

Groundwater Resource Hub (<https://groundwaterresourcehub.org>)

menu

Advancing Sustainable Groundwater Management



The first step to sustainably manage groundwater dependent ecosystems (GDEs) is to identify where they are. We have developed a statewide spatial database that provides locations of seeps and springs, wetlands, and vegetation likely to depend on groundwater. This database was constructed by scientists and hydrologists from the California Department of Water Resources (DWR), the California Department of Fish and Wildlife (DFW), and The Nature Conservancy. In addition, the methods used to develop the database have undergone expert review from numerous local water agencies, state agencies, academics, and technical consultants.

Because there is uncertainty in our knowledge of when and how plants and animals depend on groundwater, the spatial database identifies ecosystems that potentially rely on groundwater. Therefore, the database is called “indicators of groundwater dependent ecosystems (iGDE)”. This iGDE statewide database will provide a starting point for the identification and analysis of GDEs under SGMA using the best available science. Because detailed groundwater elevation data was not available for the entire State in the development of the mapping, it is important to validate the groundwater dependency of iGDEs with local information. Guidance for this validation can be found in [Groundwater Dependent Ecosystems under SGMA: Guidance for Preparing Groundwater Sustainability Plans. \(.../public/uploads/pdfs/GWR_Hub_GDE_Guidance_Doc_1-31-18.pdf\)](#)

The California Department of Water Resources is the host and steward of the database and mapping tool. While the Conservancy refers to the data as indicators of Groundwater Dependent Ecosystems (iGDEs), DWR refers to the same data as Natural Communities Commonly Associated with Groundwater (NCCAG or NC Dataset).

[Webapp to View and Download the NC Dataset](https://gis.water.ca.gov/app/NCDataSetViewer/) (<https://gis.water.ca.gov/app/NCDataSetViewer/>)

[Download the NC Dataset](https://data.cnra.ca.gov/dataset/natural-communities-commonly-associated-with-groundwater) (<https://data.cnra.ca.gov/dataset/natural-communities-commonly-associated-with-groundwater>)

[Mapping Indicators of Groundwater Dependent Ecosystems in California: Methods Report](/public/uploads/pdfs/iGDE_data_paper_20180423.pdf) (/public/uploads/pdfs/iGDE_data_paper_20180423.pdf)



Update (July 2019) - The Nature Conservancy is providing guidance highlighting six best practices for using local groundwater data to confirm whether mapped features in the NC dataset are supported by groundwater.

Identifying GDEs Under SGMA: Best Practices for using the NC Dataset

(https://groundwaterresourcehub.org/public/uploads/pdfs/TNC_NCdataset_BestPracticesGuide_2019.pdf)

Update (April 2021) - The Nature Conservancy has completed an update to the NC Dataset (NCCAG V2.0) that includes indicators of groundwater dependent ecosystems both inside and outside mapped groundwater basins.

Click here for a [webmap](https://tnc.maps.arcgis.com/apps/webappviewer/index.html?id=9b4770ae49c54585bf3d18d45e7d97b5) (<https://tnc.maps.arcgis.com/apps/webappviewer/index.html?id=9b4770ae49c54585bf3d18d45e7d97b5>) and here to [download](https://gde.codefornature.org/data/i02_NaturalCommunitiesCommonlyAssociatedwithGroundwater_v2_0.gdb.zip)

(https://gde.codefornature.org/data/i02_NaturalCommunitiesCommonlyAssociatedwithGroundwater_v2_0.gdb.zip) the wall-to-wall statewide GDE data.

For support, contact **Kirk Klausmeyer** (<https://www.scienceforconservation.org/our-team/kirk-klausmeyer>)



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DWR SGMA RESOURCES

Bulletin 118, 2003 (http://www.water.ca.gov/groundwater/bulletin118/docs/Bulletin_118_Interim_Update_2016.pdf)

Sustainable Groundwater Management Act

(<http://www.water.ca.gov/cagroundwater/docs/2014%20Sustainable%20Groundwater%20Management%20Legislation%20with%202015%20amends%2015-2016.pdf>)

Groundwater Sustainability Plan Regulations (http://www.water.ca.gov/groundwater/sgm/pdfs/GSP_Emergency_Regulations.pdf)

Best Management Practices & Guidance Documents (<https://www.water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents>)

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