



## Flathead Basin Mapping Project, 2009

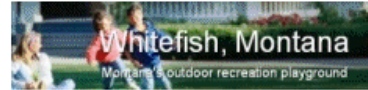


Lake County

106 Fourth Avenue East, Polson MT 59860



Flathead Basin  
Commission



The Montana DNRC facilitated a region-wide approach to obtaining new digital topographic and aerial imagery covering a large portion of the Flathead Valley. Data collection utilized state of the art LiDAR (Light Detection and Ranging)

[http://nris.mt.gov/Flathead\\_2009](http://nris.mt.gov/Flathead_2009)

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- **Downloadable GIS Data**
  - [Color Aerial Photos](#)
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  - [LiDAR Point Data](#)



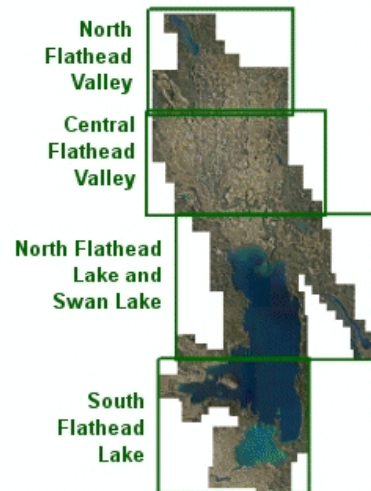


## Flathead Basin Color Aerial Photos

Photographs of the Flathead Basin were taken between September 22 and September 29, 2009.

These photos are available for download in two formats:

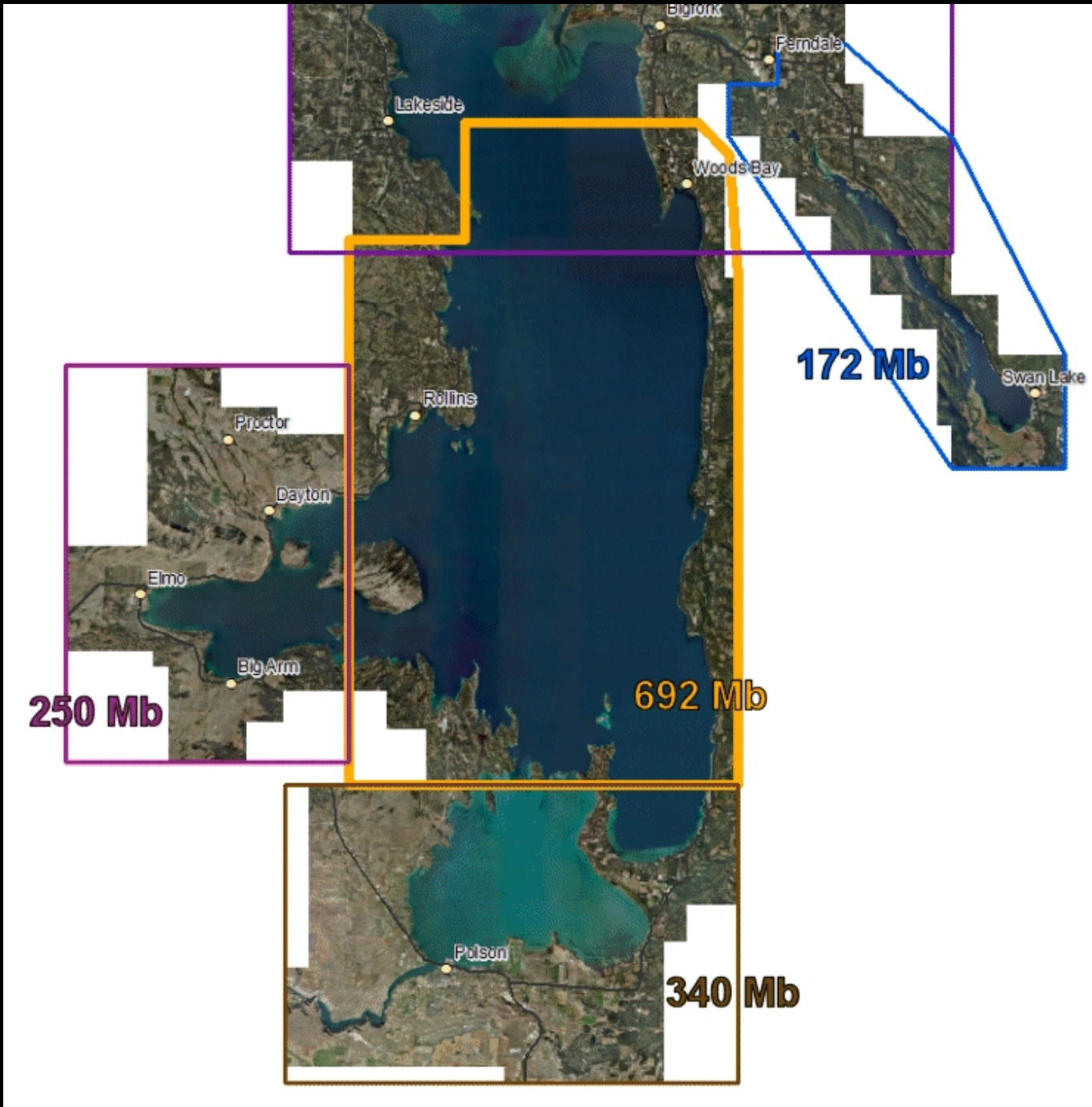
- 8 large (400-750 Mb) images. [Click here](#) to download these.
- 780 individual images that each cover about 700 acres. For this web site, groups of 6 files were placed together in zip archive files. Select your area of interest below to see a map of the files that may be downloaded.



These photos are in [MrSID](#) format and Montana State Plane coordinates, units feet, datum NAD83.

[Click here for other Aerial Photos of Montana](#)

These data may be viewed by anyone with our [Online Map Viewer](#) or accessed as an [ArcGIS web service](#) that allow seamless access to the data without the need to download individual tiles. This web site is intended for quick access to data for a small area. If you need this data for a large area sent to you, [please contact the State Library](#).



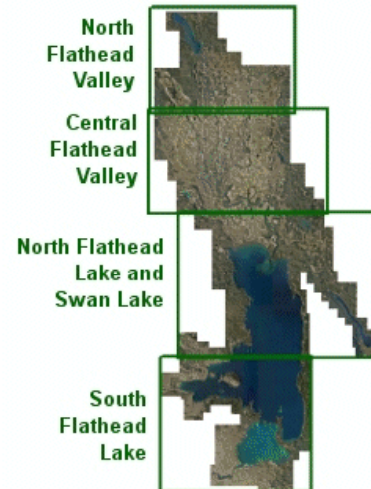


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## Flathead Basin Color Aerial Photos North Flathead Valley

