

**U.S. Geological Survey
Hydrography
Webinar Series**

**Session 1
April 9, 2015**

U.S. Geological Survey Hydrography Webinar Series

Hosted by:

**Jeff Simley
Al Rea**

U.S. Geological Survey Hydrography Webinar Series

Purpose:

- 1. Share success stories from users who have solved real world problems using hydrographic data**
- 2. Provide information on the NHD, WBD and related products**
- 3. Provide a forum for users similar to what might be encountered in a conference setting**

U.S. Geological Survey Hydrography Webinar Series

Example Topics:

- 1. Hydrology**
- 2. Resource Management**
- 3. Pollution Control**
- 4. Fisheries**
- 5. Emergency Management**
- 6. Mapping**
- 7. Elevation/Hydrography Integration**

U.S. Geological Survey Hydrography Webinar Series

Format Considerations:

1. Use cases
2. Underlying technology
3. “Rapid Fire” sessions
4. Collect feedback

Frequency: About every six weeks

U.S. Geological Survey Hydrography Webinar Series

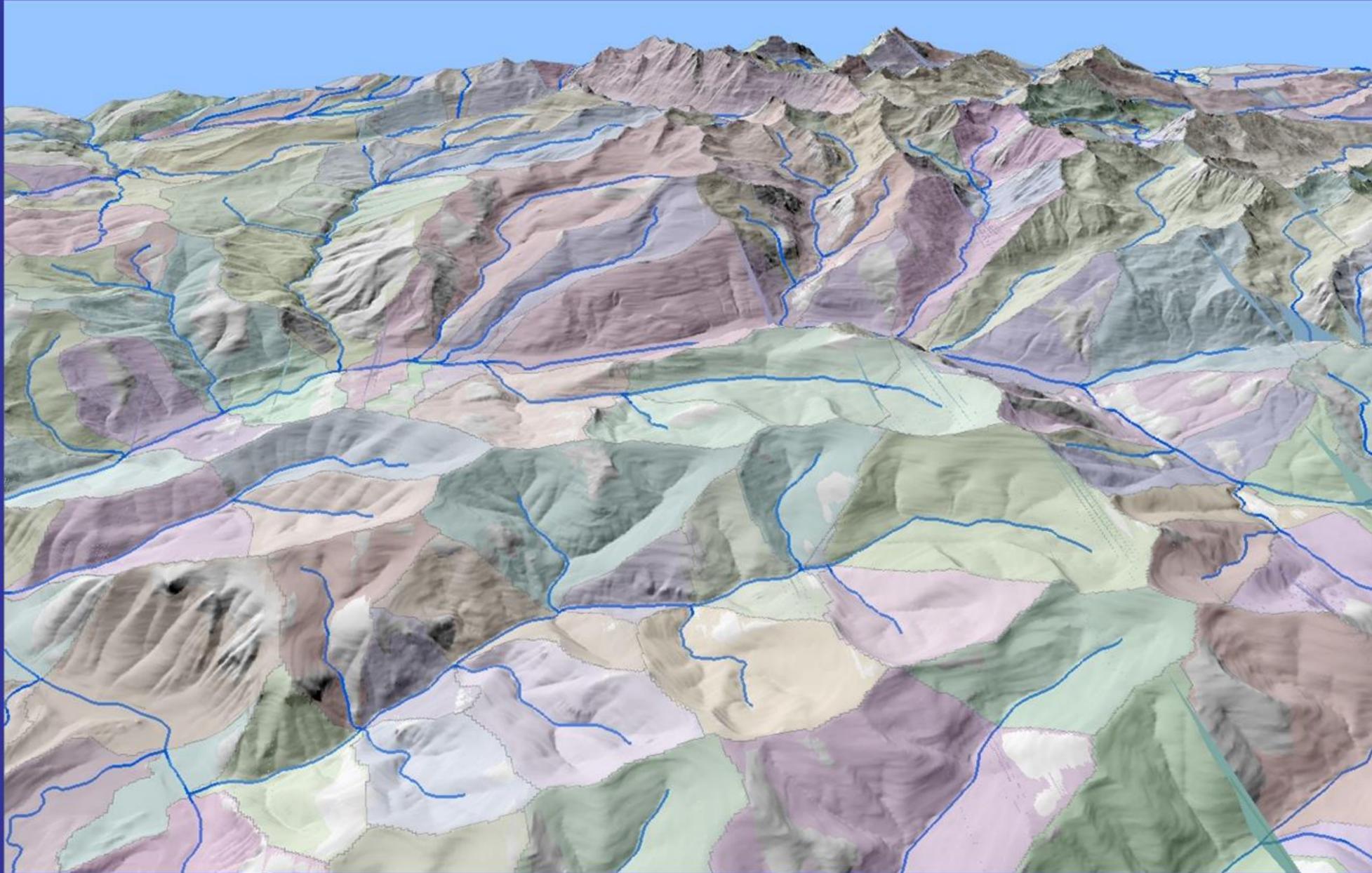
- 1. <http://nhd.usgs.gov>
click on Hydrography Seminar Series**
- 2. NHD Newsletter**
- 3. American Water Resources Assoc.**
- 4. Mailing list**
- 5. Sign up for contact list**

Session 1

1. Introduction
2. The path to NHD
3. RiverSpill by William Samuels
4. Discussion

U.S. Geological Survey
Core Science Systems
National Geospatial Program
The National Map
Topography

