C R O N O S

Climate Retrieval and Observations Network of the Southeast

THE NEED

Climate services are dependent on data availability and quality. Accessing climate observations and data can be daunting especially when there are dozens of sources, providers, formats, and standards from which to choose and coalesce.

The way people use environmental data is changing. Today, people can directly import data into R, SAS, numerical models, Excel, and GIS environments. In addition to basic data access needs, a scriptable way to access data is needed.

SERVING THE NEED

In 2003, CRONOS (Climate Retrieval and Observations Network of the Southeast) was launched by the NC State Climate Office. It provides access to climate data from 9 different weather observing networks (ASOS, AWOS, COOP, Buoy, CMAN, SCAN, RAWS, CoCoRaHS, NC ECONet). CRONOS standardizes data from its sources and provides it in one common format with one common web interface. Web pages were developed enabling users to easily retrieve data, graph data, and search for stations without being concerned about providers, data access standards or formats. Other regional networks can be easily added.

CRONOS is available on at http://www.nc-climate.ncsu.edu/cronos/

In 2011, the CRONOS API was launched, which is designed for programmers and research scientists. It enables direct access to CRONOS without having to go through a webpage interface. It requires no specialized knowledge of database or query structure, SQL or any programming language.

Details about the CRONOS API: http://cirrus.meas.ncsu.edu/projects/api/wiki/apiref

IMPACT

The CRONOS website was built to meet the needs of both expert and novice users. During the period 2003-2010, CRONOS served over 266,523 data queries from over 2,725 observing stations to 216,862 unique users. It currently serves an average of 5,842 queries per month. To date, CRONOS archives over 427 million data records.

The CRONOS API is being used by academic, government and private industry users for research and operational service delivery. As of June 2011, the CRONOS API has served over 800k queries.