

DAAC Home > Get Data > Field Campaigns > Boreal Ecosystem-Atmosphere Study (BOREAS) > User guide

# BOREAS TE-23 CANOPY ARCHITECTURE AND SPECTRAL DATA FROM HEMISPHERICAL PHOTOS

## Get Data

### Summary:

The BOREAS TE-23 team collected hemispherical photographs in support of its efforts to characterize and interpret information on estimates of canopy architecture and radiative transfer properties for most BOREAS study sites. Various OA, OBS, OJP, YJP, and YA sites in the boreal forest were measured from May to August 1994. The hemispherical photographs were used to derive values of LAI, Leaf angle, Gap fraction, and Clumping index. This documentation describes these derived values. The derived data are stored in tabular ASCII files. The hemispherical photographs are stored in the original set of 42 CD-ROMs, that were supplied by TE-23.

A guide document which includes more information about this data set can be found at [http://daac.ornl.gov/daacdata/boreas/TE/te23arch/comp/TE23\\_Canopy\\_Arch.txt](http://daac.ornl.gov/daacdata/boreas/TE/te23arch/comp/TE23_Canopy_Arch.txt).

ORNL DAAC maintains information on the entire [BOREAS Project](#).

### Data Citation

Cite this data set as follows:

Rich, P. M. 1999. BOREAS TE-23 Canopy Architecture and Spectral Data from Hemispherical Photos. Data set. Available on-line [http://www.daac.ornl.gov] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, U.S.A. doi:10.3334/ORNLDAAC/492.

### References:

Fournier, R.A., P.M. Rich, and R. Landry. 1997. Hierarchical characterization of canopy architecture for boreal forests. *Journal of Geophysical Research*, 102 (102), 29445-29454.

Sellers, P. and F. Hall. 1994. Boreal Ecosystem-Atmosphere Study: Experiment Plan. Version 1994-3.0, NASA BOREAS Report (EXPLAN 94).

Sellers, P., F. Hall, and K.F. Huemmrich. 1996. Boreal Ecosystem-Atmosphere Study: 1994 Operations. NASA BOREAS Report (OPSDOC 94).

Sellers, P.J., F. Hall, H. Margolis, B. Kelly, D. Baldocchi, G. den Hartog, J. Cihlar, M.G. Ryan, B. Goodison, P. Crill, K.J. Ranson, D. Lettenmaier, and D.E. Wickland. 1995. The Boreal Ecosystem-Atmosphere Study (BOREAS): An overview and early results from the 1994 field year. *Bull. Am. Meteorol. Soc.* 76:1549-1577.

Sellers, P. and F. Hall. 1996. Boreal Ecosystem-Atmosphere Study: Experiment Plan. Version 1996-2.0, NASA BOREAS Report (EXPLAN 96).

Sellers, P., F. Hall, and K.F. Huemmrich. 1997. Boreal Ecosystem-Atmosphere Study: 1996 Operations. NASA BOREAS Report (OPSDOC 96).

Sellers, P.J., F.G. Hall, R.D. Kelly, A. Black, D. Baldocchi, J. Berry, M. Ryan, K.J. Ranson, P.M. Crill, D.P. Lettenmaier, H. Margolis, J. Cihlar, J. Newcomer, D. Fitzjarrald, P.G. Jarvis, S.T. Gower, D. Halliwell, D. Williams, B. Goodison, D.E. Wickland, and F.E. Guertin. 1997. BOREAS in 1997: Experiment overview, scientific results, and future directions. *Journal of Geophysical Research*, 102 (D24), 28,731-28,769.

### Data Format:

For information on Parameter/Variable Names, Variable Description/Definition, Units of Measurement, and Data File Format see this companion file <http://daac.ornl.gov/daacdata/boreas/TE/te23arch/comp/te23arch.def>

## Document Information:

13-Dec-1999 (data citation revised on 26-Sep-2002)

### Document Review Date:

13-Dec-1999

### Document Curator:

[uso@daac.ornl.gov](mailto:uso@daac.ornl.gov)

### Document URL:

<http://daac.ornl.gov>



[Privacy Policy](#) | [Feedback](#) | [Help](#)



#### [Home](#)

#### [Contact Us](#)

#### About Us

- [Who We Are](#)
- [Partners](#)
- [User Working Group](#)
- [Data Citation Policy](#)
- [News](#)

#### Get Data

- [Complete Dataset List](#)
- [Search for Data](#)
- [Field Campaigns](#)
- [Land Validation](#)
- [Regional/Global](#)
- [Model Archive](#)

#### Submit Data

- [Submit Data Form](#)
- [Data Scope and Acceptance](#)
- [Data Authorship Policy](#)
- [Data Publication Timeline](#)
- [Detailed Submission Guidelines](#)

#### Data Management

- [Best Practices](#)
- [Data Management Plan](#)
- [How-to's](#)

#### Tools

- [MODIS](#)
- [THREDDS](#)
- [SDAT](#)
- [Daymet](#)
- [CARVE Data Viewer](#)
- [Soil Moisture Visualizer](#)
- [Land - Water Checker](#)

#### Help

- [FAQs](#)