

USGS Map Inventory Guide

Frank Donnelly, GIS & Data Librarian, Brown University

Apr 11, 2023

https://github.com/Brown-University-Library/geodata_map_inventory

Workflow

Begin by pulling all maps from a drawer, or half a drawer for the USGS 24k series, and move them to the work area. Verify that they are sorted properly: by state, quad name, and year for the 24k and 25k metric series, and by quad name and year for the 100k and 250k series. Quads with multiple years of maps are sorted from newest year to oldest. If you prefer, you can speed up processing for series that contain many non-USGS maps by separating the USGS maps from other publishers, inventory each separately, then recombine when finished. In sorting, remove any maps that are misfiled (particularly maps that overlap states but have been filed in the wrong state).

1. Launch Python, load and run the `bul_topo_tool.py` inventory tool, select your initials.
2. Start with the first map, but thumb through the following maps to see if they are duplicates of this one (be careful to look at map, revision, and print years). Process duplicates together.
3. Identify and select the scale and primary state of the map (never assume, always check).
4. Verify the publisher of the map, looking for the agency name, logo, or other clues related to scale or map style. Then:
 - (a) For USGS maps, select the quad name, map year, and print year.
 - (b) For exception maps below, leave the print year blank if there is no print year on the map.
 - (c) For BLM maps, select the quad name, then add an exception. Select BLM, enter a map year and print year. If the map is part of the special Mineral or Desert series, record this in the edition field (otherwise leave these fields blank).
 - (d) For AMS 24k maps (which are relatively uncommon), try recording them like USGS maps first and not as exceptions. Otherwise, record as exceptions and fill in all fields.
 - (e) For AMS 25k maps, if a quad name exists select it, if not leave it blank. Add an exception, select AMS, type in a quad name if none appeared, enter a map year. Some AMS maps have distinct map and print years, most don't. Enter series, sheet, and edition.
 - (f) For AMS 250k maps, try recording them like USGS maps first and not as exceptions. Otherwise, record as exceptions and fill in all fields. Often has a map and print year.
 - (g) For DMA maps, add an exception. Select DMA, select a quad name if one exists, otherwise type one in, enter a map year and print year. Enter series, sheet, and edition.

- (h) If you are not sure how to identify the map, make a note in your logbook and set it aside, moving to the next one. Some USGS maps may not appear in the database, and can be logged as exception maps with a special note in the edition field. You can also check maps against the USGS TopoView: <https://ngmdb.usgs.gov/topoview/view/>
5. If there are duplicate maps, check the duplicate box.
 6. Inspect the map and duplicates for significant damage (large tears, stains, writing on the map, water damage, cropped with scissors) and check the box if any are damaged.
 7. Hit record this map.
 - (a) If prompted that there are different USGS maps that share the same map and print year, inspect the images of the map that the program presents, identify the one that matches the map in hand (carefully note the ID number), and record the map. Look for differences in logos, presence or absence of barcodes, and map styling and shading.
 - (b) If you realize that you made a mistake after recording a map, you can remove the map and do it over again.
 8. If you encounter errors or discrepancies, note it in the Google Sheet for map errors. Always record the map ID, quad name, state, scale, and your initials. Check the appropriate error box, and only record fields relevant to that error. Error types:
 - (a) Incorrect map or print year published on map.
 - (b) Quad name has changed (old name on map, new name in database).
 - (c) Primary state has changed (old state on map, new state in database). In these cases, we make a notation on the map and refile it in the drawer with the new state.

Always exit the program and Python when stopping work. When the stack is complete, return the maps to the drawer, filing them as neatly as possible. If any maps are severely creased from being stuck in the drawer, set them aside so we can fix them.

Publisher and Location Summaries

USGS Topos : US Geological Survey. Found in all locations, multiple scales, all years.

AMS Topos : Army Map Service. Found in location 5 (mostly 25k, some 24k, 1940s) and location 13 (250k, 1940s and 1950s). Usually same quads as USGS. Record series, sheet, and editions for 24k / 25k. Try recording the 24k and 250k AMS as USGS maps first (not as exceptions).

BLM Surface Maps : Bureau of Land Management. Found in location 8, 100k scale, all years. Always same quads as USGS. Record just the edition for special mineral and desert maps.

DMA Topos : Defense Mapping Agency. Found in location 5, 50k scales, late 1970s. Quads not the same as USGS, but may have similar names. Must record series, sheet, and editions.

Location 5 USGS 24k : sorted by state, name, and year. USGS 24k in feet, some special 25k, USGS older odd scales, AMS 25k (occasional odd 24k), DMA 50k.

Location 6 USGS 25k metric : sorted by state, name, and year. USGS 25k in meters.

Location 8 USGS 100k : sorted by name and year, USGS and BLM 100k topos.

Location 13 USGS 250k : sorted by name and year. USGS 250k and AMS 250k topos.

Map Identification

The inventory program relies on matching USGS maps to their scale, state, name, map and print year. Metadata usually appears at the bottom of the map. 1) Scale always appears in the center, 2) Quad name and state in the lower right-hand corner with the primary state listed first, 3) The original map year in bold, sometimes with a revision year used for sorting, and 4) a print year in small font under the map frame, either in the lower-right or lower-left hand corner under the map frame. In some cases, quad names and even primary state designations have changed over time.

