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Title
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Permalink
https://escholarship.org/uc/item/1v1393pq

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Publication Date
2008-03-06

CREATING AND ACCESSING THE GLOBAL FLUXNET DATA SET

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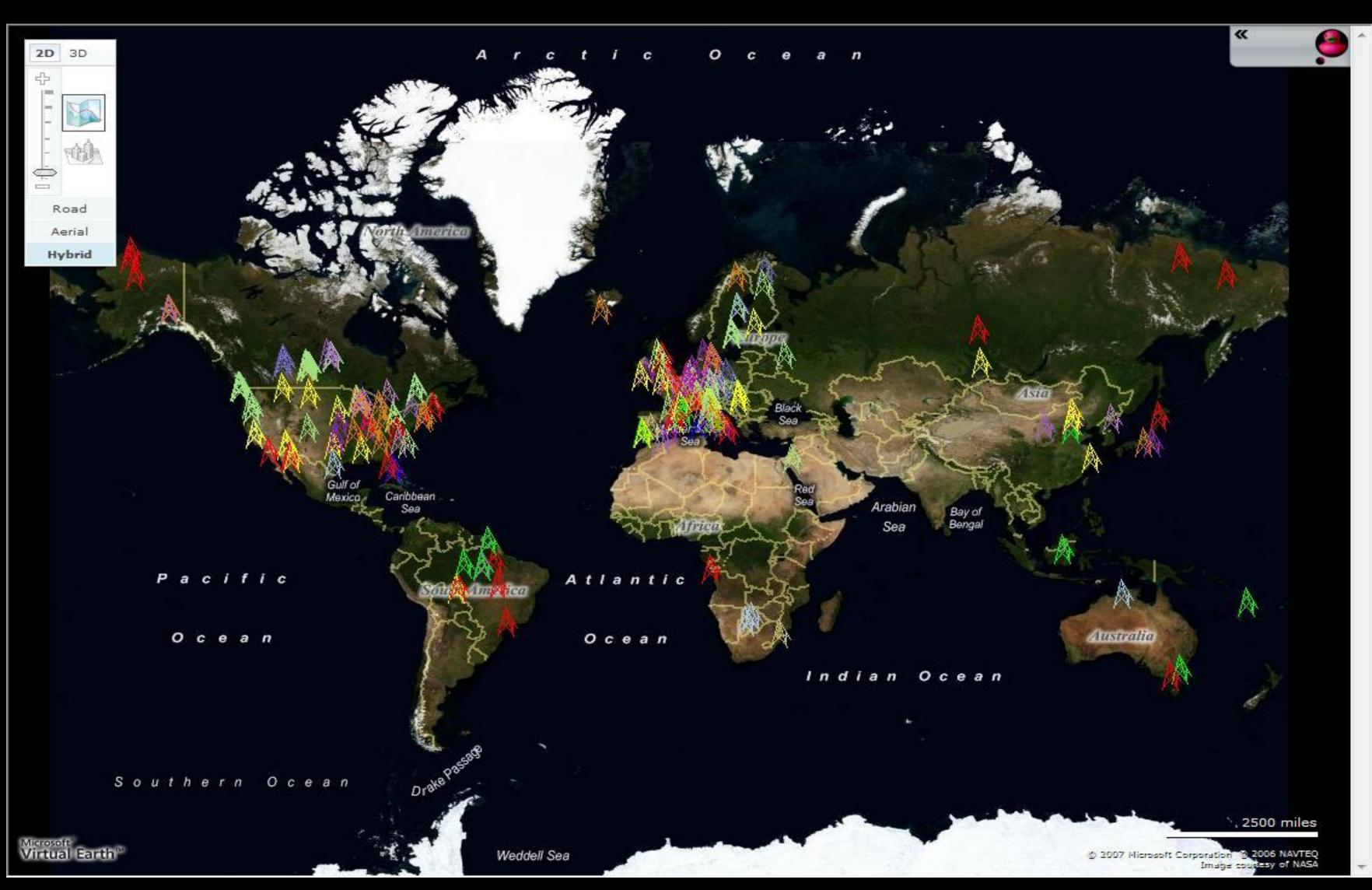
