

Project Goal

To construct a repository of geospatial information about the world's glaciers and to provide users with spatial query, access, and analysis operations on this information using Open Web Services. The GLIMS database is being used by the earth science community for monitoring changes in glacier systems, as well as for understanding the cause and impacts of these changes as they relate to regional and global climate change.

Layer visibility (pointing to Database Layers)

Layer query results by time (pointing to Start/End Date filters)

Dynamic scale bar (pointing to the scale bar)

Query region specified by dragging mouse (pointing to the map area)

Zoom to Region Pull-down (pointing to the region selection dropdown)

Glacier outlines

Internal rock boundaries

Snow lines

Background image that was used in analysis

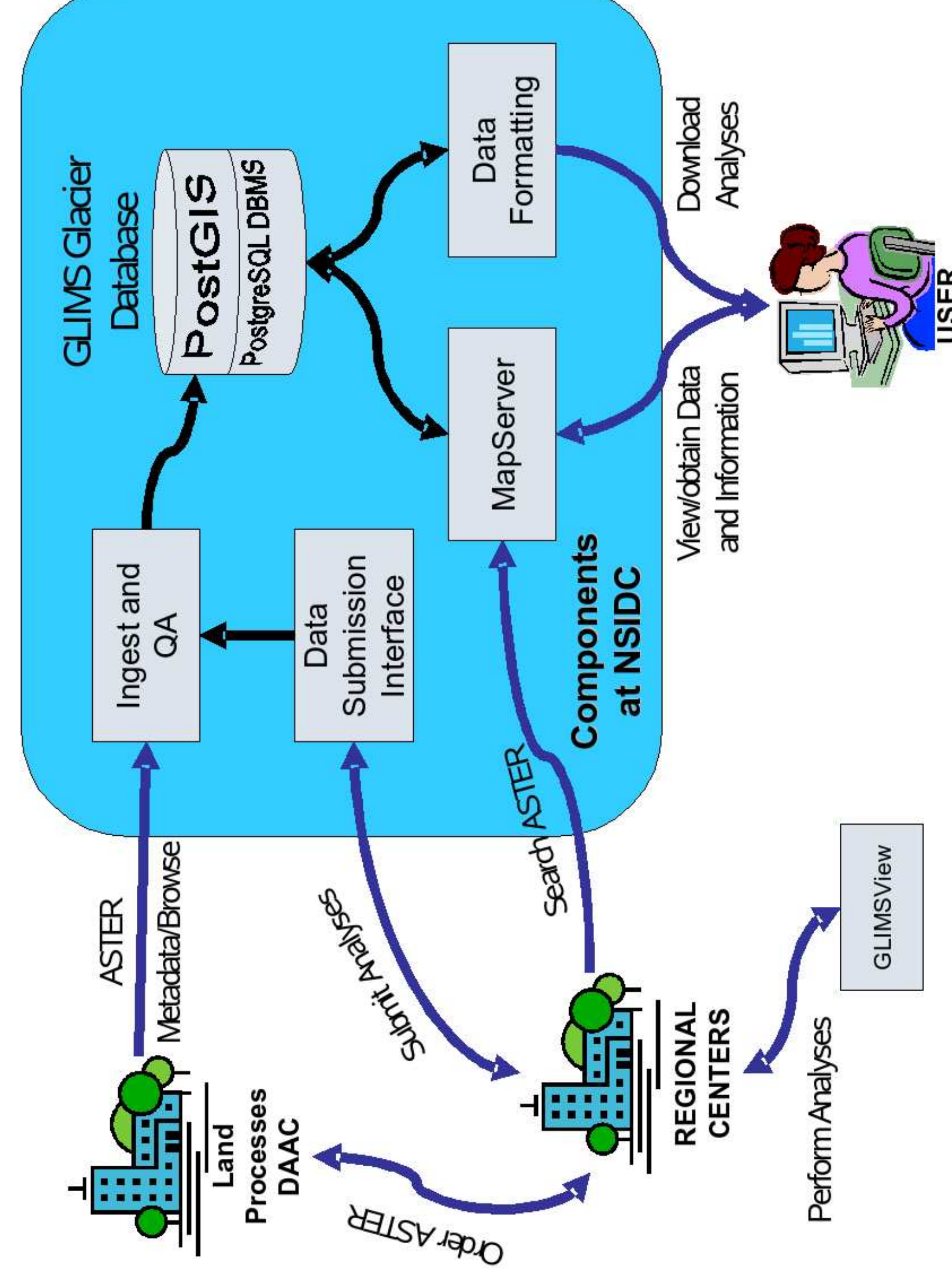
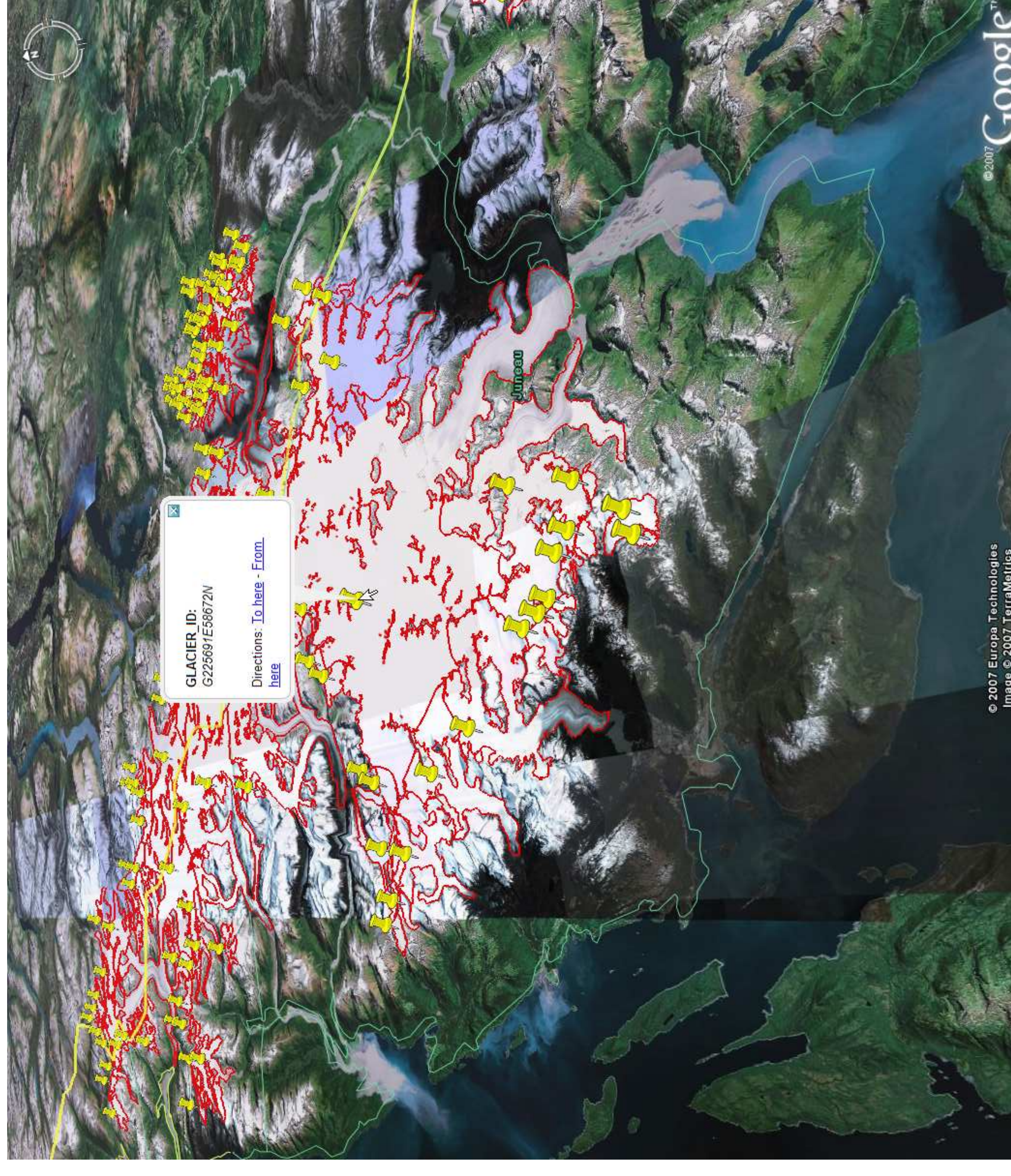
MapServer site entry page

