

National Boundaries Group (NBG) Meeting

February 11, 2020 1:00pm – 3:00pm

Walter E. Washington Convention Center, Washington, D.C.

1. Intro/Activities/Goals of NBG – Laura Waggoner, U.S. Census Bureau and Bob Pierce, USGS, NBG Co-Chairs

- Past Year Activities
- Federal Geographic Data Committee (FGDC) GeoPlatform Updates

2. (Postponed) FGDC Cadastral Subcommittee – Dominica VanKoten, BLM

3. Federal Lands Work Group (FLWG) – Roger Johnson, FLWG Co-Chair

- Protected Areas Database – United States (PAD-US) 2.0 Update
 - Protected Area – Legacy term that originally meant biodiversity protection but it has expanded to be all public lands and protected areas. Focuses on public lands for protection of open space and wildlife and natural uses as well as lands protected by agreement or purchase.
 - Federal Lands – Land management agencies provide all managed or fee lands including protected lands.
 - State/territory data includes easements, fee lands, legislative boundaries such as proclamation areas, land managers. Use cases for this data include recreation and open space as well as publicly managed lands.
 - [Gap Analysis](#) combines three data layers including conservation status of protected areas within tribal lands, state protected lands, local, and park service lands. These three layers are land cover, predicted distributions of vertebrate species, and a stewardship layer depicting both location and conservation status of protected areas.
 - PAD-US separates fee ownership, overlaps, designations, proclamation boundaries, and easements, providing greater flexibility for users. Removing the proclamation overlaps increased the accuracy of the representation, which will improve the analysis and accuracy of the data.
 - Full [topology analysis](#) is also available to review overlaps.
 - Updates of PAD-US include datasets from additional agencies including some agencies that use automated update methods to detect topology errors.
 - The FLWG tracks the completeness of the dataset by state (the estimate of the degree to which all fee-protected areas are inventoried for the state, plus qualitative consideration for overall accuracy (alignment, attribute completion) of the data).
 - A [completeness graphic](#) illustrates the contributors and the extent of completion of the PAD-US 2.0 dataset.
 - The data are available as a [web service](#) or for [download](#). In Version 2.0 the data are provided as a tiled web service.
- FLWG Overview

- The NBG established the FLWG in 2011 to identify federal lands boundaries using a parcel-based inventory.
- PAD-US conducts an annual update and represents a collaboration of 14 agencies.
- FLWG is a cadastral theme operating under the National Boundaries Group, which coordinates with the Cadastral Subcommittee. The FLWG meets monthly.
- The Department of Interior (DOI) through the FLWG has delivered two Policy analysis presentations.
- Recently the FLWG has developed standards to incorporate PAD-US data into base maps. FLWG is actively reaching out to base map providers such as Google, Esri, Apple.
- Next on the agenda is the release of PAD-US 2.1. This will include additional completion including tribal reservation lands, local parks for 14,000 cities from Park Serve project, Land Trust data from Ducks Unlimited, a more complete parcel level data from Park Service, Forest Service and other agencies. Upcoming plans include the additions of state parks and protected and heritage areas.
- Discussion
 - The integration of diverse sources allows users to see the big picture and overall extent of agency participation. Within the database, each parcel contains a link to its primary data custodian. Users can provide comments to PAD-US. Each agency remains the authority for the parcel-by-parcel data.
 - The Census Bureau provides authoritative data for state boundaries to assist with data integration.
 - PAD-US is an authoritative, aggregated dataset available to federally elected officials, the Congressional Research Service and the public.
 - The monthly calls are open to the public. Visit the [GeoPlatform Community](#) page for more information.
 - The Bureau of Indian Affairs (BIA) is the authoritative source for all tribal boundaries. Census Bureau partnered with tribes for 20 years during the Boundary Annexation Survey (BAS). During this program, the Census Bureau aggregated current tribal boundaries and BIA data into the Topologically Integrated Geographic Encoding and Referencing (TIGER) system.
 - The Census Bureau is an authoritative aggregator of boundary data. The tribal, state, counties, and incorporated place boundaries are legal area datasets. The Census Bureau tracks disputed boundaries in the TIGER/Line data for tribal lands, states, and counties.