Berkeley Water Center[a]; John Hopkins University[b]; Lawrence Berkeley National Laboratory[c]; Max Planck Institute for Biogeochemistry, Germany[d]; Microsoft Research[e]; University of Bayreuth, Germany[g]; University of California, Berkeley[h]; University of Tuscia, Italy[i]; University of Virginia[j]
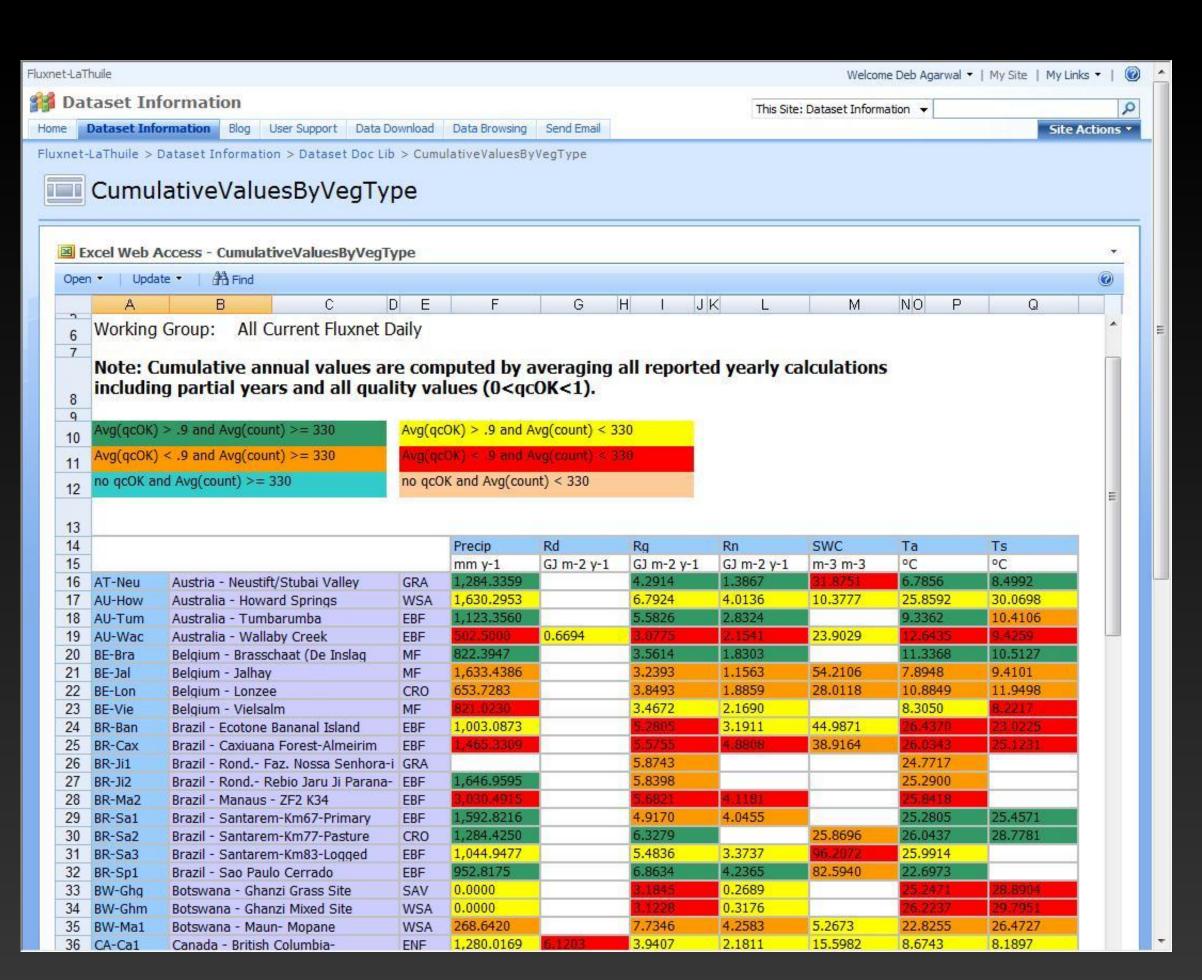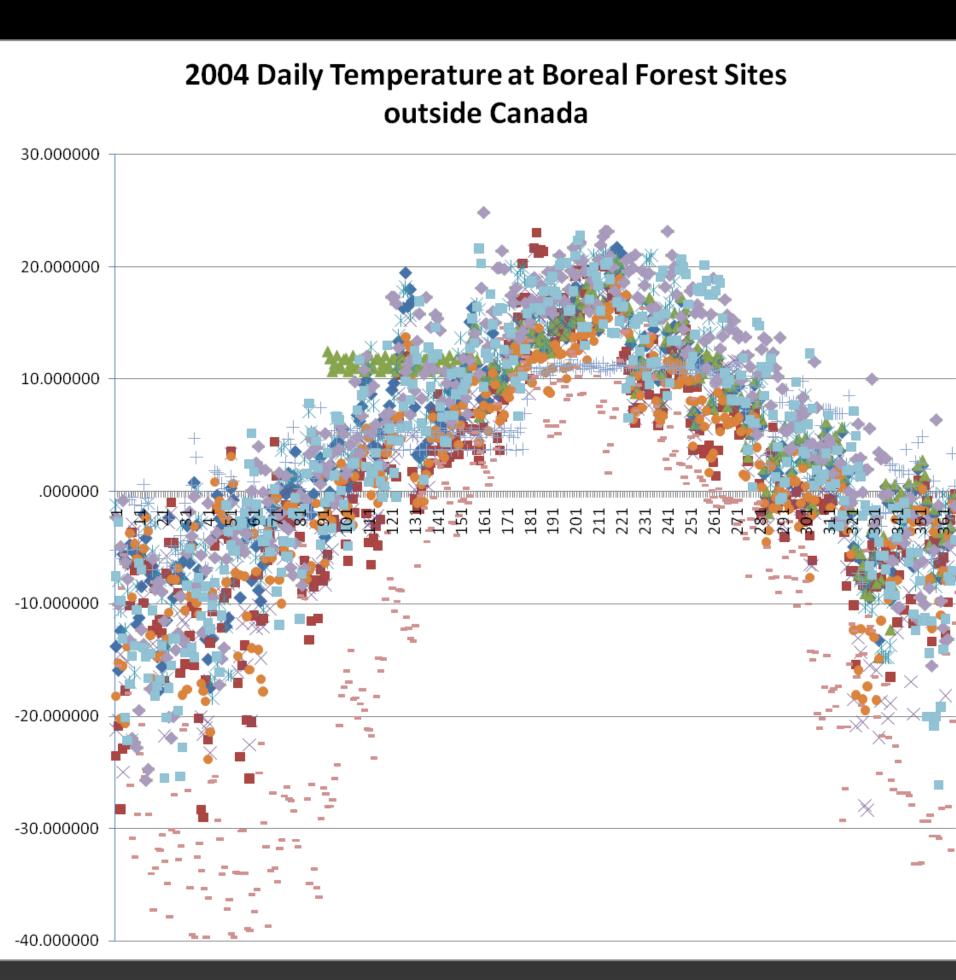
Abstract

