Introduction

The Atmospheric Infrared Sounder (AIRS) Near-Real-Time (NRT) data from the Land Atmosphere Near-real Time Capability for EOS (LANCE) element at the Goddard Earth Sciences Data and Information Services Center (GES DISC) provides information on the global and regional atmospheric state, with very low temporal latency, to support climate research and improve weather forecasting. An open and interoperable platform is useful to facilitate access to, and integration of, LANCE AIRS NRT data.

As Web services technology has matured in recent years, a new scalable, Service-Oriented Architecture (SOA) is emerging as the basic platform for distributed computing and large networks of interoperable applications. Following the provide-register-consume paradigm, this presentation discusses how to use open-source geospatial software components to build Web services for publishing and accessing AIRS NRT data, explore the metadata relevant to registering and discovering data and services in the catalogue systems, and implement a Web portal to facilitate users’ consumption of the data and services.

AIRS NRT Data Services

OGC Web Coverage Service (WCS) (http://disc1.sci.gsfc.nasa.gov/data/sensor/airs_nrt)

OGC WCS provides common services interface to access custom-mixed dimensionality and multi-temporal geographical data as a “coverages”. It supports the following operations:

- GetCapabilities: returns an XML document with the service metadata and brief description of the data collection.
- DescribeCoverage: returns a full description of one or more coverages.
- GetCoverage: allows retrieval of coverages with customized domain and range subsets, formats and projections.

AIRS NRT Data Services

AIRS NRT WMS in GEOSS Registry

AIRS NRT WMS in GEOSS Clearinghouse

Data Portal

AIRS Near Real-Time Data Portal (http://disc1.sci.gsfc.nasa.gov/services/wxs_ogc.shtml) is a rich Web-based geographic application designed for access to, and visualization of, AIRS NRT data through AIRS NRT WCS and WMS.