

Oryzea Sativa Ilham - **2021400007**

Ryufath Alief Adhiyaksa Putera Soepeno - **2021400015**

Ecology: Quiz 1

Wednesday, 8 February 2023

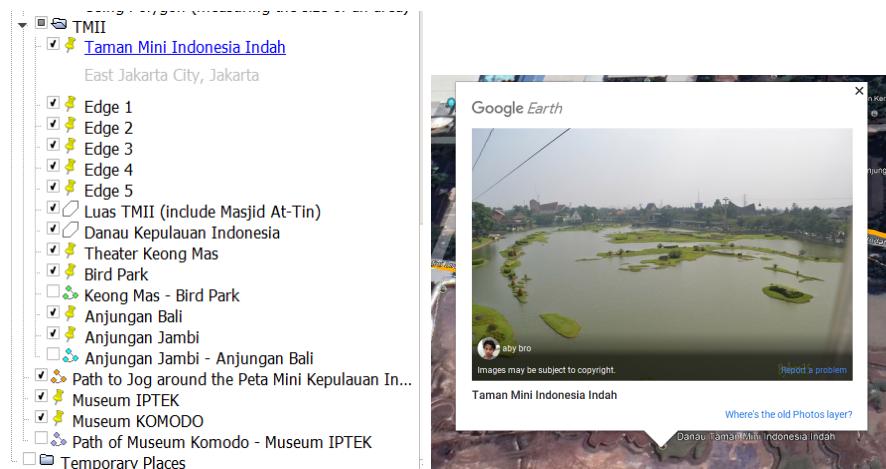
Part 1 Google Earth Pro

Choose a location that you would like to explore in more detail:

Taman Mini Indonesia Indah (TMII)

Task 1: Create a Folder and Layer

1. Create a folder in Google Earth Pro to store all of the data and information related to your study.



Explanation:

- We created five edges to ease us in measuring the size of TMII. By connecting the edges, we can easily pinpoint the location or area of TMII.
- We also marked landmarks such as the pavilion or anjungan, museums, and Indonesia Archipelago Lake.
- The three connected dot-like symbols of path feature, which we used to measure the distance between places and create a road path.
- We use layers: photo to obtain pictures of TMII uploaded by the visitors.

Task 2: Measure the Size of an Area

1. Use the measuring tools in Google Earth Pro to determine the size of a specific area in the region you are studying.

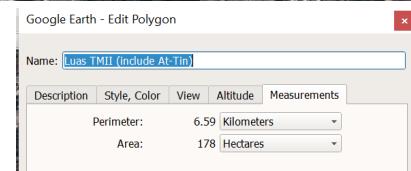
Polygon TMII (including Masjid At-Tin)



Measurement results:

Perimeter : 6.59 Kilometers

Area : 178 Hectares



For comparison, it is similar to the map provided on Wikimedia:

https://commons.wikimedia.org/wiki/File:Taman_Mini_Indonesia_Map_id.svg

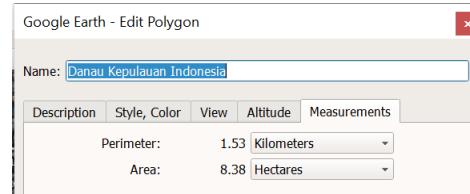


Polygon Peta Mini Kepulauan Indonesia



Measurement results:

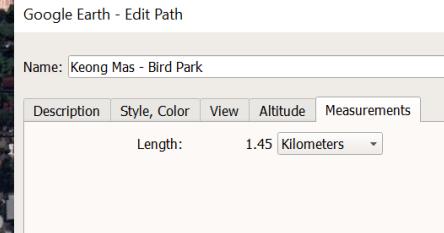
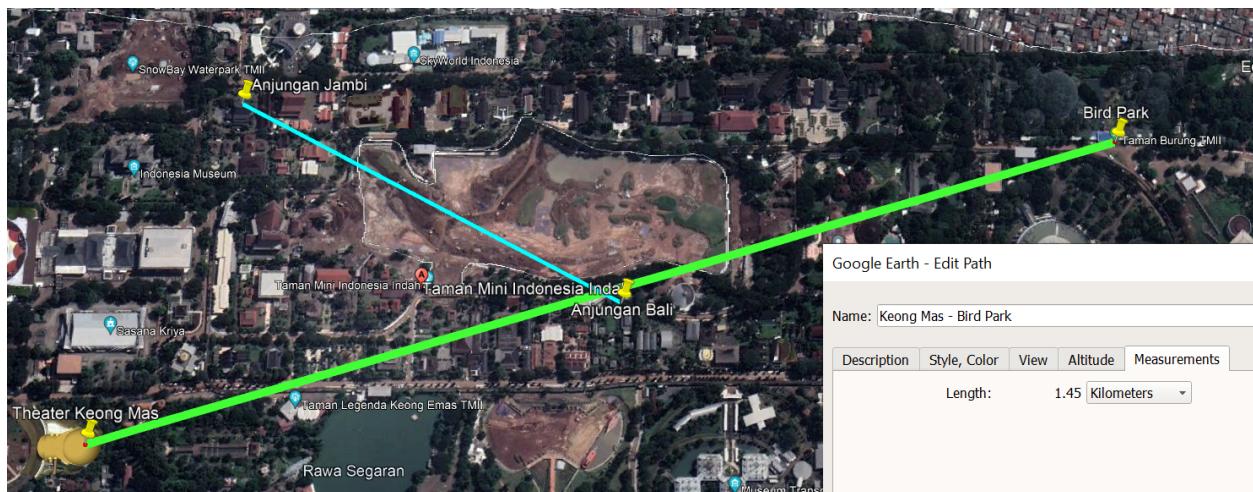
Perimeter : 6.59 Kilometers
Area : 178 Hectares



Task 3: Measure the Distance between Locations

1. Use the measuring tools in Google Earth Pro to determine the distance between two specific locations in the region you are studying.

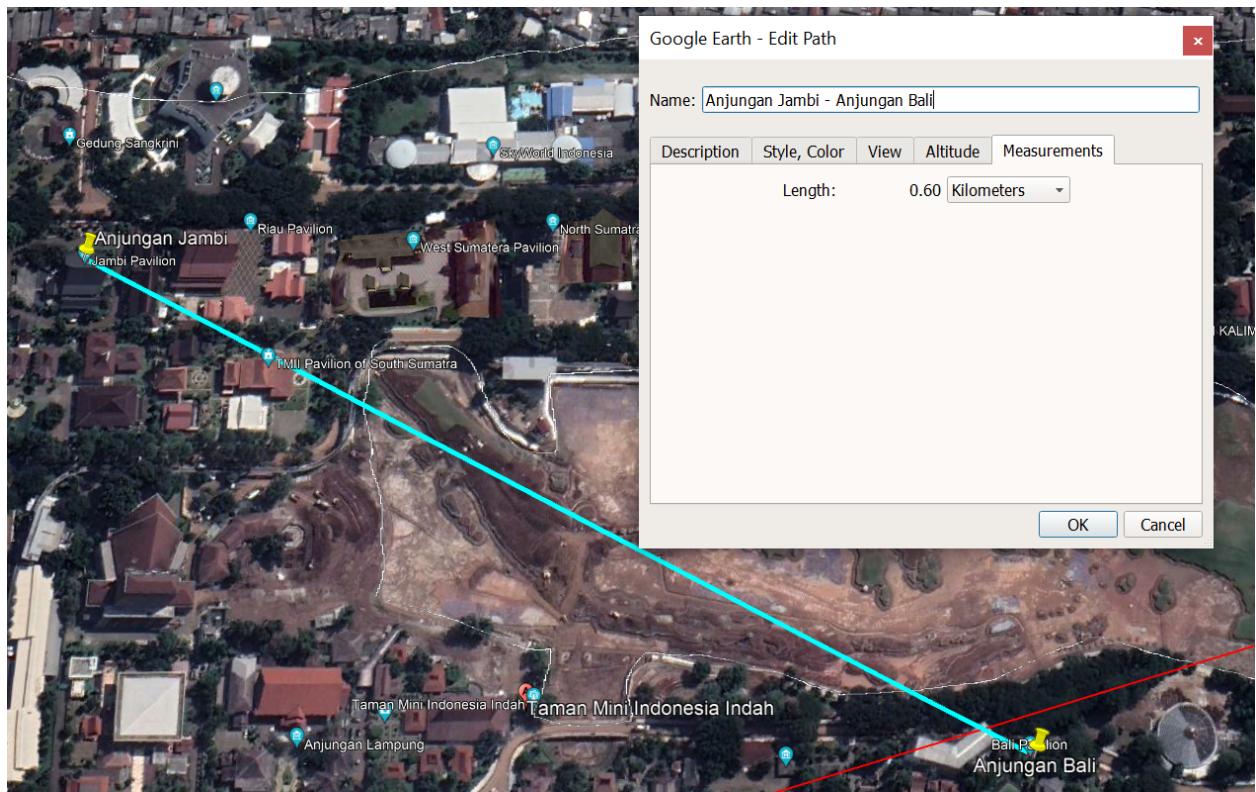
Using a line (ruler) to measure the distance between **Keong Mas** and **Bird Park**