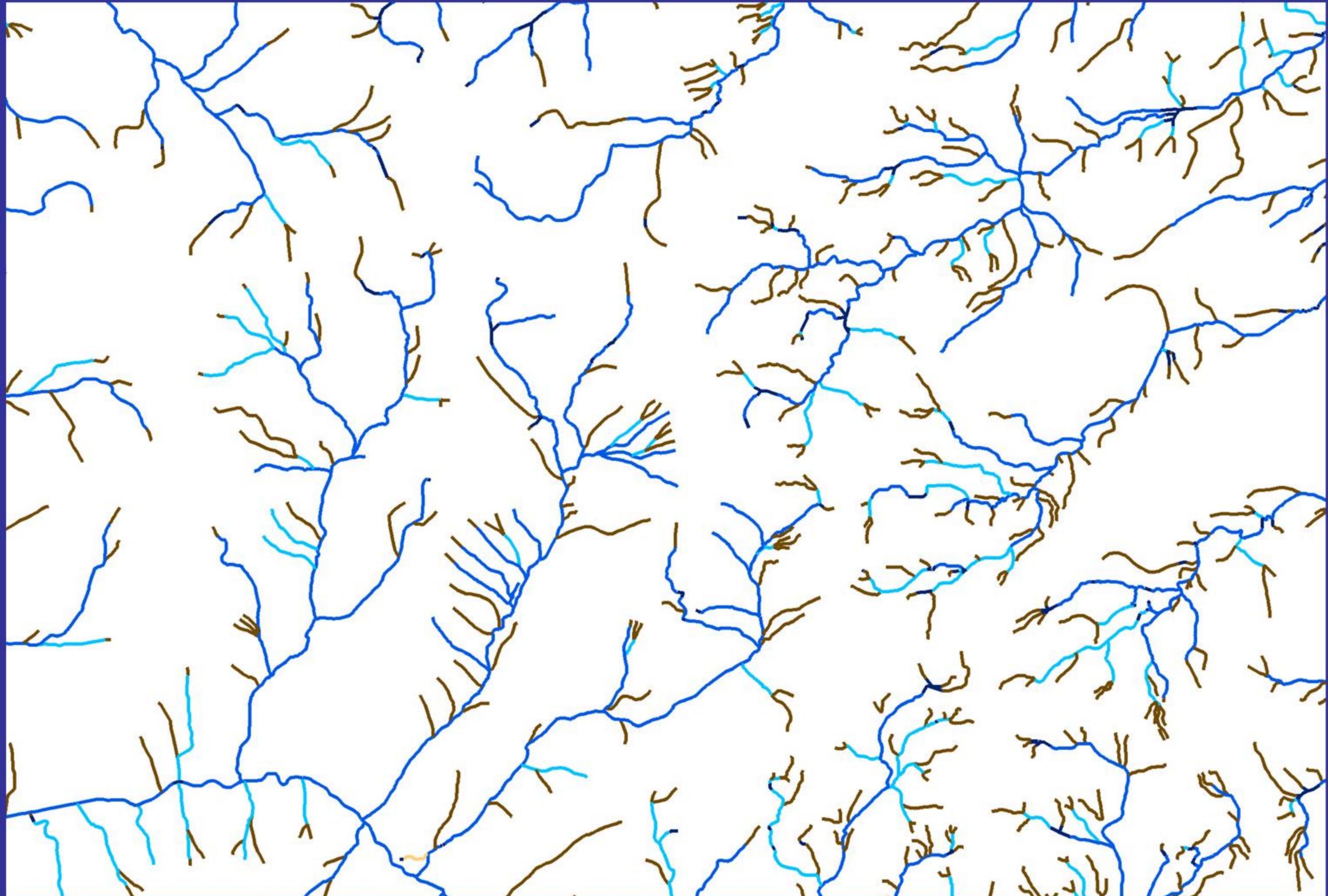
Topography



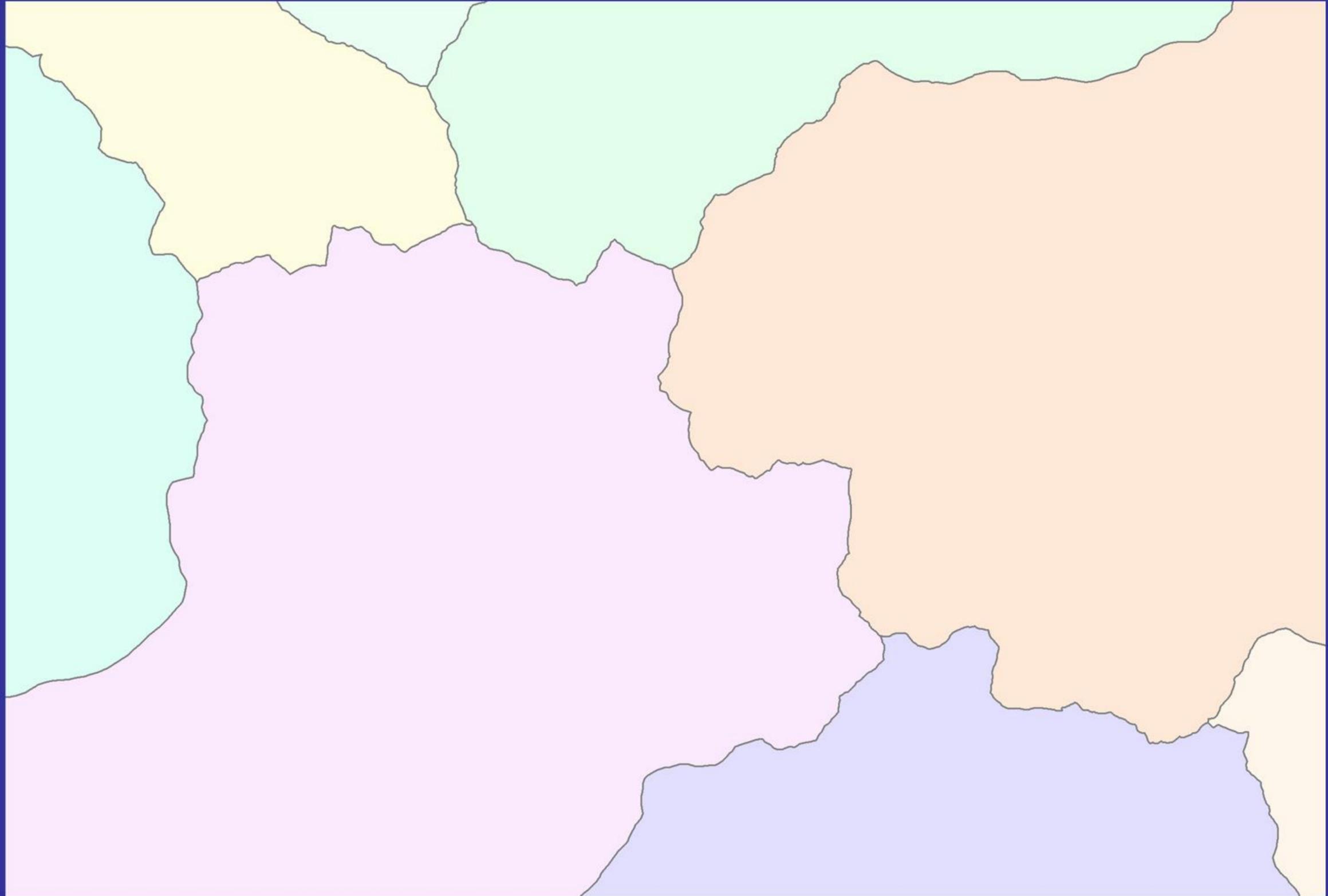
Elevation - 3DEP



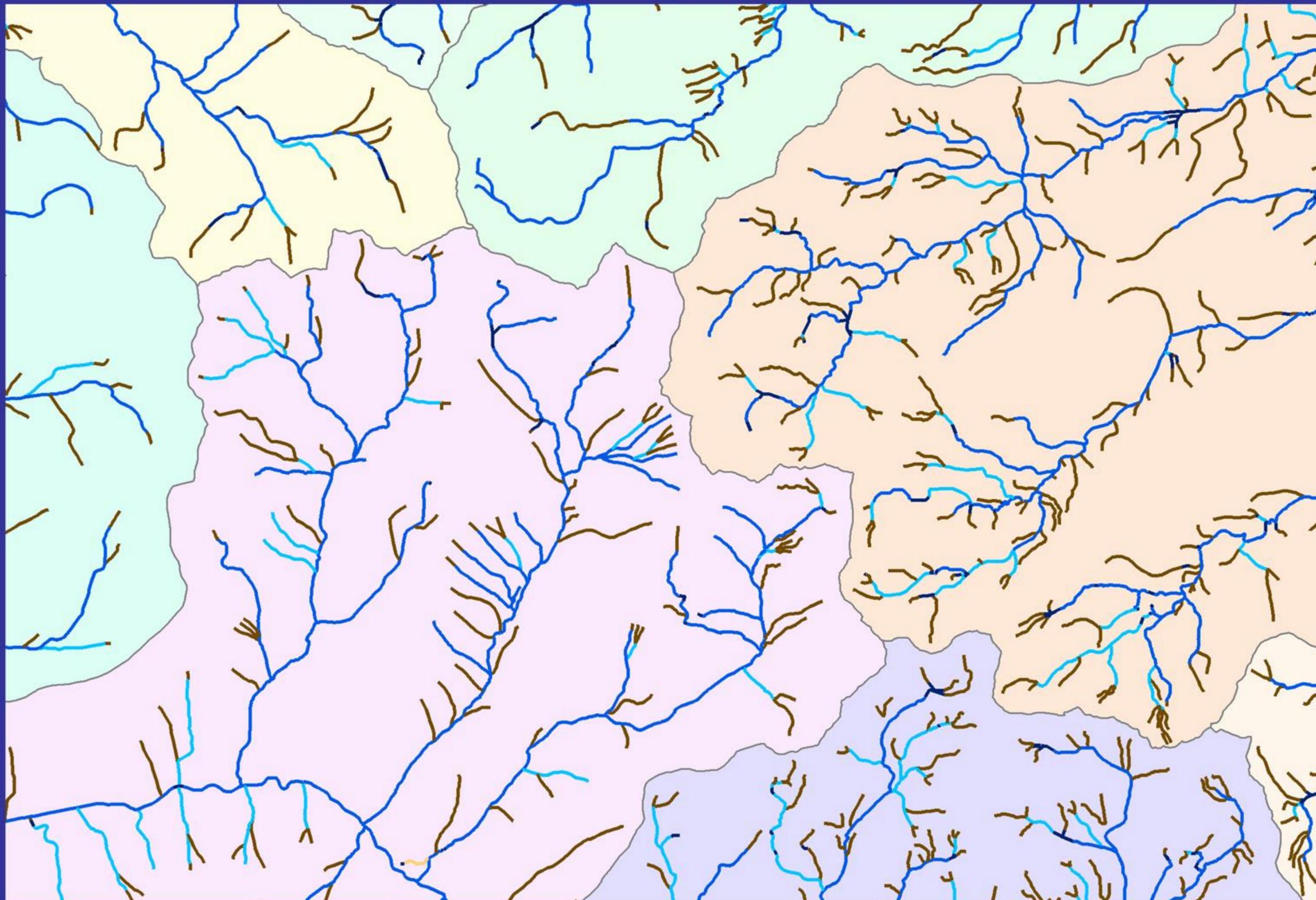
Hydrography - NHD



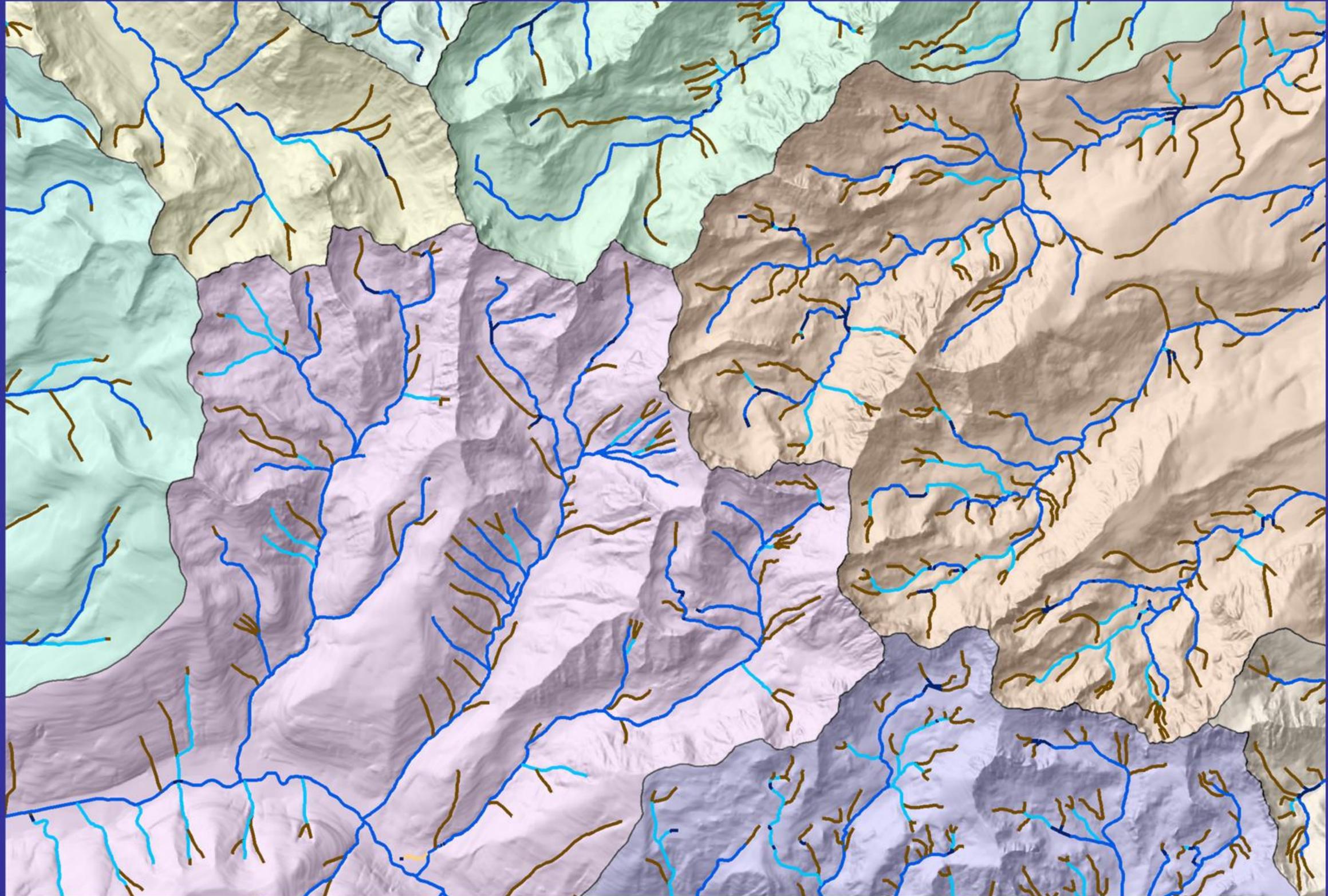
Hydrography - WBD



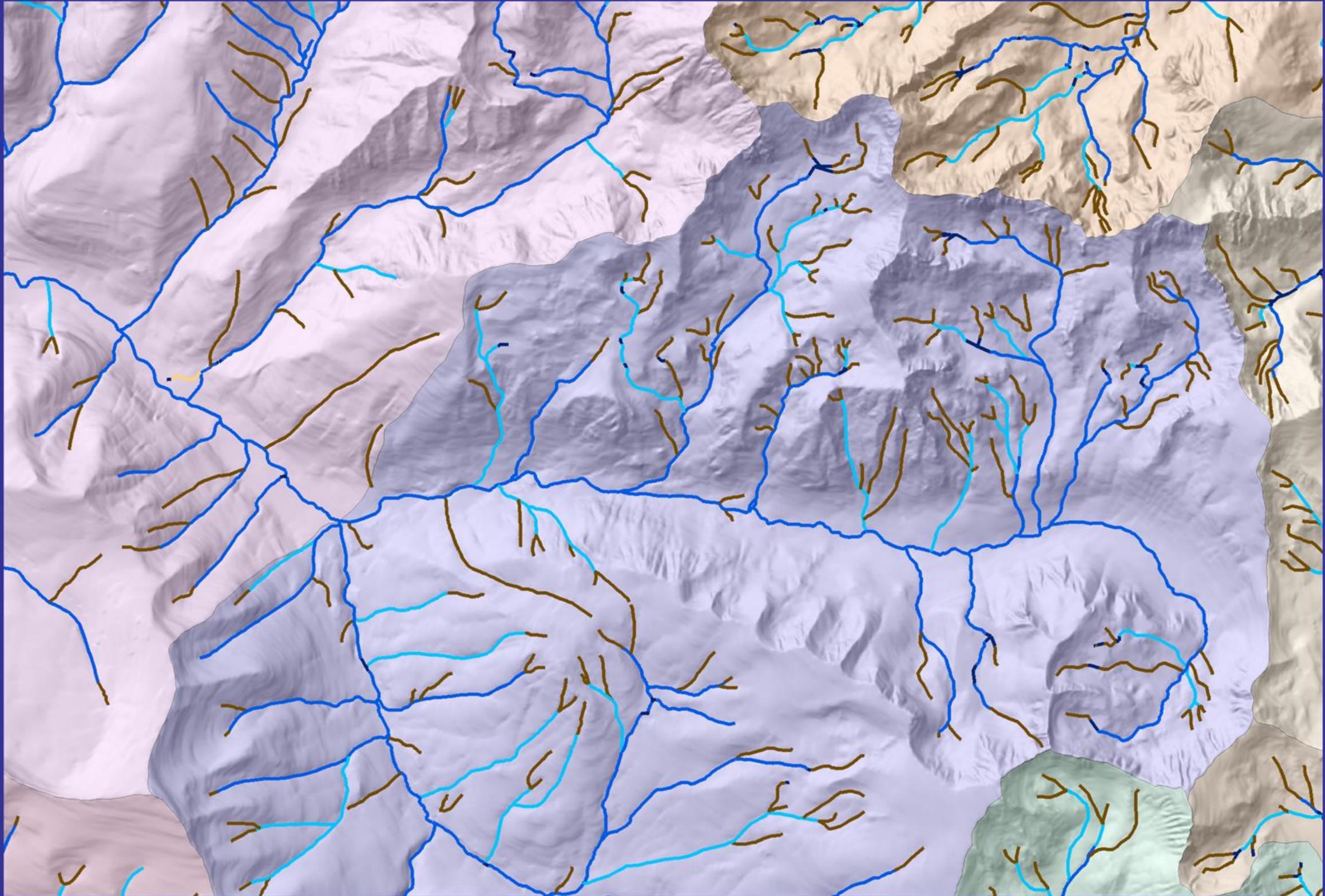
Hydrography



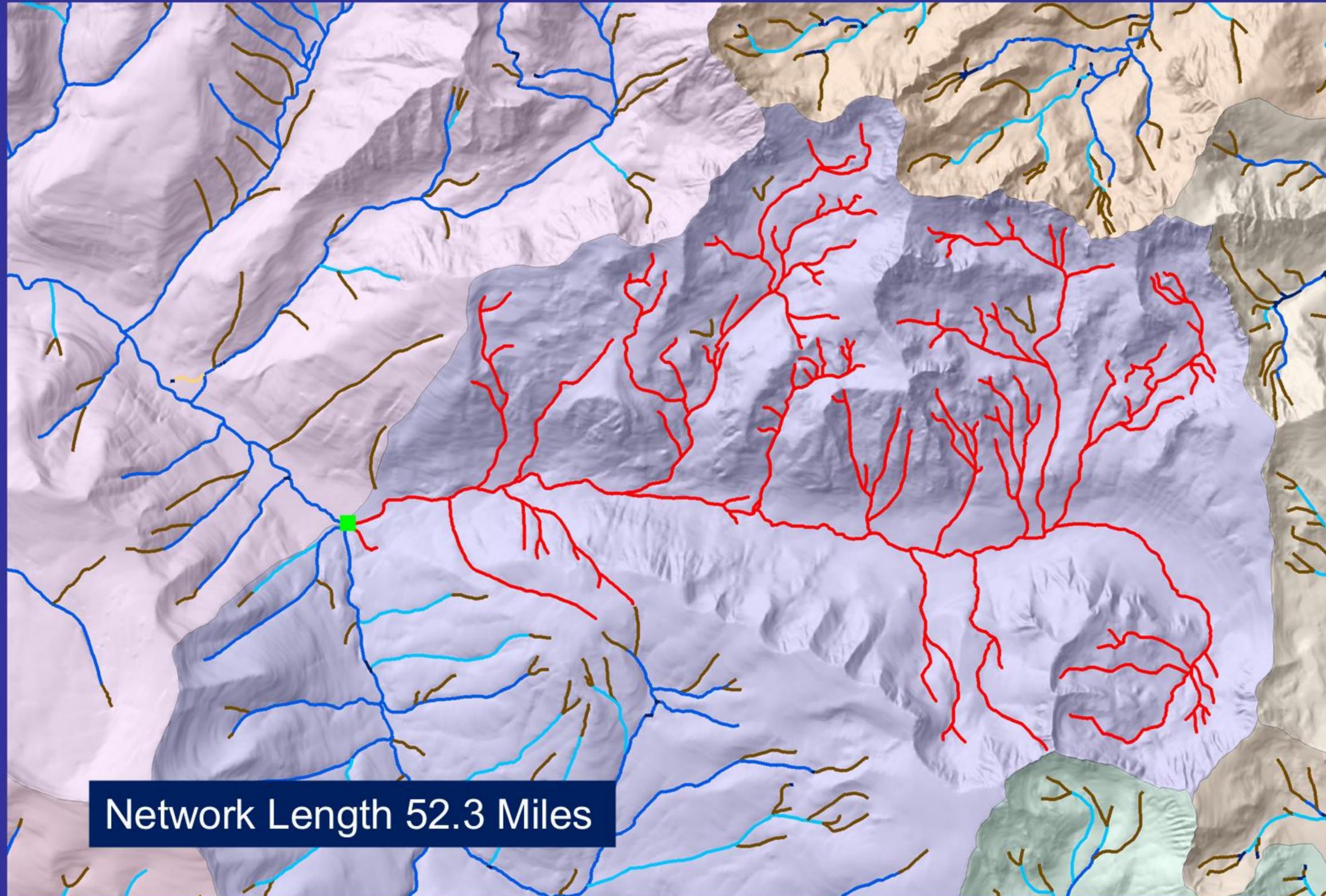
Elevation/Hydrography



