

CDI Project list 2010-Present

**Projects occurring in multiple years*

Links go to the ScienceBase project page.

FY21

[Processing a new generation of hyperspectral data on the Cloud using Pangeo](#) - Aneece, Itiya

[From reactive- to condition-based maintenance: Anomaly predictions and automated review for USGS time-series data](#) - Cashman, Matthew

[Making USGS/NOAA Total Water Level and Coastal Change Forecast data accessible through user-friendly interfaces](#) - Doran, Kara

[Modernizing sensor data workflows to leverage Internet of Things \(IoT\) and cloud-based technologies](#) - Gushue, Thomas

[Landsat-derived fire history metrics to provide critical information for prioritizing prescribed fire across the Southeast](#) - Hawbaker, Todd

[GIS Clipping and Summarization Tool for Points, Lines, Polygons, and Rasters](#) - Kemp, Sue

[Delivering the North American tree-ring fire history network through a web application and an R package](#) - Margolis, Ellis

[Improving forest structure mapping and regeneration prediction with multi-scale lidar observations](#) - Peterson, Birgit

[Diverse data to improve Southwest fire forecasts: Joining novel remote sensing, post-fire dynamics, and intra-annual precipitation patterns](#) - Reed, Sasha

[Advancing Post-Fire Debris Flow Hazard Science with a Field Deployable Mapping Tool](#) - Rengers, Francis

[Development of a web-based tool for coastal water resources management](#) - Root, Tara

[The Wildfire Trends Tool: a data visualization and analysis tool to facilitate land management needs and scientific inquiry](#) - Shinneman, Douglas

[Coast Train: Massive Library of Labeled Coastal Images to Train Machine Learning for Coastal Hazards and Resources](#) - Wernette, Phillippe

FY20

[Building a framework to compute continuous grids of basin characteristics for the conterminous United States](#) – Barnhart, Theodore

[So you want to build a decision support tool? Assessing successes, pitfalls, and lessons learned for tool design and development](#) – Cravens, Amanda

[Using Jupyter Notebooks to tell data stories and create reproducible workflows](#) – Erickson, Richard

[USGS Cloud Environment Cookbook](#) – Fox, Aaron

[Enabling AI for citizen science in fish ecology](#) – Hitt, Nathaniel

[Implementing FAIR practices: Storing and displaying eDNA data in the USGS Nonindigenous Aquatic Species database](#) – Hunter, Margaret

[Developing a "fire-aware" stream gage network by integrating USGS enterprise databases](#) – Kolb, Katharine

[Waterbody Rapid Assessment Tool \(WaterRAT\): 3-dimensional Visualization of High-Resolution Spatial Data](#) – Medenblik, Andrea

[Development of a Flexible Multi-Channel Spatiotemporal Geophysical HDF5 Data Format Supporting FAIR](#) – Peacock, Jared

[Real-time Coastal Salinity Index for monitoring coastal drought and ecological response to changing salinity values](#) – Petkewich, Matthew

[GrassCast: A multi-agency tool using remote sensing, modeling, and on-the-ground science to forecast grassland productivity in the Southwest](#) – Reed, Sasha

[Moving towards EarthMAP: Establishing linkages among USGS land use, water use, runoff, and recharge models](#) – Sohl, Terry

[Using machine learning to map topographic-soil & densely-patterned sub-surface agricultural drainage \(tile drains\) from satellite imagery](#) – Williamson, Tanja

FY 2019

[Open-source and open-workflow Climate Scenarios Toolbox for adaptation planning](#) – Bamzai, Aparna

[Extending ScienceBase for Disaster Risk Reduction](#) – Bard, Joe

[Transforming Biosurveillance by Standardizing and Serving 40 Years of Wildlife Disease Data](#) – Blehert, David

[Integrating short-term climate forecasts into a restoration management support tool](#) – Bradford, John

[National Public Screening Tool for Invasive and Non-native Aquatic Species Data](#) – Daniel, Wesley

[High-Resolution, Interagency Biosurveillance of Threatened Surface Waters in the United States](#) – Eldridge, Sara

[Develop Cloud Computing Capability at Streamgages using Amazon Web Services GreenGrass IoT Framework for Camera Image Velocity Gaging](#) – Engel, Frank

[Serving the U.S. Geological Survey's geochronological data](#) – Gilmer, Amy

[Establishing standards and integrating environmental DNA \(eDNA\) data into the USGS Nonindigenous Aquatic Species database](#) – Hunter, Margaret

[Subsidence Susceptibility Map for the Conterminous U.S.](#) – Jones, Jeanne

[A generic web application to visualize and understand movements of tagged animals](#) – Letcher, Ben

[Building a Roadmap for Making Data FAIR in the U.S. Geological Survey](#) – Lightsom, Fran

