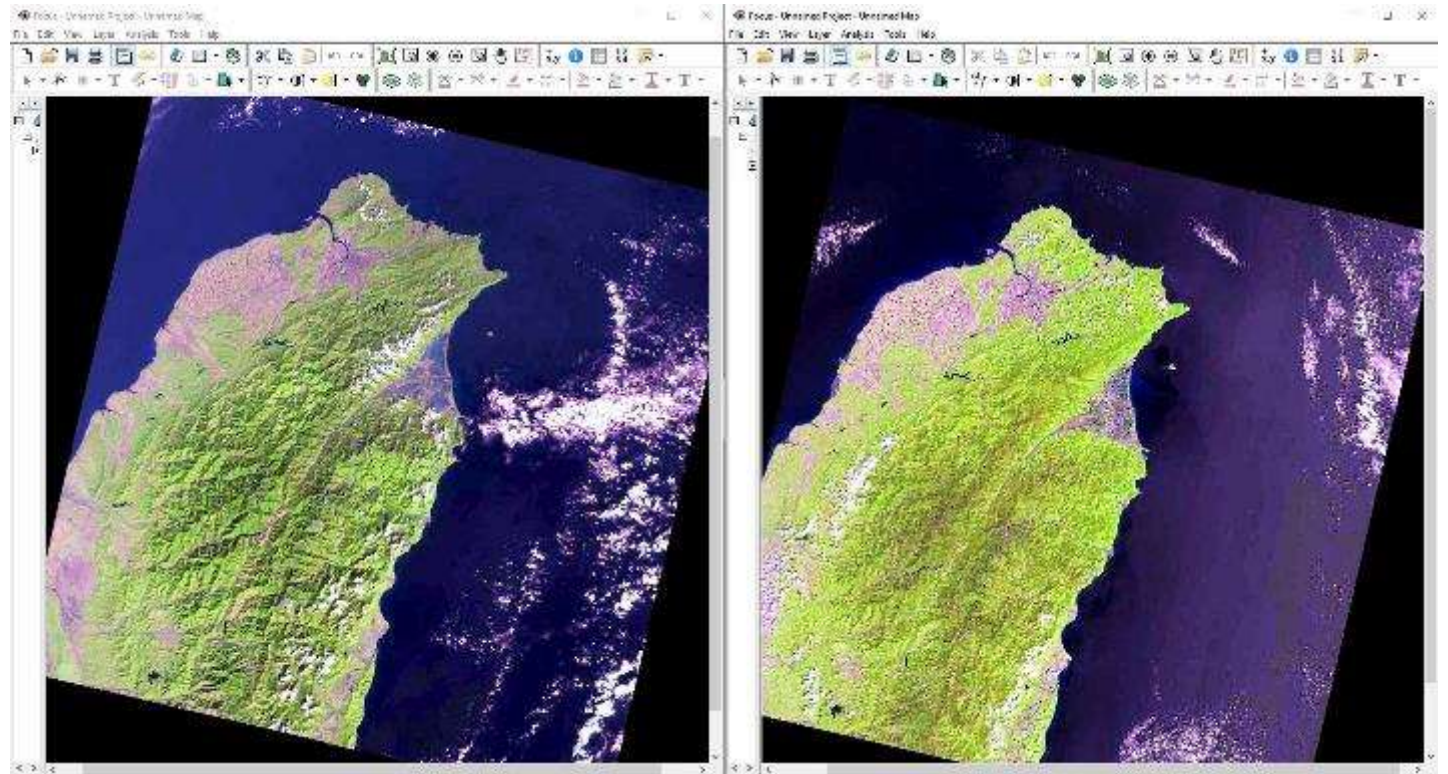


LAB 5: Steps for today's lab: Environmental change

- *This demo created by Sunny Tseng, October 2021*

1. Determine area of interest
2. Find and download imagery on EarthExplorer
3. Put in PowerPoint
4. Write descriptions



Determine area of interest - examples