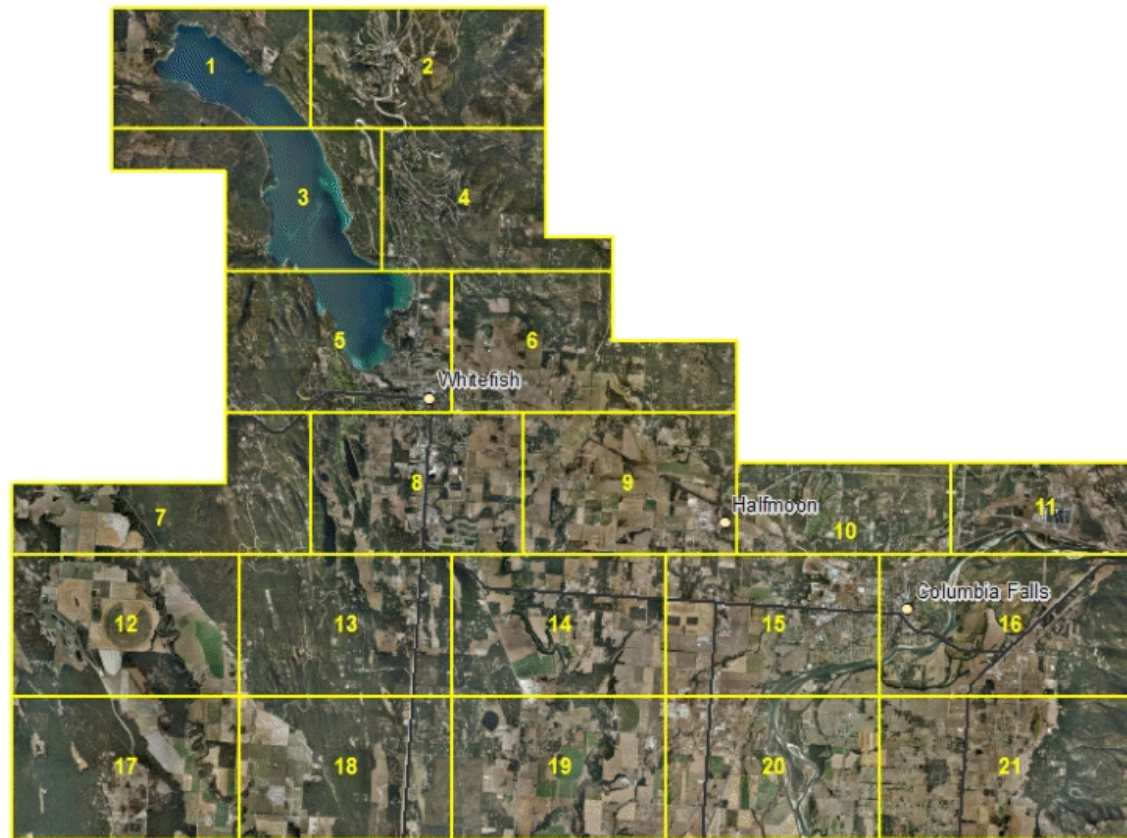
Photographs of the Flathead Basin were taken between September 22 and September 29, 2009.

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[Back to the Flathead Basin Air Photo Collection](#)

[Click here for other Aerial Photos of Montana](#)

These photos are in [MrSID](#) format and Montana State Plane coordinates, units feet, datum NAD83.



## Flathead Basin Color Aerial Photos South Flathead Lake

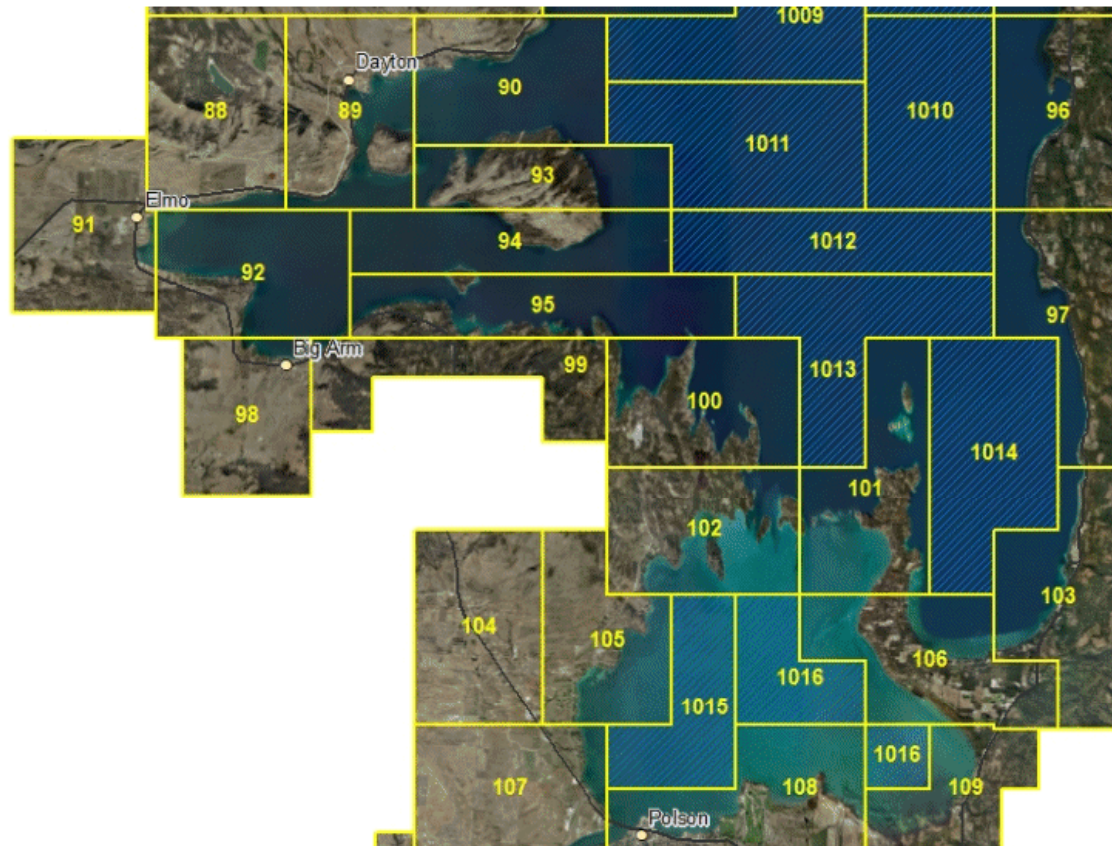
Photographs of the Flathead Basin were taken between September 22 and September 29, 2009.

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[Back to the Flathead Basin Air Photo Collection](#)

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These photos are in [MrSID](#) format and Montana State Plane coordinates, units feet, datum NAD83.



## Flathead Basin Color Infrared Aerial Photos Central Flathead Valley

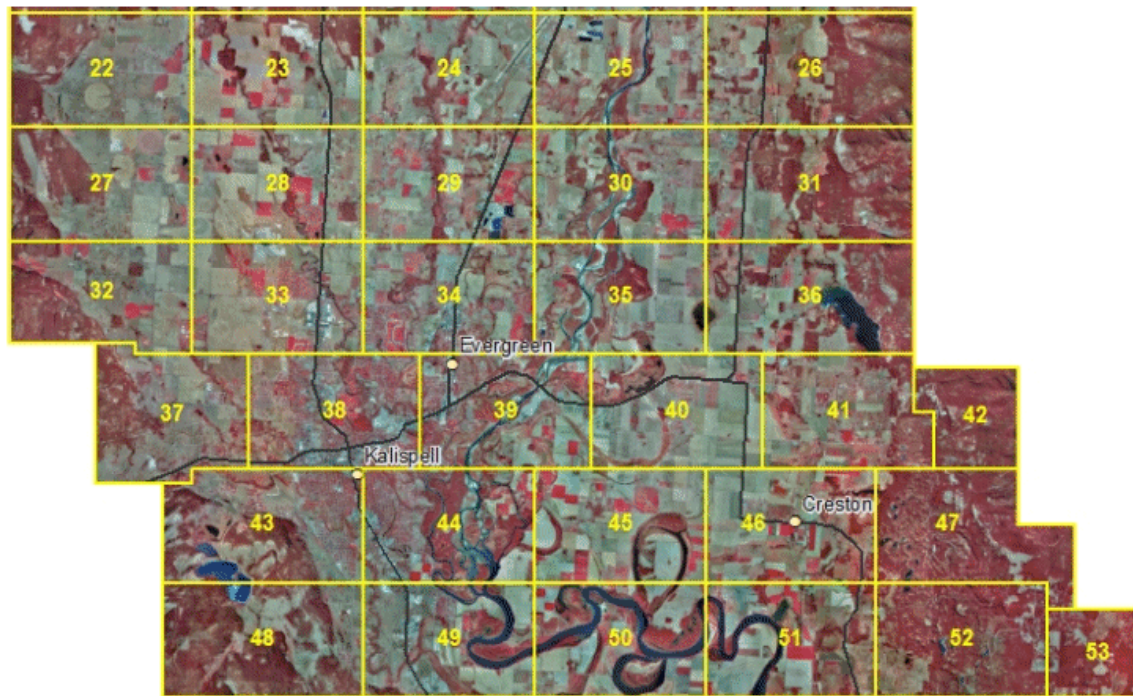
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[Back to the Flathead Basin Infrared Air Photo Collection](#)

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## Flathead Basin Mapping Project, 2009

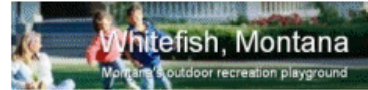


Lake County

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The data will be utilized for new floodplain studies, support of local resource and development planning, and to provide baseline scientific mapping data for a host of derivative products; such as vegetation and forest inventory assessments, habitat analysis, canopy mapping, etc. Since acquisition costs for LiDAR and Digital Imagery decrease as the coverage area increases, DNRC sought to maximize the project area by combining funding resources of communities and agencies that shared overlapping applications for the new data.

