



Weather and Climate Monitoring

Affected Parks

Big South Fork NRA (BISO)
Blue Ridge Parkway (BLRI)
Obed Wild and Scenic River (OBRI)

Importance / Issues

Weather drives all ecological systems, both aquatic and terrestrial. In APHN parks, elevation variation and complex terrain strongly influence local meteorological patterns, affecting surface and groundwater regimes, species distribution patterns, pollutant concentrations, and many other factors influencing the natural resources of the Network. Because long-term weather data may separate the effects of climate from other disturbances in natural systems, the Network is planning to collect weather and climate data critical for interpreting trends in Vital Signs and other park monitoring projects.

Preliminary Monitoring Objectives

The primary objectives of this long-term monitoring effort are to periodically summarize data from several key weather stations within each park, and to track changes in weather station characteristics. An annual report will be produced describing major trends as well as deviations from averages and extreme weather events. This document will provide a ready reference for Network and park staff to use in conjunction with other monitoring data.

Specific objectives are:

1. To maintain accurate weather station locations and data for analysis with Vital Signs and other park monitoring and research.
2. To graph and analyze, maximum/minimum and average temperature, wind speed and precipitation for the recent year in comparison to past data.
3. To report on drastic or unusual events, like storms, droughts, and floods.
4. To make weather summaries and station data widely available on Network and Park websites.

Methods

Data will be taken from representative weather stations geographically dispersed and located near long-term monitoring stations in the parks. We will use automated data posted to the National Weather Service and COOP web sites. The data will be imported into statistical software for summary and analysis. Annual reports will be produced when fourth quarter meteorological data is posted for the preceding year.



Weather Monitoring Station at Big South Fork NRA

Protocol Development and Status

An inventory report describing past and present climate monitoring efforts in the Network was completed in the spring of 2007 by the NPS Western Region Climate Center. The report contains a complete listing of weather stations in the Network. APHN has updated this weather station information, completed one round of annual reports for each of the parks, and published these reports in the NPS natural resource data series. Additional reports will be undertaken based on park interest.

Contact Information

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