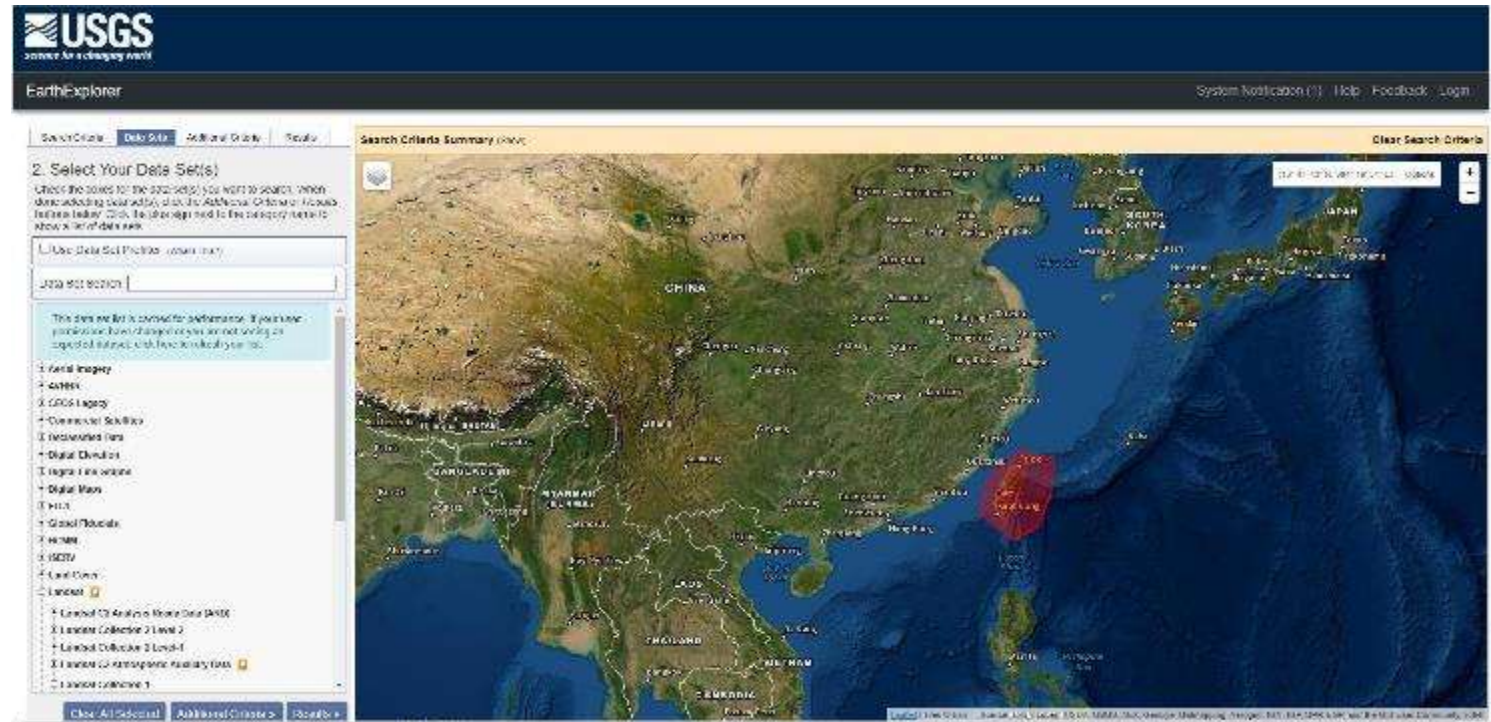
- Your hometown – different comparing the time when you were younger
- Conservation area – detect habitat change among time
- Any dramatic event: fires, avalanches, tsunamis etc..
- Gradual but persistent events e.g. erosion, vegetation change
- Expansion of urban area – how fast is the expansion

