Alternative Text for Static Maps

Alternative text is a written description of visual content, including static maps, on web pages. It allows people who use screen readers to understand images and other non-text elements.

The following information was sourced and/or adapted from the Washington's GIS Accessibility Workshop, Colorado Office of Information Technology and Minnesota IT Services.

Getting Started

Colorado's OIT-GIS suggests that alternative text should provide an overview of the map, with the level of detail adjusted based on the map's complexity and its surrounding elements, such as descriptions and data tables. It's recommended to include a description near the map itself, not just in the alt text, as this makes the information accessible and understandable to all users. This description should explain the map's purpose and what it depicts. For complex maps, include the key findings and outcomes. With a detailed description, the alt text can be brief, such as noting the type of map and then referencing the more detailed descriptions.

Use the W3C's alt Decision Tree to determine how to use the alt attribute of the HTML <img> or pdf <figure> element in various situations.

Know Your Visual

Before writing alt text, it's important to understand what type of visual you're working with. Washington's GIS Accessibility Workshop categorized visuals into three types, each with different alt text requirements.

- **Decorative:** Elements used only for visual style (e.g., background texture, divider line). Mark these as decorative or with empty alt text (alt=""). If you use a null (empty) text alternative (alt="") to hide decorative images, make sure that there is no space character in between the quotes.
- **Informative:** Visuals that convey information (e.g., logo with agency name, simple chart, locator map). Describe the key meanings in your alt text for these visuals.
- **Functional:** Visuals that act like controls (e.g., search icon, layer toggle). Describe the action the visual performs in the alt text. This is more applicable to **interactive** maps.

What Not to Include in Alt Text

Colorado's guidelines specify that map elements like north arrows, scale bars, and legends should not have alternative text in static maps. If these elements are essential to understanding the map, incorporate their function into the overall map description instead.

Additionally, avoid these common mistakes:

- Don't start alt text with "Image of…" since screen readers already announce images. In some situations, it may be important to distinguish between paintings, photographs, or illustrations, etc., but it's best to avoid the more generic use of the terms.

- Don’t include an entire dataset or the data summary in the alt text.

Alt Text Should Not Include Redundant Information

You should consider the context of the image with adjacent information in a document or webpage. If the same information shown in a map is presented nearby in a document or web page, redundant alt text is not required. In this case, you can use an empty alt attribute, or include alt text that directs blind users to where the information is located.

For example, the Montana DCI Major Case Section Webpage includes a map with contact information for administrative regions and locations of offices. This same information, including a list of all counties within each region, is provided above the map on the web page as plain text.

The Alt text for the static map is set to: *“Map of Montana divided into Western and Eastern Regions for DCI Major Case Section. All information in map is listed above on this page.”*

The Alt Text “Recipe”

The alt text of the map should capture the “so what” or the key takeaways users need to understand. Washington recommends this formula:

1. What it is (type + geography)
2. What it shows (variables, time)
3. Key pattern (highest/lowest, clusters, trend)
4. How to get exact values

Example: Choropleth map of Washington counties showing 2024 unemployment rate. Highest rates cluster in ABC county. Download the data below.

Table 1: Examples of alt text improvements

Before	After
Map of Washington	Map of Washington counties showing 2023 wildfire risk index. Highest risk in abc and xyz county. See the table below for county risk index values.
Chart	Line chart of monthly 911 calls (Jan – Dec 2024). Calls peak in July and decline thereafter.
Img_2496.png	Washington State Department of Housing logo.

Use Plain Language

Remember to use plain language in the alt text and throughout your map. Start with the essential information, make it clear, and design for readability. Also, make sure to use punctuation in the alt text and appropriate space characters; add space characters in the alt text when there’s no space character between the image and adjacent text.

Table 2: General plain language translations provided by Washington's GIS Accessibility Workshop

Before	After
ACS 5 YR DP03	Income and Employment (American Community Survey 5-year Estimates)
Census Tract Centroid	Center point of the area
Impervious surface (%)	Percent of land covered by pavement and buildings
Percentile rank (index)	How this area compares to others (higher = more burden)
Polygon feature layer	Mapped area boundaries
Pop-up	Details panel *(Other options can include detail window or more details)*
SVI (CDC) – Census tract level	Social Vulnerability by Neighborhood Area
Quantile 5-class	Darker = higher vulnerability

When Alt Text Must Stand Alone

If alt text cannot reference nearby descriptions, Minnesota's guidance notes that it must fully convey the map's message. However, they caution that alt text is hidden from most users and may be overlooked when updates are made to the map.

