

Pengenalan Asas Kepada GIS (Geographical Information System)

Sistem Maklumat Geografi

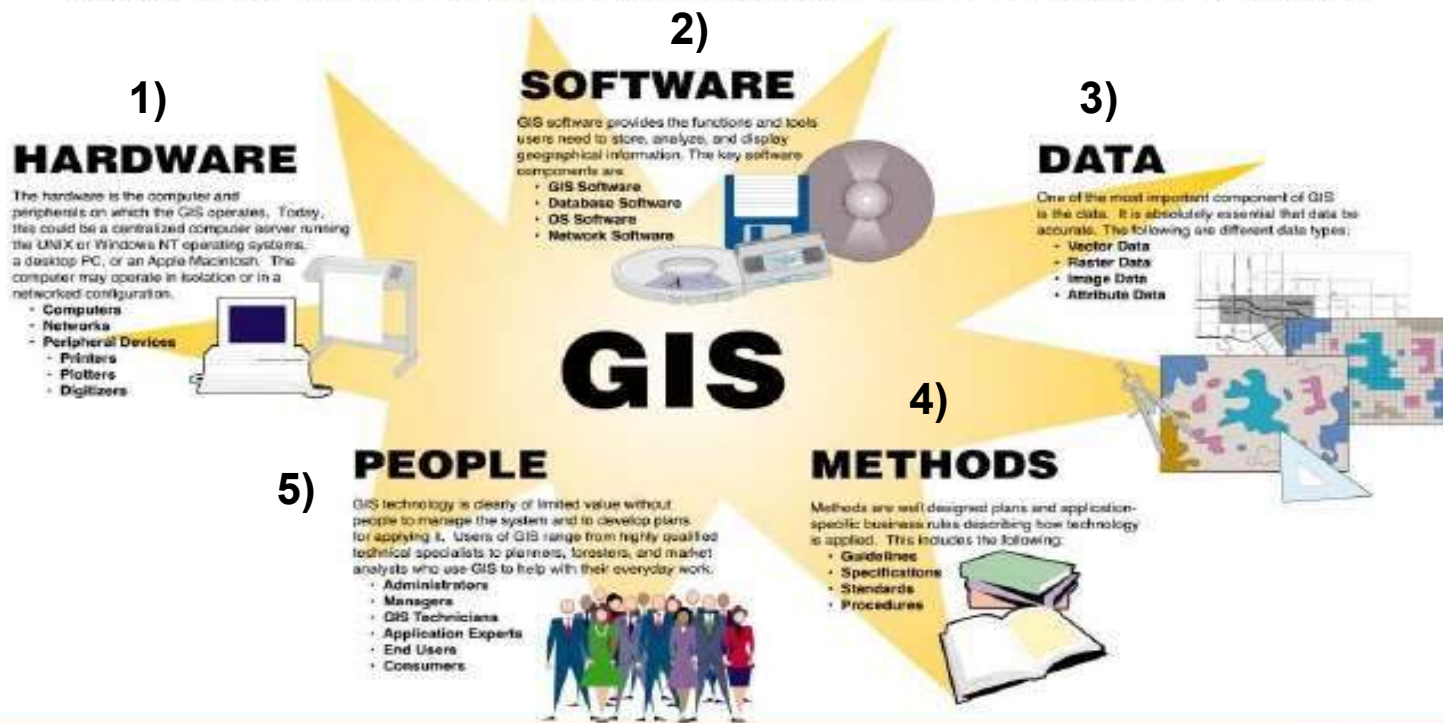


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GIS Components

A Geographic Information System (GIS) links locational (spatial) and database (tabular) information and enables a person to visualize patterns, relationships, and trends. This process gives an entirely new perspective to data analysis that cannot be seen in a table or list format. The five components of a GIS are listed below.