-
-
-



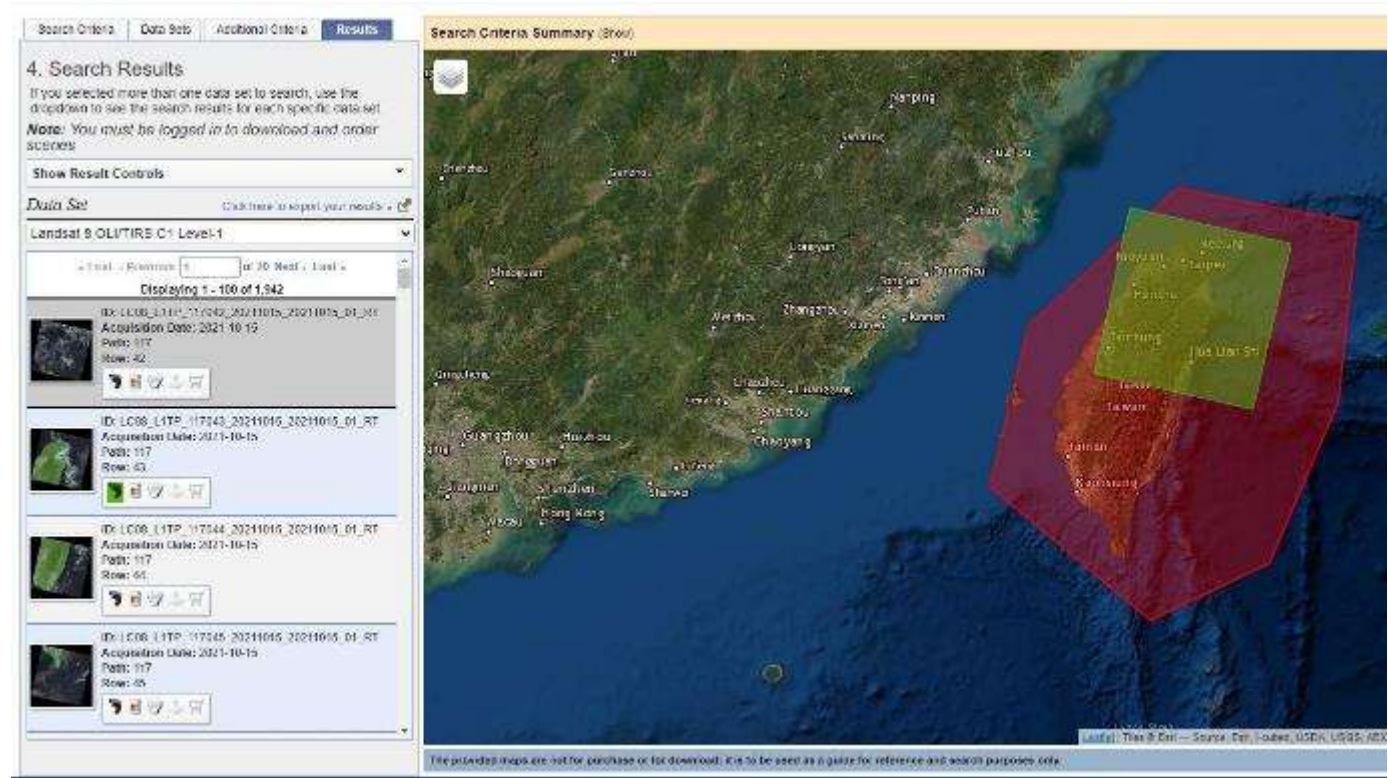
Find and download imagery on EE

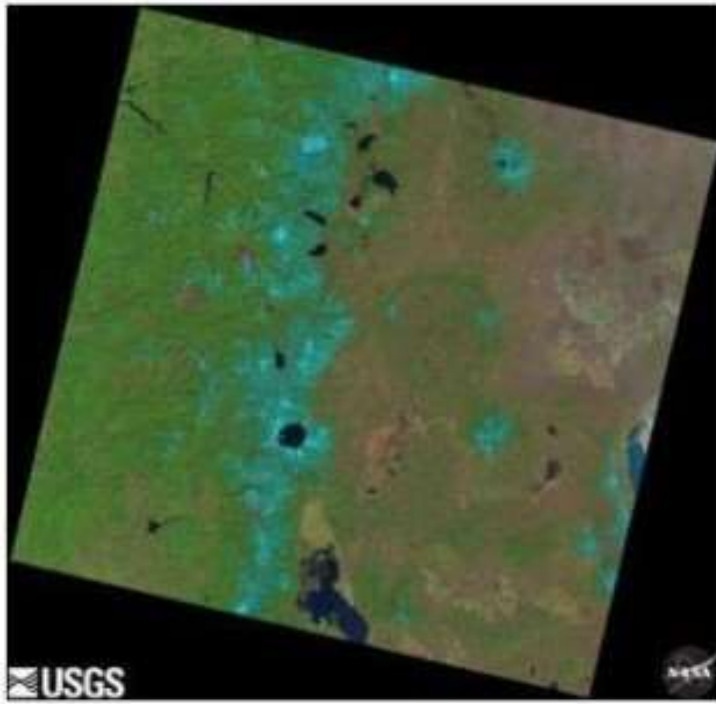
- Log-in first (you will need to log-in to download imagery)
 - Username: geog357
 - Password: unbc4thenorth
- Select area with Polygon
- Add extra filters
 - Date range
 - Cloud cover
- Select satellite



