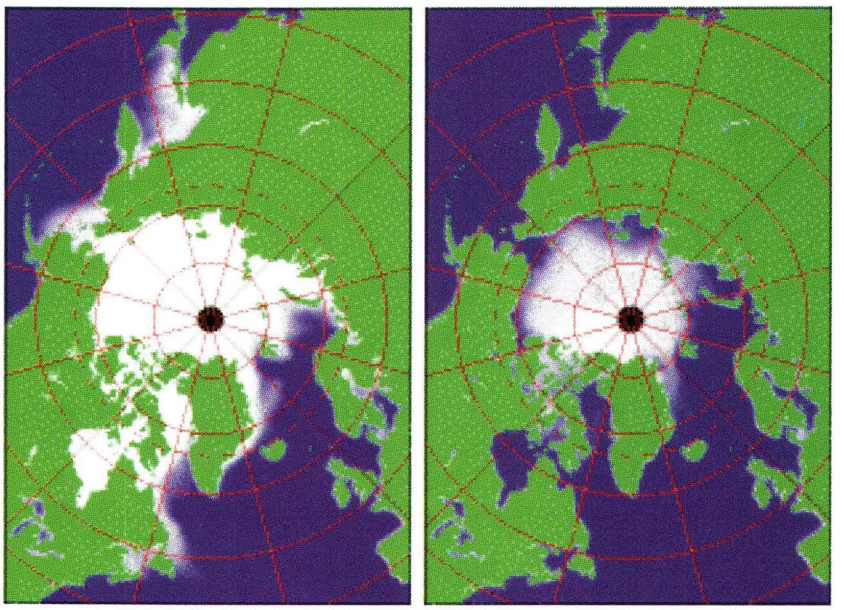
U.S. Department of the Interior
U.S. Geological Survey

GeoChange
Global Change Data

GeoChange is an online data system providing access to research results and data generated by the U.S. Geological Survey's Global Change Research Program. Researchers in this program study climate history and the causes of climatic variations, as well as providing baseline data sets on contemporary atmospheric chemistry, high-resolution meteorology, and dust deposition. Research results are packaged as data sets, groups of digital files containing scientific observations, documentation, and interpretation. The data sets are arranged in a consistent manner using standard file formats so that users of a variety of computer systems can access and use them.

GeoChange serves as a gateway to USGS global change data archives containing satellite image data and land use information as well as data sets that are used for analyzing other land and water issues.

Management and sharing of data, research results, and information are central tenets of the National Global Change Research Program, of which GeoChange is a part. GeoChange builds on the concepts of public data management and dissemination promoted by the national program and provides complete and well-structured documentation of global change data sets through the National Geospatial Data Clearinghouse, a major component of the National Spatial Data Infrastructure.



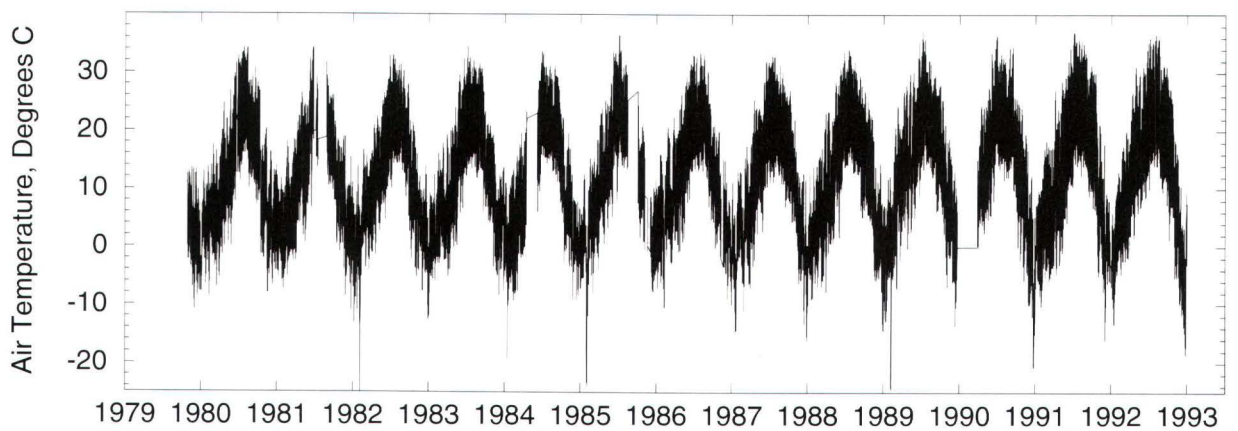
Typical distribution of sea ice in the Arctic Ocean and adjacent seas during the months of February (L) and August (R). Data derived from satellite microwave observations collected by the U.S. Defense Meteorological Satellite Program.