Measurement result:

Length : 1.45 Kilometers

Using a line (ruler) to measure the distance between **Anjungan Jambi** dan **Anjungan Bali**

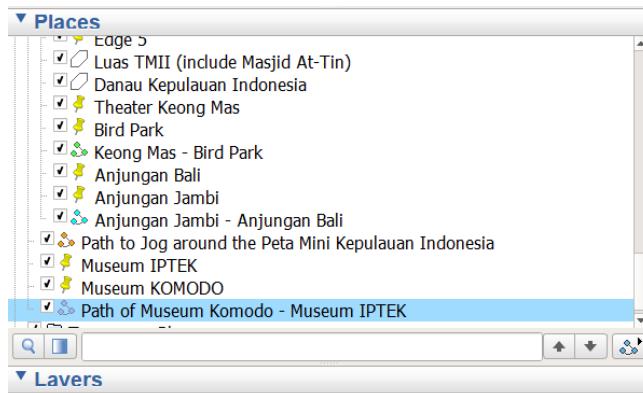


Measurement result:

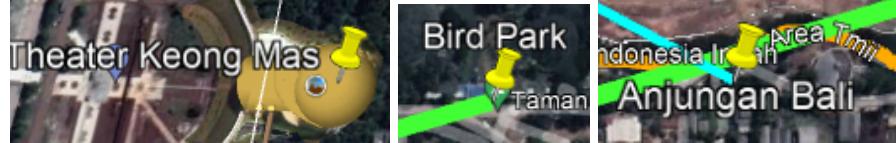
Length: 0.60 Kilometers

Task 4: Mark a Location

1. Use the placemarks tool in Google Earth Pro to mark the location of a specific point of interest in the region you are studying.



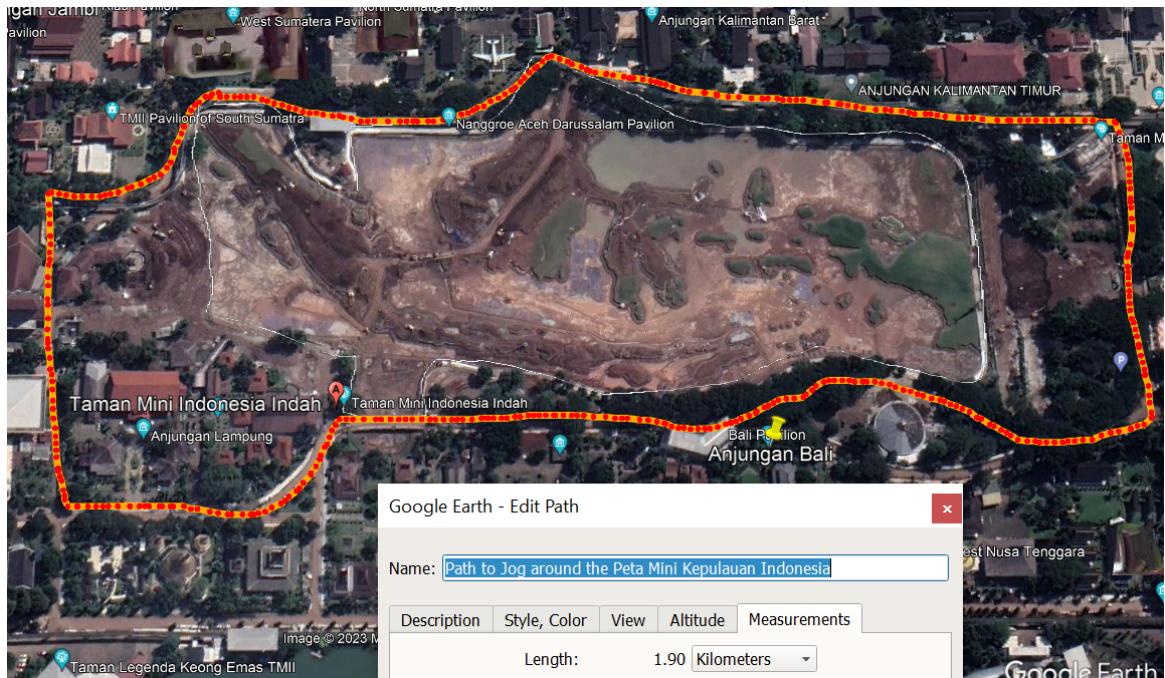
- The placemarks are represented using the yellow pin. We created several placemarks to do measurements. For example, when we tried to measure the distance between the farthest landmarks, Keong Mas theater and Bird Park, we used placemarks to distinguish those places. Thus, we can see and measure places in TMII using a bird's view.



Task 5: Create Route Paths

1. Use the path tool in Google Earth Pro to create a route connecting two or more locations in the region you are studying.

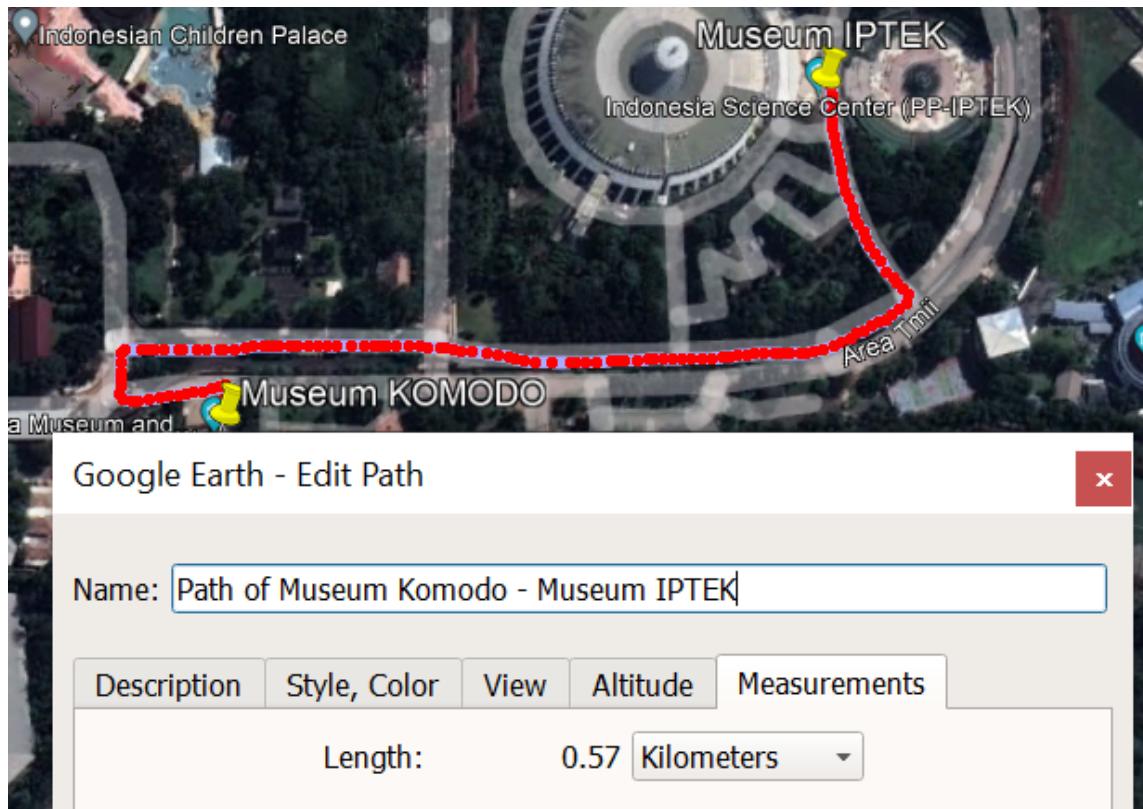
Path to jog around **Peta Mini Kepulauan Indonesia**



Measurement result:

Length: 0.60 Kilometers

The path from Museum IPTEK to Museum Komodo



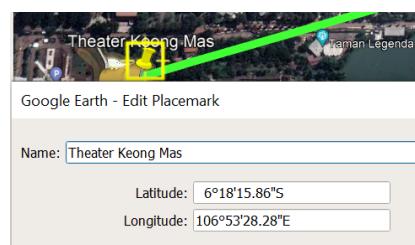
Measurement result:

Length: 0.57 Kilometers

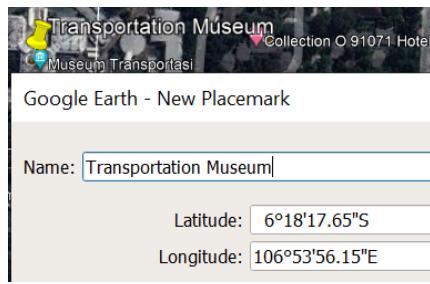
Task 6: Identify the Latitude and Longitude of a Location

1. Use the latitude and longitude tools in Google Earth Pro to determine the coordinates of a specific location in the region you are studying.

