

Department of Forest Resources  
University of Minnesota  
FNRM 3131 & 5131  
GEOGRAPHICAL INFORMATION SYSTEMS FOR  
NATURAL RESOURCES

## Homework 1

Due as stated on the Moodle site.

Go to the Minnesota Geospatial Commons:

<https://gisdata.mn.gov/>

If you have any questions about this site please use the [HELP](#), it is very good.

Select data layers that interests you.

Download and if necessary unzip (or IZArc) at least 3 data layers for the same an area.

Create a .pdf displaying the 3 layers you chose in ArcMap or QGIS (Create a new Map, set layer Properties to meters, add and display your three Data Layers, switch to Print Layout/Composer, add north arrow, legend, scale, title, your name and Print).

On the Internet go to <https://gisdata.mn.gov/>

Minnesota Geospatial Commons

Resources Organizations Categories News About Help Search

Working Together  
The Geospatial Commons brings together data from public and private organizations

A collaborative place for users and publishers of geospatial resources in Minnesota

Search For Resources  
eg. Water, Counties, Environment, etc... Search

Categories

Biota Boundaries Environment Climatology, Meteorology, and Atmosphere Economy

News

- Please Welcome the Metropolitan Council, MetroGIS, and Dakota County to the Commons (September 30, 2015)
- Webinar about the MN Geospatial Commons offered by MnDOT September 18 (September 15, 2015)
- Webinar on ArcGIS Online (AGOL) offered by MnDOT August 20 (August 6, 2015)
- Milestones: More than 250 resources, including Minnesota Geographical Survey (July 30, 2015)

Featured organizations

MNDNR Working with citizens to conserve and manage the state's natural resources.

Minnesota Department of Transportation Plan, build, operate and...

Select the a category

The screenshot shows the Minnesota Geospatial Commons website. At the top, there is a navigation bar with 'Resources', 'Organizations', 'Categories', 'News', 'About', and 'Help'. A search bar is located on the right. Below the navigation bar, the page title is '/ Categories / Biota'. On the left side, there is a sidebar for 'Biota' with a description: 'Flora and/or fauna in natural environment. Examples: wildlife, vegetation, biological sciences, ecology, wilderness, sealife, wetlands, habitat read more'. It also shows 'Followers: 2' and 'Resources: 0', along with a 'Follow' button and an 'RSS' link. Below the sidebar, there are sections for 'Organizations' (listing Natural Resources D..., Geospatial Informat..., Agriculture Department, and Dakota County) and 'Categories' (listing Biota, Environment, Imagery + Basemaps, and Health). The main content area shows search results for 'Biota'. At the top of this area, there is a search bar with the text 'Search datasets...'. Below it, it says '30 resources found' and 'Order by: Relevance'. The first result is 'MNDNR Forest Stand Inventory' with a description: 'This layer is a digital inventory of individual forest stands. The data is collected by MNDNR Foresters in each MNDNR Forestry Administrative Area, and is updated on a...'. Below the description are download options: 'JPEG', 'SHP', 'fgdb', 'gpkg', and 'HTML'. A green arrow points to the 'SHP' button. The second result is 'MNDNR Native Plant Communities' with a description: 'This dataset contains 3 main feature classes. See the detailed description of each feature class in the individual metadata files below: MNDNR Native Plant CommunitiesDNR NPC and...'. Below the description are download options: 'JPEG', 'fgdb', 'gpkg', 'SHP', and 'HTML'. The third result is 'Emerald Ash Borer Detection' with a description: 'This suite of data is a collection of layers that communicate the introduction risk, detection, bioControl, and response to Emerald Ash Borer (EAB) in Minnesota, including...'. Below the description are download options: 'JPEG', 'WebApp', 'gpkg', 'ags\_mapserver', 'WMS', 'GIF', 'SHP', 'JSON', 'fgdb', 'GeoJSON', and 'HTML'. The fourth result is 'State Designated Trout Streams, Minnesota' with a description: 'Data is currently being updated. See Completeness Section below for more information. This layer shows legally designated trout streams and trout stream tributaries as...'. Below the description are download options: 'JPEG', 'fgdb', 'gpkg', 'SHP', and 'HTML'. The fifth result is 'MNDNR Native Prairies' with a description: 'Native prairie polygons are a subset of a larger database of DNR Native Plant Communities and are the...'. Below the description are download options: 'JPEG', 'fgdb', 'gpkg', 'SHP', and 'HTML'.

This is what you see next.

1<sup>st</sup> select a "Available Layer", this is the data you want to download.