4. Department of State (DOS) and International Boundaries – Eric Doornbos, Office of the Geographer and Global Issues, Department of State

- Background:
 - DOS established this office in 1921 and, according to the Office of Management and Budget (OMB) Circular A-16, it serves as the authority for international boundaries. They also map maritime boundaries outside of the US.
- Review of the Production of International Boundaries:
 - There are three broad requirements—

- Must reflect US Government foreign policy providing a spatial representation of that policy mission;
 - Follow *de jure*, not *de facto* alignments;
 - Must be technically accurate.
- Modern mapping technology outpaces the intent of the original treaties. Geospatial precision does not necessarily imply accuracy.
- DOS created the Large Scale International Boundary (LSIB) dataset with assistance from other countries and agencies. The U.S. Department of Defense and Britain are two primary contributors. DOS has worked on this database for 10 years and data quality continues to improve.
- Mr. Doornbos gave examples where treaties between countries are not precise. The descriptions are sometimes ambivalent and imprecise. The boundaries represent physical features such as river meanders at the time of the treaty, unless it is otherwise specified. Countries change boundaries and create new countries, such as the Sudan and South Sudan. Old maps contain errors, particularly for the India-China boundary line.
- Generally, international boundaries are accurate to within 100 meters. Over time, the survey accuracy has improved. The sources for international boundaries are boundary commissions, treaties, and arbitration and adjudication settlements.
- DOS published version 9A of the LSIB in mid-2019. They will release version 10 in a few weeks. Generally, this dataset releases an update every year unless there are urgent foreign policy needs.
- There is an international boundaries working group that collects and identifies datasets and sources. More information is available at www.wwhgd.org.
- Discussion
 - LSIB boundaries end at the water for the U.S. Maritime boundaries are a special case and a separate office within the Department of State manages this information.
 - The publicly available boundary commission lines align with the boundary commission authorities.

5. 2020 Census: Boundary and Annexation Survey (BAS) and Other Census Bureau Activities – Laura Waggoner

- The US Census Bureau collects and aggregates over 23 different types of boundaries. The Census Bureau collects the legal boundaries for 40,000 legal entities including tribal, states, counties, and Incorporated places. Each entity submits changes or updates through the BAS, an annual and national survey.
- In addition to the BAS, the Census Bureau adheres to boundary decisions based upon the laws for each state and county that identify the definitions of legal entities and boundaries, and use authoritative sources to update boundaries. For example, the Census Bureau recently tracked the boundary dispute between North Carolina and South Carolina that was recently adjudicated and resolved.
- The Census Bureau strives to improve the accuracy of all boundaries they maintain, beginning with the international boundary commissions. Many states do not have a digital representation of their county boundaries. In these cases, the Census Bureau refers to the legal description for

each entity. In some cases, the Census Bureau notifies states when these legal descriptions are incomplete or outdated.

- The Census Bureau has completed an inventory of 25 states with line-by-line metadata to define the source and accuracy of the boundaries. This information is in the current TIGER/Line database.
- In 2020, every government entity will participate in the Boundary Validation Program (BVP) as the basis for the 2020 count.
- The Census Bureau collects school district boundaries every year. Title I funding relies on these boundaries, which educational officials verify.
- There were over 90,000 legal changes last year updated into the 2019 Boundary and Annexation Survey documentation.
- The statistical areas delineation programs defines census tracts, census designated places, and block groups. Census Bureau updates these areas every decade through the Participant Statistical Areas Program (PSAP) for use in the decennial census, and other surveys throughout the decade.
- Census Bureau verifies all boundaries and topology on an annual basis. After July 31, 2020, all boundaries and topology issues will be reconciled. For example, census tract boundaries cannot cross county boundaries.
- They collect voting districts once a decade, and this process is already underway.
- In the fall of 2021, the new state congressional districts will be complete.
- Census Bureau publishes TIGER/Line metadata annually for a line-by-line attribution of the source and status.
- Discussion
 - The International Boundary Commission collects legal boundary data derived from points and monuments along the border with Canada. The boundary between Canada and the US in the Atlantic Ocean is in dispute. The official boundary stops at the lands edge.
 - The Census Bureau will convert the TIGER system to the new 2022 temporal datum sometime after the 2020 Census.

The next National Boundary Group meeting will be in May 2020.