Latitude and Longitude of Theater Keong Mas



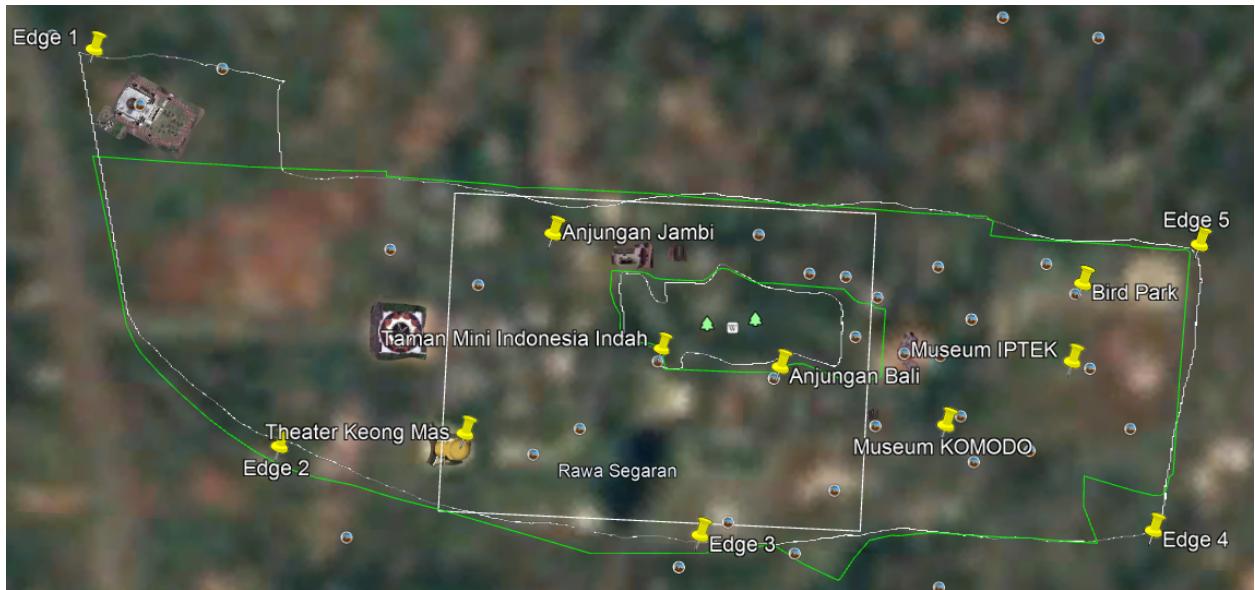
Latitude and Longitude of Transportation Museum



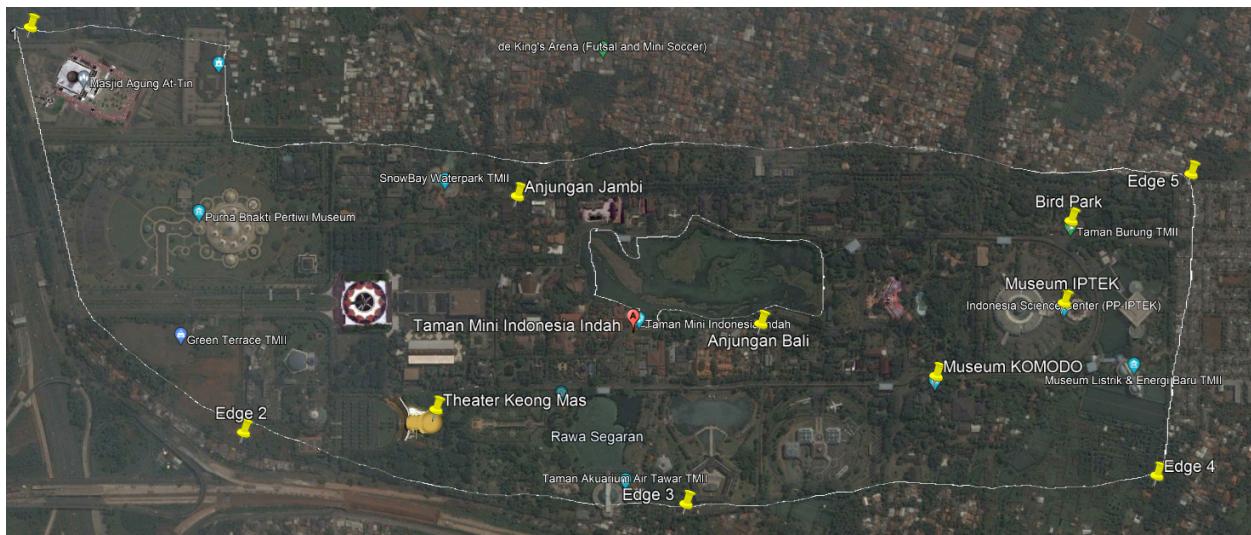
Task 7: Landscape changes in many decades

Comparison of TMII in 1985, 2003, and 2020

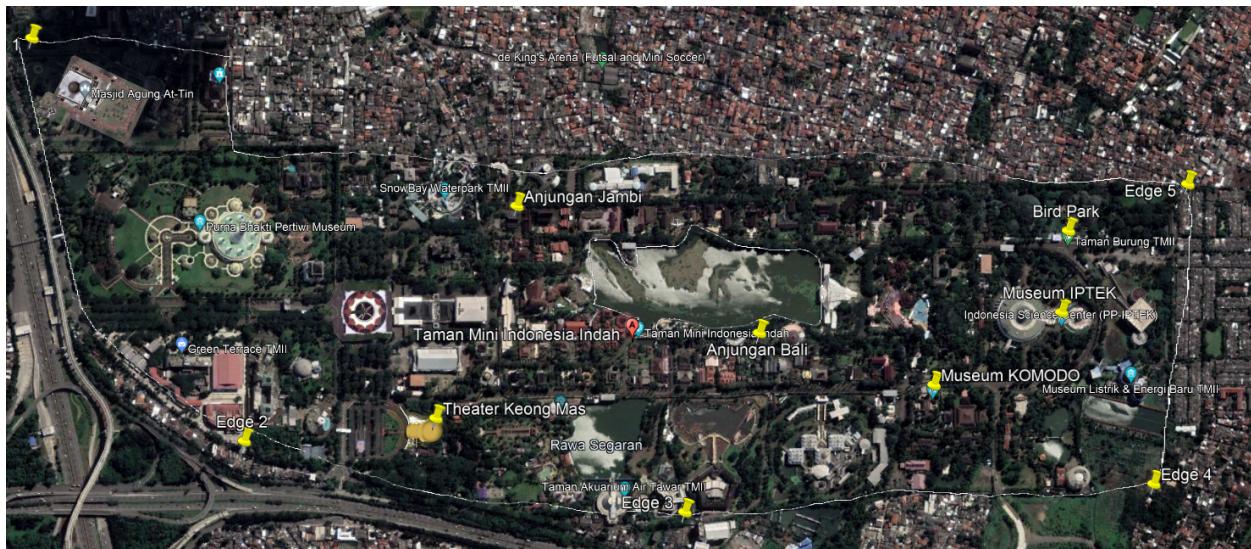
Map from **December 1985** (earliest, it's also blurry in the Google Earth Pro.)