The recently-gathered FLUXNET synthesis dataset contains over 900 site years of eddy covariance data from over 240 sites. Over the last year, the raw data supplied by individual tower investigators has been uniformly processed to produce a quality-assessed and gap-filled science data product. The dataset also contains associated site ancillary data such as site climate characteristics and soil parameters. The resulting collection is now being used by scientists world-wide.
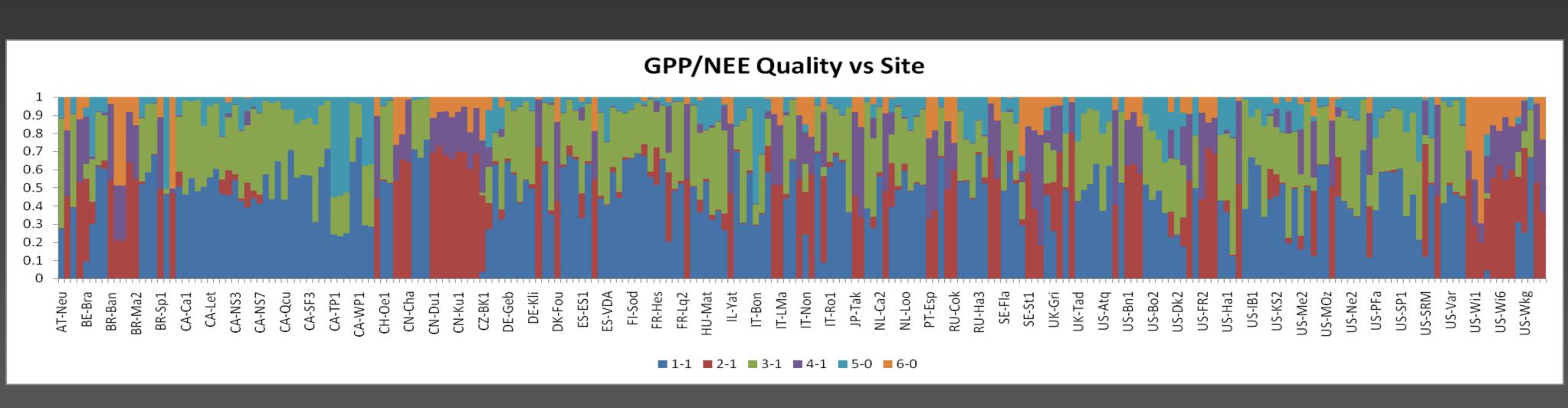
The size of the dataset is such that data browsing is difficult. For instance, a search of the dataset for sites with particular meteorological or flux characteristics would require downloading the complete dataset and then running all of the data through a preliminary analysis. Using Microsoft SQL Server, we enable interactive data browsing as well as automated generation of data summaries for quick reference.