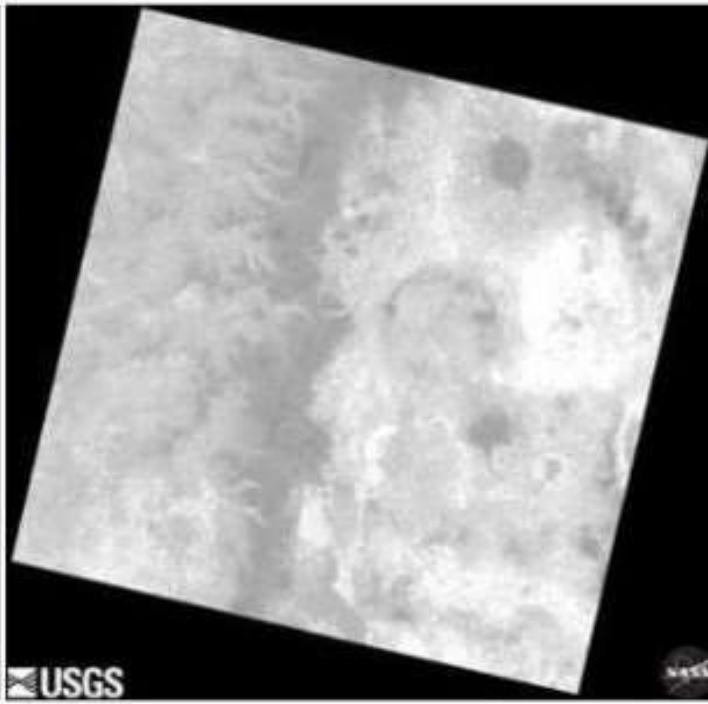
Find and download imagery on EE

- Use footprint to see the image on the map
- downloading options
- GeoTIFF (natural colour)