Map from May 2003:



Map from May 2020



Analysis:

- Through the years, TMII has been frequently renovated. In 2003, the color looked dull and dominantly green. Meanwhile, photos in 2020 are more colorful and look alive, especially the combination of the red from the roofs of buildings and the green of the trees. What is striking is the difference in the Indonesian Archipelago Lakes. In 2003, the formation was visible, but it seemed arid. Meanwhile, in 2020, the shape looks very clear, and the details are neat. Because technology is increasingly sophisticated, the tourist complex looks lively and varied.

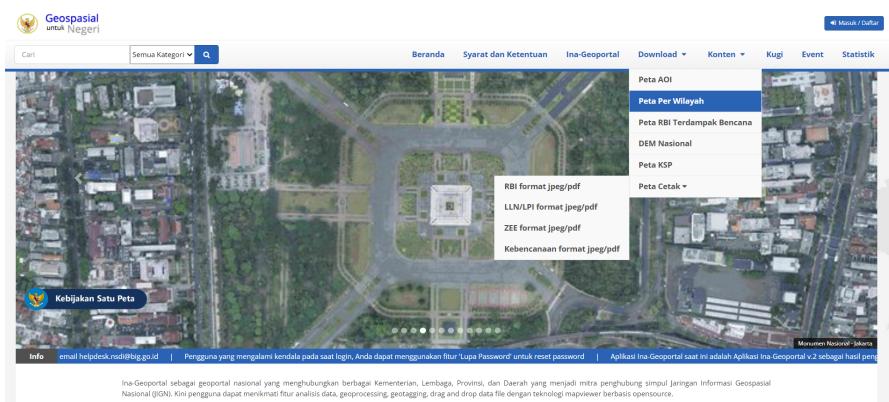
Part 2 QGIS

Create geographic information on a specific region:

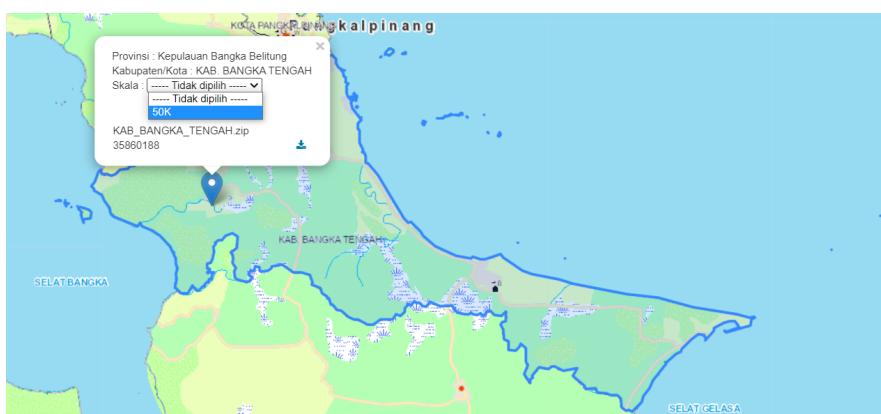
- Latitude
- Longitude
- Legend
- Name of the map
- Map Scale
- Compas Rose

1. Choose the island and download it from “Geospasial Untuk Negeri”:

1. To download, visit this website: <https://tanahair.indonesia.go.id/portal-web>
2. Download from “Peta per Wilayah” tab [Note: You would need to create an account first to resume the download]



3. Right Click the Island you want to download its data, click the box button, and select 50K

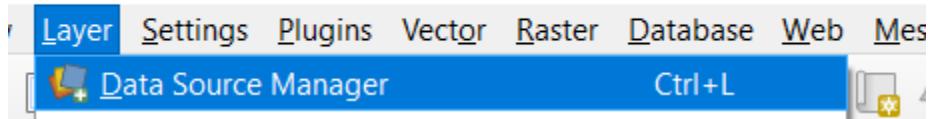


4. Extract it from the zip folder

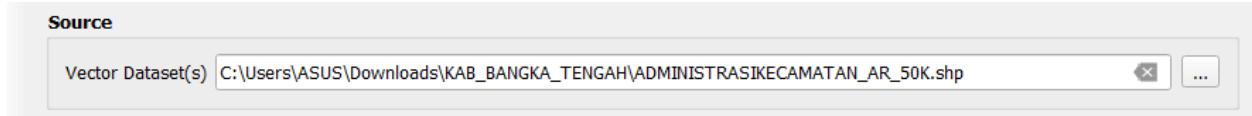
2. Show Map of the island you choose, by choosing an administration.shp file

1. Go to Data Source Manager

— QGIS



2. Click the File Button

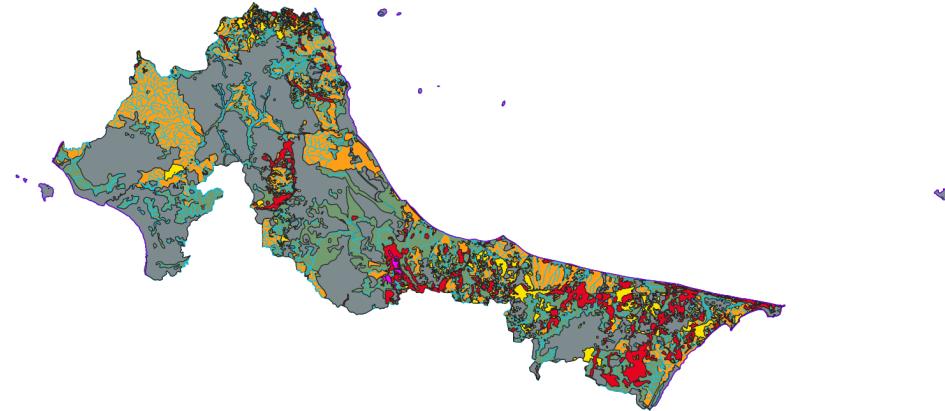


3. Choose SHP file

For the island, we chose **Central Bangka, Bangka Islands**



3. Add other distinctive details for the map



The details we chose are:

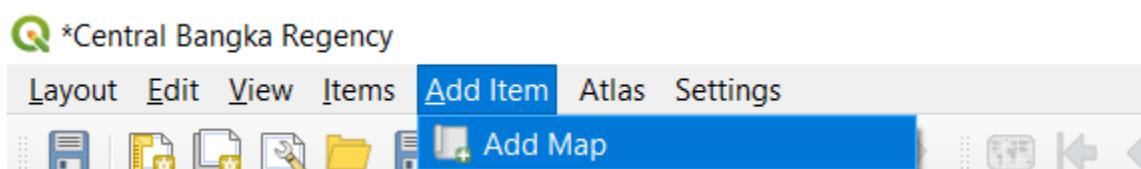
- AgriKebun (Agricultural Garden) [Orange]
- AgriLadang (Agricultural Fields) [Yellow]
- Most Popular Agricultural Production in Central Bangka is Pepper Farm
- AgriAlang (Agricultural Sedge) [Red]
- Hutan Kering (Dry Forests) [Grey]
- Garis Pantai [Purple-Blue lines]
- Danau (Lake) [Pink]
- The biggest lake is Danau Kaolin
- Sungai (Rivers) [Light Blue]