The use of the dataset is currently limited to FLUXNET scientists for cross-site synthesis analyses only. We have leveraged Microsoft Office SharePoint Server 2007 to both protect and simplify access. Since data cleaning will occur over time, the dataset will become more generally-available to other scientific communities.

This dataset was produced in association with the FLUXNET-TCO synthesis workshop held in LaThuile, Italy, from February 18 to 22, 2007. The aim of the workshop was to produce a new and extensive FLUXNET dataset and start first analyses. The workshop was attended by 60 scientists, who represented a cross section of younger and established scientists and were members of regional networks from around the world: CarboeuropeIP, Ameriflux, Fluxnet-Canada, LBA, Asiaflux, Chinaflux, USCCC, Ozflux, Carboafrica, Koflux, NECC, TCOS-Siberia and Afriflux.
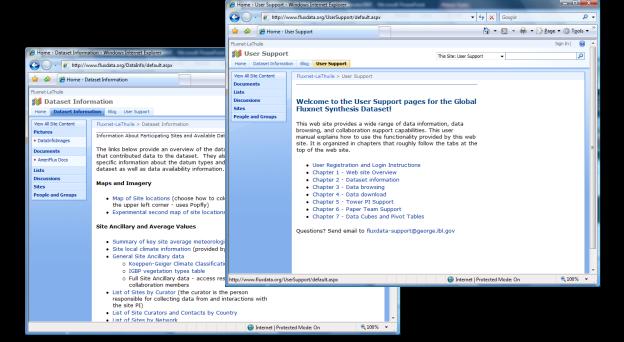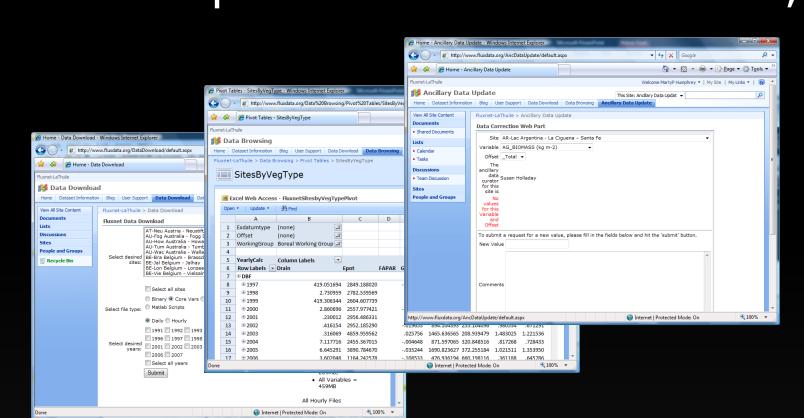
Fluxnet data server – www.fluxdata.org
- Common data repository capturing provenance information and common data processing
- Ancillary and biological data incorporated
- Data browsing, mining, and plotting capabilities
- Data repository that is easy to maintain, load with data, and expand capabilities
- Collaboration space to enable interaction between PIs and proposers and among proposal teams
- Data download and access (protected and tracked)
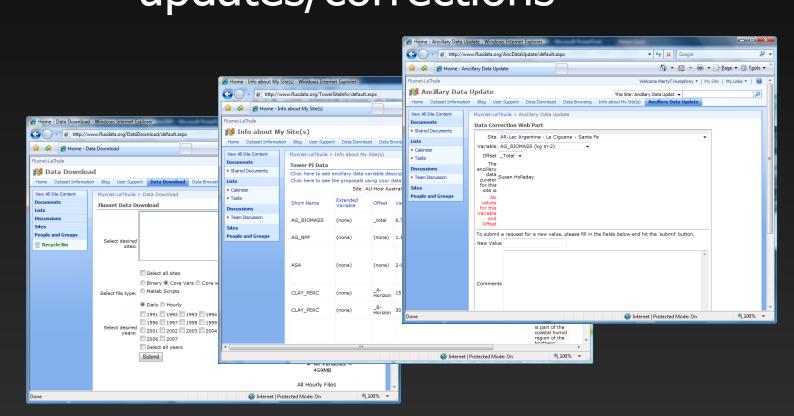
Reduce cut & paste manipulation of data
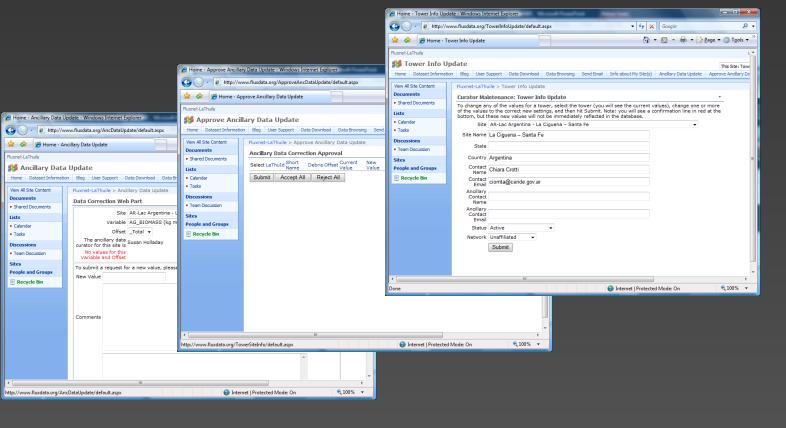Dramatically increase the scale of the data that can be analyzed