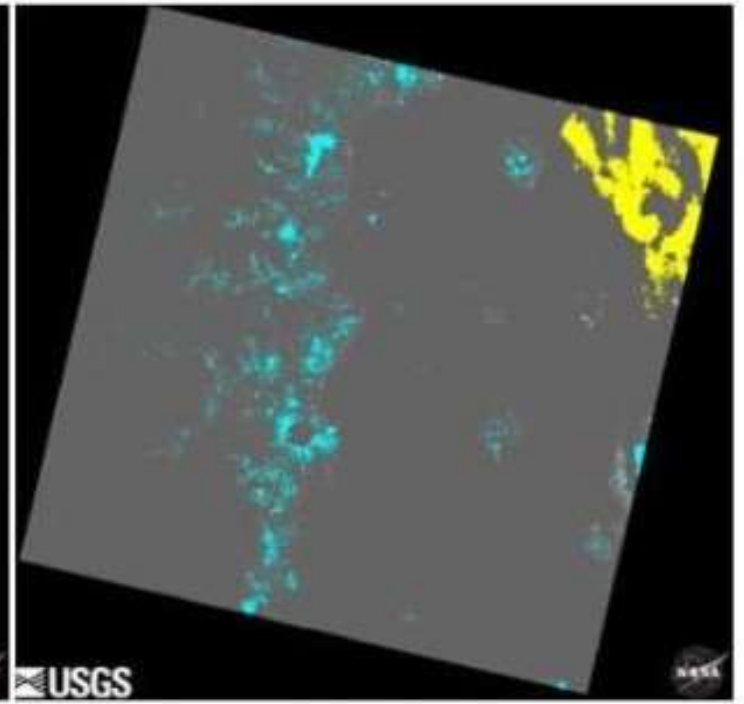




Natural (false) Color Image



Thermal Image



Quality Image

Landsat 8 OLI = Bands 6,5,4

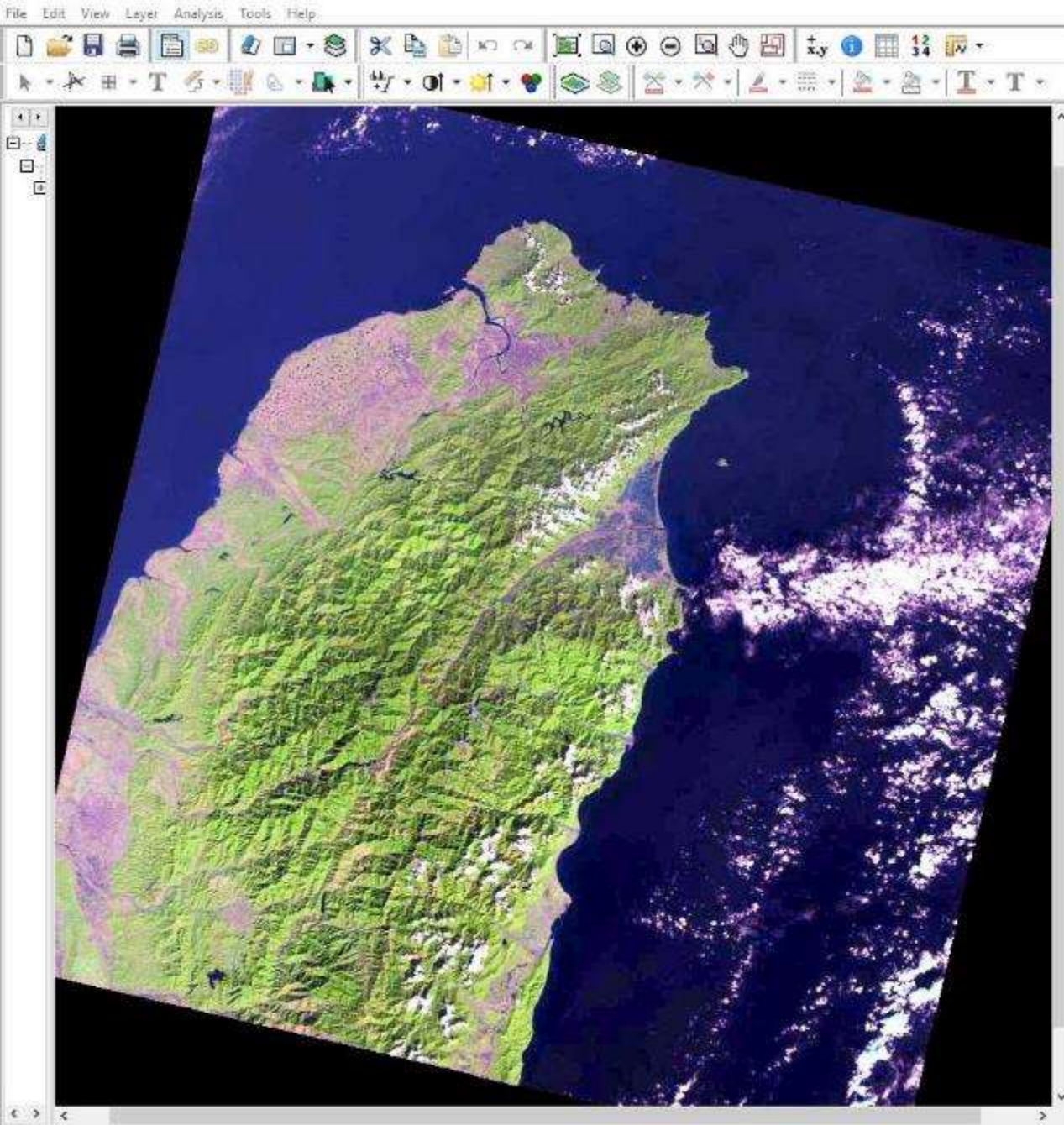
Landsat 7 ETM+ and Landsat 4-5 TM = Bands 5,4,3