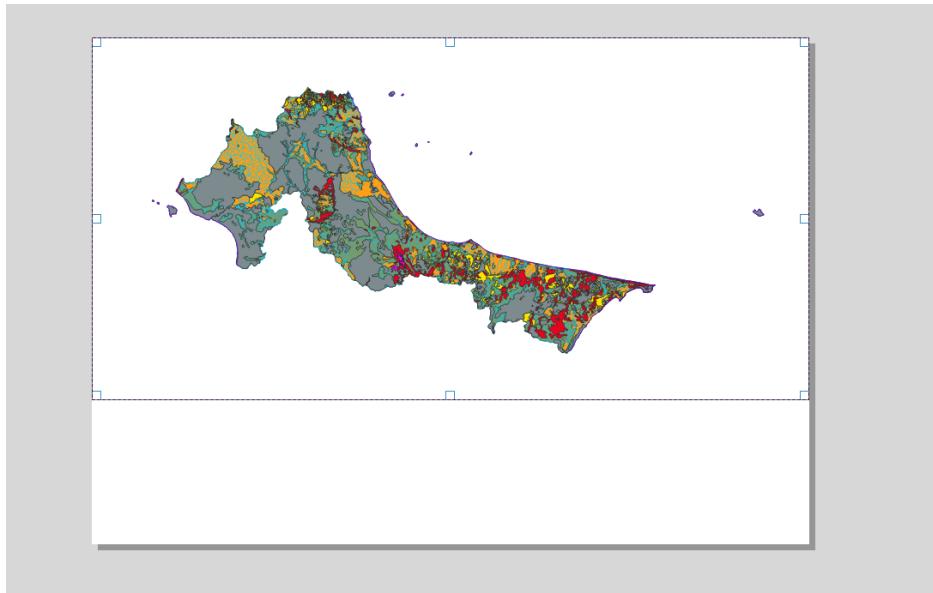
4. Create the map

1. Create Map from Toolbar, by clicking New Print Layout

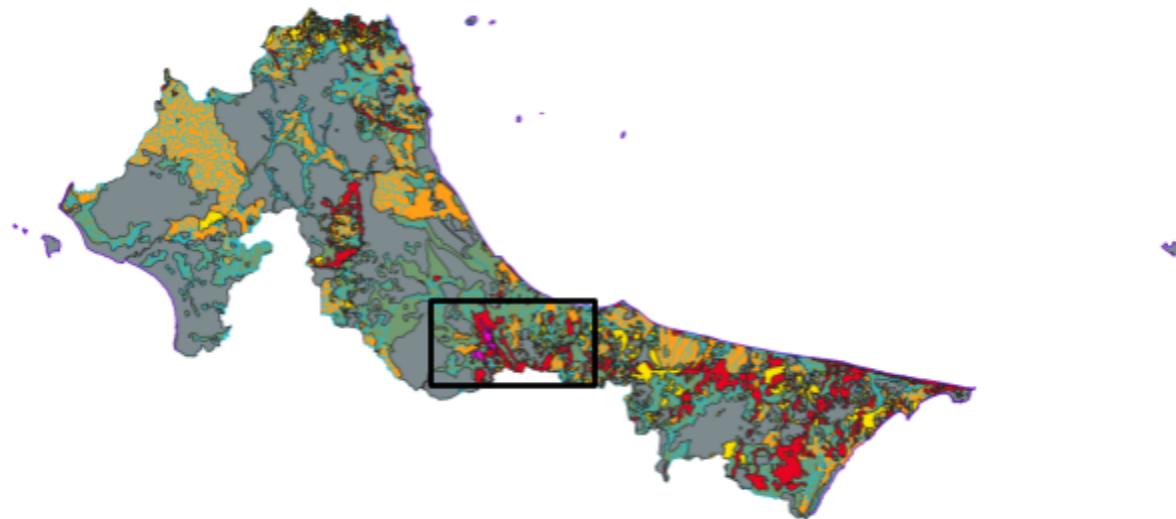


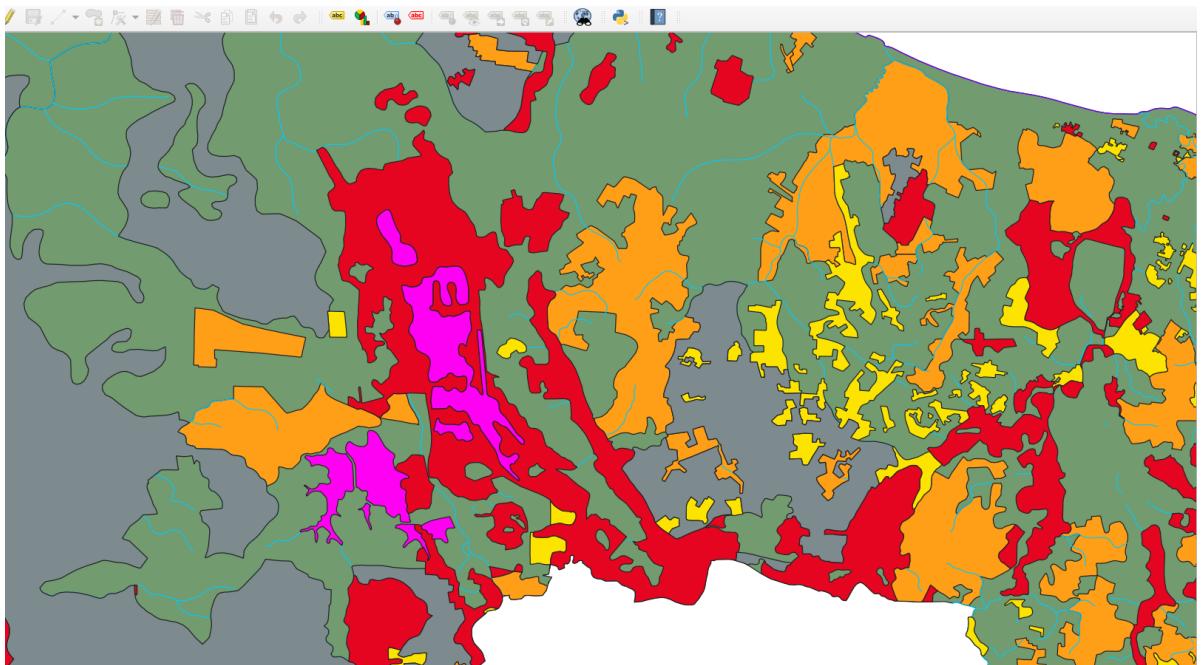
2. On layout, add Map to create a map layout view



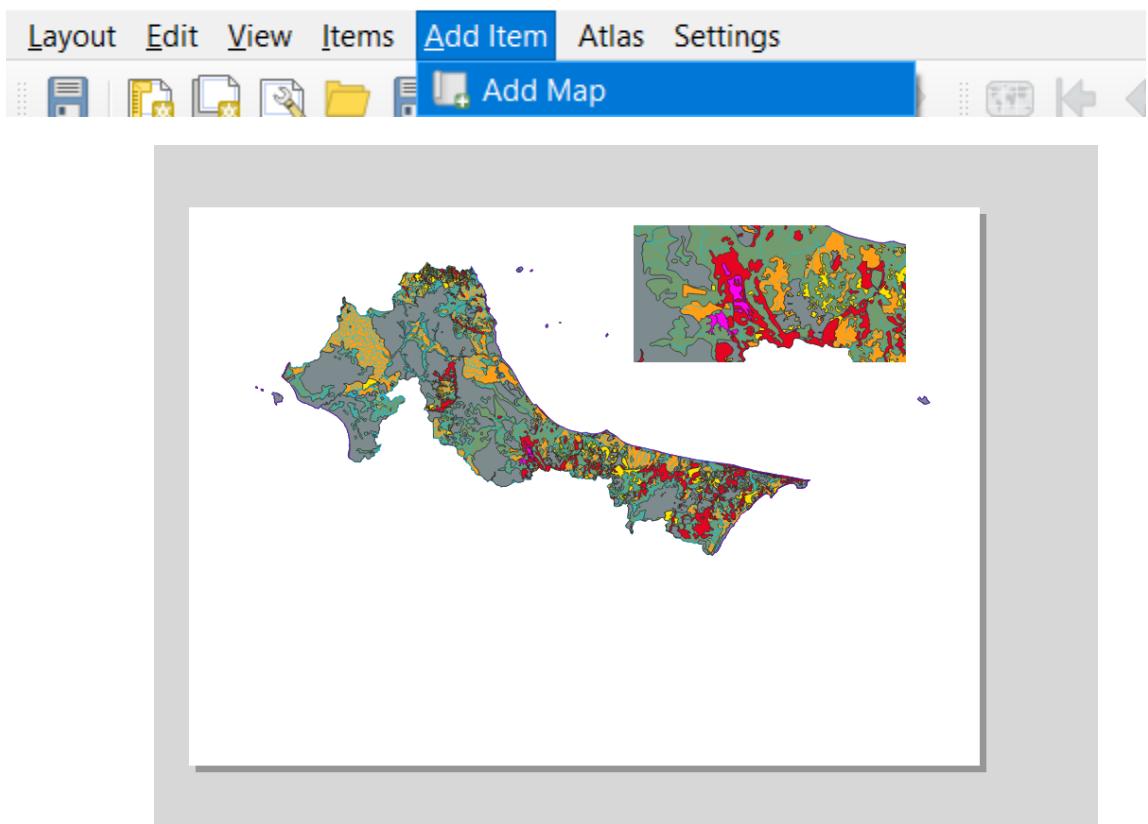


3. Let's say we want to add an inset to the map. First, zoom in the area you want to add an inset, and then add a map for it. [You can edit inset on the items bar on the right]