[Coupling Hydrologic Models with Data Services in an Interoperable Modeling Framework](#) – McDonald, Richard

[Implementing a Grassland Productivity Forecast Tool for the U.S. Southwest](#) – Reed, Sasha

FY 2018

[An Interactive Web-based Tool for Anticipating Long-term Drought Risk](#) – Bradford, John

[ICE! Ice Jam Hazard Mobile-Enabled Website](#) – Chase, Katherine

[National Alert Risk Mapper for Nonindigenous Aquatic Species](#) – Fuller, Pam

[Integrating Disparate Spatial Datasets from Local to National Scale for Web-Based Visualization and Analysis: A Case Study Compiling U.S. Landslide Inventories](#) – Mirus, Ben

[Knowledge Extraction Algorithms \(KEA\): Turning Literature Into Data](#) – Neilson, Matthew

[Investigation of lidar data processing and analysis in the cloud](#) – Walker, Jessica

[Content specifications to enable USGS transition to ISO metadata standard](#) – Walworth, Dennis

[Mapping land-use, hazard vulnerability and habitat suitability using deep neural networks](#) – Warrick, Jonathan

[Workflows to support integrated predictive science capacity: Forecasting invasive species for natural resource planning and risk assessment](#) – Weltzin, Jake

FY 2017

[An Interactive Web-based Application for Earthquake-triggered Ground Failure Inventories](#) – Allstadt, Kate

[Automating the use of citizen scientists biodiversity surveys in iNaturalist to facilitate early detection of species responses to climate change](#) – Boydston, Erin

[Flocks of a feather dock together: Using Docker and HTCondor to link high-throughput computing across the USGS](#) – Erickson, Richard

[USGS Data at Risk: Expanding Legacy Data Inventory and Preservation Strategies](#) – Everette, Anthony

[Exploring the USGS Science Data Life Cycle in the Cloud](#) – Golden, Nadine

[Empowering decision-makers: A dynamic web interface for running Bayesian networks](#) – Lentz, Erika

[Web Mapping Application for a Historical Geologic Field Photo Collection](#) – Nagorsen, Sarah

[Visualizing community exposure and evacuation potential to tsunami hazards using an interactive Tableau dashboard](#) – Peters, Jeff

[Developing APIs to support enterprise level monitoring using existing tools](#) – Reichert, Brian

[Extending ScienceCache Mobile Application for Data Collection to Accommodate Broader Use within USGS](#) – Wiltermuth, Mark

[Evaluation and testing of standardized forest vegetation metrics derived from lidar data](#) – Young, John

FY 2016

[Developing a USGS Legacy Data Inventory to Preserve and Release Historical USGS Data](#) – Faundeen, John

[Crowd-Sourced Earthquake Detections Integrated into Seismic Processing](#) – Guy, Michelle

[Integration of Phenological Forecast Maps for Assessment of Biodiversity: An Enterprise Workflow](#) – Weltzin, Jake

[Evaluating a new opensource, standardsbased framework for web portal development in the geosciences](#) – Signell, Rich

[Hunting Invasive Species with HTCondor: High Throughput Computing for Big Data and Next Generation Sequencing](#) – McCalla, S. Grace
[Development of Recommended Practices and Workflow for Publishing Digital Data through ScienceBase for Dynamic Visualization](#) – Chase, Katharine
[Facilitating the USGS Scientific Data Management Foundation by integrating the process into current scientific workflow systems](#) – Talbert, Colin
[A data management and visualization framework for community vulnerability to hazards](#) – Jones, Jeanne
[Data Management Training Clearinghouse](#) – Nelson, John
[National Stream Summarization: Standardizing Stream-Landscape Summaries](#) – Wieferich, Daniel
[Integration of National Soil and Wetland Datasets: A Toolkit for Reproducible Calculation and Quality Assessment of Imputed Wetland Soil Properties](#) – Sundquist, Eric
[A web-based application for the management and visualization of land-use scenario data](#) – Sherba, Jason
[Birds and the Bakken: Integration of oil well, land cover, and species distribution data to inform conservation in areas of energy development](#) – Preston, Todd