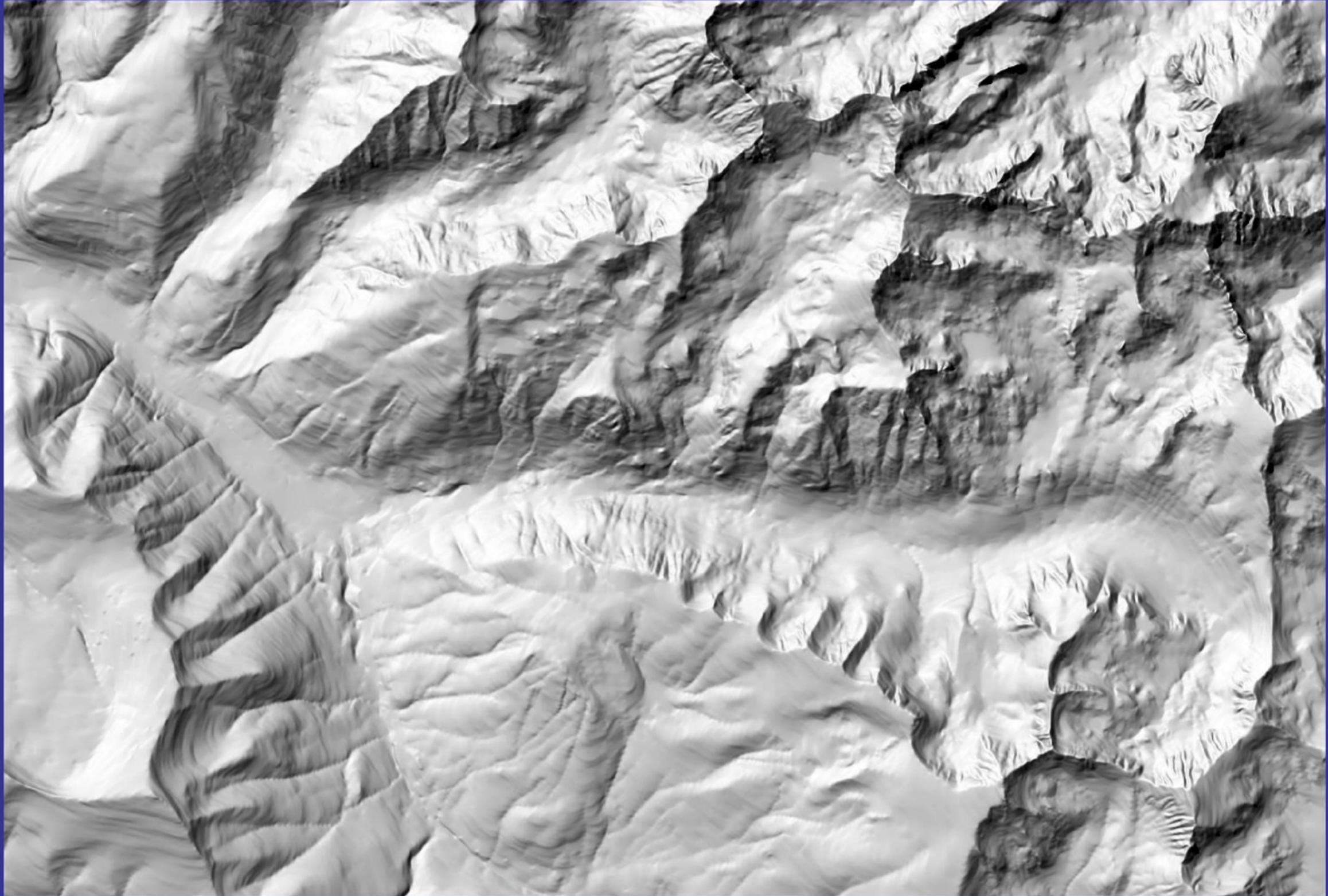
Hydrography Analytics



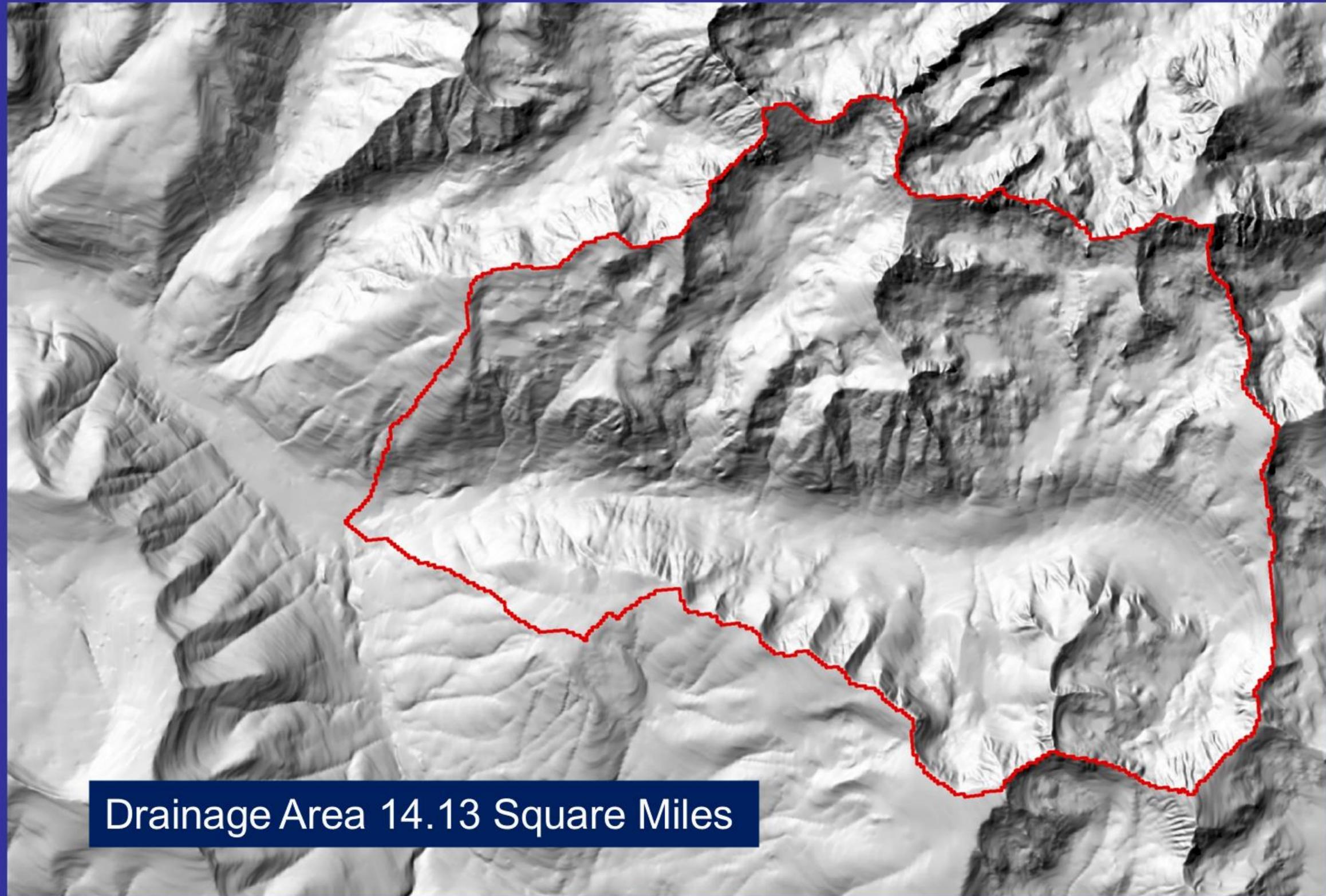
Hydrography Analytics



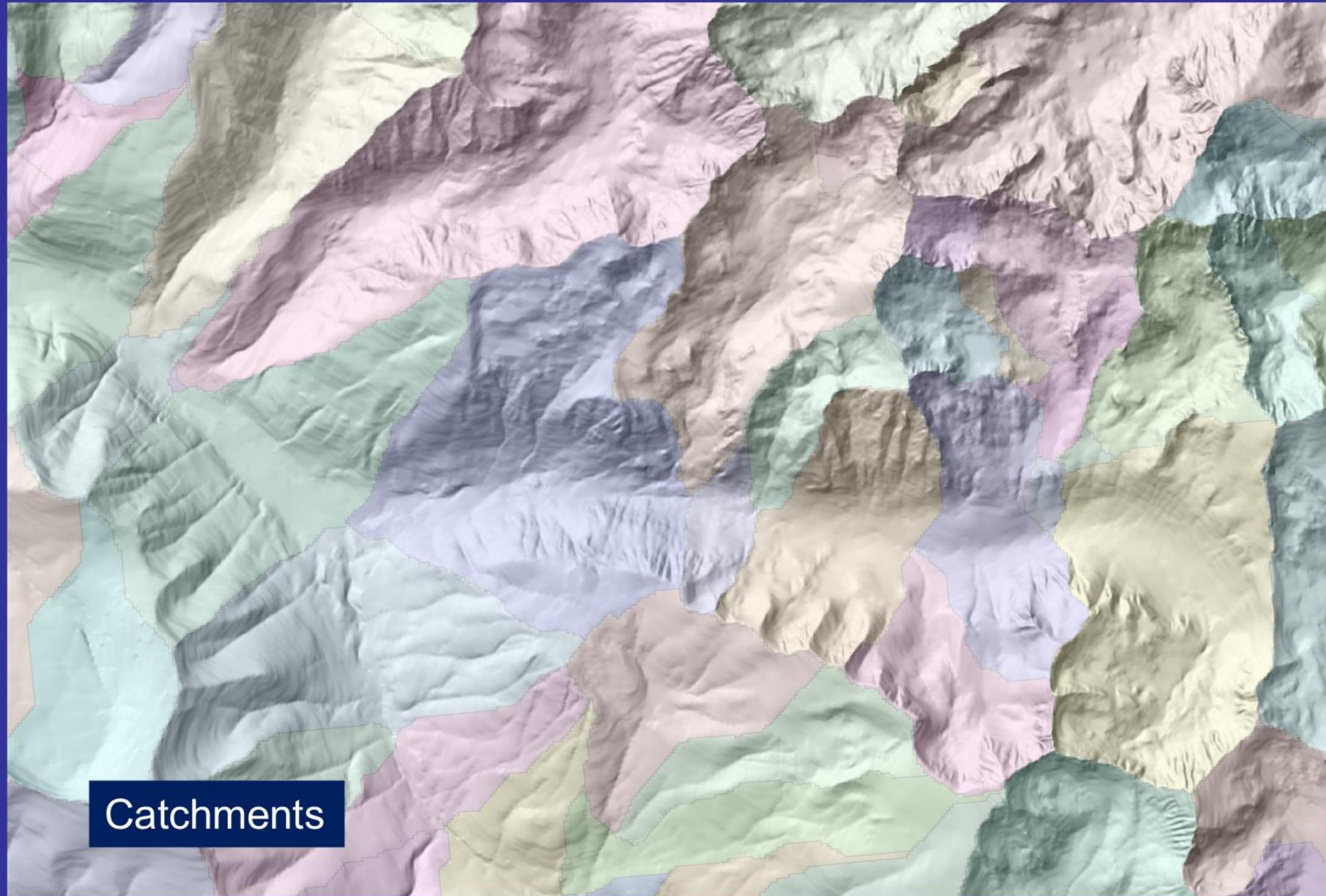
Elevation Analytics



Elevation Analytics



Elevation Analytics



StreamStats – Creating knowledge out of data

The screenshot displays the USGS StreamStats website in a Microsoft Internet Explorer browser. The left pane shows a topographic map of a watershed in Colorado, with a pink boundary and a red stream network. The right pane displays a 'Streamflow Statistics Report' for a site in Colorado. The report includes site location information (Date: Thu Dec 13 2007 14:52:00, Site Location: Colorado, Latitude: 39.6190, Longitude: -106.0659, Drainage Area: 334.09 mi²) and two tables: 'Peak Flow Basin Characteristics' and 'Low Flow Basin Characteristics'. A third table, 'Streamflow Statistics', lists flow values for various points (PK2, PK5, PK10, PK25, PK50, PK100) in ft³/s, with the values 1340, 1930, 2350, 2880, 3270, and 3680 circled in red. The bottom of the browser shows the Windows taskbar with the time 3:09 PM.

