U.S. Fish and Wildlife Service

Okefenokee National Wildlife Refuge

Air Quality Monitoring

Two air quality programs are operated at Okefenokee National Wildlife Refuge (NWR); one measuring substances introduced into precipitation falling on the refuge; the other directly sampling substances filtered from the air.

National Atmospheric Deposition Program (NADP

The amount of substances dispersed in the atmosphere and deposited by precipitation, aerosols, and gasses is of great concern and is expected to continue to increase throughout North America. In order to know the extent to which these substances are affecting agricultural, forest and wetland ecosystems now and in the future it is essential that careful and standardized sampling take place over the North American continent. It is also necessary to know how these substances are transported from sources throughout the continent. The National Atmospheric Deposition Program (NADP) helps scientists to monitor how human activities and the forces of nature affect the health of the atmosphere.

National Trends Network (NTN) – The NTN was developed to gain a better understanding of the geographical distribution of acid precipitation over time. Okefenokee NWR is one of more than 220 sites that measure national trends data. Weekly precipitation samples are analyzed for pH, conductivity, calcium, magnesium, potassium, sodium, ammonium, nitrate, chloride, sulfate, and orthophosphate.

Mercury Deposition Network (MDN) – The Mercury Deposition Network collects data from 40 sites each week. MDN data enable researchers to determine seasonal and annual changes in mercury in precipitation falling on lakes, wetlands, streams, forested watersheds, and other sensitive ecosystems.

Interagency Monitoring of Protected Visual Environments (IMPROVE)

One of 145 IMPROVE sites is located on Okefenokee NWR. IMPROVE is a cooperative visibility monitoring effort between the U.S. Environmental Protection Agency, federal land management agencies and state agencies. Its primary purpose is the protection of visibility in Class I areas and the characterization of regional haze.

The IMPROVE sampler collects four simultaneous samples every three days. Trends related to hydrogen, major and trace elements from sodium to lead, nitrates, chloride, organic and elemental carbon, and PM10 size particles are examined.