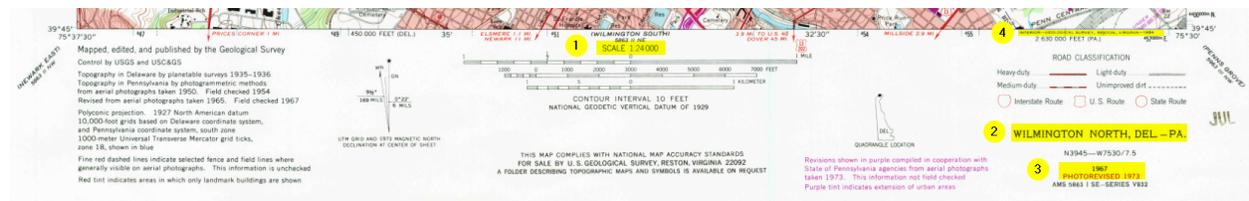


Figure 1: Map Metadata on 24k USGS Map

On USGS 24k maps, the map year appears prominently near the quad name. The print year usually appears just below the map frame in the lower right hand corner in small type. If a map has been revised, the revision year is used for sorting the map, but the original year is still considered the map year. There are always exceptions; if you select the original map year in the program but don't see a corresponding print year, then see if the revision year appears in the map year dropdown, and if so see if it has a print year that corresponds with the map in hand.

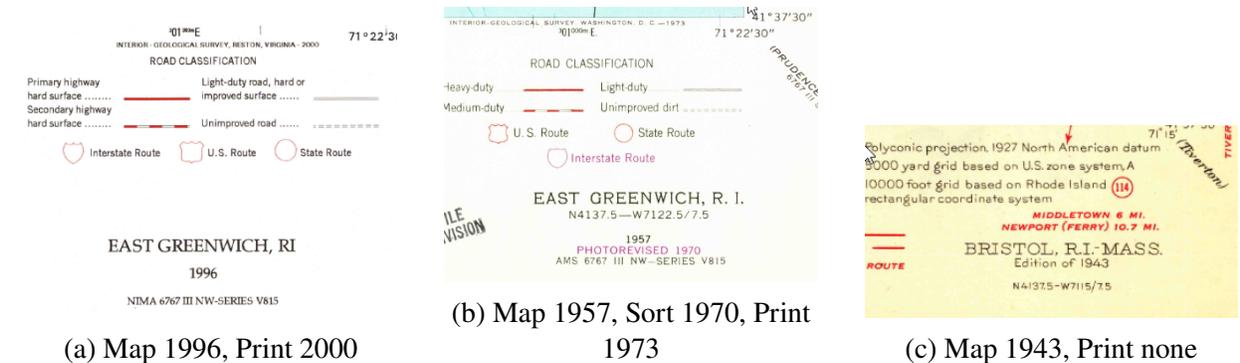
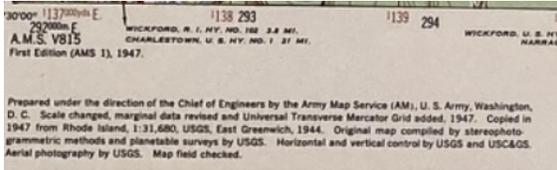
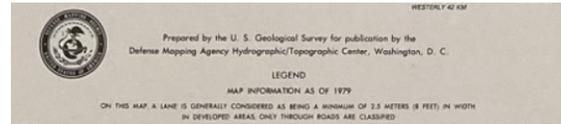


Figure 2: USGS 24k and Variants

The dates for AMS and DMA maps are usually located on the bottom portion of the map, either near the quad name or the series details. Most (but not all) 25k / 24k AMS maps have only map years. For DMA maps, the map year appears as *Map Information* in the lower left and the print year is listed as *Printed By* at bottom center.



(a) AMS Map 1947



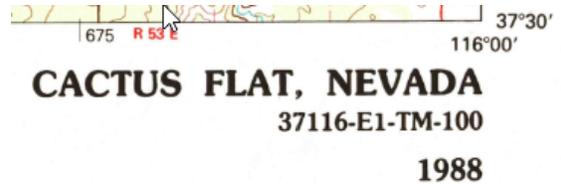
(b) DMA Map 1979, Print 1983

Figure 3: AMS 25k and DMA 50k

On the USGS and BLM 100k maps, and USGS 25k metric maps, the print year is often located in the lower left hand corner under the map frame in small print, while the map year appears in the lower right hand corner under the quad name. Like the USGS maps, the BLM maps usually have both map and print years.



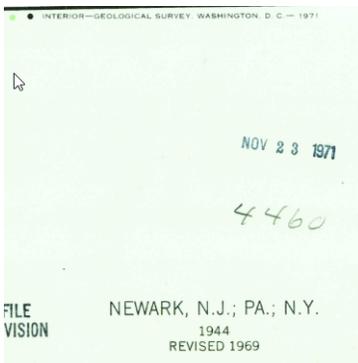
(a) Lower Left Corner - Print 1989



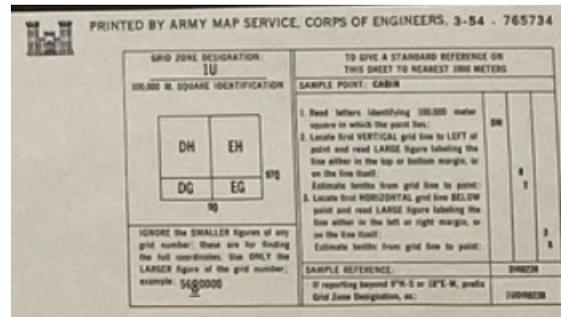
(b) Lower Right Corner - Map 1988

Figure 4: USGS and BLM 100k, USGS 25k metric

The USGS 250k topos follow the same scheme as the 24k series, with map, print, and revision years. The AMS 250k often have map years and print years. Do not record AMS 250k maps as exceptions; record them like USGS maps (most are included in the database).



(a) Map 1944, Sort 1969, Print 1971



(b) Map 1954 (3-54)

Figure 5: USGS and AMS 250k