Landsat 4-5 MSS = Bands 2,4,1

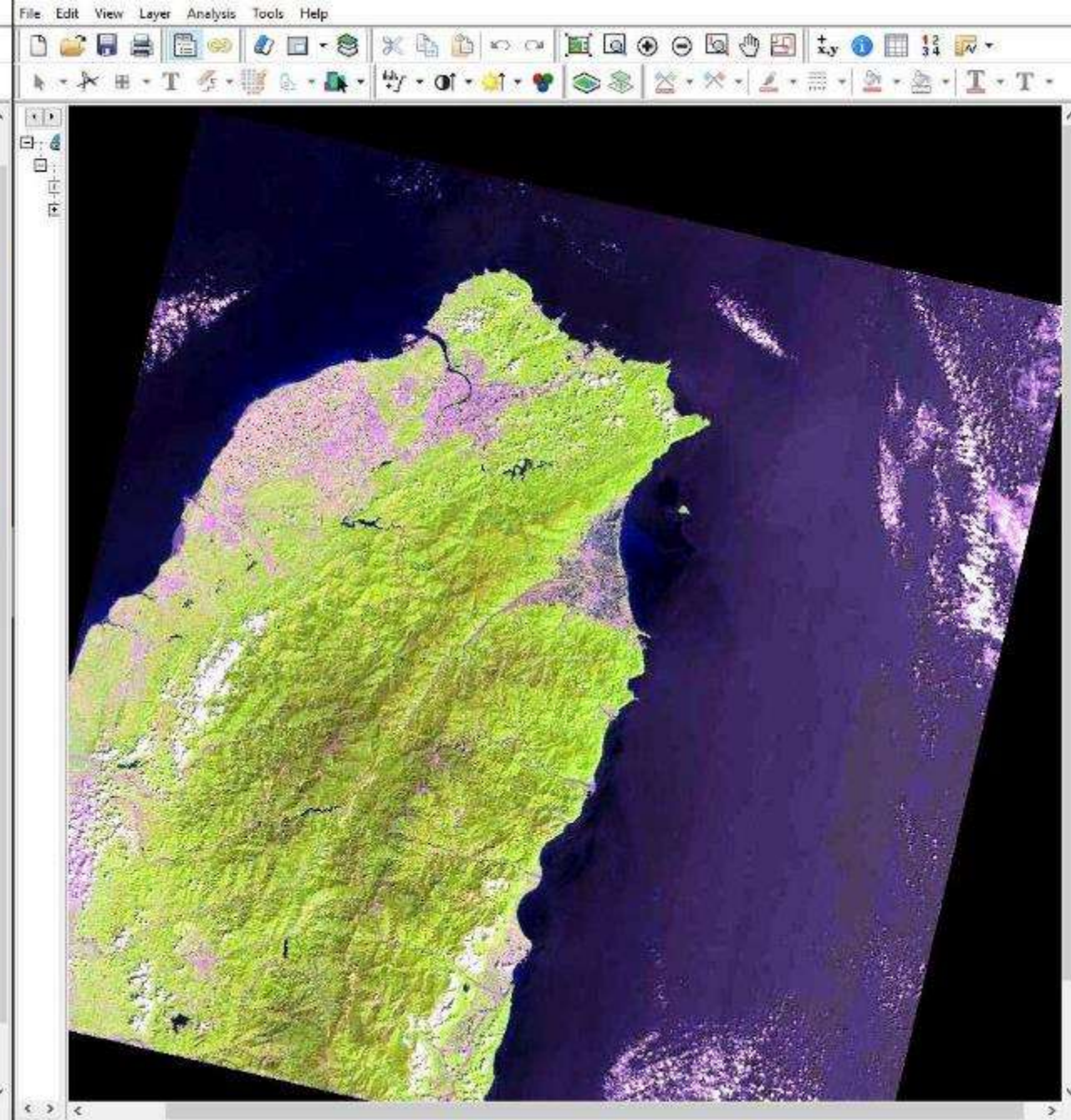
Landsat 1-3 MSS = Bands 7,5,4

Steps for today's lab

1. Determine area of interest
2. Find and download imagery on EarthExplore
3. Put in PowerPoint
4. Write descriptions



