



ALASKA CHAPTER OF THE WILDLIFE SOCIETY 2019 ANNUAL MEETING AND WORKSHOPS

Elizabeth Peratrovich Hall
Juneau, Alaska
February 26th – 28th, 2019



WORKSHOP ANNOUNCEMENT

A practical introduction to GIS for wildlife biologists—displaying, processing, and analyzing wildlife location data

Wildlife biologists commonly collect data regarding the spatial location of animals. An array of products based on these locations is typically sought, including:

- 1) Maps displaying the data for informal communications or for publication
- 2) Home ranges
- 3) Movement metrics
- 4) Environmental data associated with each location, oftentimes to feed into habitat selection analyses

In this basic GIS workshop, we will illustrate introductory GIS concepts through workflows that produce such outputs. Starting with a .csv file obtained from a GPS collar, we will recreate common workflows, starting with mapping the data in ArcGIS and in Google Earth. We will explore the data by using combinations of filtering, sorting, and alternative mapping symbologies. We will create a home range polygon based on the data and obtain output metrics characterizing the animal's home range. We will obtain movement metrics such as distance, rate, and turning angles from the data. We will extract environmental data (elevation, slope, and land cover class) to both the GPS locations and the home range polygon and summarize this data. We will upload the data to a handheld Garmin GPS unit to assist in visiting the animal locations in the field.

The workshop will target users with limited or no GIS experience who are interested in expanding their knowledge. While performing these practical GIS tasks, we will encounter GIS concepts including:

- 1) Importing data into ArcGIS
- 2) Projecting the data
- 3) Feature and Raster data
- 4) Symbology for use in maps
- 5) Making maps for publication
- 6) Common 'ArcToolbox' tasks: clipping, buffering, extracting values to points
- 7) Using the ArcGIS 'raster calculator'
- 8) Importing the data for further analysis in other software
- 9) Other GIS software to consider

Participants are required to bring a laptop loaded with ArcGIS 10.3+ and Google Earth. It is strongly recommended that users ensure that remote use of ArcGIS (ie. without a network-accessible license) is possible on their computer before the workshop.

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