Streamflow Statistics Report

Date: Thu Dec 13 2007 14:52:00
 Site Location: Colorado
 Latitude: 39.6190
 Longitude: -106.0659
 Drainage Area: 334.09 mi²

Peak Flow Basin Characteristics

100% Mountain Region Peak Flow (334 mi²)

Parameter	Value	Min	Max
Drainage Area (square miles)	334	5.5	945
Mean Basin Slope ft per ft (dimensionless)	0.31	0.126	0.554

Low Flow Basin Characteristics

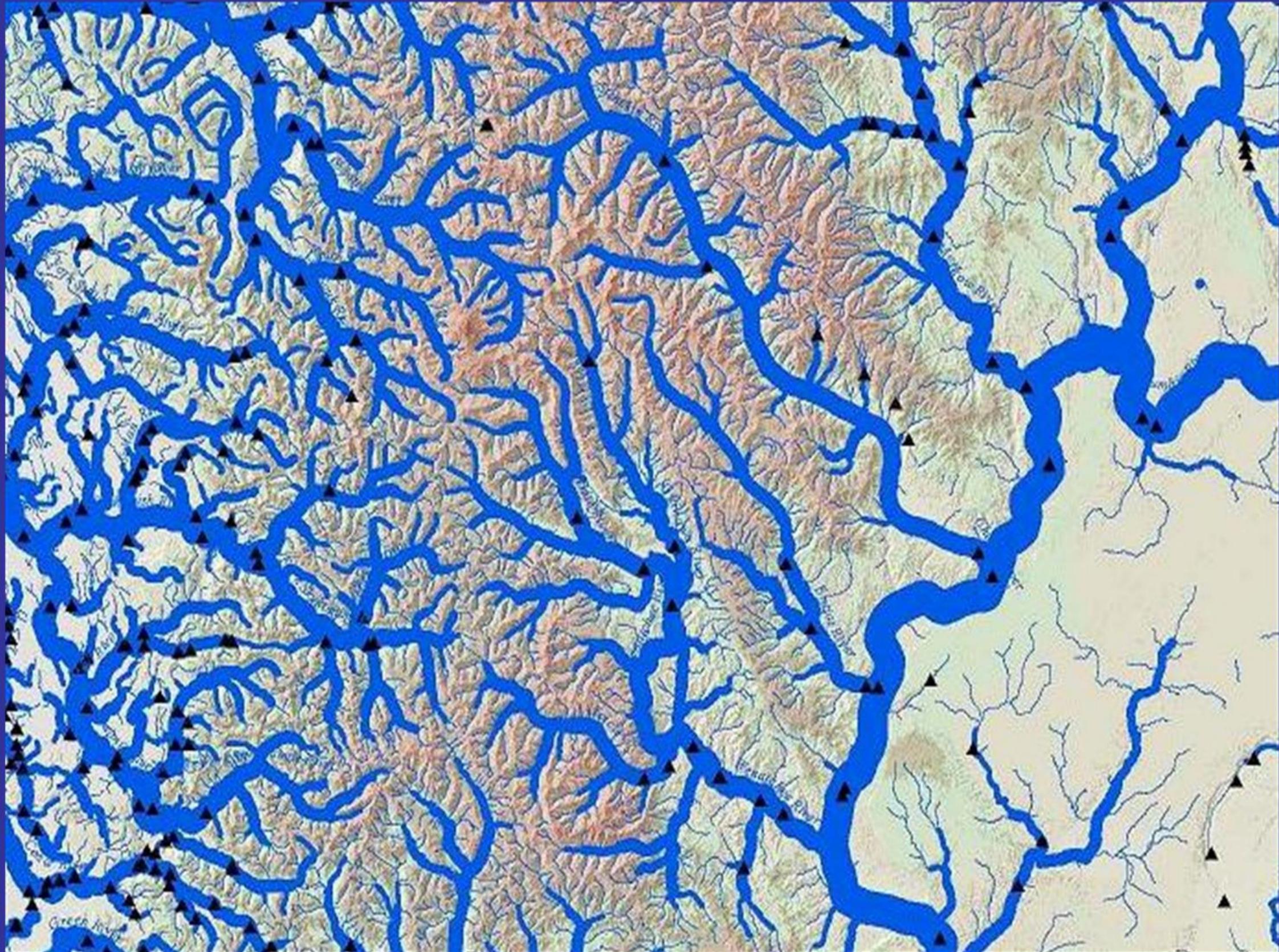
100% Mountain Region Low Flow (334 mi²)

Parameter	Value	Min	Max
Drainage Area (square miles)	334	1	1150
Mean Basin Elevation (feet)	11000	8400	12200
Mean Annual Precipitation (inches)	26.7	17.5	39.4

Streamflow Statistics

Statistic	Flow (ft ³ /s)	Standard Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	1340	60			
PK5	1930	49			
PK10	2350	45			
PK25	2880	42			
PK50	3270	42			
PK100	3680	43			