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## Flathead Basin Digital Elevation Model Data

These data are bare earth digital elevation models (DEM) represent the earth's surface with all vegetation and human-made structures removed. The bare earth DEMs were derived from LiDAR data using TIN processing of the ground point returns.

DEMs with a grid cell size of 3 feet were produced, and these DEMs are available. The DEMs were then processed for hydrologic correctness using photogrammetric breaklines and resampled to a cell size of 6 feet.

### [3-foot DEMs](#)

### [6-foot Breakline-Enforced DEMS](#)

These data may be viewed by anyone with our [Online Map Viewer](#) or accessed as an [ArcGIS web service](#) that allow seamless access to the data without the need to download individual tiles. This web site is intended for quick access to data for a small area. If you need this data for a large area sent to you, [please contact the State Library](#).

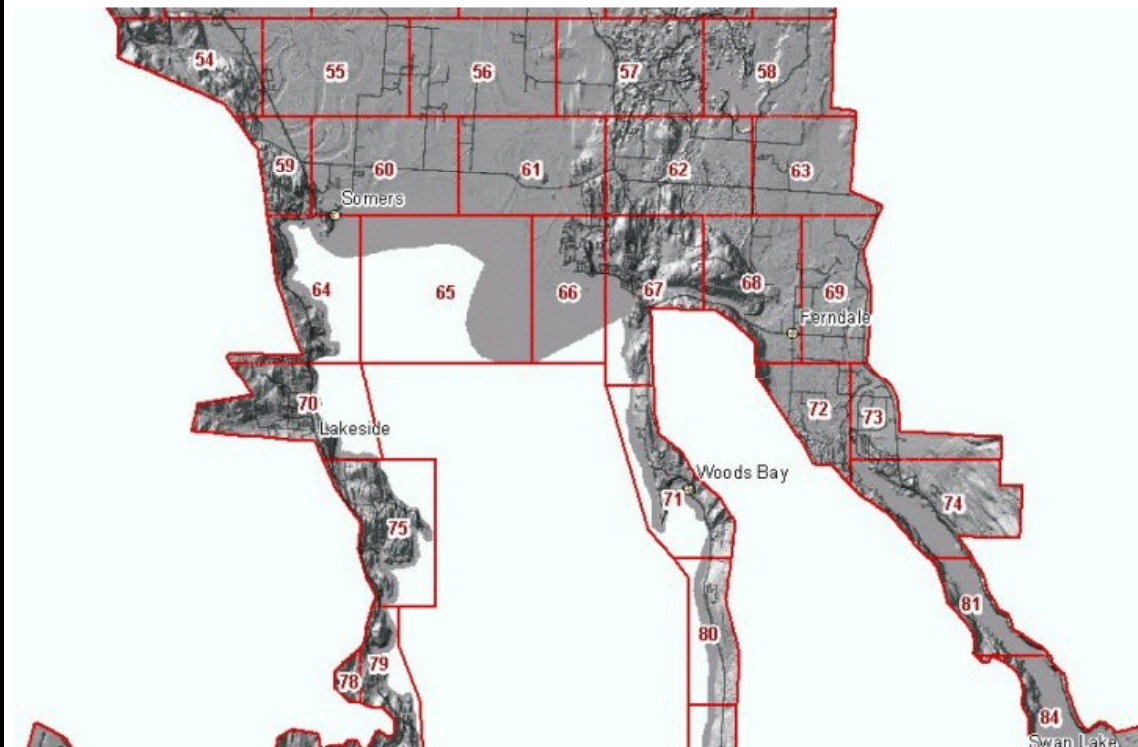
## Flathead Basin 3-foot Digital Elevation Models North Flathead Lake and Swan Lake

Elevation data for the Flathead Basin were collected between September 22 and September 29, 2009. The bare earth digital elevation models (DEM) represent the earth's surface with all vegetation and human-made structures removed. The bare earth DEMs were derived from LiDAR data using TIN processing of the ground point returns. The DEM grid cell size is 3 feet. Additional DEMs covering this area were processed for hydrologic correctness using photogrammetric breaklines, and these data are available [here](#).

The data consists of 106 individual files that each cover about 3800 acres. Right-click on a box in the map left below and use your browser's "Save Target As" function to download the elevation model for that area.

[Back to the Flathead Basin 3-foot DEM Collection](#)

These data are in TIFF format, with pixel values representing elevations in feet, and Montana State Plane coordinates, units feet, datum NAD83.





## Flathead Basin Contour Data

These data are 2-foot topographic contours of the Flathead Basin, including the Flathead Valley north of Flathead Lake and the immediate areas around Whitefish Lake, Flathead Lake, Swan Lake, and Polson. These contours were derived by automated methods from LiDAR point cloud data collected between September 22 and September 29, 2009.

The data originally received from the contractor were highly detailed ESRI file geodatabases, with many areas having line segments with several vertices per linear foot on the ground. These data have been smoothed by the State Library to reduce the number of vertices by over 50 percent and make the data available in shapefile format, while assuring that no contour line deviates by more than 1.5 inches from the position of the original.

[Detailed  
File Geodatabases](#)

[Generalized  
Shapefiles](#)

These data may be viewed by anyone with our [Online Map Viewer](#) or accessed as an [ArcGIS web service](#) that allow seamless access to the data without the need to download individual tiles. This web site is intended for quick access to data for a small area. If you need this data for a large area sent to you, [please contact the State Library](#).

## Flathead Basin 2-Foot Contours, Shapefile Format South Flathead Lake

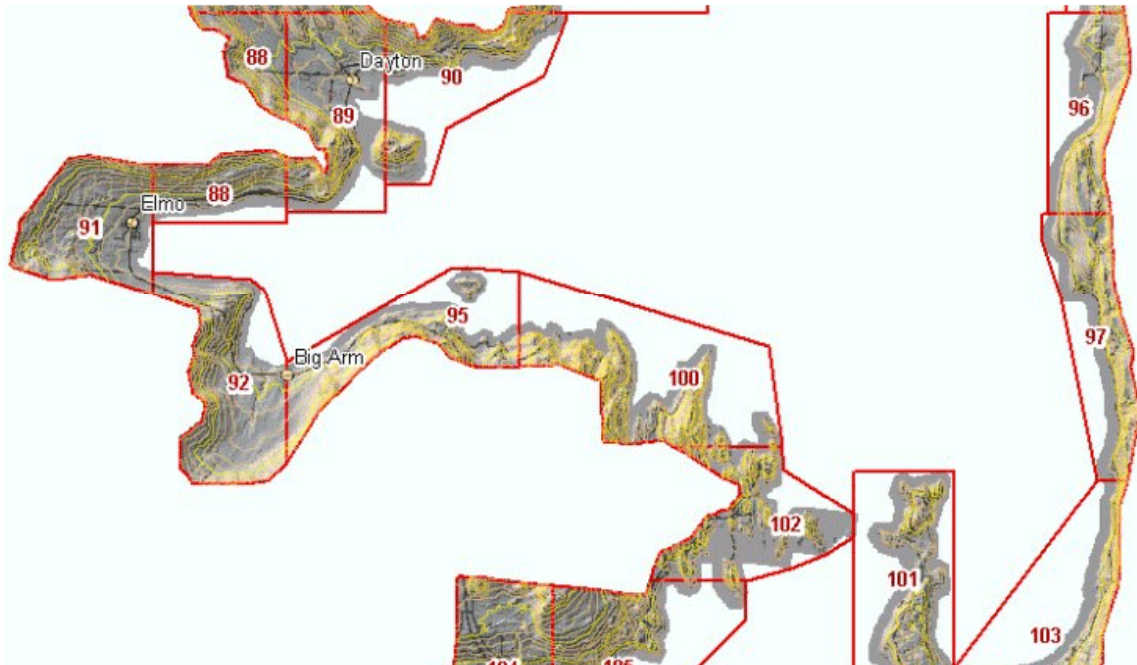
These data are 2-foot topographic contours of the Flathead Basin, including the Flathead Valley north of Flathead Lake and the immediate areas around Whitefish Lake, Flathead Lake, Swan Lake, and Polson. These contours were derived by automated methods from LIDAR point cloud data collected between September 22 and September 29, 2009.

