

Water Quality Monitoring Sites with N/P (NWIS)

(Also referred to in the Nitrogen and Phosphorus Pollution Data Access Tool (NPDAT) as: “Monitoring Sites with N/P from USGS National Water Information System (NWIS)”)

Metadata:

Metadata date: 20110630

Type of Content: Downloadable Data

Program Link: <http://waterdata.usgs.gov/nwis>

Abstract:

The U.S. Geological Survey's (USGS) National Water Information System (NWIS) is a comprehensive and distributed application that supports the acquisition, processing, and long-term storage of water data. NWISWeb serves as the publicly available portal to a geographically seamless set of much of the water data maintained within NWIS.

The USGS collects and analyzes chemical, physical, and biological properties of water, sediment and tissue samples from across the Nation. The NWISWeb discrete sample data base is a compilation of over 75 million historical water quality analyses in the USGS district data bases.

Purpose:

The water quality data stored in this database presents a snapshot in time so it is important to consider the "period of record" for data captured from any location. The data are of documented quality, meaning that a certain level of metadata, including where, how, why, when and what was monitored must be included with all data submissions. Each sampling result is accompanied by information on where the sample was taken (latitude, longitude, state, county, Hydrologic Unit Code (HUC) and a brief site identification), when the sample was gathered, the medium sampled (e.g., water, sediment, fish tissue), the name of the organization that sponsored the monitoring, why the data were gathered, sampling and analytical methods used, the laboratory used to analyze the samples, the quality control checks used when sampling, handling the samples, and analyzing the data, and the personnel responsible for the data.

A web service is a computer-to-computer protocol that allows for the direct sharing of information through the Internet. Web services provide the ability to combine data from USGS's NWIS and EPA's STORET systems. The services produce data formatted according to the Water Quality Exchange (WQX) Outbound (Extensible Markup Language) XML schema, which has been developed collaboratively by EPA and USGS. Applications, such as Internet portals, can use the web services to access data from both NWIS and the STORET Warehouse without needing an authorized database connection.

Site and Result Service Data Elements:

Site Service output elements and definitions are listed in Table 4 and Result Service output elements and definitions are listed in Table 5 of the technical documentation found at: <http://qwwebservices.usgs.gov/technical-documentation.html>

CharacteristicName is confined by the USEPA Substance Registry System (SRS), with a small number of exceptions also implemented by the USEPA WQX system. The SRS makes it possible to identify which EPA data systems, environmental statutes, or other sources have information about a substance and which synonym is used by that system or statute. It becomes possible therefore to map substance data across EPA programs and, in this case USGS's NWIS, regardless of synonym. To query a particular CharacteristicName, please visit:

http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do

Geospatial Keyhole Markup Language (KML) attributes and definitions:

Attribute:

Attribute_Label: DESCRIPTION

Attribute_Definition: Station Name

Attribute:

Attribute_Label: SITE_ID

Attribute_Definition: Station Organization Id - Station Id

Attribute:

Attribute_Label: SITE_TYPE

Attribute_Definition: Type of Site

Attribute:

Attribute_Label: LATITUDE

Attribute:

Attribute_Label: LONGITUDE

Attribute:

Attribute_Label: ELEVATION

Attribute_Definition: Z Value

Attribute:

Attribute_Label: HUC

Attribute_Definition: HUC 8 Id

Attribute:

Attribute_Label: Other Station Information

Attribute_Definition: Other Site Descriptors and Available Data

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Procedures used:

Source data are retrieved from the USGS NWIS system using the NWIS Mini Portal site available online at <http://qwebservice.usgs.gov/portal.html>. The selection criteria for NWIS Mini Portal water quality monitoring data are:

Site Type:

Estuary, Stream, Spring, Lake, Reservoir, Impoundment;

Sample Media:

Water;

Characteristic Group:

Nutrient;

Start Date:

19950101 to present.

Water quality monitoring data for Nitrogen and Phosphorus are downloaded by HUC8 using the Nitrogen and Phosphorus Pollution Data Access Tool (NPDAT) available online at <http://gispub2.epa.gov/NPDAT>.

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Additional Info:

Contact Information: For questions about sample sites and/or data, contact USGS Water Data Inquiries at: <http://waterdata.usgs.gov/nwis/feedback/?to=USGS%20Water%20Data%20Inquiries>

Data Limitations: The discrete sample data is a large and complex set of data that has been collected by a variety of projects ranging from national programs to studies in small watersheds. Users should review the help notes (<http://waterdata.usgs.gov/nwis/qwdata?help>) and particularly the data retrieval precautions before beginning any retrieval or analysis of data from this data set. Additions of more current data, modifications to ancillary information, and enhanced retrieval options to help users find and appropriately use the data they need are planned for a future release of NWISWeb.

The NWIS Water-Quality Web Services serve data from the NWISWeb database. All publicly available data are not available through the web services at this time. The web services include results for USGS parameters represented in the NWIS Parameter Code to SRS Crosswalk, available at: <http://qwwebservices.usgs.gov/service-domains.html#CROSSWALK>. At this time this accounts for approximately 92% of water-quality data available from NWISWeb.

Reference: Technical Documentation of USGS Water-Quality Web Services: <http://qwwebservices.usgs.gov/technical-documentation.html>

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