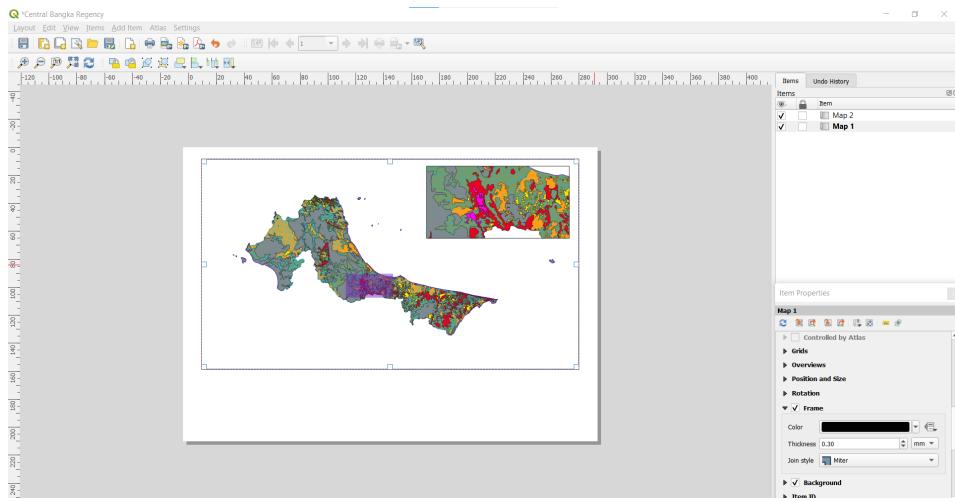




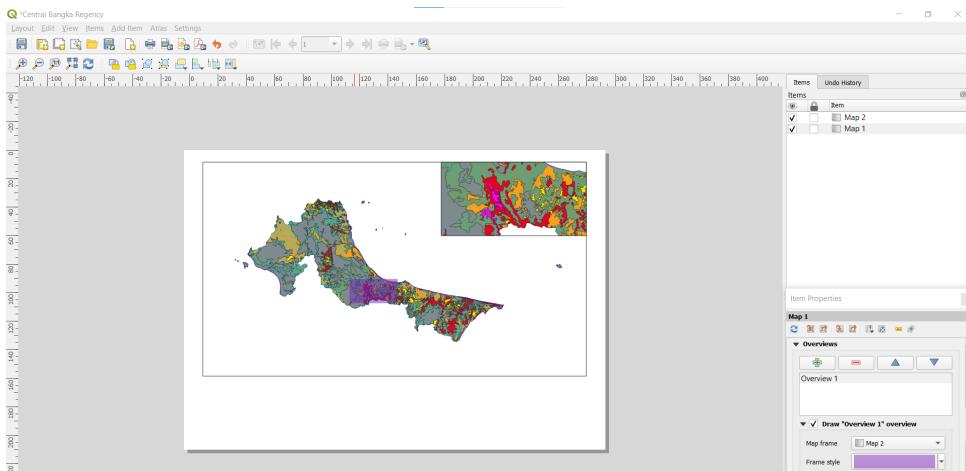
*Central Bangka Regency



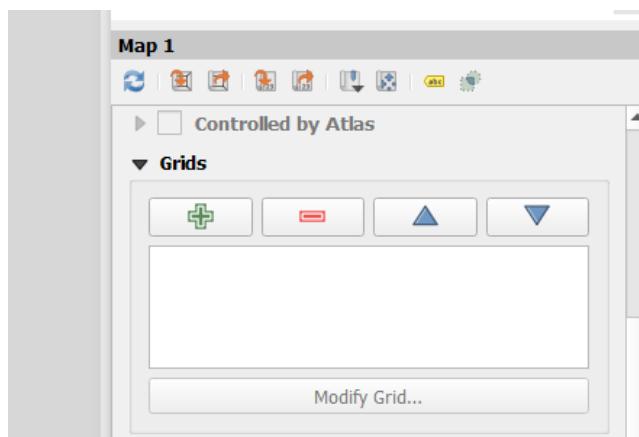
- To Create Frames



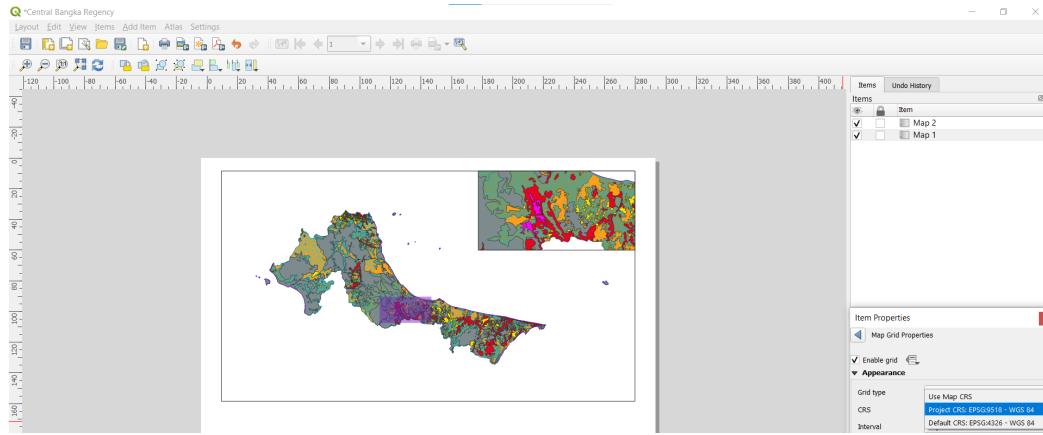
- To Create Inset with details [Purple Rectangle]



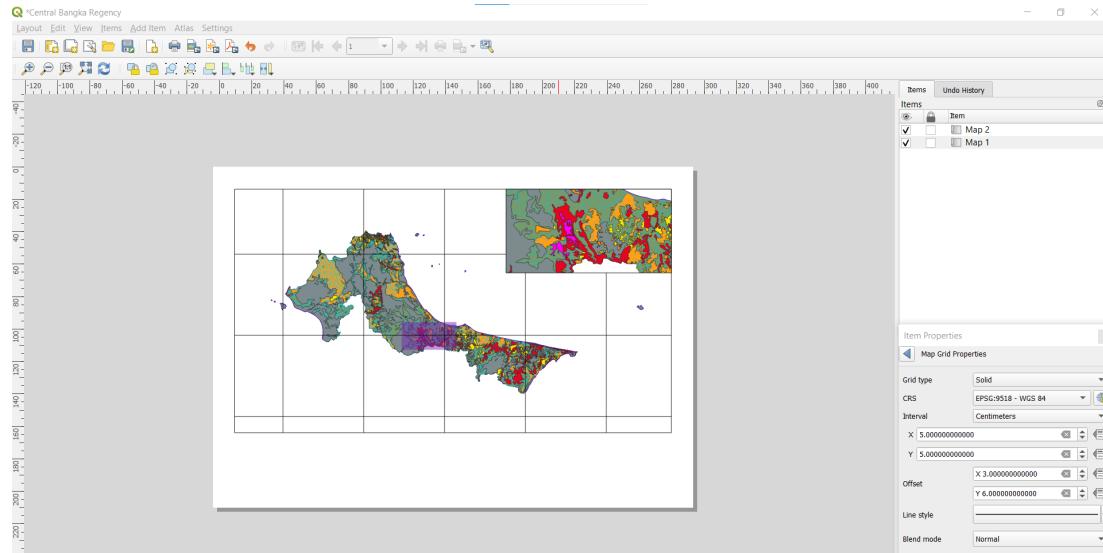
4. Create a grid to know its spherical perspective [Fisheye Effect]



