

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: December 9, 2021
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*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 up to 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 Watershed Boundary Dataset edits at the HU 12 and new HU14 levels are still in review by USGS.

Los Angeles County Department of Public Works Collaboration

L.A. County PW GIS Manager Mark Greninger contacted us in early 2021 about making use of their lidar-derived data for the NHD. We have been reviewing the datasets provided to us and are now planning a pilot study on elevation-derived hydrography for conflation into the NHD and updating the WBD. The focus will be the Los Angeles River basin.

U.S. Forest Service NHD and WBD Updates

We have received approval from the U.S. Forest Service to update the NHD and WBD areas within their administrative boundaries, and plan to begin this work in 2022. This accounts for approximately 20% of the land in California. Until now we have excluded those areas in our updates due to a handshake agreement going back to the early days of this program.



Legal Delta NHD Updates Complete

The long-awaited update to the NHD at the 1:4,000 scale for the area within the Legal Delta Boundary is complete. Many Canal/Ditch and Swamp/Marsh features were added. This work made extensive use of lidar breaklines provided by the Department of Water Resources.

Streamgages Added to the NHD

Work continues on bringing 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. Some of these are already appearing as NHD Point Gaging Station features, and the join tables along with hydro-linked point events will be available sometime in 2022 on the CNRA Open Data site.

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. Other tasks being planned are bringing additional dams, weirs, levees, springs, and wetlands features into the dataset.

Redwood National Park

NHD improvement work within Redwood National and State Parks continues. The work is being done by USGS-trained editors in the National Park Service.

Policy Update

The Memorandum of Understanding that was submitted by DWR to USGS in 2017 was not accepted by USGS. DWR has just approved a revised version which will be submitted to USGS shortly.

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 that there's a problem with the extraction process and are designing a new system. USGS has not announced when we can expect this new system to be ready for use.

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 found 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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