Arctic Tundra Flux Study in the Kuparuk River Basin (Alaska), 1994-1996

Get Data

Summary:

CO2 and water vapor fluxes and ecosystem characteristics were measured at 24 sites along a 317-km transect from the Arctic coast to the latitudinal tree line in Alaska during the growing seasons of 1994-1996. The sites were stratified to sample the ranges of climate, physiography, soil moisture, and vegetation type within the region. The study's main objective was to understand what factors control variations in CO2 and water vapor exchange across the region. Investigators developed a spatially extensive approach of documenting fluxes for 1-2 weeks at each of the sites in order to study as many sites as possible during the middle of the short arctic growing season when plant phenology is most comparable among different vegetation types and climatic regions. This design allowed comparison, with some replication, of a given vegetation type across different provinces and climatic zones, as well as multiple vegetation types within a given geographic area.

This data set contains eddy-correlation flux measurements of sensible heat, latent heat, CO2, and momentum fluxes, with micrometeorological measurements of air temperature, wind speed and direction, and measurements of total solar and net radiation, and photosynthetic photon flux density.

Measurement site locations and several physical and biophysical characteristics are provided in a companion file Alaska_Kuparuk_sites.dat (http://daac.ornl.gov/daacdata/fluxnet/Arctic_Flux/comp/Alaska_Kuparuk_sites.dat). Descriptions of the site data file format and images of the site locations in the Kuparuk River Basin are provided in a separate companion file Alaska_Kuparuk_sites.pdf (http://daac.ornl.gov/daacdata/fluxnet/Arctic_Flux/comp/Alaska_Kuparuk_sites.pdf).

Data Citation

Cite this data set as follows:

Chapin, F. S., III, W. Eugster, and J. P. McFadden. 2002. Arctic Tundra Flux Study in the Kuparuk River Basin (Alaska), 1994-1996. 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/629.

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Data Format:

For information on the flux Data File Format, Variable Description/Definition, and Units of Measurement, see this companion file: Alaska_Kuparuk_flux_format.txt (http://daac.ornl.gov/daacdata/fluxnet/Arctic_Flux/comp/Alaska_Kuparuk_flux_format.txt).

Document Information:

Document Revision Date:

February 7, 2002 (data citation revised on September 20, 2002)

Document Review Date:

February 7, 2002