

2017-19 Framework Data Development Program Projects

Address Point Framework Data

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Project abstract

The goal of the Address Point Framework Project is to collect, standardize, and validate all residential and business addresses and their location points in the State of Oregon in order to provide a comprehensive, complete and accurate reference database that conforms to FGDC, Census and USPS data standards. It is closely related to several other Framework themes including Cadastral, Transportation and Emergency Preparedness. The primary uses for this data will be for the Oregon Master Address Repository, Census 2020 activities, internal DHS and OHA business processes and as a reference for other urban/human/economic geography and data analytics projects.

The methodology will combine the use of commercial US Postal Service Coding Accuracy Support System certified software for address standardization and validation with GIS software for location verification. This approach insures that the address data is as clean as possible in order to achieve the highest quality spatial accuracy. The data will be stored and processed entirely in a relational database management system.

DHS will contribute in-kind expertise and the specialized software tools needed for this methodology and is requesting funding for one additional temporary Research Analyst position that will focus primarily on data review and quality assurance. Some additional reference data and software tools are also requested for this project.

The data will be available as reports from the database, map services and a web API. Comments, corrections, and contributions will be solicited from the GIS community, addressing authorities, data managers and will be carefully considered and incorporated if possible.

Data development for a new Oregon Geology Data Schema

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Project abstract

The Oregon Geologic Data Compilation (OGDC) and the Oregon Geology Data Standard (OGDS), were developed by state and federal government geologists, as well as members of the Geoscience Framework Implementation Team (FIT), over a decade ago. In 2009, the Oregon Department of Geology and Mineral Industries (DOGAMI) successfully compiled statewide, geospatial datasets of geologic map units, faults, folds, and the data's map extents from traditional geologic maps. Later that year, the U.S. Geological Survey (USGS) released their own geologic mapping database schema for its National Cooperative Geologic Mapping Program (NCGMP). An updated release of the new Geologic Map Schema, or GeMS, is scheduled for late 2017. It will then be presented to the Federal Geographic Data Committee (FGDC) for standard implementation. As a requirement for new mapping projects that are, in part, funded by the NCGMP, DOGAMI began utilizing the new schema for mapping projects last year. It is imperative to migrate the OGDC data and update the OGDS to the GeMS specifications to maintain it as the authoritative source of geology data for Oregon. The GeMS database also provides a timely opportunity to further develop essential point data features (e.g. strike/dip, fossil occurrences, geochemistry, geochronology, etc.) to aid in analyses of geologic hazard

assessments, hydrogeologic studies, soils mapping, and to educate future generations of scientists and natural resource professionals. Addition of the point data will provide users with a complete perspective of geologic map information for Oregon.

Extending Oregon Cadastral Data to Support Framework: Using ORMAP Data to Develop and Maintain Framework Administrative Boundaries

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Management and Delivery of Oregon's Bathymetric Data

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Project abstract

Framework cadastral data, submitted to Oregon Dept. of Revenue by Oregon counties under the ORMAP program, will become truly “foundational” when other Framework data layers can be successfully and routinely built from it (and therefore be vertically integrated with it). This proposal is aimed at addressing and resolving known ORMAP data issues in support of current Framework data stewardship and additional Framework data development.

In addition to taxlots, tax code area (TCA) polygons are submitted to DOR by Oregon counties under the ORMAP program. These TCA polygons are accompanied by cross-reference tables which relate each tax code to the corresponding taxing districts. In theory, a number of important administrative boundaries could be derived and maintained from ORMAP data, and would be vertically integrated with the Framework cadastral base. Currently, Framework data stewards must reach out to individual cities and counties for boundary information, and must devote significant time to data aggregation. The results may or may not be vertically integrated with the cadastral base. The work to be conducted under this proposal builds on previous testing carried out at DOR, and is modeled in part on long-standing workflows at Polk County. Testing at DOR confirmed that several kinds of administrative boundaries could be derived from the ORMAP data, but also revealed numerous issues which need to be resolved to better enable Framework data stewards to carry out routine boundary creation and maintenance. This proposed project is aimed at resolving those data issues, and at developing those derivation and maintenance routines.

Project abstract

The elevation of the bottoms of lakes, reservoirs, and other waterbodies is the underwater extension of the earth's land surface and thus a foundational theme in the Oregon GIS Data Framework. Many of Oregon's lakes, reservoirs, and other water bodies have been surveyed using a wide variety of techniques but the data is not readily available to consumers. This project will 1) inventory the existing bathymetric data in Oregon and the range of methods used to collect raw data and create surfaces from the data 2) document metadata in a standardized format that encompasses the wide range of data collection and surface creation methods 3) create a geodatabase to store the raw survey data, surface data, and metadata and 4) make the data available to consumers as grid and or point files and as a web service. This project will make bathymetric data available for 192 lakes and reservoirs shown in the online Atlas of Oregon Lakes (AOL); U.S. Army Corps of Engineers (USACE) managed reservoirs, river channels, and harbors; Oregon's coastal estuaries; and several other lakes and reservoirs throughout Oregon. The Center for Lakes and Reservoirs and the Center for Spatial Analysis and Research at Portland State University will lead the effort with support from the Portland Office of the US Army Corps of Engineers.

