

RIMORPHIS

River Morphology Information System

1st Annual Stakeholder Workshop

May 12 & 19, 2021

USGS
science for a changing world

Community for Data Integration (CDI)

Leslie Hsu, lhsu@usgs.gov

National Hydrologic Geospatial Fabric (NHGF) – River Corridors Team

Jessica LeRoy, jleroy@usgs.gov

About the Community for Data Integration (CDI)

The USGS Community for Data Integration is a forum for stewarding the knowledge needed for working with Earth science data.



grow our expertise



communicate across boundaries

2000+ members, USGS and external

200+ monthly call participants

118 projects supported since 2010

20+ Workshops and training events

17 active collaboration areas, Including **Geomorphology**



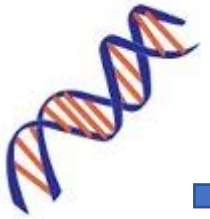




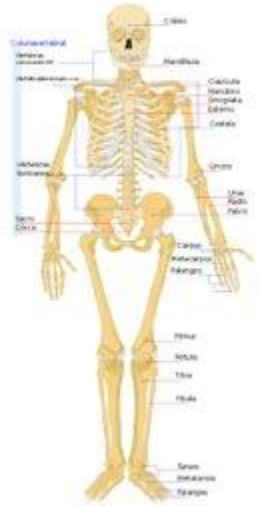
About NHGF

- The **USGS National Hydrologic Geospatial Fabric (NHGF)** project is focused on developing a web-accessible, middle-tier data system that will provide users access to best-available geospatial data for hydrologic modeling
  - **Hydroinformatics** research and development (Dave Blodgett)
  - **Build-out** (reference fabric - Andy Bock; tool development - Rich McDonald; enterprise development - Don Brown)
  - **High-value data** themes and **communities of practice** (river corridors - Jess LeRoy, hydrogeology – Tim Cowdery, dynamic landscape characteristics - Andy LaMotte)

Design



Build infrastructure and tools



Populate with content

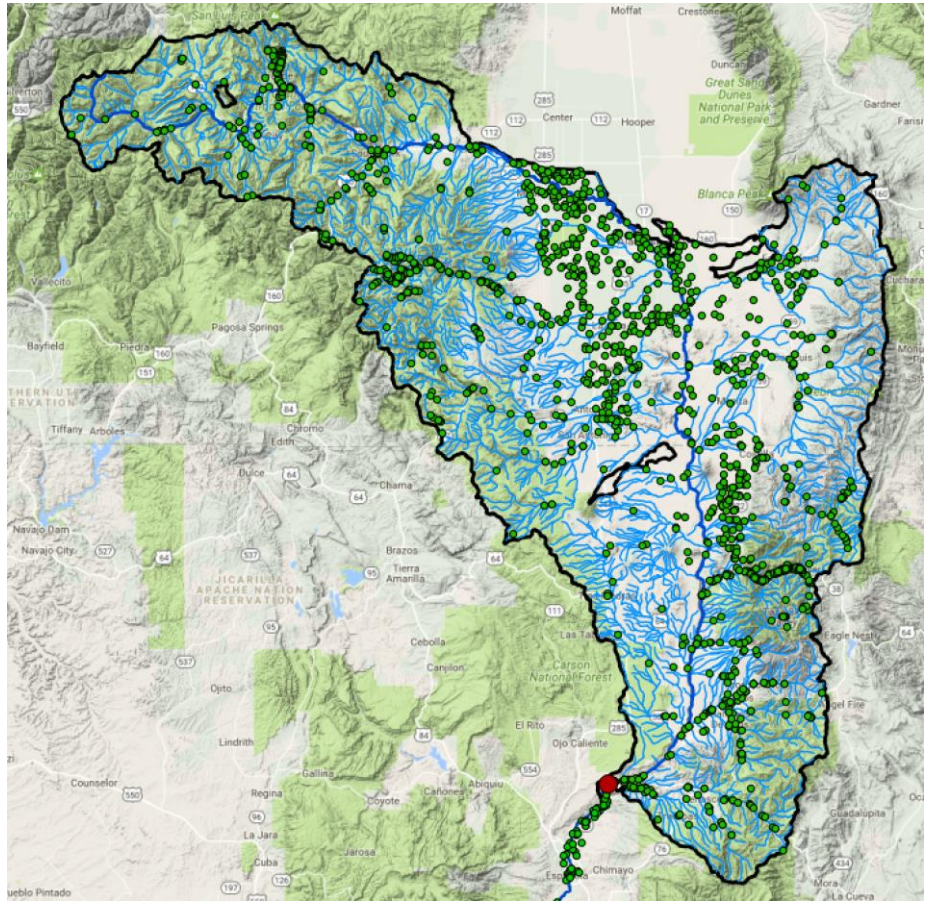


Project manager: Roland Viger (rviger@usgs.gov)

Technical project lead: Dave Blodgett (dblodgett@usgs.gov)

River Morphology Data and Tools

- The **NHGF river corridors team** aims to build a ***FAIR*** federation of existing data content
- Organized based on hydrology/hydrography using **hydrographic addressing**
- Delivered with **hydrographically-aware web services**
- Support for a Community of Practice through the **CDI Geomorphology Focus Group**



Hydro-Network Linked Data Index (NLDI) API query example

USGS

Wish List for River Morphology Data & Tools

- Channel morphology (historical and current)
  - Cross-sections, longitudinal profiles, high-res surveys
- Channel bed characterization
  - Bed material type/size, roughness, vegetation characteristics
- Bankfull channel geometry metrics
- Stream “buffers”
  - Inundation mapping, ecological/riparian zones, wetlands
- “Flow-disturbing” features/infrastructure
  - Dams, bridges, weirs, culverts, waterfalls, rapids etc
- CONUS-scale or regional-scale datasets

USGS