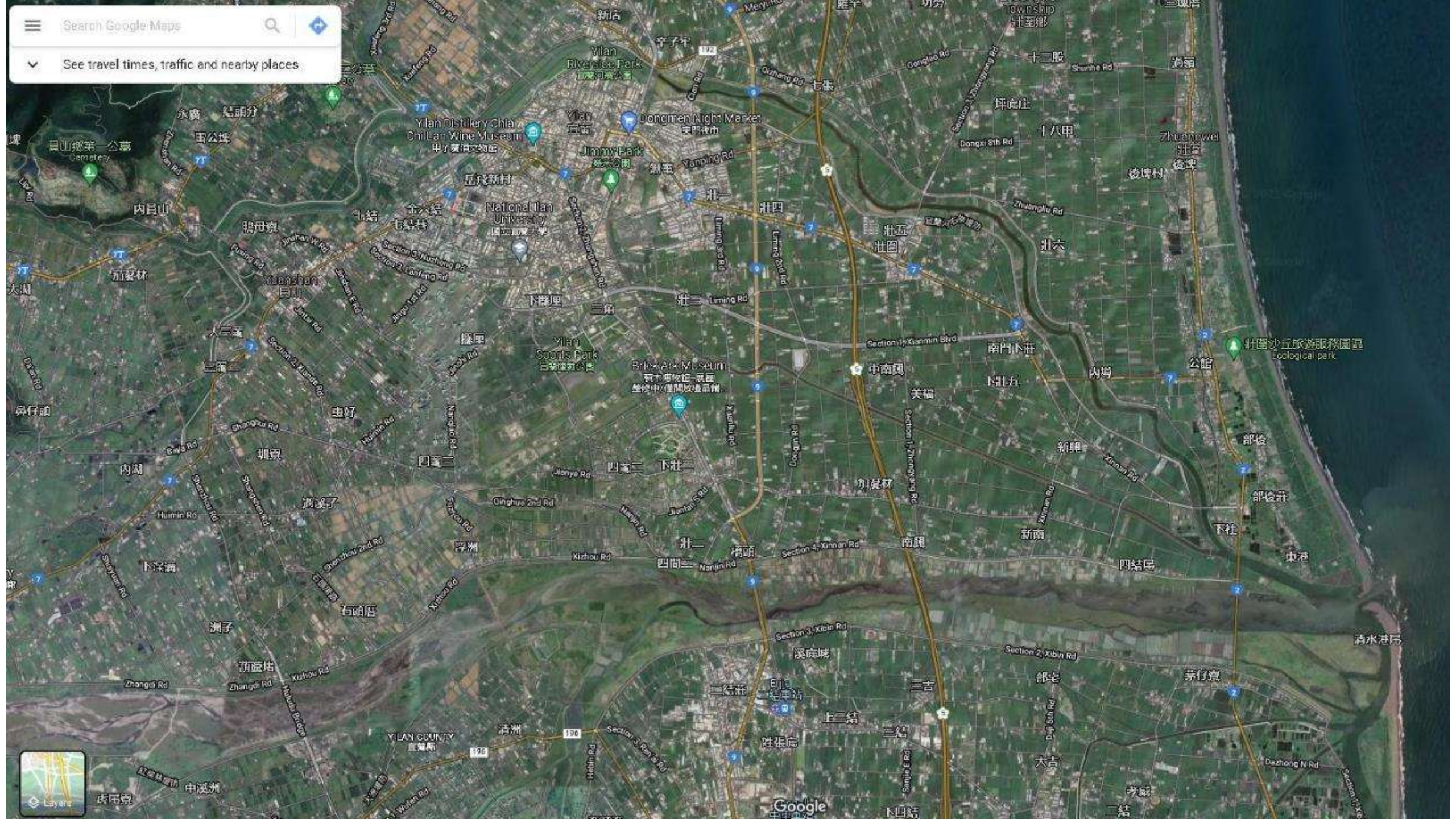
2004 Northern Taiwan Alluvial Fan

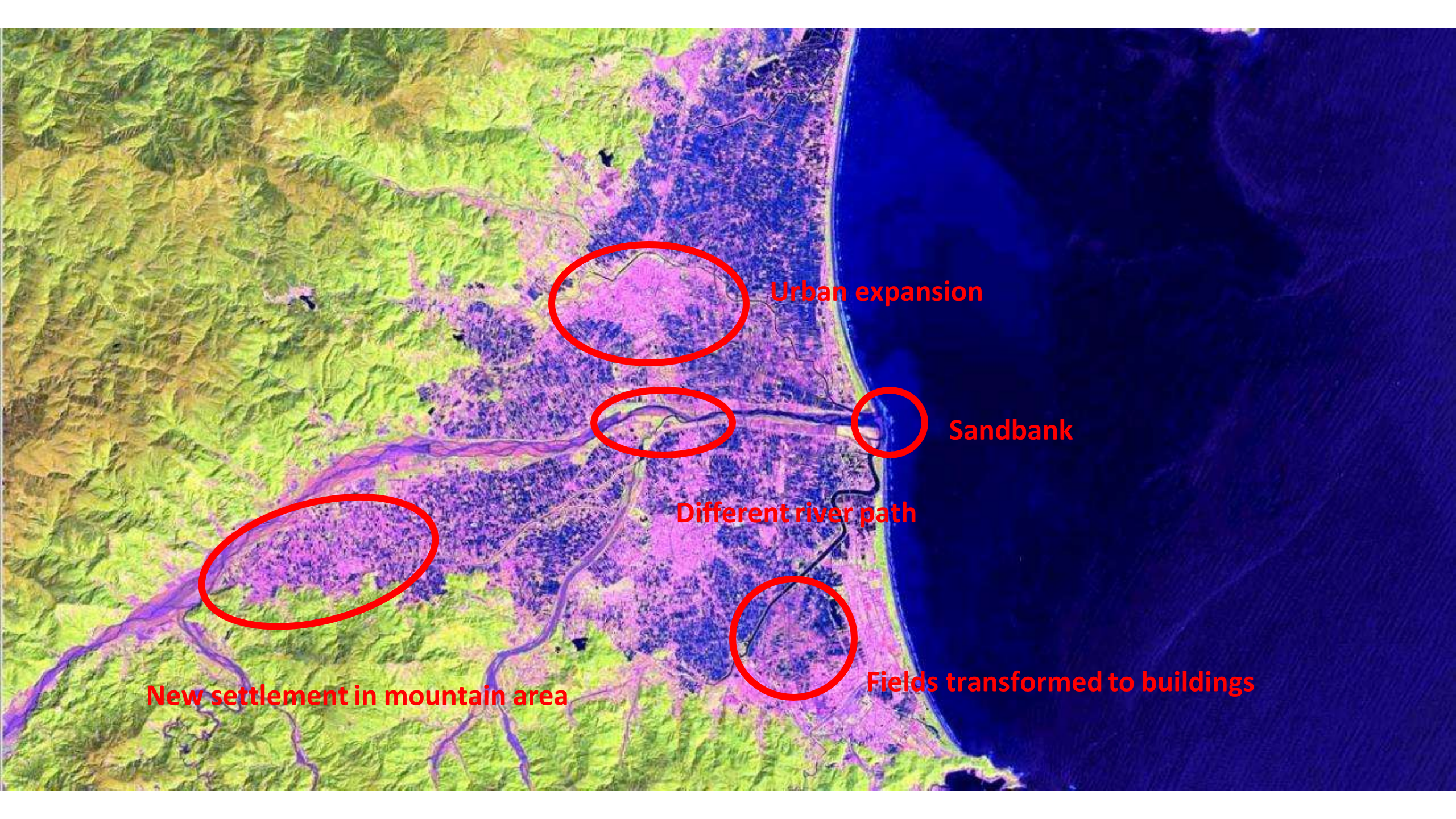


2004 Northern Taiwan Alluvial Fan









Urban expansion

Sandbank

Different river path

Fields transformed to buildings

New settlement in mountain area

Show

- Powerpoint slides for the map comparison
- Description of the products
 - Location
 - Date of two maps
 - Bands of the image that you used
 - At least three difference that you notice (corresponding to the history record if there is one ?)