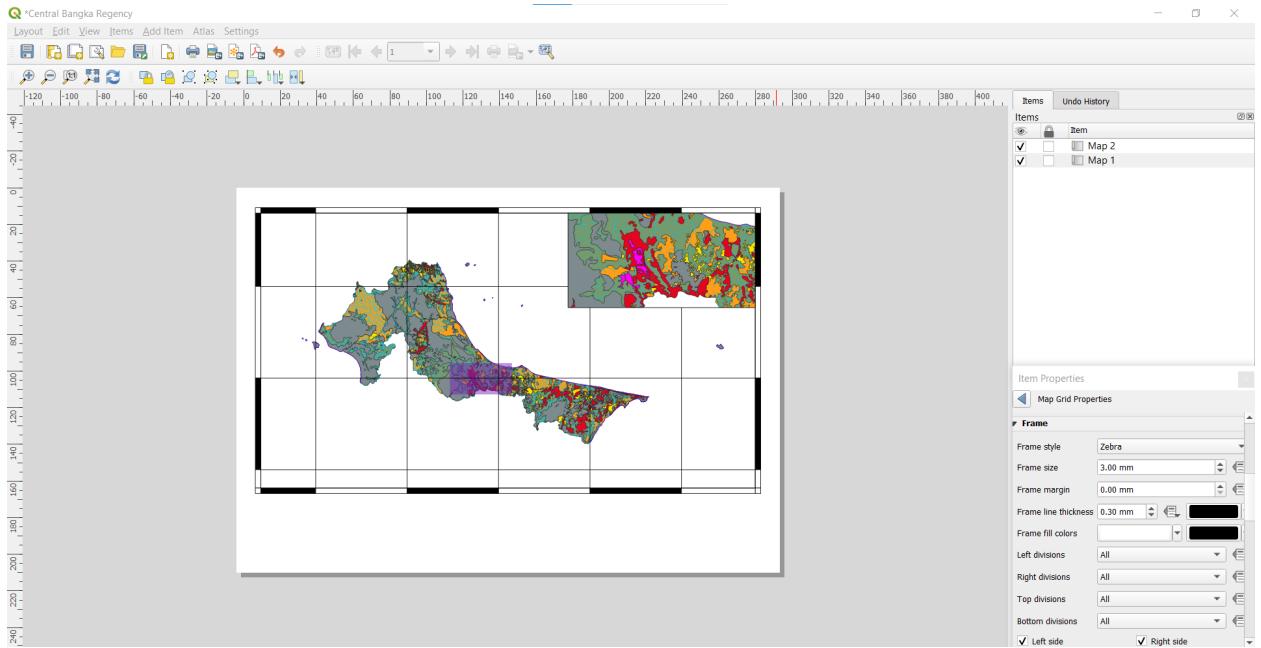
- Set the CRS value [Once you downloaded the file from geospatial, it can automatically set the CRS based from the project you made on QGIS]



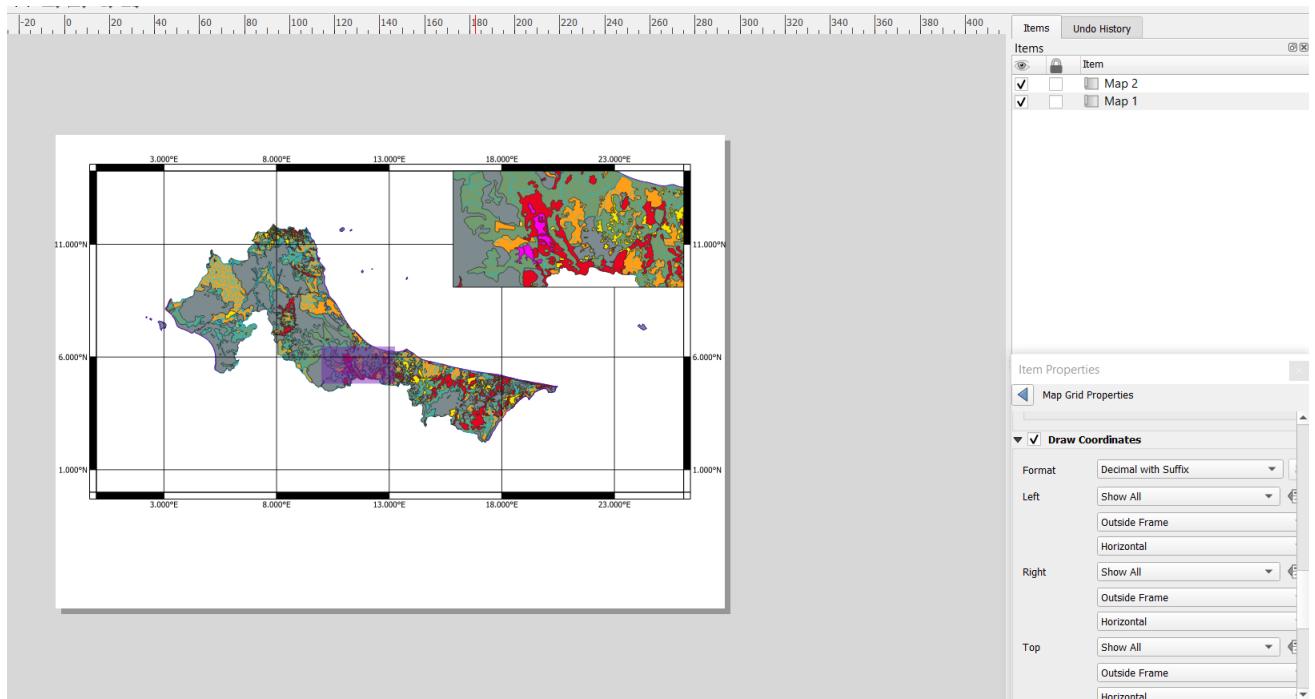
- Edit the grids after [Lines will appear only if you find the right coordinates]



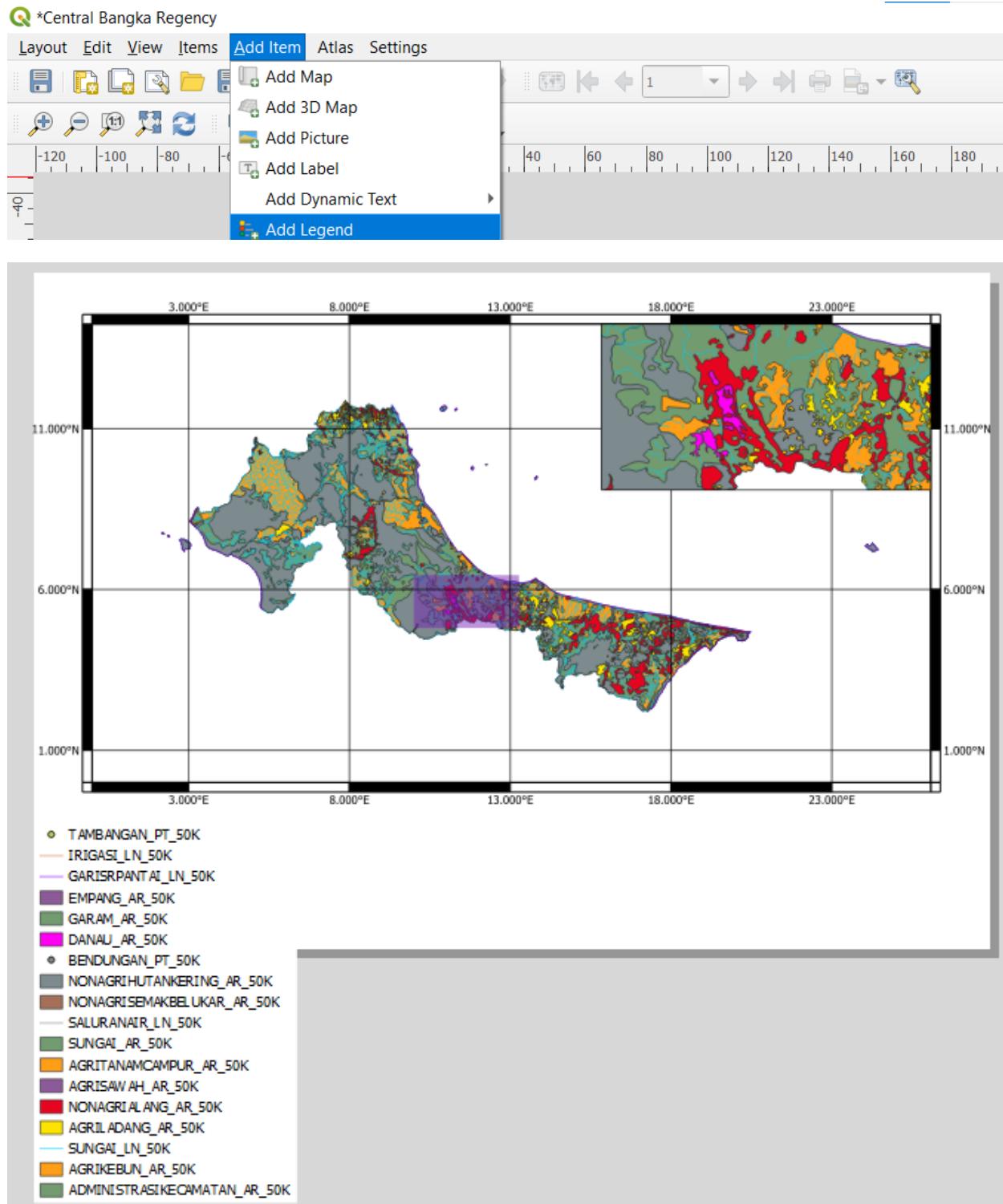
5. Create a filter to make it more map-like