These data are in ESRI Shapefile format and are a simplified version of the original data which had many areas where there were several vertices per linear foot along the contour lines on the ground. These data have been smoothed to reduce the number of vertices by over 50 percent, while assuring that no contour line deviates by more than 1.5 inches from the position of the original. The original data, in ESRI File Geodatabase Format, are available [here](#).

The data consists of 106 individual files that each cover about 3800 acres. Right-click on a box in the map left below and use your browser's "Save Target As" function to download the contours for that area.

[Back to the Flathead Basin 2-Foot Contour Collection](#)

These data are in Montana State Plane coordinates, units feet, datum NAD83.





## Flathead Basin LiDAR Data

LiDAR is a laser imaging technology that can produce a three-dimensional model of the land surface and objects on the land surface, such as vegetation and structures. The Flathead Basin was imaged between September 22 and September 29, 2009. Two data sets are available. The "All returns" data contains x, y, and z coordinates of all objects that were imaged, post-processed to remove noise, birds, haze, and smoke. The "Grounds" data has been processed to include only points that are on the ground.

[Ground Returns](#)

[All Returns](#)

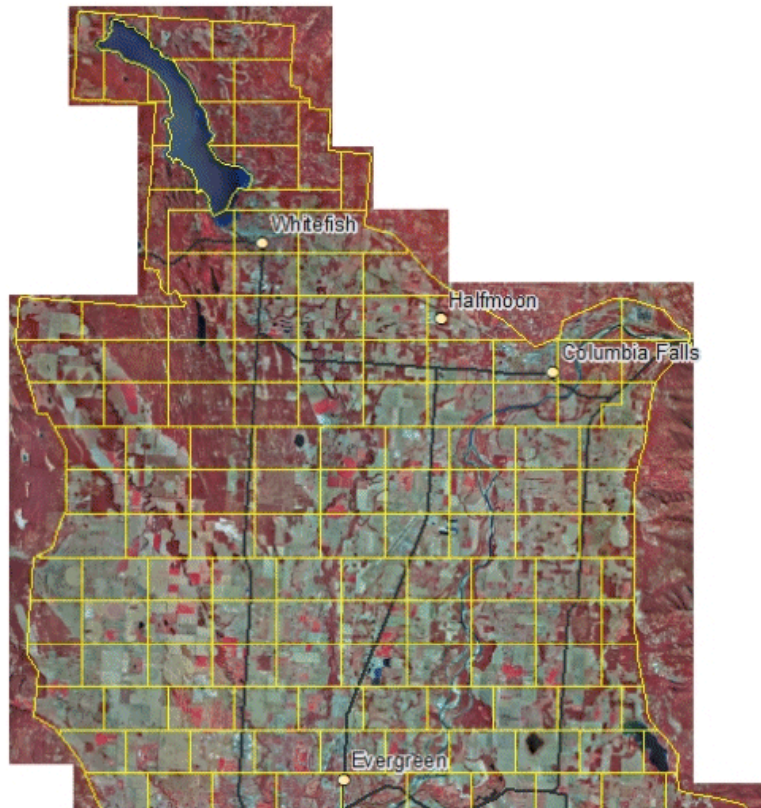
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## Flathead Basin LiDAR Data, All Returns

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The data consists of over 2,000 individual files that each cover about 170 acres. For this web site, groups of about 6 files were placed in zip archive files, with each file covering one of the areas outlined in yellow below. Click on an area to download the zip file for that area. Each zip file is about 250 megabytes in size, but they range in size between 10 and 650 megabytes. The entire collection of files is approximately 115 Gigabytes.

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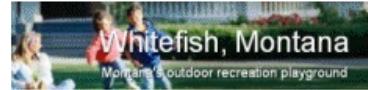


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## Application/Flathead\_2009 (MapServer)

**View In:** [ArcMap](#) [ArcGIS Explorer](#) [ArcGIS JavaScript](#) [Google Earth](#)

**View Footprint In:** [Google Earth](#)

**Service Description:** This service contains aerial photography and elevation data from the 2009 Flathead Basin Mapping Project, [http://nris.mt.gov/Flathead\\_2009](http://nris.mt.gov/Flathead_2009). The service was created to support the on-line map viewer at [http://gisportal.msl.mt.gov/Flathead\\_2009](http://gisportal.msl.mt.gov/Flathead_2009).

**Map Name:** Flathead Basin

### Layers:

- [Project Boundary](#) (0)
- [Contours](#) (1)
  - [200'](#) (2)
    - [Contour 1 1000ft](#) (3)
    - [Contour 1 200ft](#) (4)
  - [40'](#) (5)
    - [Contour 2 1000ft](#) (6)
    - [Contour 2 200ft](#) (7)
    - [Contour 2 40ft](#) (8)
  - [10'](#) (9)
    - [Contour 3 50ft](#) (10)
    - [Contour 3 10ft](#) (11)
  - [2'](#) (12)
    - [Contour 4 50ft](#) (13)
    - [Contour 4 10ft](#) (14)
    - [Contour 4 2ft](#) (15)
- [Public Land Survey](#) (16)
  - [PLSS Township](#) (17)
  - [PLSS Section](#) (18)







Image USDA Farm Service Agency

Google



## Flathead Basin Mapping Project, 2009

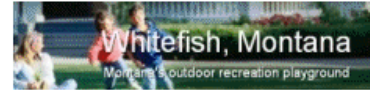


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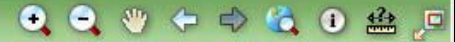


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Print



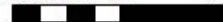
Results

Map Contents

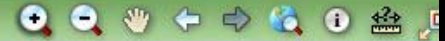
- Application/Flathead\_2009
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  - Geographic Names
  - Road Names
  - Roads
  - City Limits
  - Elevation
  - Landform
  - 2009 Color Orthophotos
  - 2009 Infrared Orthophotos
  - 2005 Color Orthophotos
  - USGS Topographic Maps



30851542! 0 30850 Feet



Print



Results

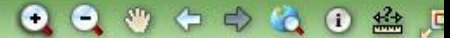
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1970985 0 1970 Feet