Minnesota Geospatial Commons Resources Organizations Categories News About Help Search

Home / Organizations / Natural Resources Department / Moose Range in Minnesota

### Moose Range in Minnesota

Followers: 0

Organization: Natural Resources Department

Working with citizens to conserve and manage the state's natural resources. [read more](#)

Social: Google+, Twitter, Facebook

License: [r/env\\_mn\\_moose\\_range/shp\\_env\\_mn\\_moose\\_range.zip](#)

Resource Categories Activity Stream

### Moose Range in Minnesota

Spatial representation of the Primary Moose Range in Minnesota, as delineated by MNDNR Section of Wildlife, Field and Research Staff.

- Static Preview - Sample Image [View](#)
- OGC GeoPackage [Download](#)
- ESRI File Geodatabase [Download](#)
- Shapefile [Download](#)
- Full Metadata Record [View](#)

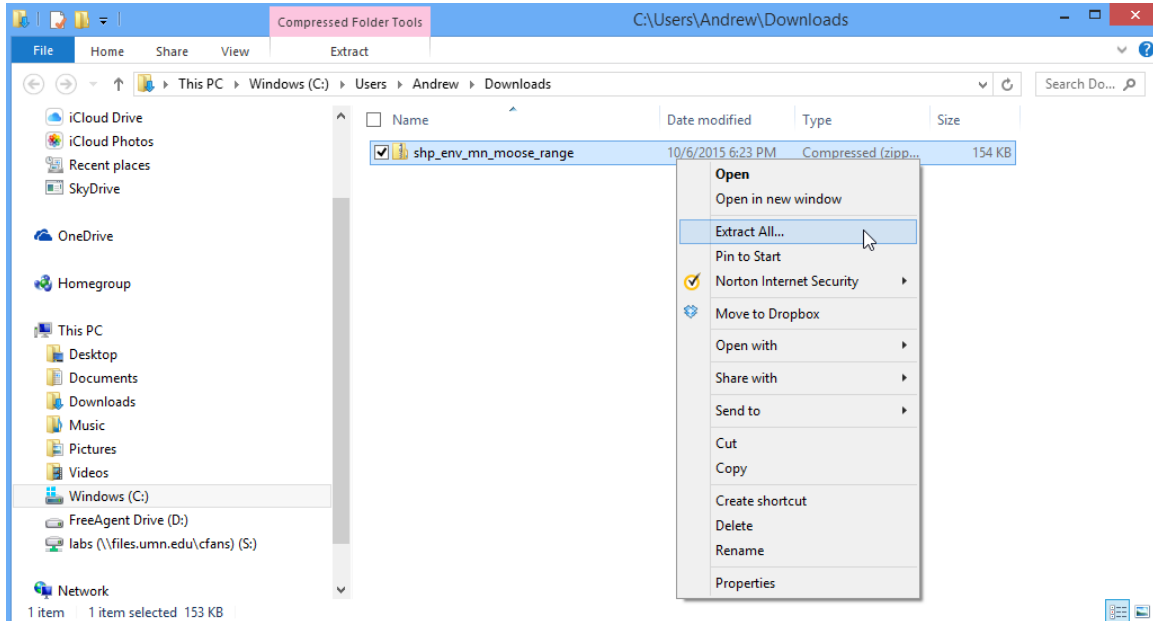
ecosystem

#### Additional Info

Access constraints	None
Date details	Time Period of Content Date indicates when dataset was last updated.
Originating organization	Minnesota Department of Natural Resources (MNDNR)
Date of content	4/10/2012
Purpose	This dataset should be used for regional or landscape scale analysis and mapping. It should not be used for site level work.

You select a data layer and click in the title and it will bring up a detail screen where you can download the SHAPEFILE

Once the file is downloaded, use Windows Explorer to find the file and double click on the .zip file to “uncompress” the data. The IZArc program will open, as shown below. Select extract and the file will be “uncompressed”.



The data should be ready to open in ArcMap.

Repeat this process for all 3 (or more) of the data layers you want to use for the Homework 1 assignment.

All the MN GeoCommons data is in UTM 15, NAD83 but sometime they do not have the projection information included with the data. You should check to see if all your layers have a Projection (NAD\_1983\_UTM\_Zone\_15N). If not, use ArcToolbox →Data Management Tools→Projections and Transformations→Define Projection to create the necessary projection file. DO NOT REPROJECT the data, it is already projected correctly, it is just missing the definition file.

## Finally

In ArcMap or QGIS and create a one map with all three layers or three separate maps.

Make sure to add Title, north arrow, legend, scale and your name.

Export Map to a .pdf or Print the Map to a .pdf and submit on Moodle.

