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DISTRIBUTED ACTIVE ARCHIVE CENTER
FOR BIOGEOCHEMICAL DYNAMICS



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[DAAC Home](#) > [Get Data](#) > [Regional/Global](#) > [Veg-Eco Modeling \(VEMAP\)](#) > Data Set Documentation

VEMAP 1: GEOREFERENCING

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Summary:

The Vegetation/Ecosystem Modeling and Analysis Project (VEMAP) was a multi-institutional, international effort that addressed the response of biogeography and biogeochemistry to environmental variability in climate and other drivers in both space and time domains. The objectives of VEMAP were to study the intercomparison of biogeochemistry models and vegetationtype distribution models (biogeography models) and to determine their sensitivity to changing climate, elevated atmospheric carbon dioxide concentrations, and other sources of altered forcing.

The VEMAP data set includes three georeferencing and three cell area variables. On the CD-ROM and HTTP site, these data files are located under the subdirectory /geog. Note that the area variables are related: $varea = (areap/100) * area$.

Elevation [m]: Elevation was aggregated from 10-minute Navy Fleet Numeric Oceanographic Center (NFNOG 1985) data (C. Vorosmarty, personal communication). Aggregated elevation for each 0.5 degree cell was computed as a simple mean of nine 10-minute grid cell modal values. Elevations for inland water bodies are included; non- background cell count = 3385.

Latitude [degrees and decimal degrees]: Latitude of grid cell center. Positive for North latitudes. All cells are filled with latitude values; there are no background cells.

Longitude [degrees and decimal degrees]: Longitude of cell center. Scaling factor gives negative degrees for West longitudes. All cells are filled with longitude values; there are no background cells.

Area [km²]: Absolute area of a grid cell. Determined by coordinate geometry.

Percent Land Area [%]: Percent of the area of a 0.5 degree latitude/longitude grid cell that is covered by land and within the VEMAP domain (the conterminous U.S.). Derived from the Kern U.S. EPA 10-km gridded soil coverage, this is the number of non- zero 10-km pixels relative to the total number of pixels in a 0.5 degree cell.

Absolute Land Area [km²]: Absolute area of a grid cell that is covered by land and within the VEMAP domain (the conterminous U.S.). Absolute land area is determined as:

$$varea = (area) * (areap/100)$$

A complete user's guide to the VEMAP Phase 1 database, which includes more information about this data set, can be found at http://daac.ornl.gov/daacdata/vemap-1/comp/Phase_1_User_Guide.pdf

The ORNL DAAC maintains additional information associated with the [VEMAP Project](#).

Data Citation:

Cite this data set as follows (data citation revised on December 18, 2002):

Kittel, T. G. F., N. A. Rosenbloom, T. H. Painter, D. S. Schimel, H. H. Fisher, A. Grimsdell, VEMAP Participants, C. Daly, and E. R. Hunt, Jr. 1998. VEMAP 1: Georeferencing. ORNL DAAC, Oak Ridge, Tennessee, USA. <http://dx.doi.org/10.3334/ORNLDAAC/222>

References:

Kittel, T. G. F., N. A. Rosenbloom, T. H. Painter, D. S. Schimel, and VEMAP Modeling Participants. 1995. The VEMAP integrated database for modeling United States ecosystem/vegetation sensitivity to climate change. *Journal of Biogeography* 22:857-862.

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- [Data Citation Policy](#)
- [News](#)
- [Workshops](#)

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

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- [Plan](#)
- [Manage](#)
- [Archive](#)
- [DAAC Curation](#)
- [Submit Data](#)

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- [Data Search](#)
- [Site Search](#)
- [Search by DOI](#)
- [WebGIS](#)
- [SDAT](#)
- [MODIS Land Subsets](#)
- [THREDDS](#)

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- [FAQs](#)

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