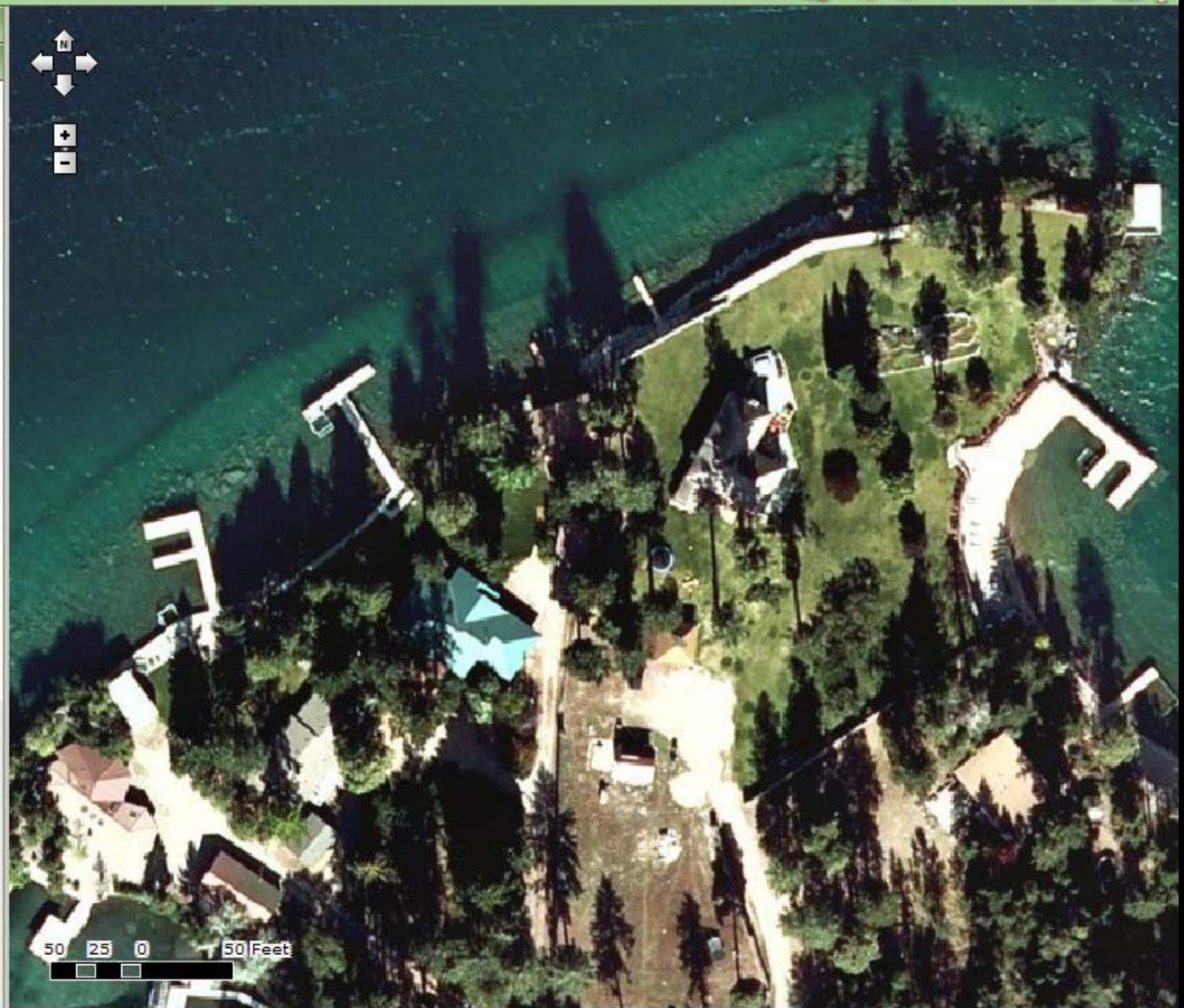
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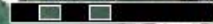
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50 25 0 50 Feet