6. Use Coordinates on Grid to create Latitude and Longitude (in here, we use decimal measurement)



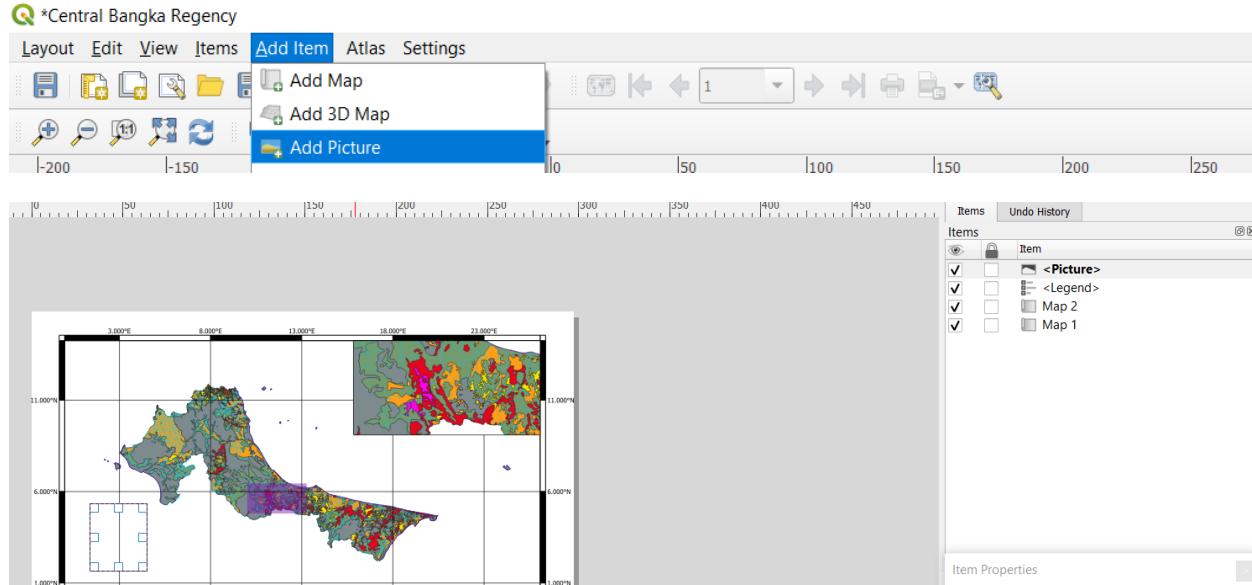
7. Add Legend



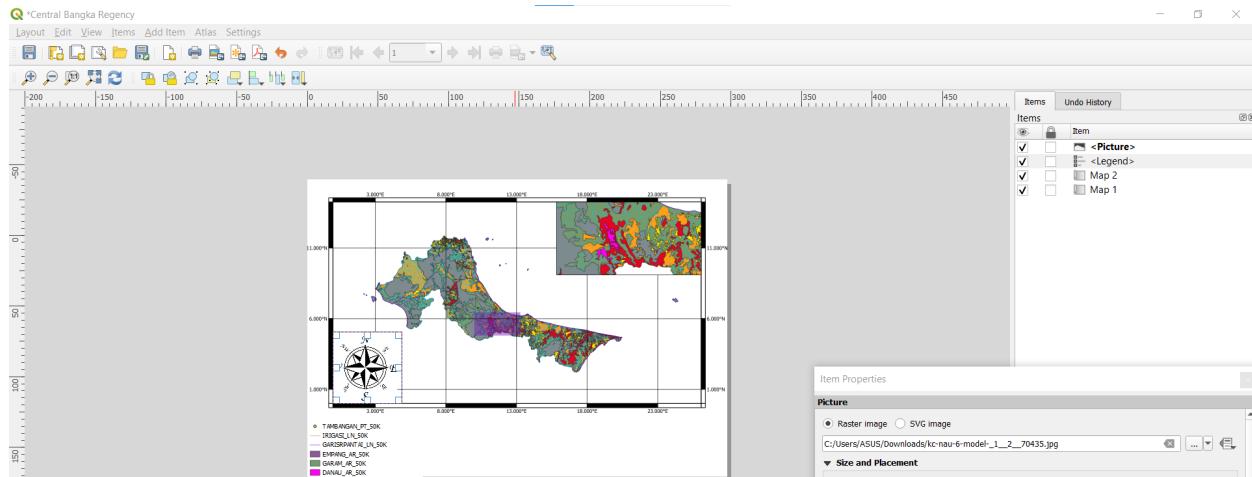
Note: For the legend, they cannot fit the map, and reducing map size would make it hard for the viewers to read so it had to be made that way

8. Add a Compass Rose to the map

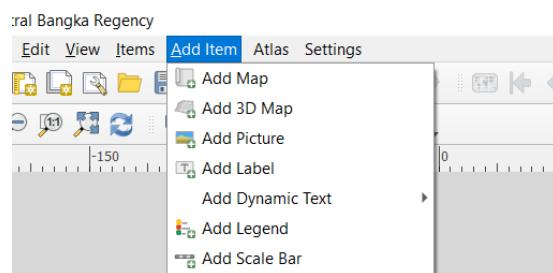
- First, Add Picture

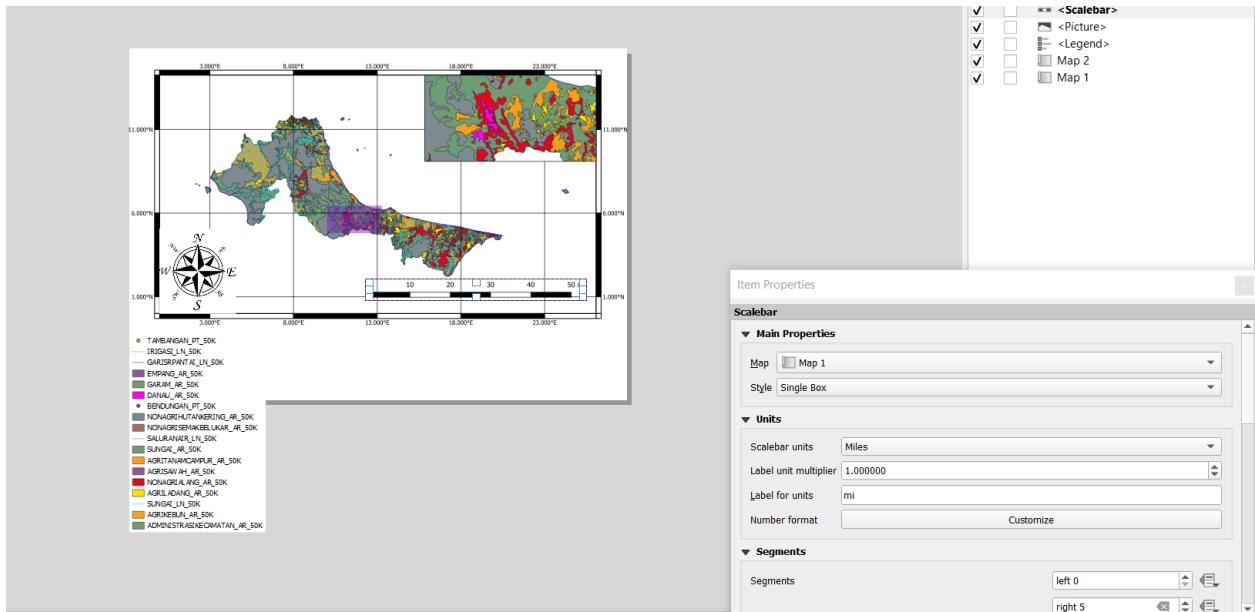


- Find Rose Compass [SVG image] or upload your own [Raster Image]



9. Add Scalebar to the Map





10. Add the name of the Map using Label

The screenshot shows the ArcGIS Pro ribbon with the 'Add Label' button selected. The map view shows the same Central Bangka Regency map as before. The Item Properties panel on the right shows a label item has been added, labeled 'Map of Central Bangka, Bangka Islands'.

11. Save and Print the Map