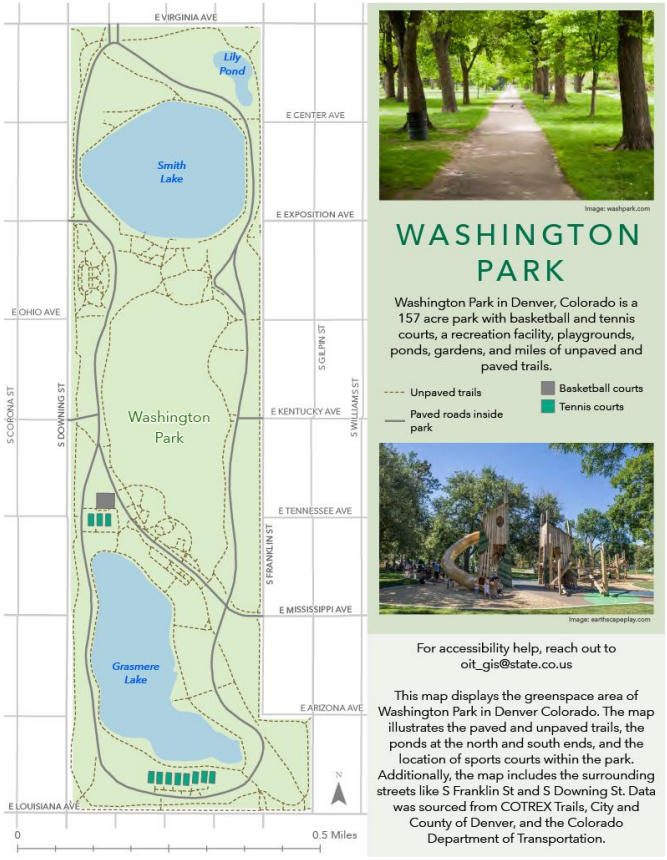
Including Data Tables

For simple maps with small datasets, Minnesota recommends including a data table following the map. In these cases, the alt text can simply reference the table (for example: "Map 1. See Table 1, page 6"). Ensure the linked text matches the table title. For larger or more complex tables, link to an appendix, website, or spreadsheet/CSV file instead.

Determining Detail Level

The amount of detail to include in alt text depends on what other information surrounds the map. According to Minnesota's guidelines, if data tables cannot be included, describe what the map conveys in body text or a caption immediately before or after the map. The alt text can then briefly reference the figure number and map type. Always arrange all elements in a logical reading order.

Additional Examples



Example provided by Colorado

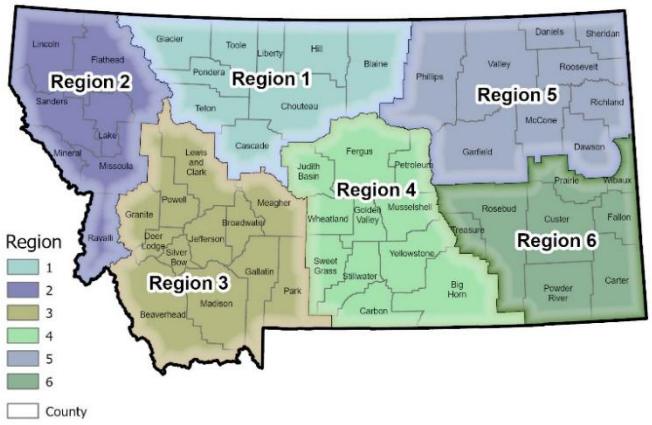
Alt Text: Map displaying the extent of Washington Park in Denver, Colorado, and the park's trails, ponds, and sports courts. An unpaved trail and paved road follow the perimeter of the park. At the north end of the park, there are two bodies of water: Lily Pond and Smith Lake. At the south end of the park lies Grasmere Lake and 8 tennis courts. Between Smith Lake and Grasmere Lake is a large grass area, 3 tennis courts, and basketball courts. The park is filled with a network of unpaved trails that follow the perimeter of both lakes, the playgrounds north of Grasmere Lake, and the large grass area in the park's center. The park borders South Downing Street along the western boundary, East Virginia Ave along the northern boundary, South Franklin Street along the eastern boundary, and East Louisiana Ave along the southern boundary.

Fictional example created by the Geospatial Accessibility Working Group of the GIS Managers Forum

Alt Text: Map of Montana prevention specialist regions by county. See list on the following page.

DEPARTMENT OF PUBLIC HEALTH & HUMAN SERVICES

Prevention Specialist Regions by County



This is sample data for educational purposes.

List of Prevention Specialists by County

Region 1
Blaine, Cascade, Chouteau, Glacier, Hill, Liberty, Ponder, Teton, and Toole.

Region 2
Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli, and Sanders.