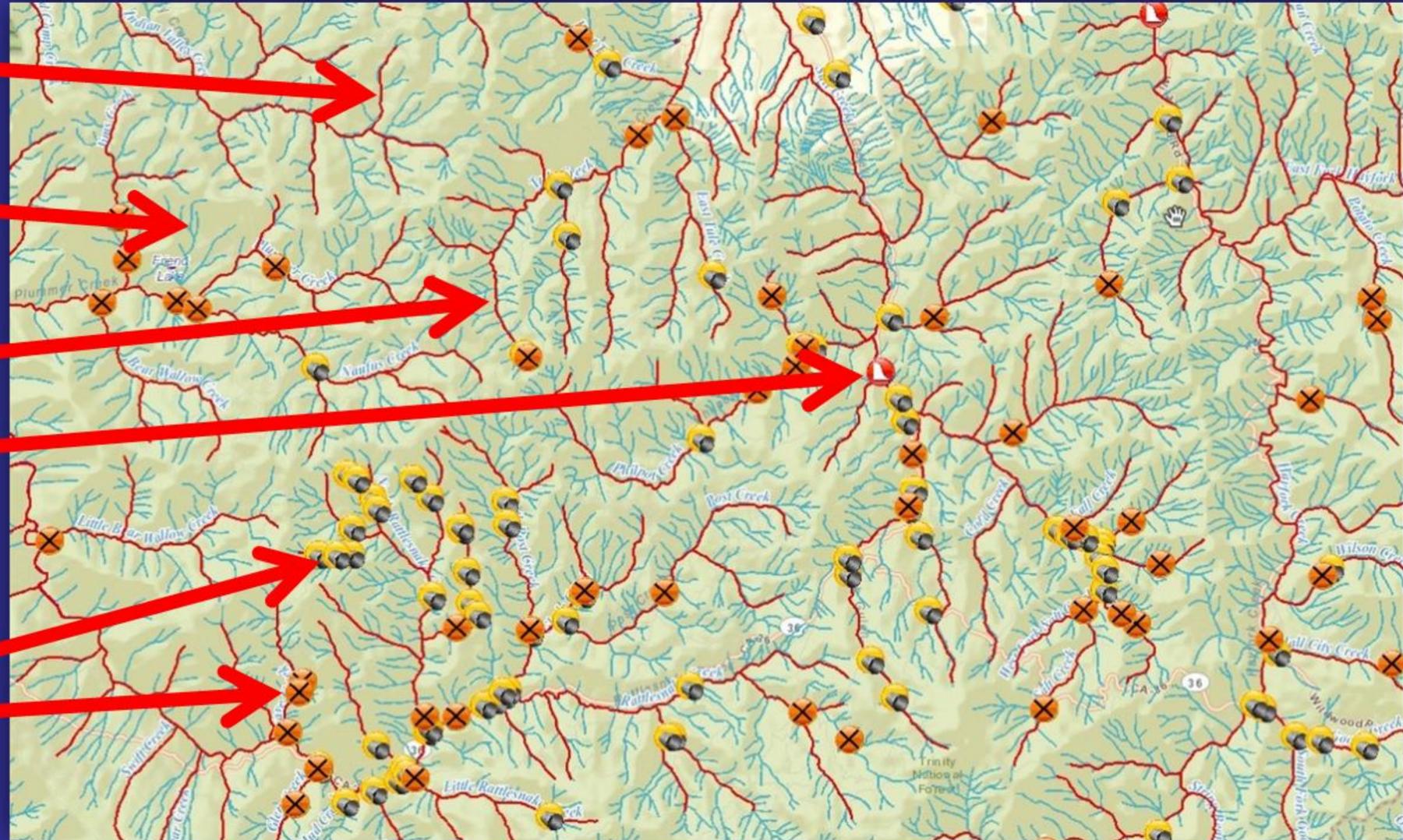
The NHDPlus – Synthesizing information



NHD as a framework for a water information system

GeoFin

- U.S. Geological Survey - the NHD represents the nation's surface water
- U.S. Forest Service - additional streams
- Environmental Protection Agency – impaired waters (red lines)
- U.S. Army Corps of Engineers - dams (red dot)
- U.S. Fish and Wildlife Service - data on streams flowing through culverts (yellow symbols) and waterfalls (orange dots), which were assembled by the State of California



Dams, culverts, and waterfalls can act as barriers to fish passage; the USFWS and others use these data to support studies to improve fish migration to spawning grounds

Water Rights Information Management System

eWRIMS GIS

HOME HELP
FAQ EXIT

Core App Link Scale ~ 1: 36000

Task Assistant

- Find Water Right By ID
- Find Water Right By County
- Find Water Right By PLSS
- Find Water Right By Watershed
- Find Water Right By Stream
- Find Water Right By Owner
- Query Upstream/Downstream
- Quad Map Lookup

Results

Water Rights where COUNTY = 'MARIN'

- Points of Diversion (301)
 - Records 1 - 25 of 301 >
 - A002501_01
 - A003501_01
 - A004881_01
 - A008214_01
 - A009745_01

POD Filter Window

Map Contents

- Water Rights
- Administrative
- Hydrography
- Calwater
- Natural Resources
- Aerial Photo
- USGS Quad Maps

301
Scale: Yes

Map Labels: S008713_01, A026421_01, A020070_01, A029027_01, S009127_01, C001182_01, A024726_01, A027993_01, S008577_01, A017317_01, A027937_01, S008129_01, S005293_01, A022784_01, A020917_01

Nicasio Reservoir
Nicasio Creek

1,10650 0 1,100 Feet

[POD Legend](#) [Metadata](#) [Conditions of Use](#) [Privacy Policy](#)



Water Discharge Permits - USEPA

PCS Detailed Reports - Microsoft Internet Explorer

U.S. ENVIRONMENTAL PROTECTION AGENCY
Water Discharge Permits (PCS)

Recent Additions | Contact Us | Search: All EPA This Area

You are here: EPA Home » Envirofacts PCS

Detailed Reports Report an Error

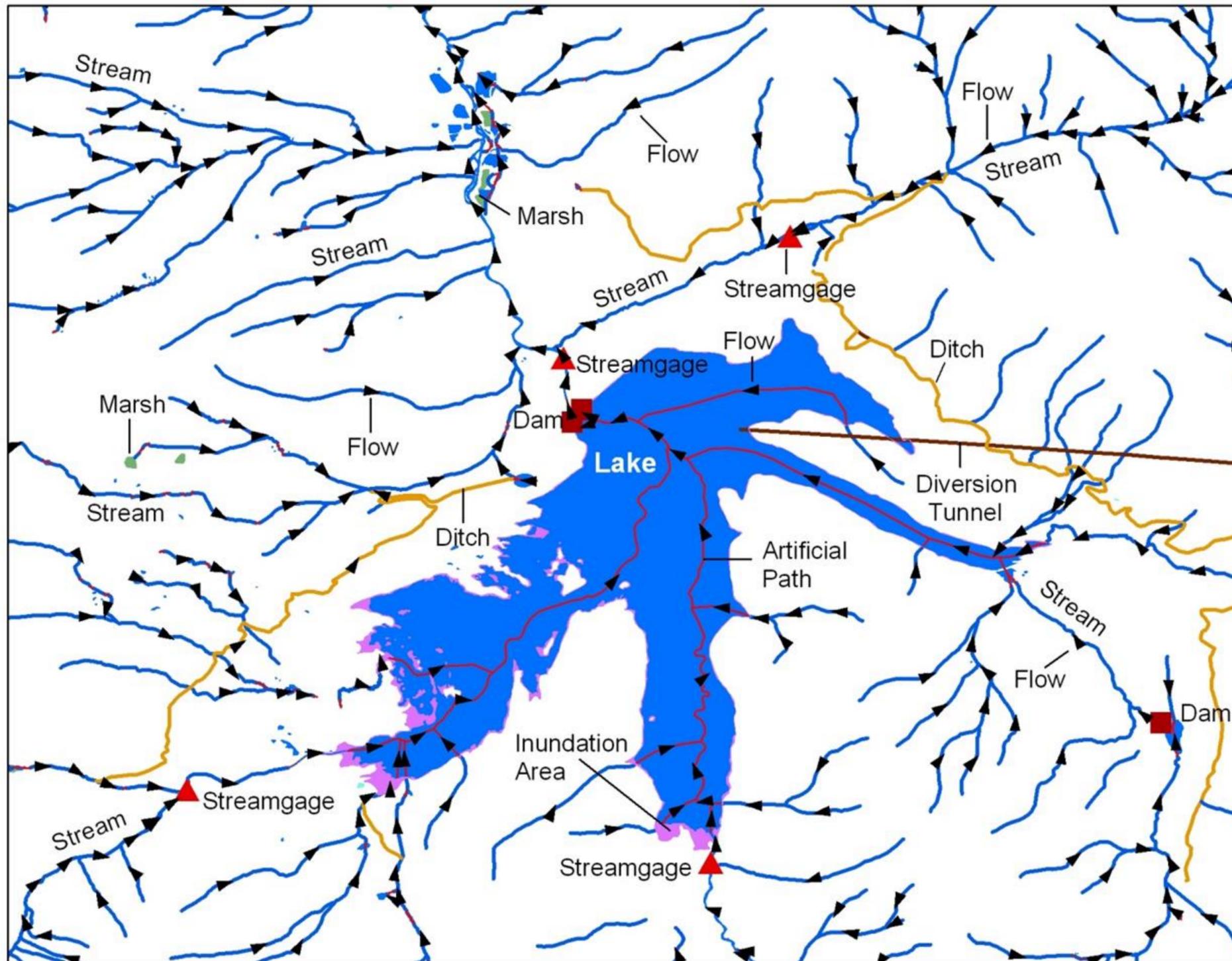
Results are based on data extracted on JAN-16-2008