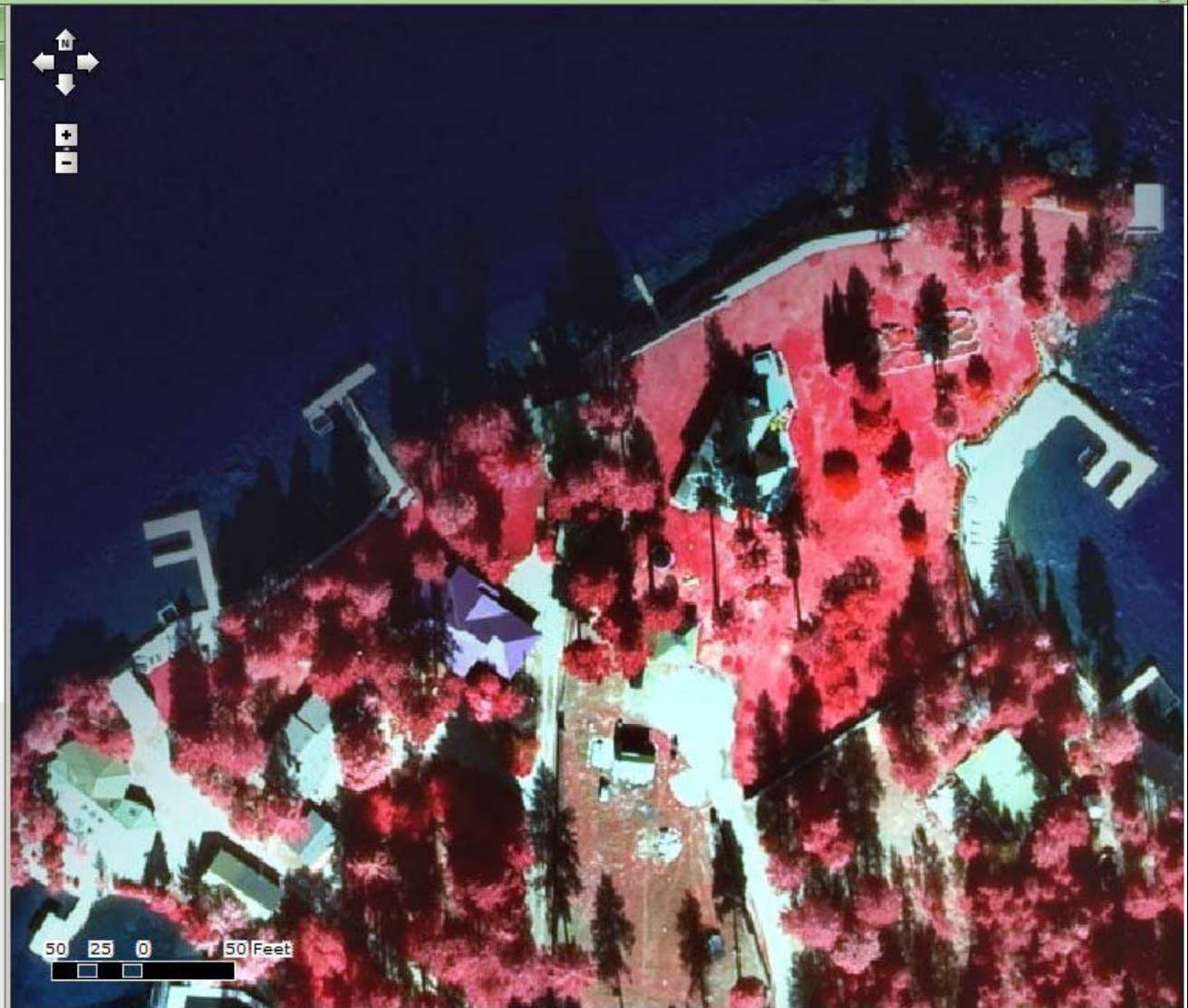
Print



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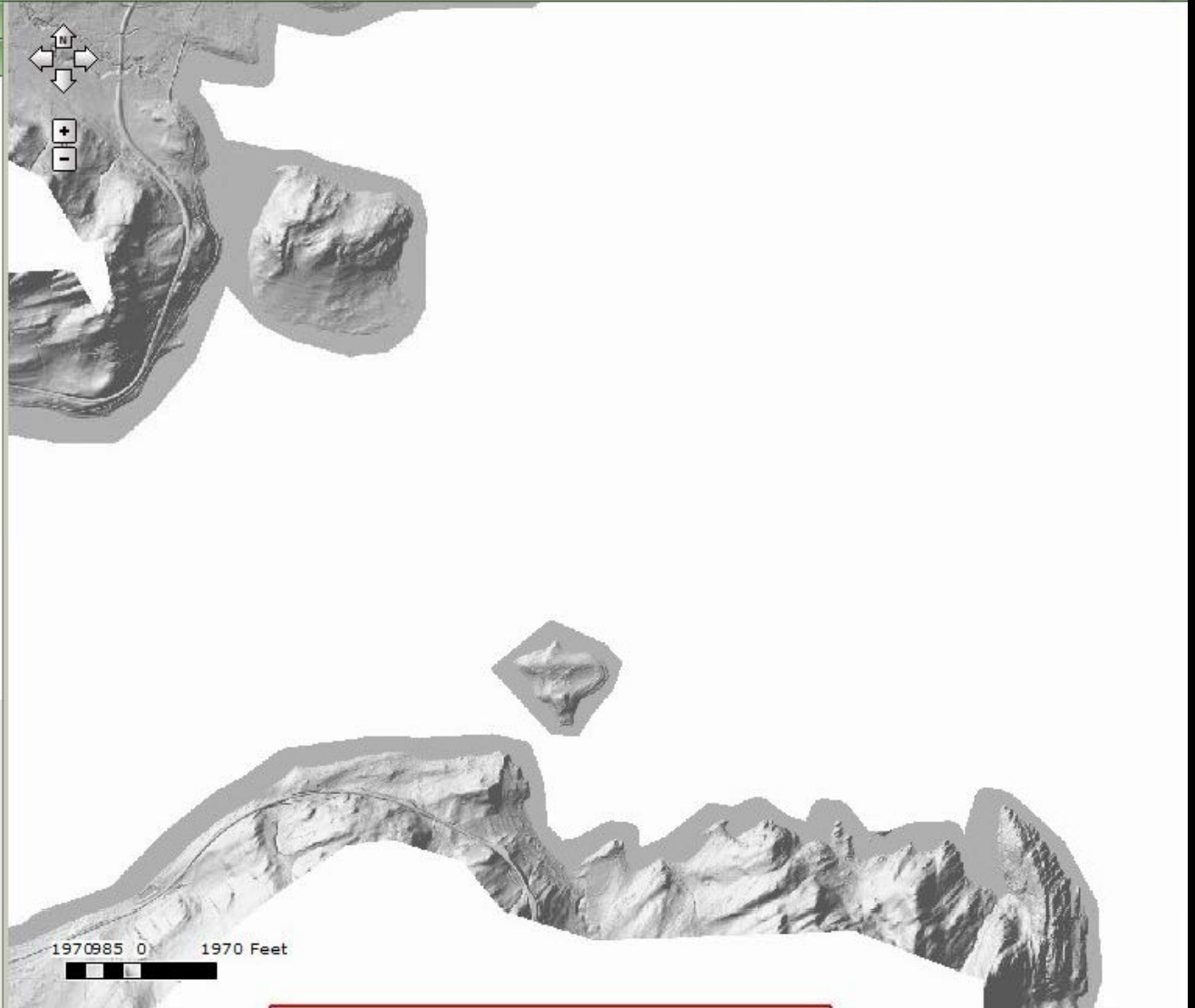
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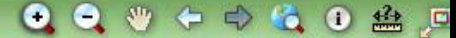
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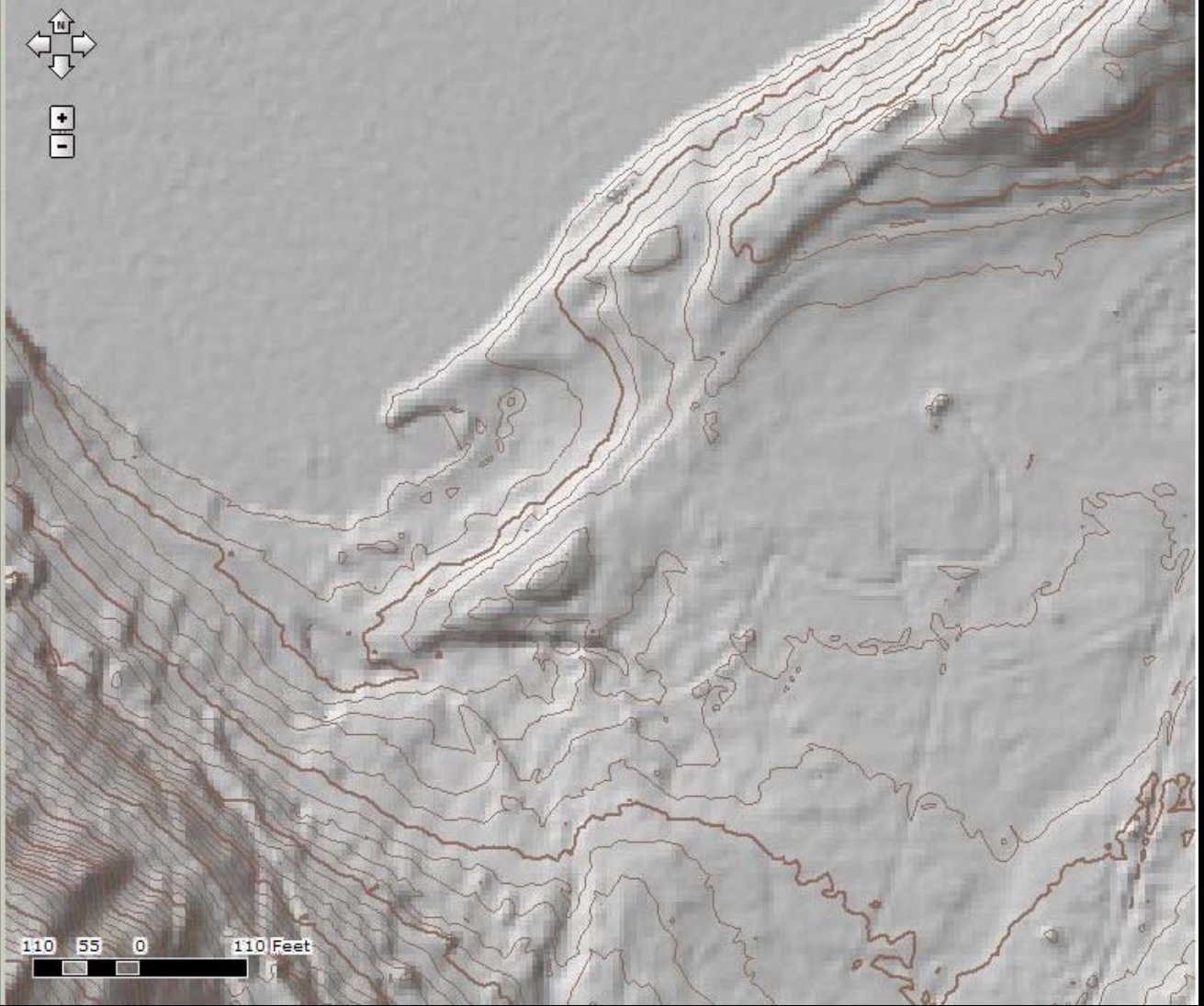
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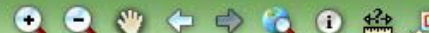
Map Contents

- 40'
- 10'
- 2'
  - Contour\_4\_50ft
  - Contour\_4\_10ft
  - Contour\_4\_2ft
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110 55 0 110 Feet

