

Northwest Regional Project Report

Northwest Gap Analysis Project

Introduction

The Northwest Gap Analysis Project (NWGAP), which began in September 2004, is updating the land cover, species models, stewardship data, and gap analysis for Washington, Oregon, Idaho, Wyoming, and Montana. A finalized land cover map for the northwest is currently available for download from the NWGAP website at <http://www.gap.uidaho.edu/northwest/data.htm>. Species modeling is progressing with final models to be available in late 2009. Spatial and attribute data are being updated in the land stewardship database with final edits being completed in late 2009. Currently, we are developing a NWGAP mapserver through that data can be downloaded and viewed and queried online.

Land Cover Mapping

The NWGAP has completed 12 draft land cover maps depicting the distribution of Ecological Systems (ES) across Idaho, Washington, Oregon, Montana, and Wyoming (Figure 1). Three mapping teams were involved with mapping NWGAP's 12 map zones; (1) Oregon State University and U.S. Department of Agriculture Forest Service, Corvallis, OR (2) Sanborn Solutions, Inc., Portland, OR, and (3) NWGAP, Moscow, ID. Different modeling approaches were explored to evaluate the effectiveness of each to represent the natural distribution of ES within each map zone and across the region. Oregon State University used Gradient Nearest Neighbor (GNN) and Random Forest modeling techniques, while Sanborn and NWGAP used a Classification and Regression

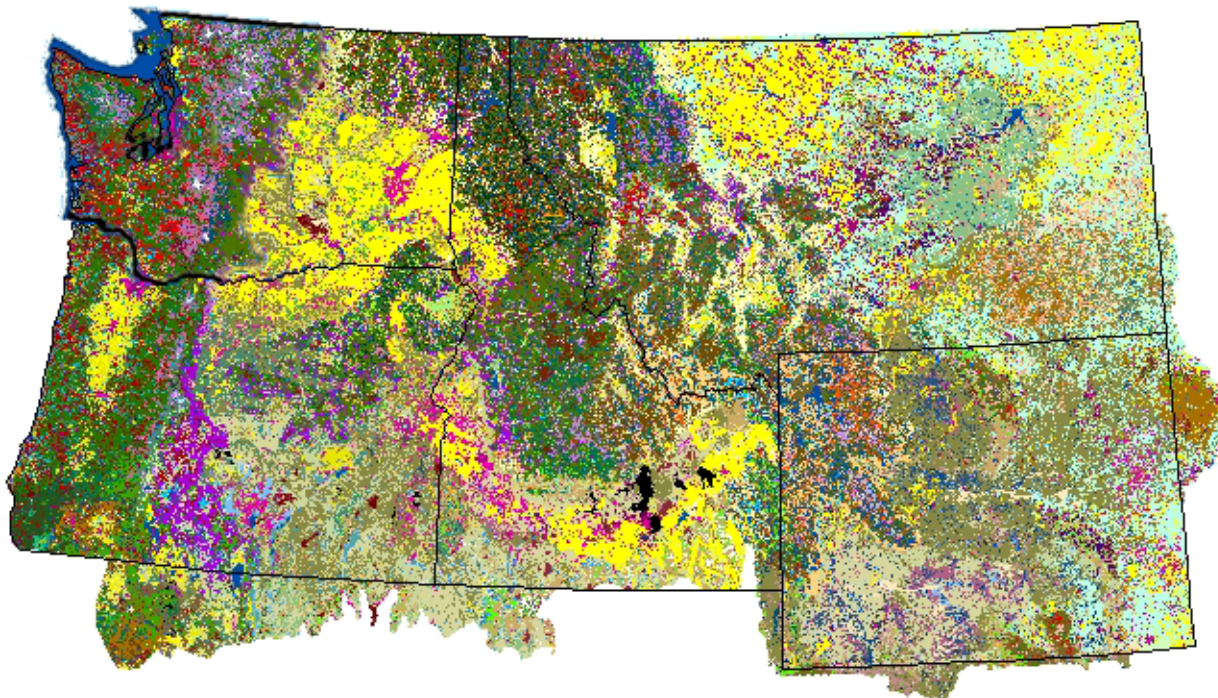


Figure 1. NWGAP draft land cover map showing ecological systems.

Tree (CART) modeling approach. Frequent communication among the mapping teams ensured consistent application of each ES definition and seamless representation across the region.

Collectively, the 12 NWGAP map zones depict the distribution of 173 ES classes and 32 land cover and disturbed classes across the Northwest. Of the 173 ES classes, 24 are barren or sparsely vegetated, 22 are grassland systems, 31 are shrub or steppe systems, 54 are forest, woodland, or savanna systems, and 43 are wetland and riparian systems. The 32 land cover and disturbed classes consist of 15 developed or agricultural lands classes, 7 introduced vegetation classes, 4 harvested vegetation type classes, and 3 recently burned habitat classes. Deterministic accuracy rates for many ES are greater than 80 percent.

The maps were reviewed by Northwestern vegetation ecologists and finalized in December 2008. Draft land cover maps are available for download and online web mapping at <<http://www.gap.uidaho.edu/Northwest/data.htm>>. The finalized land cover data will be used as one of the primary modeling inputs for NWGAP vertebrate modeling.

Species Modeling

The list of 690 terrestrial vertebrate taxa targeted by NWGAP has been finalized by zoologists in the five northwestern Natural Heritage Programs. Georeferenced occurrence data for all 690 taxa have been compiled and synthesized into a region-wide dataset. These data are currently being processed to cull unreliable and out-of-date records, reduce the spatial bias in record clusters, and apply other criteria that will produce final datasets more appropriate for inductive modeling of a species distribution.

First draft range maps for all target taxa were collected from NatureServe (Arlington, Virginia), tessellated to a common representation as 10-digit Hydrologic Unit Codes (HUCs) and then reviewed by Natural Heritage Program Zoologists in each of the five northwestern states. We anticipate this review to be complete for all taxa by spring 2009.

Initial draft distribution and habitat importance models for all target taxa are currently being compiled with the intent of having all completed by late winter 2009.

Land Stewardship Data

The NWGAP stewardship effort began in January 2008. The intent of this effort is to update the stewardship data from the original five states' data. This involves checking for new and/or updated boundaries and revising GAP status codes based on changes to management from the time the state stewardship data was created.

To date, current spatial and attribute data have been obtained from federal and state agencies. Specifically, 31 National Park Service and 72 U.S. Fish and Wildlife Service property boundaries have been compiled for the entire Northwest. The NWGAP data will be assigned GAP status codes as well as International Union for Conservation of Nature (IUCN) categories, which will match up with attribute data in the rest of the United States. Currently, IUCN categories are being assigned to National Park Service and U.S. Fish and Wildlife Service properties. The remaining federal and state properties are next to be compiled and the entire stewardship database for NWGAP will be completed by September 2009.