Facility

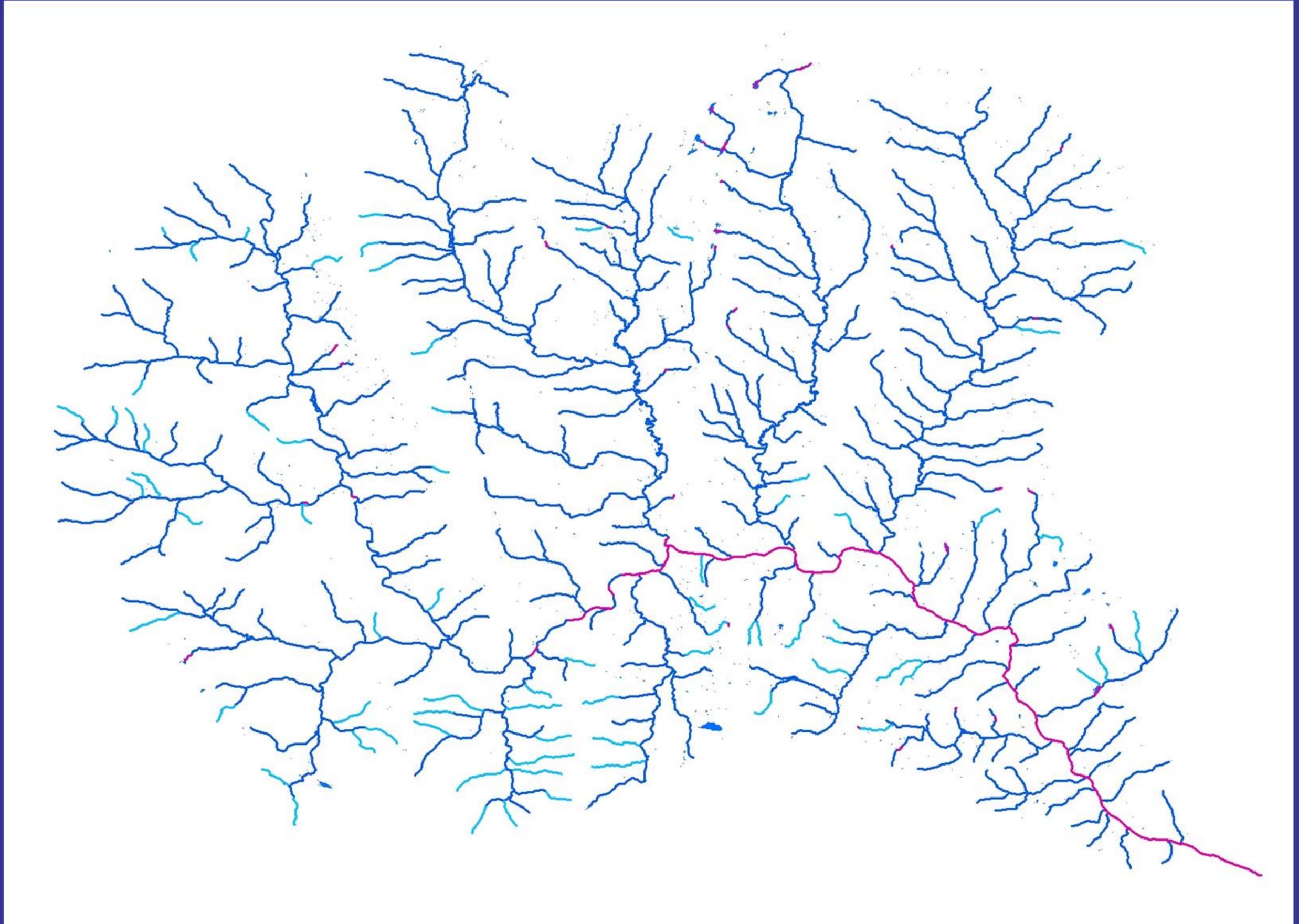
FACILITY NAME (1):	AMBRIDGE BORO MUN AUTH	NPDES :	PA0027146
FACILITY NAME (2):			
STREET 1 :	2201 OHIO RIVER BLVD	SIC CODE :	4952 = SEWERAGE SYSTEMS
CITY :	AMBRIDGE MA	MAJOR / MINOR :	M = Major
COUNTY NAME :	BEAVER	TYPE OF OWNERSHIP :	PUB = PUBLIC
STATE :	PA	INDUSTRY CLASS :	M
ZIP CODE :	15003	ACTIVITY STATUS :	A = Active
REGION :	03	INACTIVE DATE :	
LATITUDE :	+4036130	TYPE OF PERMIT ISSUED :	S = STATE
LONGITUDE :	-08014020	PERMIT ISSUED DATE :	04-AUG-2005
LAT/LON CODE OF ACCURACY :	2 = NEAREST SECOND	PERMIT EXPIRED DATE :	31-AUG-2010
LAT/LON METHOD :	A = MAP INTERPOLATION	ORIGINAL PERMIT ISSUE DATE :	30-SEP-1974
LAT/LON SCALE :	U = UNKNOWN		
LAT/LON DATUM :	1 = NAD27		
LAT/LON DESCRIPTION :	01099		
USGS HYDRO BASIN CODE :		STREAM SEGMENT :	
FLOW :	2.56	MILEAGE IND :	

What is the National Hydrography Dataset?

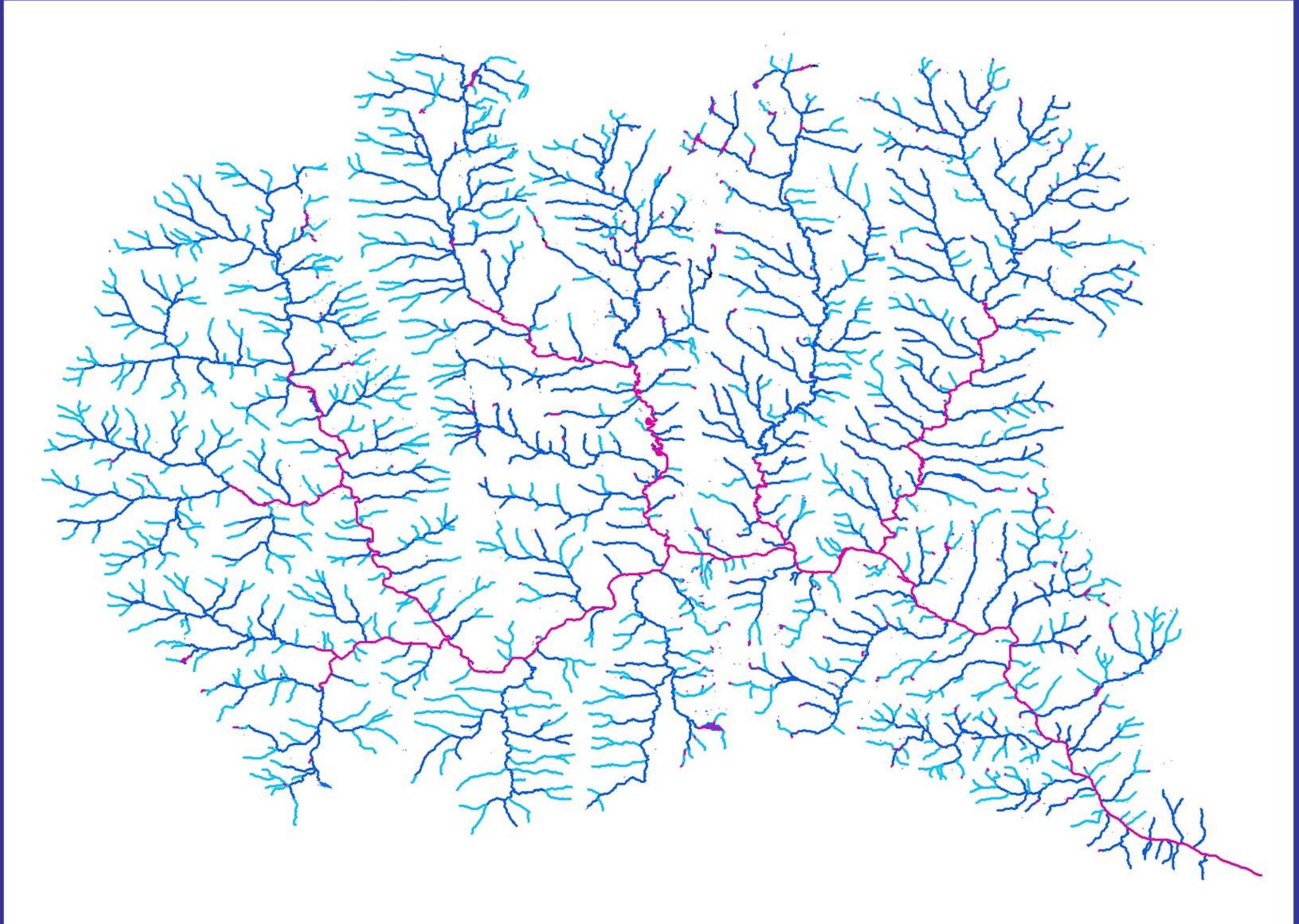
Essentially the surface water features found on topographic maps



Medium Resolution NHD



High Resolution NHD



Local Resolution NHD