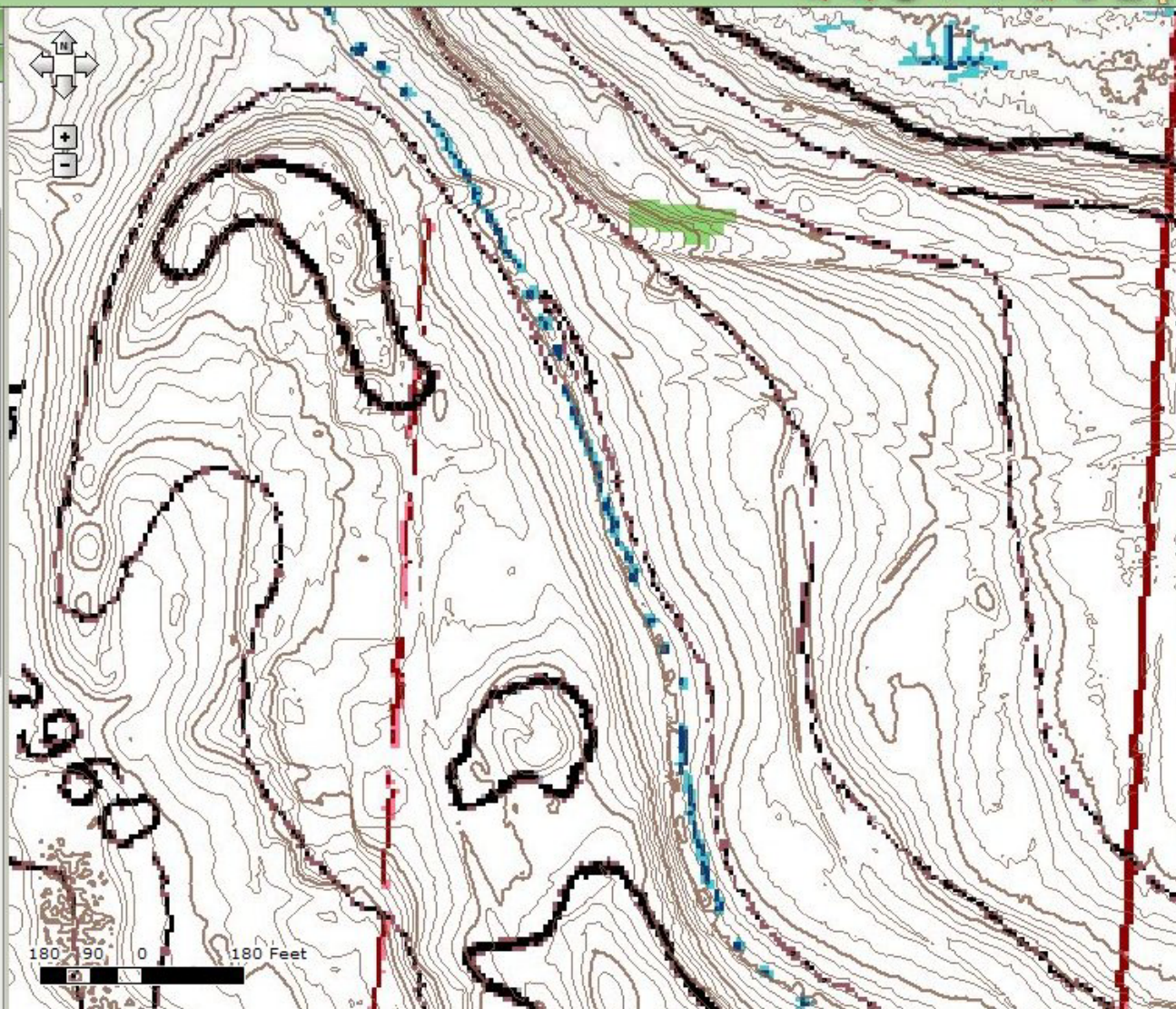
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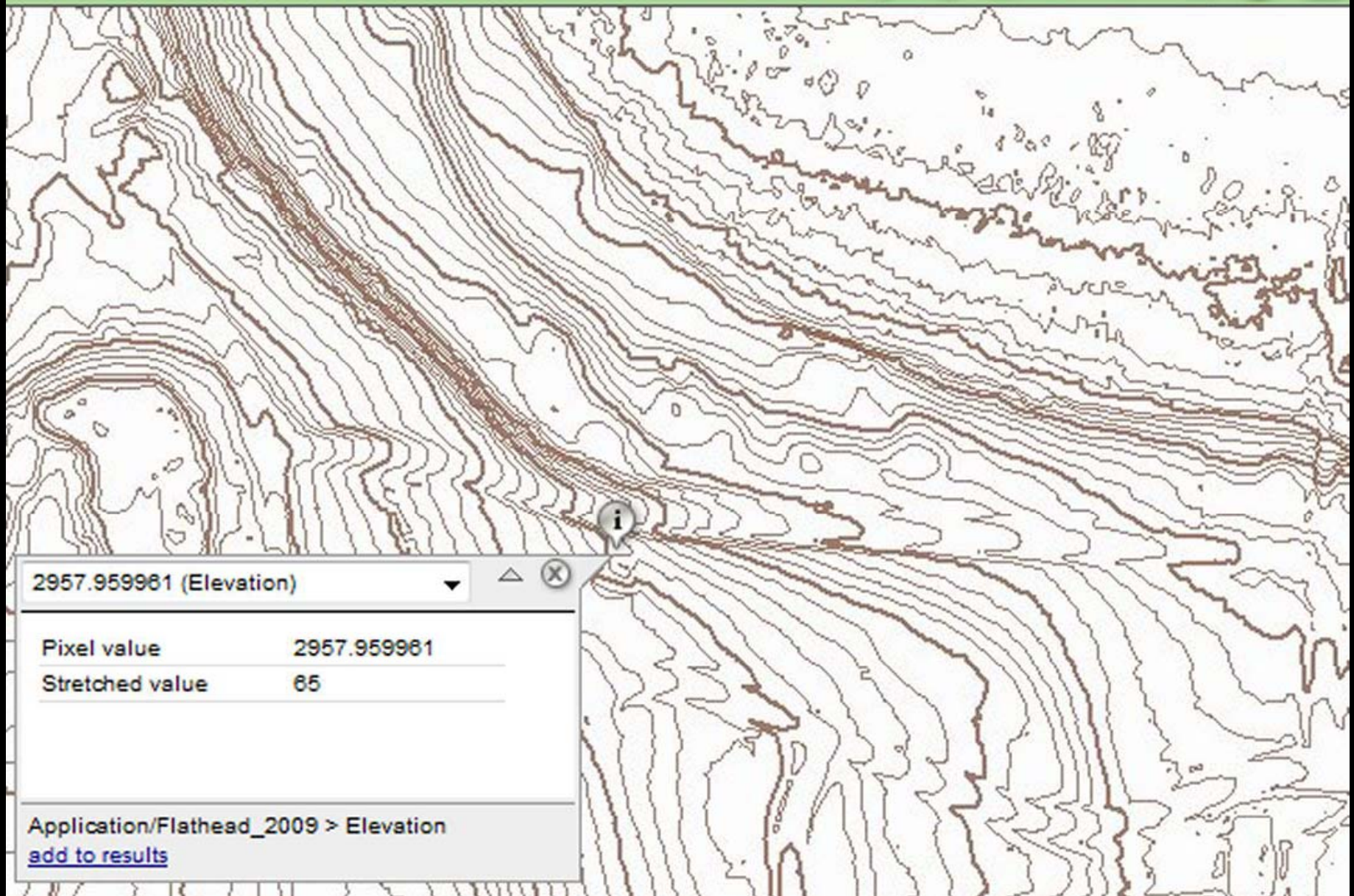


