

## **Abstract**

An integrated ocean water quality geodatabase for the West Hawai‘i Island region is of interest to local scientists who want to assess near-shore ocean waters because the unique properties of this environment allow the data to speak for the environment as a whole. With guidance from local environmental scientists, disparate near-shore water quality projects from different organizations were combined and integrated into a single geodatabase using reproducible methods. This study used SQL query methods to extract data from regulatory monitoring and scholarly research documents into a professional spatio-temporal water science database for use in the Esri ArcGIS Pro software program. The final geodatabase contains 100,000 analyte results from 15,000 samples at 300 stations. The geodatabase, data, methods, images and data and documentation sources used to produce these results were published at GitHub free for use. This geodatabase provides a GIS foundation to support the future development of online web maps and story maps that can be used to inform the public about ocean water quality changes.