For the public: Dataset information, user support

Customizable views/functionality based on role(s)

For the scientists analyzing the data: Download data, interactively explore data, provide ancillary data updates/corrections

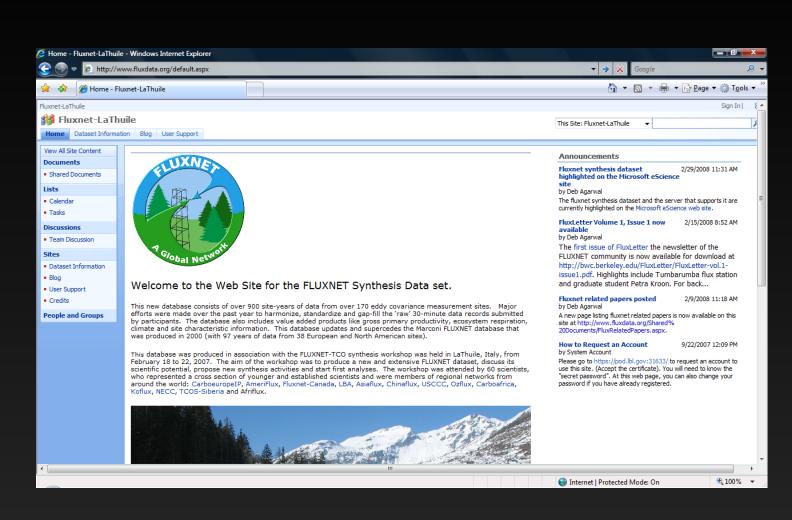*Powered by Microsoft Office Sharepoint Server 2007*

For the tower owners: Download curated tower data, review/update info about the tower, provide ancillary data updates/corrections

For the data curators: Download data, provide ancillary data updates/corrections, reject/accept proposed data updates/corrections

2004 Daily Temperature at Boreal Forest Sites outside Canada

GPP/NEE Quality vs Site

Data Availability By Site

http://www.fluxdata.org/   **For further information e-mail: fluxdata-support@george.lbl.gov**