



National Park Service

Inventory and Monitoring Division

Climate Database Web Services

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Authors: Brent Frakes, Simon Kingston

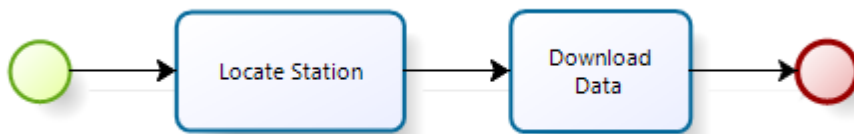
1. Overview

The NPS hosts web services to vend climate data from two general sources, including the original data provided by national-level sources (reference) as well as data collected and submitted by NPS staff. These data are housed in an enterprise database described elsewhere (<https://irma.nps.gov/App/Reference/Profile/2167254>).

Currently, we only support REST as the web service protocol (http://en.wikipedia.org/wiki/Representational_state_transfer). These REST services are consistent with all of our other REST services hosted within the IRMA domain. This document describes these REST services and provides examples of each. Technical details are also provided with the IRMA web services (<http://irmaservices.nps.gov/v3/rest/climate/help>) help page.

2. General Workflow

Our web services are set up to support a very specific and simple workflow.



The first step is to locate a station of interest. Because the database contains over 49,000 stations, it will likely be necessary to filter by one or more criteria:

- Data Source
- Station Code
- Station Name
- NPS Park Unit
- Request Status
- State
- Start and End Dates

Once a station is located, the next step is to download the data. In some cases, the user may want only a subset of the records:

- Observation Dates -
- Parameter Version

3. REST Services

3.1. Search for Station

This call has as its root the following URL:

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory> which will return the 49,000+ records (not recommended).

Thus, the following criteria can be used to shorten the list of records returned:

sourceCode – One of the station source codes

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?sourceCode=RAWS>

StationCode – Filter by the station code used by the source

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?stationCode=20G12>

StationName – Filter by all or part of the station Name

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?stationName=indiana>

Request Status – Filter by whether the station is requested (and therefore contains downloadable data). Note: if you need to request stations, please refer to the following: <https://irma.nps.gov/App/Reference/Profile/2166927?Inv=true>

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?requestStatus=Is%20Requested>

StateCode – Filter stations for a particular state

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?stateCode=CO>

startDate-Filter stations who began data collection since the specified date

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?startDate=2012-01-01>

endDate – In addition to startDate, filter stations who began data collection no later than the specified end date

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?startDate=1890-01-01&endDate=1899-01-01>

In addition to the search criteria, the following modifiers can be used to include additional station information:

showLocation = Show the geographic coordinates of each station

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?startDate=1890-01-01&endDate=1899-01-01&showLocation=True>

showVersion- show the available version metadata for the each station. Note that a version is defined as a time series of data specific to a parameter and station.

<http://irmaservices.nps.gov/v3/rest/climate/stationInventory?stateCode=CO&showVersion=True&requestStatus=Is%20Requested>

3.2. Get Station Data

This call gets the daily data for a particular station where all stations are identified by their respective CDB_Code. The base URL is:

<http://irmaservices.nps.gov/v3/rest/climate/stationData/{CDBCODE}>

which will retrieve all data for a station where data exists.

http://irmaservices.nps.gov/v3/rest/climate/stationData/CDB_S_36757

Because all data for a particular station may not be needed, it is possible to optionally specify some filters:

parameterCode – The parameter code specific to the station

http://irmaservices.nps.gov/v3/rest/climate/stationData/CDB_S_36757?parameterCode=SWE

obsBegin – The earliest observation date to include

http://irmaservices.nps.gov/v3/rest/climate/stationData/CDB_S_36757?parameterCode=SWE&obsBegin=1950-01-01

obsEnd – The latest observation date to include

http://irmaservices.nps.gov/v3/rest/climate/stationData/CDB_S_36757?parameterCode=SWE&obsBegin=1950-01-01&obsEnd=1950-12-01

3.3. Helper Calls

3.3.1. Formats

By default, XML is the format of the REST response. You can optionally specify any one of the following defined in this list:

<http://irmaservices.nps.gov/v3/rest/climate/urlOptions/format>

For example:

http://irmaservices.nps.gov/v3/rest/climate/stationData/CDB_S_36757?parameterCode=SWE&obsBegin=1950-01-01&obsEnd=1950-12-01&format=excel

3.3.2. Get Source Codes

This is a simple call to obtain a more thorough description of each of the data source codes. This call can also be used to populate a combo box if attempting to filter for stations.

- <http://irmaservices.nps.gov/v3/rest/climate/urlOptions/SourceCodes> - Get the sources codes as XML
- <http://irmaservices.nps.gov/v3/rest/climate/urlOptions/SourceCodes?format=json> – get the source codes in JSON format

Note that CSV is not supported for Source Codes

3.3.3. Get Request Status

This call will return the enumerated set of valid request statuses:

<http://irmaservices.nps.gov/v3/rest/climate/urlOptions/RequestStatus>