Applikasi yang digunakan dalam penghasilan peta digital :-



ArcGIS Desktop components

2D map

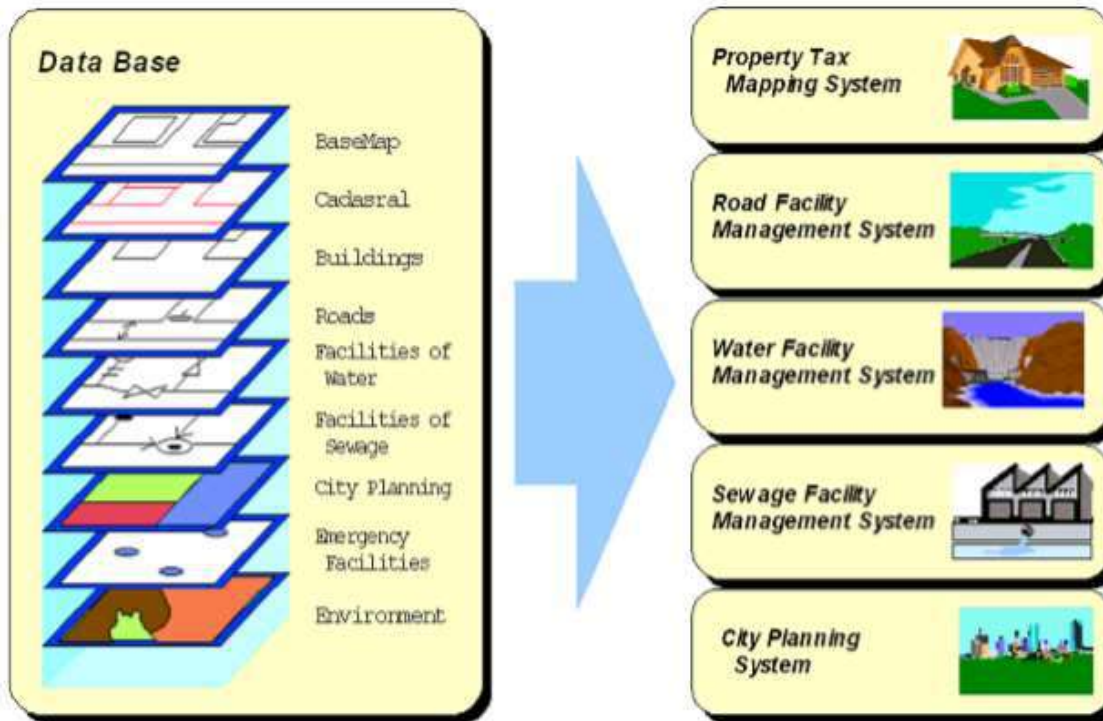


3D map



- ArcGIS
- ArcCatalog 10.1
- ArcGIS Administrator
- ArcGlobe 10.1
- ArcMap 10.1
- ArcScene 10.1
- ArcGIS for Desktop Help
- Desktop Tools
- License Manager
- Python 2.7

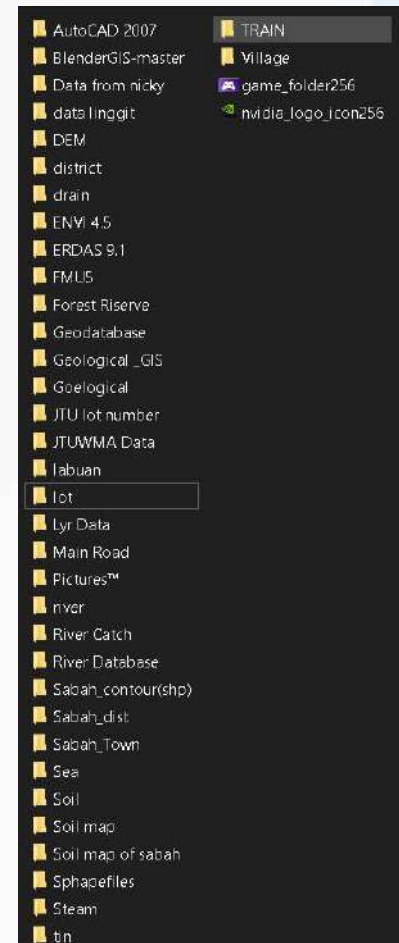
Data :-



Rajah 3. GIS yang digunakan secara meluas dalam pelbagai aktiviti

Diperoleh daripada:

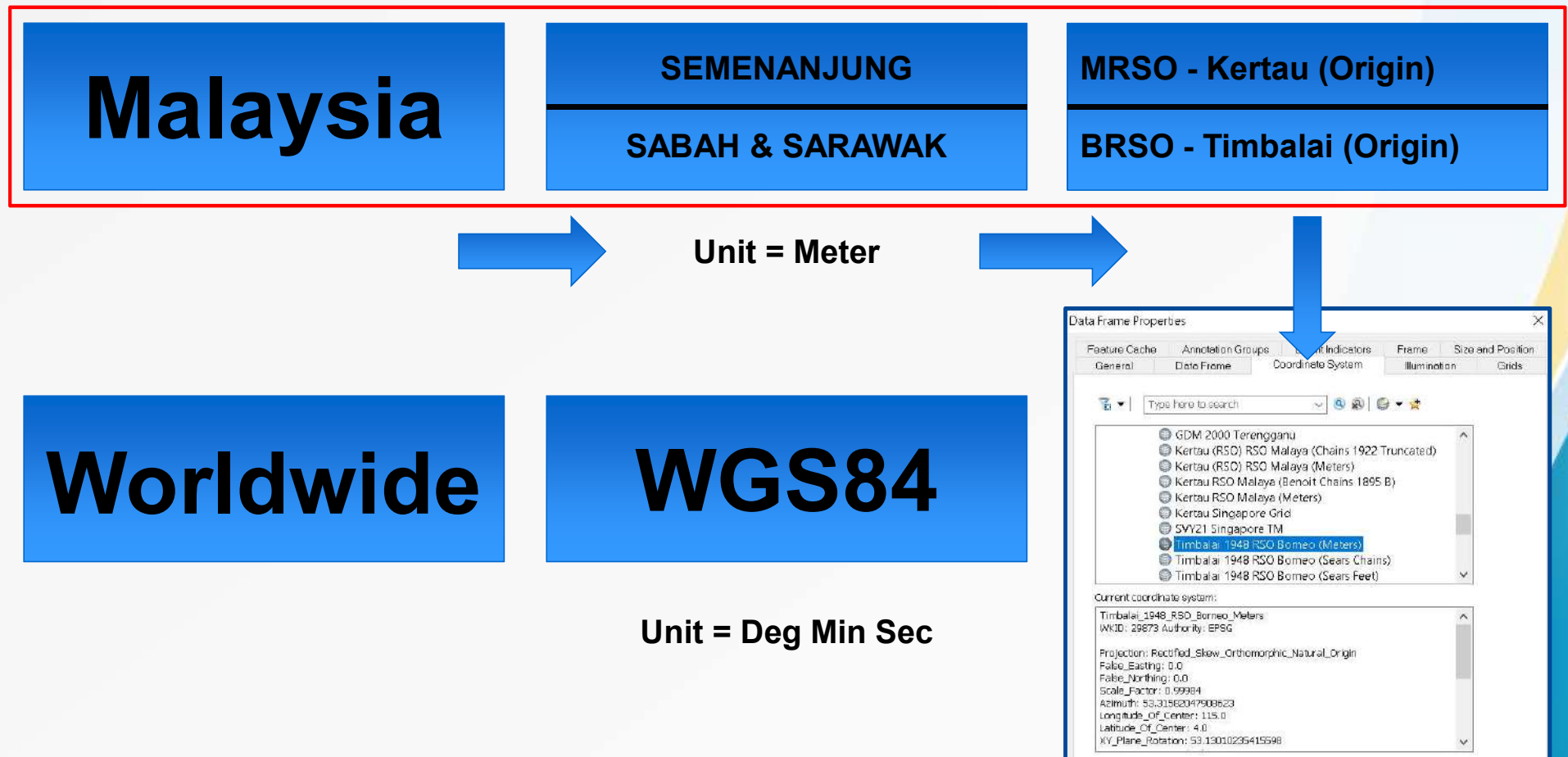
<http://proceedings.esri.com/library/userconf/proc98/proceed/to400/pap363/p363.htm>



Jenis-jenis data yang boleh digunakan :-

- Gambar Satelit/Google Map/Google Earth
- LIDAR
- Drone
- Online sources (Cth: USGS)
- Jabatan-jabatan kerajaan (Cth: Cadastral Lot - JTU, Topografi Map - JUPEM)
- Private Company (Cth: Plantations)
- **Buat Sendiri :-**
 - Digitizing
 - Pemetaan Komuniti/GPS

Kepentingan Memahami Sistem Kordinat :-



Menukar Sistem Kordinat :-

Program GPSCAS, V1.02 - Conversion of Coordinatess for East and West Malaysia

Conversion of Coordinates West Malaysia

- GPS (WGS84) System to Cassini System
- Cassini System to GPS (WGS84) System
- GPS (WGS84) System to RSO System
- RSO System to GPS (WGS84) System
- RSO System to Cassini System
- Cassini System to RSO System
- Geographicals to RSO
- RSO to Geographicals