Region 3
Beaverhead, Broadwater, Deer Lodge, Gallatin, Granite, Jefferson, Lewis and Clark, Madison, Meagher, Park, Powell, and Silver Bow.

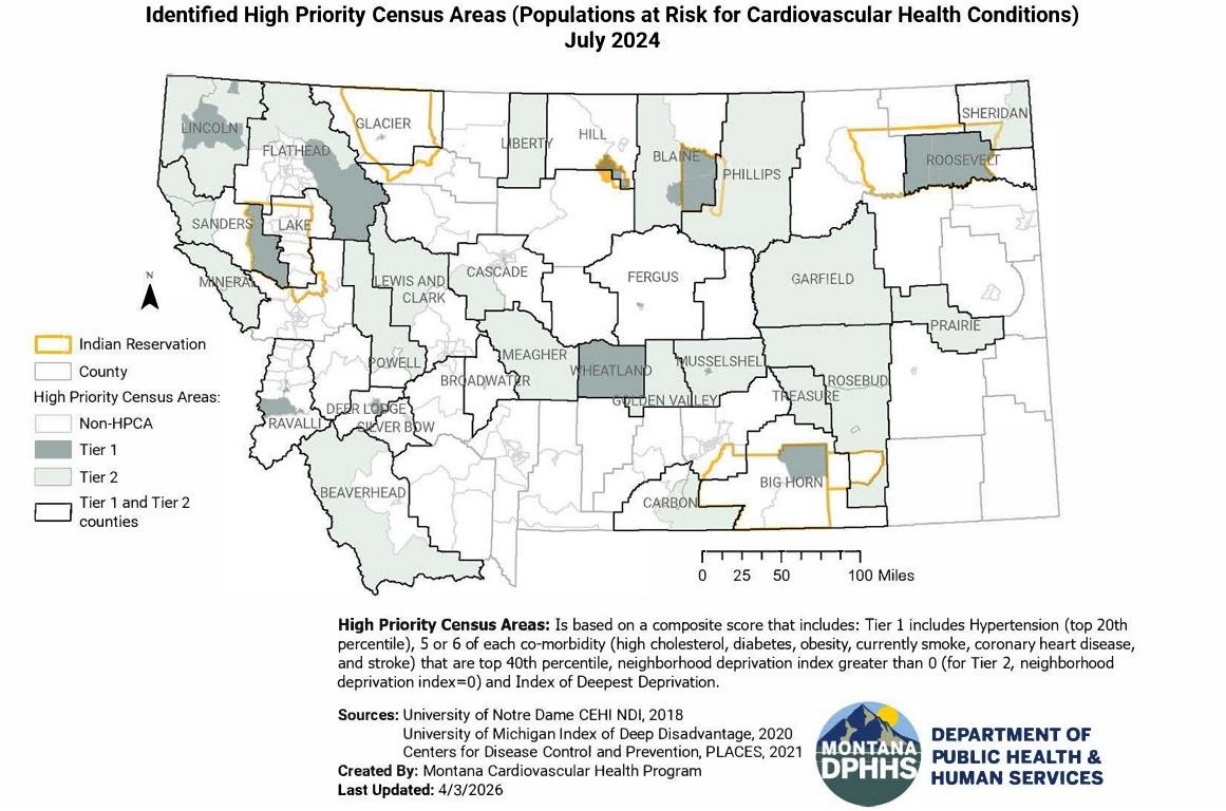
Region 4
Big Horn, Carbon, Fergus, Golden Valley, Judith Basin, Musselshell, Petroleum, Stillwater, Sweet Grass, Wheatland, and Yellowstone.

Region 5
Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, and Valley.

Region 6
Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Treasure, and Wibaux.

Example provided by the Montana DPHHS Cardiovascular Health Program

Alt Text: Choropleth map of Montana census areas showing populations at high risk for cardiovascular health conditions as of July 2024. Tier 1 priority areas, defined by high hypertension rates, multiple co-morbidities, and elevated neighborhood deprivation, tend to overlap with American Indian Reservations. Other Tier 1 concentrations appear in northwestern Montana (Flathead and Lincoln Counties), southwestern Montana (Ravalli and Deer Lodge Counties), and south-central Montana (Wheatland County). Tier 2 priority areas are more broadly distributed across the state, appearing in nearly every region with notable concentrations in the northwest, south-central, and eastern Montana. Contact the Montana Cardiovascular Health Program for underlying data.



Additional Resources:

Research Paper - Biggs, B., Sloan, D., Oppegaard, B., Giudice, N. A., Coughlan, J. M., & Walker, B. N. (2025). Systematically Evaluating Equivalent Purpose for Digital Maps. *arXiv preprint arXiv:2512.05310*.