Zoomed in to Alaska (automatic change of projection)

Glacier query results

Glacier outlines in Google Earth

GLIMS IT infrastructure



Map of query results (pointing to the map)

Selected glaciers are highlighted (pointing to green highlighted glaciers)

Political boundaries (pointing to pink lines on the map)

User can download selected vector data and attribute data in several formats. (pointing to the download button)

Glacier Name	Glacier ID	Contributor's Local Glacier ID	Area (km²)	Analysis Name	Institution	URL	Date Available
Taku	G225691E58672N	2001-08-15 00:00:00	1048	Matthew of Northern British Columbia	University of Northern British Columbia	http://glims.colorado.edu/No_Web_Site_Servlet.html	2005-02-11 16:34:00

Table of attributes in query results (pointing to the table)

Availability date, specified by contributor (pointing to the Date Available column)

Summary

The Global Land Ice Measurement from Space (GLIMS) project is a cooperative effort of over sixty institutions world-wide with the goal of inventoring a majority of the world's estimated 160,000 glaciers. Each institution (called a Regional Center, or RC) oversees the analysis of data for a particular region containing glacier ice.

Main Features

- RCs are provided with "GLIMSView," a cross-platform computer application specifically developed to analyze satellite imagery such as from ASTER and Landsat, digitize glacier outlines, attach GLIMS-specific metadata, and package the data for import into the GLIMS database.
- Data received by the GLIMS team at the National Snow and Ice Data Center (NSIDC) in Boulder, Colorado are ingested into a spatially-enabled database (PostGIS) and made available via a Web-Mapping Service (WMS) and text-based interface. The WMS can serve maps and data to browsers, desktop GIS applications, and other servers.
- Clip-and-ship feature: Users can query the glacier data in the interactive map to view attributes, and can download the glacier outlines and metadata for only glaciers they are interested in. Data can be downloaded in a choice of formats, including Shapefiles, GMT, GML, and KML.
- The glaciers that satisfy text-based queries (for example, searching for all glaciers larger than 100 km² in area) can be downloaded. Data can be downloaded in the same choice of formats as above.
- Metadata on ASTER images acquired over glaciers are ingested into the GLIMS Glacier Database shortly after they are archived at USGS/EROS (LPDAAC), providing RCs and others an easy way to find ASTER imagery by querying an interactive map.
- The database now contains GLIMS outlines and metadata on approximately 56,000 glaciers, contributed from 16 GLIMS institutions.



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