FY 2015

[Integration of Land Cover Trends Field Photography with an Online Map Service](#) – Soulard, Christopher
[National Dam Removal Database: A living database for information on dying dams](#) – Duda, Jeff
[Making Unmanned Aircraft System \(UAS\) Data Available to USGS Scientists and the Public](#) – Lacey, Jennifer
[sbtools: an R package for ScienceBase](#) – Winslow, Luke
[Standards-based Integration and Delivery of USGS and EPA STORET Biomonitoring Data via the Water Quality Data Portal](#) – Ruhl, Peter
[Web-enabled Visualization and Access of Value-added Disaster Products](#) – Lamb, Rynn
[Geocaching Natural Features – Applying Game Mechanics to Citizen Science Data Collection](#) – Graves, Tabitha
[The 'Digital Grain Size' Web and Mobile-Computing Application](#) – Buscombe, Daniel
[*Use of controlled vocabularies in USGS information applications: Requirements analysis for automated processes and services](#) – Lightsom, Fran
[*Portable ISO 19115/19110 Open Source Developer's Toolkit](#) – Smith, Stan
[*Geographic Searches for USGS Publications](#) – Wesenberg, Kathy

FY 2014

[Characterization of Earthquake Damage and Effects Using Social Media Data](#) – Guy, Michelle
[Online Merging and Gridding of Topographic and Bathymetric Data Sources](#) – Long, Joseph
[NAS Web API: Web Services access to the Nonindigenous Aquatic Species Database](#) – Fuller, Pam
[Summarization of National NEXRAD Data for use in Biological Applications](#) – Diehl, Robert
[North American Bat Data Integration](#) – Ellison, Laura
[Adopt a Pixel - Data Infrastructure](#) – Longhenry, Ryan
[Use of controlled vocabularies in USGS information applications: Requirements analysis for automated processes and services](#) – Lightsom, Fran
[Portable ISO 19115/19110 Open Source Developer's Toolkit](#) – Smith, Stan
[Geographic Searches for USGS Publications](#) – Sanders, Rex

FY 2013

[Metadata Wizard](#) – Ignizio, Drew
[myScience: Citizen Science](#) – Holl, Sally
[Establishing the Land Use Land Cover Geo Data Portal and Supporting Data Services](#) – Blodgett, Dave
[Networking the California Climate Commons with the USGS Geo Data Portal](#) – Flint, Lorraine
[National Land Cover Database Visualization and Information Tool](#) – Homer, Collin

[*Data Management Workshops for USGS: Let the Culture Change Begin](#) – Hutchison, Viv

[Mining the USGS Data Landscape](#) – Everette, Lance

[Development of Enhanced Feature Recognition Software for the Extraction of Mine Features from USGS Topographic Maps](#) – Fernet, Greg

[USGS Protocol Library: An Implementation Based on the National Environmental Methods Index](#) – Sullivan, Dan

[Evaluation of downscaled General Circulation Model \(GCM\) output for current conditions and associated error in simulated runoff for CONUS](#) – Bock, Andy

FY 2012

[Accessing Geo Data Portal Functionality with Python Tools](#) – Price, Curtis

[Citizen Science Observation Platform - Using Curated Twitter and GeoRSS Enabled Feeds](#) – Masaki, Derek

[Combined ScienceBase and Geo Data Portal Tools](#) – Smyrl, Laura

[*Data Management Plan Implementation and Framework](#) – Burley, Tom

[*Data Management Training and Education](#) – Henkel, Heather; Hutchison, Viv

[*Data Management Website](#) – Henkel, Heather; Hutchison, Viv

[Expand the National Map Save As/Open In to USGS Wide](#) – Dollison, Rob

[Facilitating Knowledge Integration with a Monitoring Protocol Registry](#) – Schei, Jacquelyn

[Implementing an OpenLayers HTML5 Mapping Library](#) – Ladino, Cassandra

[Mobile application to collect national consistent data of fish passage barriers in the United States](#) – Maltby, David

[*NWIS Web Services Snapshot for ArcGIS](#) – Holl, Sally

[Semantic Technologies for Integrating USGS Data](#) – Gordon, Janice

[USGS Citizen Science Workshop](#) – Hines, Megan

[USGS Mobile Applications Development Support Framework](#) – Schmid, Lorna

FY 2011

[Data Management Education Products](#) – Henkel, Heather; Hutchison, Viv

[Data Management Web Toolbox](#) – Henkel, Heather; Hutchison, Viv

[Data Management Workshop](#) – Hutchison, Viv

[Science Data Lifecycle Model](#) – Faundeen, John

[NWIS Web Services Snapshot Tool for ArcGIS](#) – Holl, Sally

[Enhanced Metadata Capability for CBI Metadata Tool - ScienceBase](#) – Kern, Tim

[FGDC-ISO Remapping for CBI Metadata Tool - ScienceBase](#) – Kern, Tim

FY 2010

[Geo Data Portal](#) – Blodgett, Dave

[Added to the National Map: Web Services for the National Hydrography Dataset, National Elevation Dataset and National Land Cover Dataset](#) – Gunther, Greg

[NWIS Web Services Snapshot for ArcGIS](#) – Pearson, Daniel

[Data Upload, Registry and Access Project \(a capability of ScienceBase\)](#) – Bristol, Sky