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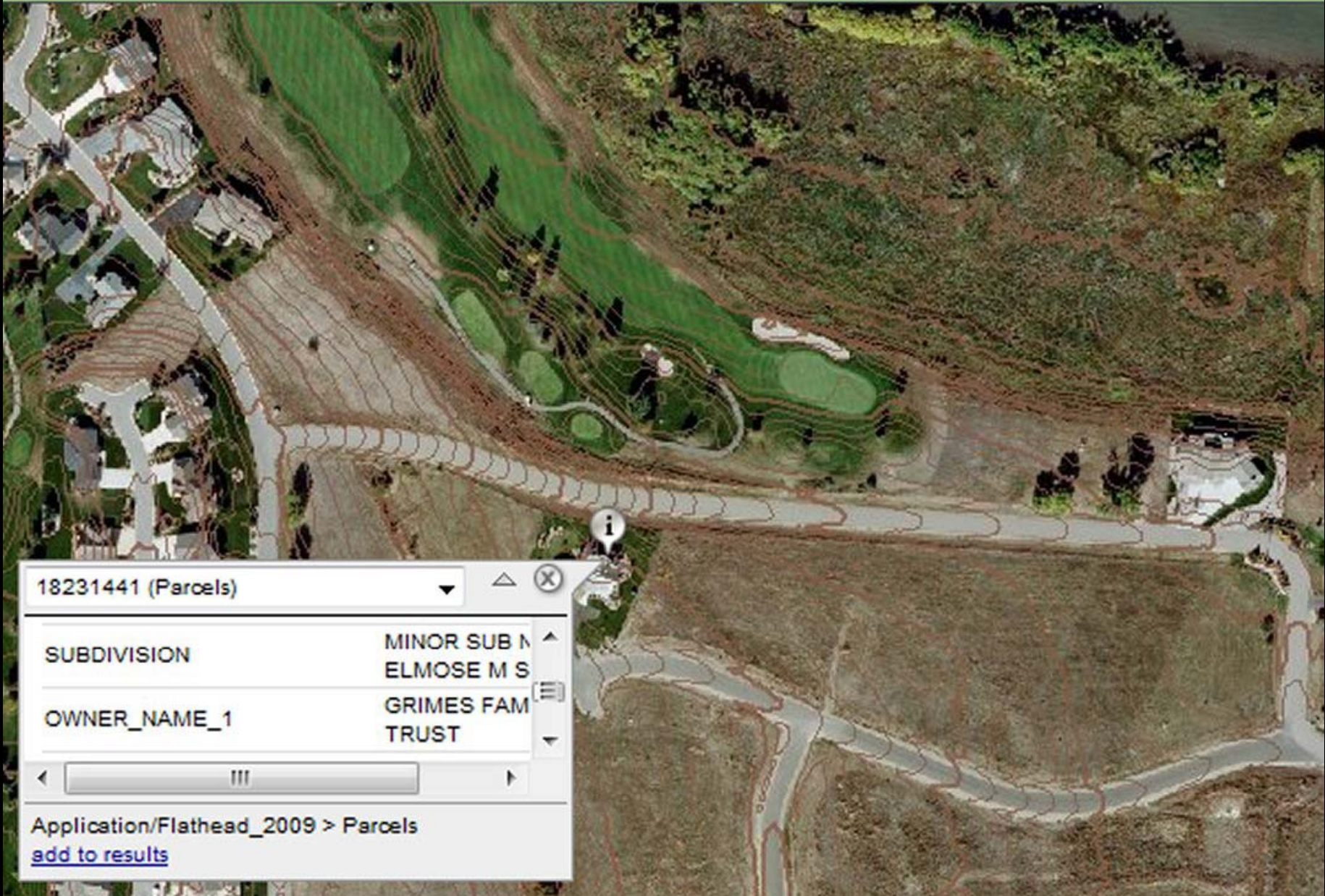
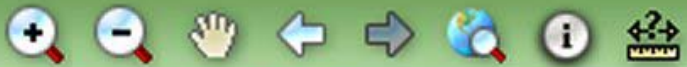




2957.959981 (Elevation) ▼ ▲ ✕

|                 |             |
|-----------------|-------------|
| Pixel value     | 2957.959981 |
| Stretched value | 65          |

Application/Flathead\_2009 > Elevation  
[add to results](#)



18231441 (Parcels) [Close]

|              |                           |
|--------------|---------------------------|
| SUBDIVISION  | MINOR SUB N<br>ELMOSE M S |
| OWNER_NAME_1 | GRIMES FAM<br>TRUST       |

Application/Flathead\_2009 > Parcels  
[add to results](#)

Print

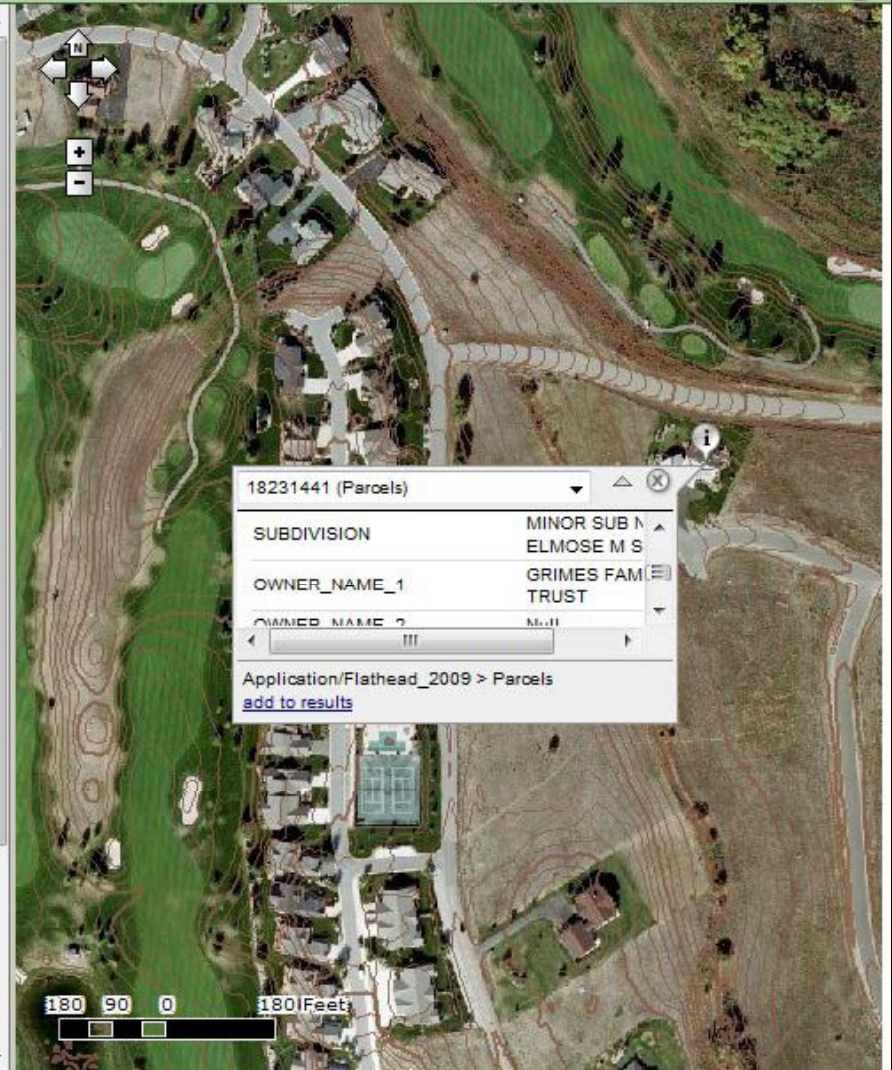


Results

|                    |   |
|--------------------|---|
| MAPPER             | U   |
| LEGAL_DESCRIPTION  | MISSION BAY PRESERVE ORCHARD PHA<br>Lot 12, 24089 SQUARE FEET |
| TOTAL_ACRES        | 0.56  |
| PROPERTY_TYPE      | Null  |
| ACCESS             | paved road - landlocked/none                                  |
| LEVY_DISTRICT      | POLSON CITY   |
| TOWNSHIP           | T R   |
| SUBDIVISION        | MINOR SUB NO 152 ELMOSE M S                                   |
| OWNER_NAME_1       | GRIMES FAMILY TRUST   |
| OWNER_NAME_2       | Null  |
| DOING_BUSINESS_AS  | Null  |
| CARE_OF_TAXPAYER_1 | Null  |
| CARE_OF_TAXPAYER_2 | Null  |
| PROPERTY_ADDRESS   | PHEASANT RIDGE CT 59860                                       |
| MAIL_ADDRESS       | 36124 S CYPRESS DR  |
| MAIL_CITY          | TUCSON  |

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  - Roads
  - City Limits
  - Elevation
  - Landform
  - 2009 Color Orthophotos
  - 2009 Infrared Orthophotos



18231441 (Parcels)

|              |                           |
|--------------|---------------------------|
| SUBDIVISION  | MINOR SUB N<br>ELMOSE M S |
| OWNER_NAME_1 | GRIMES FAM<br>TRUST       |
| OWNER_NAME_2 | Null                      |

Application/Flathead\_2009 > Parcels  
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