

California GIS Council Progress Report

Workgroup: National Hydrography Dataset (NHD)

Workgroup page*: <http://cgia.org/cagiscouncil/workgroups/hydrography/>

Workgroup Chair: Jane Schafer-Kramer (jane.schafer-kramer@water.ca.gov)

NHD page on the CNRA Open Data site:

<https://data.cnra.ca.gov/dataset/national-hydrography-dataset-nhd>

NHD Stewardship Program page on the Department of Water Resources website:

<https://water.ca.gov/Programs/All-Programs/National-Hydrography-Dataset-Stewardship>

Report Date:

September 10, 2021

*See the workgroup page for workgroup charter, members, contact information, and prior reports.

Requests for Council Action

No formal action.

Status Update

Members of the NHD workgroup regularly interact as part of the ongoing work of the California Department of Water Resources (DWR) NHD Stewardship Program. (Stand-alone CA GIS Council NHD Workgroup meetings have not been held.) The Program Manager position has been vacant since March 2021.

Ongoing Work

Comprehensive updates on the NHD at the 1:24,000 scale continue. Under Interagency agreements with the Geographical Information Center at CSU-Chico and the Center for Geospatial Science and Technology at CSU-Northridge, HU 8 subbasins that were first edited by these centers five and six years ago are being updated using recent NAIP imagery and new reference data sources.

We are actively reviewing suggested corrections to the NHD received via the [USGS Markup Application](#) and coordinating the editing work needed to resolve the errors. Users of the NHD and the Watershed Boundary Dataset may report errors and omissions by way of this application or by contacting the steward at nhd_stewardship@water.ca.gov.

Here is some guidance for reporting errors discovered in the National Hydrography Dataset and Watershed Boundary Datasets to the California State Steward

<http://cgia.org/cagiscouncil/wp-content/uploads/2021/06/Improving-the-California-NHD-One-Markup-at-a-Time.pdf>

Marin Collaborative Project

A collaborative effort to update the Marin County portion of the NHD to a scale of approximately 1:5,000 using LiDAR elevation data collected in 2018 and hydrography derived according to USGS standards **is complete**. The NHD features have been conflated and are available for download on the USGS cloud site

<https://prd-tnm.s3.amazonaws.com/index.html?prefix=StagedProducts/Hydrography/NHD/HU8/HighResolution/GDB/>.

Congratulations are in order for the entire collaborative, led by project manager Danny Franco of the Golden Gate Parks Conservancy.

The updated Watershed Boundaries at the HU12 and HU14 levels are still in review by USGS; we expect this part of the project to be completed and available for download in the next few weeks. These will be the first HU14 watersheds in the California NHD. Here is an update on the Marin County Lidar, Hydro, and Vegetation Mapping Project, with links to the data and map products <http://cgia.org/cagiscouncil/wp-content/uploads/2021/06/Marin-Veg-Map-Project-Update-6-8-2021.pdf>



Current Tasks

After a work delay caused by a technology update on the USGS side, a task is underway again to bring all stream gage locations that collect flow data from the California Data Exchange Center (CDEC) <https://cdec.water.ca.gov/> into the NHD with supplemental join tables to allow users to link directly from the 1:24,000 scale NHD to the CDEC website for the latest flow data. This is expected to be completed and ready for download in the next couple of months.

Planning for Future Work

We are scoping out tasks for a four-year extension of our interagency agreements with the Geographical Information Center at CSU-Chico and the Center for Geospatial Science and Technology at CSU-Northridge. Under consideration is an update of the Coastline, Estuaries, Bays, and Inlets. This would align with the best available data from NOAA and other authoritative resources. Please contact Jane if you know of potential data sources, have an interest regarding what should be considered estuary, or have another interest in this effort.

We are also planning a pilot study to update a HUC 8 using a lidar-derived hydrography method.

Policy Update

The Memorandum of Understanding that was submitted by DWR to USGS in 2017 was not accepted by USGS. DWR has re-drafted it and it is in review.

A draft of the **3DNTM (3D National Topography Model) Call for Action Part 1: 3D Hydrography Program** was sent to state stewards on August 16. We were asked to review and provide comments by August 27, which we did. This report outlines the vision for the NHD over the next nine years and aims to bring the NHD for the U.S. states and territories up to the 1:2,400 scale (a bit smaller for Alaska). This would be achieved through cost-sharing and public-private partnerships, modeled on the 3DEP Elevation Program. The final report is expected to be released by USGS before the end of this year.

Action	Key Date
Finalize MOU (awaiting action by USGS)	open
Continue NHD Update work	ongoing
Scope out future work	

Other Notes

The statewide extract of the NHD available for download by link at <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products> has not been refreshed since June 2020. USGS informed us recently that there's a problem with the extraction process and are designing a new system which could take another month or two to complete.

DWR archives the California extracts of the NHD (going back to March 2018) on the Natural Resources Agency Open Data site <https://data.cnra.ca.gov/dataset/nhd-archive> each time the dataset is refreshed on the USGS website, which normally happens two to four times each year. Also on the CNRA Open Data site are quick links to the various NHD websites and three derivative datasets: NHD Major Rivers, NHD Major Rivers and Creeks, and NHD Major Lakes and Reservoirs. <https://data.cnra.ca.gov/dataset/nhd>. The NHD-aligned Wild and Scenic Rivers – California Designations are available for download at <https://data.cnra.ca.gov/dataset/wild-and-scenic-rivers-california-state-designations-only-2020>.



Errors in the NHD may be brought to the attention of DWR and USGS using USGS' Markup Application: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/tools#Markup> or by contacting the steward directly: nhd_stewardship@water.ca.gov

Appendix

Accurate and vetted regional and local reference datasets are extremely useful in bringing comprehensive improvements to the NHD as they can provide additional detail that is not always accessible from readily available datasets and aerial imagery. We would love to hear from you if you can share quality reference datasets of your area.

Hydrographic reference datasets (vector) with the following specifications are desired:

- Scale: 1:50,000 or finer

- Primary Composition/Features of Interest:

 - River/Streams

 - Lakes/Ponds/Reservoirs

 - Washes

 - Swamps/Marshes

 - Canals/Ditches

- Attribution Composition:

 - Seasonality/Periodicity of Rivers/Streams

 - Feature Types

- Currentness: Updated within last 5 years

Contact Information:

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