

Earth Networks[®] Schools Protocol



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Purpose

A school participating in the Earth Networks[®] Schools Program arranges for transfer of data logged through Earth Networks[®] to GLOBE.

Overview

GLOBE schools participating in the Earth Networks[®] Schools Program arrange for their data to be transferred automatically to GLOBE. A special GLOBE Atmosphere Study Site is defined for the school's Earth Networks[®] weather station, and this activates an automatic transfer of their Earth Networks[®] data to the GLOBE database.

Student Outcomes

Students can view data for their school that are continuous and show variations within a day. The data collected include wind speed and direction and pressure thereby supporting a more complete study of meteorology. Students pursue a more extensive set of research investigations.

Science Concepts and Scientific Inquiry Abilities

Science Concepts and Scientific Inquiry Abilities are gained through analyzing the data collected with the weather station. Refer to the *Looking at Your Data* sections of the protocols that correspond to the measurements taken with your Earth Networks[®] weather station for guidance on performing this data analysis. Consult the *Science Concepts and Scientific Inquiry Abilities* listed in the gray boxes for these protocols to learn about the science concepts and scientific inquiry abilities that will be gained.

Science Concepts

Earth and Space Science -
Weather Concepts involving:

- Measurements
- Variations - hourly, daily, monthly
- Variations - location (latitude and longitude), topography

Concepts related to the water cycle

Concepts related to wind

The atmosphere has different properties at different altitudes.

Water vapor is added to the atmosphere by evaporation from Earth's surface and transpiration from plants

Math

Data analysis

Data collection

Data interpretation

Data representation

Measurement

Geography

Weather varies according to location (latitude and longitude) and topography

Time

Approximately 15 minutes

Level

All

Frequency

Once

Materials and Tools

Earth Networks[®] weather station connected to the Earth Networks[®] School Network

[Site Definition Sheet](#)

Preparation

Establish an Earth Networks[®] Schools weather station and obtain a weather station ID.

Prerequisites

None



Earth Networks® Weather Station

Using automated weather stations that record data can allow students to take environmental measurements at much shorter time intervals than collecting data by hand. The large volume of data that can be collected at uniform time intervals allows for the study of weather phenomena that can change quickly (such as wind) and so cannot be monitored through measurements taken with longer sampling periods.

A network of automated weather stations throughout the world collecting and reporting data to a central database would serve as an important resource for studying global weather patterns and tracking weather systems. An extension of this network is the Earth Networks® Schools Program, which involves schools and colleges in the study of weather and provides educational tools to aid in this study.

Teacher Support

Earth Networks® and GLOBE

The Earth Networks® Schools Program allows schools to use weather stations to collect and report atmospheric data. Since the function of Earth Networks® Schools is in line with that of GLOBE, it is possible for a school to participate in both programs simultaneously. A GLOBE school that is participating in the Earth Networks® Schools Program may have the data that they collect with an Earth Networks® weather station transferred automatically to the GLOBE database.

In order to accomplish this, the school must define a GLOBE Atmosphere Study Site specifically for their Earth Networks® weather station. After this special site definition is completed, the data that the school reports to Earth Networks® will automatically be transferred over to the GLOBE database. The school should still continue to take additional GLOBE measurements not covered by Earth Networks® and report these to GLOBE.

Defining an Atmosphere Site for the Earth Networks® Weather Station

To define a GLOBE site for Earth Networks® data, you will need to complete a [Site Definition Sheet](#) for your Earth Networks® weather station. In addition to the standard information associated with a GLOBE Atmosphere Study Site that is recorded on this *Site Definition Sheet*, you include your Earth Networks® weather station's ID.

After the *Earth Networks® Site Definition Sheet* is completed the site must be defined online using the site definition page available on the Data Entry tools of the GLOBE Website. On this page you will need to follow the special instructions for reporting your site as an Earth Networks® Schools site. This includes selecting the Thermometer type of "Earth Networks® Weather Station" and reporting your Earth Networks® weather station's ID to GLOBE.

