

# Announcements

# Whence Geospatial Data: All data are spatial

Kyle Bocinsky

FORS350 / GPHY488

(Forestry) Applications of GIS

University of Montana

WA Franke College of Forestry & Conservation

# All Data Are Spatial!

- Knowing the **where** of a phenomenon is fundamental
- **Spatial attributes** may reflect the nature of phenomena (think: [1854 Cholera Outbreak](#))
- All data are spatial, but **not all data are geospatial**
- Spatial data may not be [*geo*]spatially referenced

**Test each other!**

Think of a type of data that **cannot be**  
*[geo]*spatial

# Spatial data are everywhere

- CDC Chronic Disease Data
- Early Colonial Texts from Mexico
- Indigenous Territories, Languages, and Treaties

# **Geospatial Authorities:**

## **Who creates, distributes, and maintains authoritative geodata?**

# What Is Metadata?

# FAIR Guiding Principles for scientific data management and stewardship



# FAIR data



## Findable

- (Meta)data are assigned a globally unique and persistent identifier
- Data are described with rich metadata
- Metadata clearly and explicitly include in the identifier of the data it describes
- (Meta)data are registered or indexed in a searchable resource



## Accessible

- (Meta)data are retrievable by their identifier using a standardized protocol
- The protocol is open, free and universal
- The protocol allows for authentication and authorization, as needed
- Metadata are accessible, even when the data are no longer available



## Interoperable

- (Meta)data use a formal, accessible, shared and broadly applicable language
- (Meta)data use vocabularies that follow FAIR principles
- (Meta)data include qualified references to other (meta)data



## Reusable

- (Meta)data are richly described with a plurality of accurate and relevant attributes
- (Meta)data are released with a clear and accessible data usage licence
- (Meta)data are associated with a detailed provenance
- (Meta)data meet domain-relevant community standards



# Bottom Line

- Use **open, accessible, authoritative** data
- Keep track of **data provenance**
  - Ensure metadata are *standards-compliant*
  - Record and report *operations* you perform on data
  - Archive new data in *federated repositories*

# Some authoritative geodata resources:

- The US Geospatial Platform
- USGS National Geospatial Program
  - 3D National Topography Model (3DNTM)
    - 3D Elevation Program (3DEP)
    - 3D Hydrography Program (3DHP)
  - U.S. Board on Geographic Names
    - Geographic Names Information System (GNIS)
  - The National Map
  - TNM Supporting Themes
- Multi-Resolution Land Characteristics (MRLC) Consortium
- US Census Tiger Database

# Getting data into ArcGIS Pro

**DEMONSTRATION!**