

Dataset Title: Alaskan Lake Database Mapped from Landsat Images

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Project Title: Collaborative Research: Changes in Lake Dynamics on the Arctic Coastal Plain of North America Over the Past Half-Century

NSF Grant: ARC-0713813

Classification: Hydrology

Data Overview:

The lake map for the State of Alaska was generated from selected Landsat acquired during summer seasons of circa 2000. Nearly 400 30 m resolution Enhanced Thematic Mapper Plus (ETM+) images were used to produce the lake map. The database contains over 38,000 lakes larger than 0.1 km². The spatial coverage of the product is nearly the entire state except the Aleutian islands. The lake product is released at three different levels in response to lake size classes:

- Level 1: large lakes greater than 10 km²;
- Level 2: medium-sized lakes between 1 and 10 km²;
- Level 3: small lakes between 0.1 and 1 km².

Data Format:

The Alaskan lake products are released in ArcView shapefile format. All layers files are Alaska Albers Equal Area Conic map projection with the following parameters:

False_Easting: 0.0
False_Northing: 0.0
Central_Meridian: -15
Standard_Parallel_1: 55
Standard_Parallel_2: 65
Latitude_Of_Origin: 50
Linear Unit: Meter
Datum: NAD 1983.

All layers have the following attribute fields:

Shape: Polygon (geometry)
ACQDATE: Acquisition date of Landsat image on which the lake was mapped (YYYYMMDD)
Name: Lake name if available
Area: Lake area (km²)
Perimeter: Lake shore line length (m)

Lake extent shape files:

AlaskanLakes_Level1.shp: Level 1 product;
AlaskanLakes_Level2.shp: Level 2 product;

AlaskanLakes_Level3.shp: Level 3 product.