Access

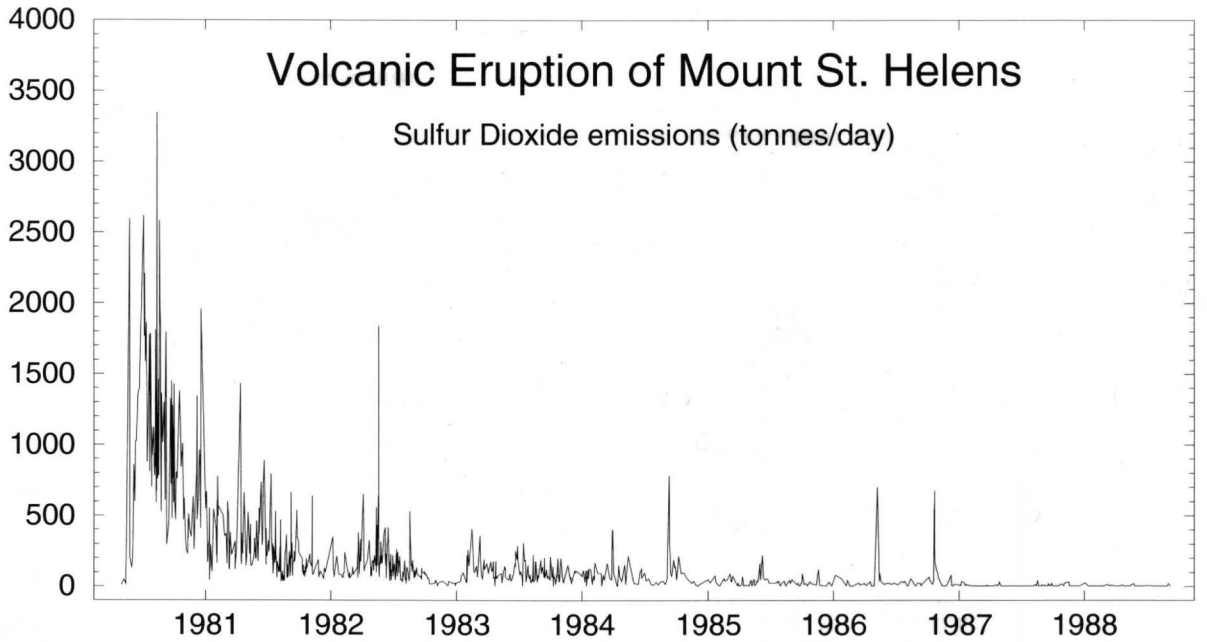
GeoChange is accessible on the internet as a worldwide web site at <http://GeoChange.er.usgs.gov/>.

Contents

Data sets are checked for accuracy, completeness, and logical consistency. Within data sets, digital files are arranged into three categories: formal metadata and table of contents; essential data and documentation, which can be used on any computer system; and useful but nonessential derived data, graphics, and software, which are designed for specific computer systems.



Hourly average air temperature 1.2 meters above the surface of the desert at Gold Spring, Arizona, on Navajo and Hopi Reservation land. Data obtained from this baseline study are available on the Worldwide Web from GeoChange.



GeoChange also distributes software tools developed by the USGS Global Change Research Program. These tools include scientific application software for analysis and display of data, software tools for creating and validating formal metadata, and utilities for data format interpretation and conversion. The following data sets are available online.

Global Data Sets

- Modern average global sea surface temperature
- Monthly average polar sea ice concentration
- Global gridded Pliocene and late Quaternary sea level

Climate History

- Palynological data from marine and lacustrine cores
- Pliocene high-latitude climate records
- Marine microfossils from cores in the Arctic and western North Pacific Oceans
- PRISM 8°×10° Northern Hemisphere paleoclimate reconstruction: Digital data
- ANALOG: A program for estimating paleoclimate parameters using the method of modern analogs

Modern Baseline Studies

- Sulfur dioxide and carbon dioxide emission-rate data from Mount St. Helens during the period from 1980 to 1988
- Sulfur dioxide and carbon dioxide emission-rate data from Cook Inlet volcanoes (Redoubt, Spurr, Iliamna, and Augustine), Alaska, during the period from 1990 to 1994
- High-resolution meteorological and soil-temperature data from desert environments of the Southwestern United States
- Dust Deposition in southern Nevada and California, 1984–89: Relations to climate, source area, and lithology

For more information, please contact

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