Mapping Oregon's Ocean Shore Habitats Using the Coastal and Marine Ecological Classification Standard

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North-Central Oregon Coast National Hydrography Dataset (NHD)/Watershed Boundary Dataset (WBD) Lidar Derived Feature Update

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ODFW Framework Fish Habitat Distribution Data Development Project

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Project abstract

The shoreline of Oregon is one of the State's prized resources providing recreation, sustenance, and economic value to the state, yet it currently lacks a baseline for evaluating future changes to the habitats and species that exist there today. This project will develop a habitat map of the ocean shoreline for use in natural resource planning, research, and management. The mapped area will extend the length of Oregon's ocean shoreline and include all intertidal areas, defined as the area between extreme low tide and extreme high tide. Habitats will be classified and mapped using the federal Coastal and Marine Ecological Classification Standard (FGDC standard 018-2012).

Project abstract

This project will make much needed updates to the National Hydrography Dataset (NHD) and Watershed Boundary Dataset (WBD) feature sets with DOGAMI high resolution, lidar-derived hydrographic features. Five subbasins for the North-Central Oregon Coast will be updated in this project. This fundamental dataset is used to maintain many other framework elements, but has many areas that are deficient with respect to spatial accuracy. This project will make improvements to a Foundational Framework data element falling under the Hydrography Theme and to many Secondary Framework data elements. This improved hydrography data will be valuable not only for inclusion in the NHD and the USGS National Map data layers, but will also contribute to local water resources planning and management, habitat monitoring and management, flood hazard assessments, and mapping and support of emergency response efforts.

Project abstract

The Framework standard Oregon Fish Habitat Distribution (FHD) Database has proven to be an invaluable information asset for meeting multiple state agency business needs. Currently there are 24 separate datasets that identify fish species-specific habitat within the rivers and streams of Oregon. While FHD data are actively used to support existing agency business processes, improvements to the currency, accuracy and comprehensiveness of these data are needed to both maintain and enhance support for ongoing and new agency business processes. Understanding the location and nature of anadromous FHD remains the primary driver for most uses of these data, however other agency business warrants further development of resident salmonid, non-game and

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non-native species data within the rivers and streams throughout the state. Additionally, FHD data are in need of development for Oregon's lakes and reservoirs to fill the gap that currently exists for these waters.

A Framework grant during the 2015-17 biennium led to the formation of an ad-hoc, multi-agency FHD working group that facilitated inter-agency data exchange and resulted in significant improvements to state information assets. ODFW would like to build on the momentum of this workgroup and proposes FHD data development in the following five areas: anadromous salmonids, resident salmonids, non-game species, non-native species and all species within lakes.

**Oregon GIS Framework Proposal:
Oregon Statewide Habitat Map**

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Project abstract

The Institute for Natural Resources (INR) proposes to create an Oregon Statewide Habitat Map and species habitat suitability maps for 422 of Oregon's wildlife species. The last statewide vegetation cover was completed in 2008 by INR as part of the Pacific Northwest ReGAP process and is based on LandSat7 imagery from 2001-2003. The 2011 National Land Cover Database map is more recent, but it contains less detail than the ReGAP map. Many land cover and habitat changes have taken place in Oregon in the last 15 years. As a result, updated habitat and species distribution maps are needed to reflect current conditions. These maps are widely used by agencies and others in the state for land use and conservation planning.

In 2015, Oregon Department of Fish and Wildlife funded INR to develop statewide maps of ODFW's 11 strategy habitats for their Conservation Strategy update. INR used the most up-to-date and highest resolution maps available, or developed new maps when needed. These updated strategic habitats cover about 30% of the state.

INR requests the Oregon Geographic Information Council support the development of a wall-to-wall Oregon habitat map. INR will use the same process used for the strategy habitat maps, which creates both a habitat map and ancillary information on structure and size of the forested habitats, and the condition of natural non-forested habitat types. If funded, INR will use automated protocols previously created to update the species habitat maps to replace the maps currently on the Oregon Explorer Wildlife Viewer.

**Statewide Comprehensive Plan
Data Development Project**

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Project abstract

Each jurisdiction in Oregon is required to create a comprehensive plan (comp plan) in order to plan for the future growth and development of their jurisdiction. Each comp plan stands on its own as an individual plan and there is currently no way to systematically view the comp plans for the state as a whole. This proposal seeks to provide resources to DLCD to create a statewide dataset of the comp plans for regional and statewide planning purposes. This data compilation will enable users to see, analyze, and understand, the growth and development plan for the state.

The data must be collected from each jurisdiction in the state and then assembled with a coordinated and consistent approach. The data must be normalized based on an agreed upon list of comp plan codes. These codes will

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be assessed using a collaborative approach, and ultimately determined, by the Planning Workgroup of the Administrative Boundaries FIT. This methodology has been successfully implemented in the past for the creation of a statewide zoning dataset in 2014. This project will also leverage custom scripts created for the zoning FIT project that are still in use by DLCD today.

Once the initial compilation effort is complete, the on-going stewardship and maintenance will be a more sustainable effort. A stewardship plan will be created for the new data layer which will provide a recommended update frequency. Currently, all updates to comp plans must be reported to DLCD which can then be queried and assembled as needed.