux data is missing. This is due to problems with power supply (stolen generator)

7.0 REFERENCE REQUIREMENTS:

Data Policy

Kindly inform the appropriate Principal Investigators of how you are using flux and site data and of any publication plans.

If the Principal Investigators feel that they should be acknowledged or offered participation as authors they will let you know. We assume that an agreement on such matters will be reached prior to publishing and/or use of the data for publication.

If your work directly competes with the Principal Investigators analysis he or she may ask that they have the opportunity to submit a manuscript before you submit the one that uses their data. In addition when publishing a paper using flux data please acknowledge the agency that supported the flux tower research.

8.0 REFERENCES:

Leuning, R., Cleugh, H.A., Zegelin, S.J., and Hughes, D. 2005. Carbon and water Auxes over a temperate Eucalyptus forest and a tropical wet/dry savanna in Australia: measurements and comparison with MODIS remote sensing estimates. Agric.For.Meteorol. 129, 151–173.

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