Conversion of Coordinates East Malaysia

- GPS (WGS84) System to Sabah RSO System
- Sabah RSO System to GPS (WGS84) System
- GPS (WGS84) System to Sarawak RSO System
- Sarawak RSO System to GPS (WGS84) System
- Geographicals to RSO
- RSO to Geographicals

Exit

WGS84 System to RSO System, Sabah

Output unit:
☒ Metres ☐ Links ☐ Chains

Latitude: Deg Min Sec Longitude: Deg Min Sec Height (m)

Compute Close

Conversion of Coordinates from GPS (WGS84) System to RSO System Sabah

WGS84 System			RSO System		Sabah
Latitude	Longitude	Height	Northing	Easting	Unit
6 45 20.00000	117 7 45.00000	0.000	748726.848	824647.016	Metres

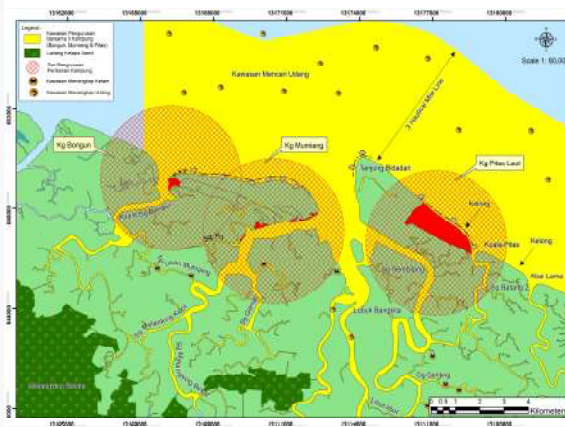
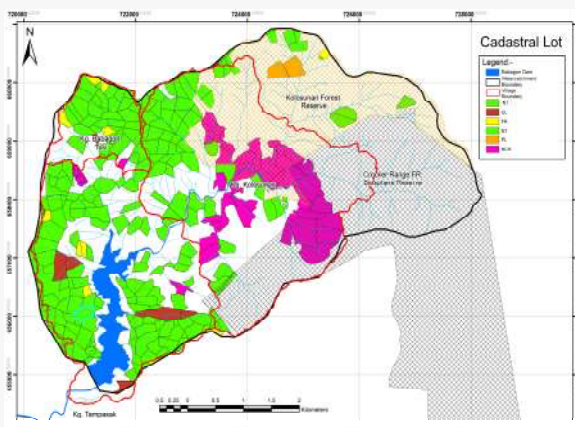
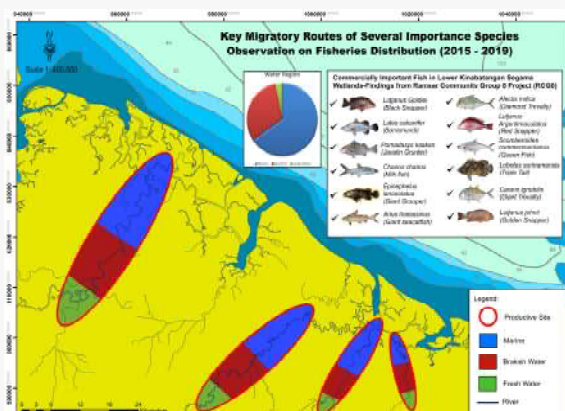
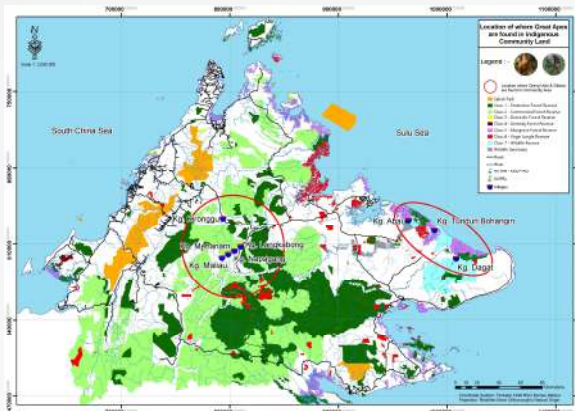
WGS84 - BRSO

2D map

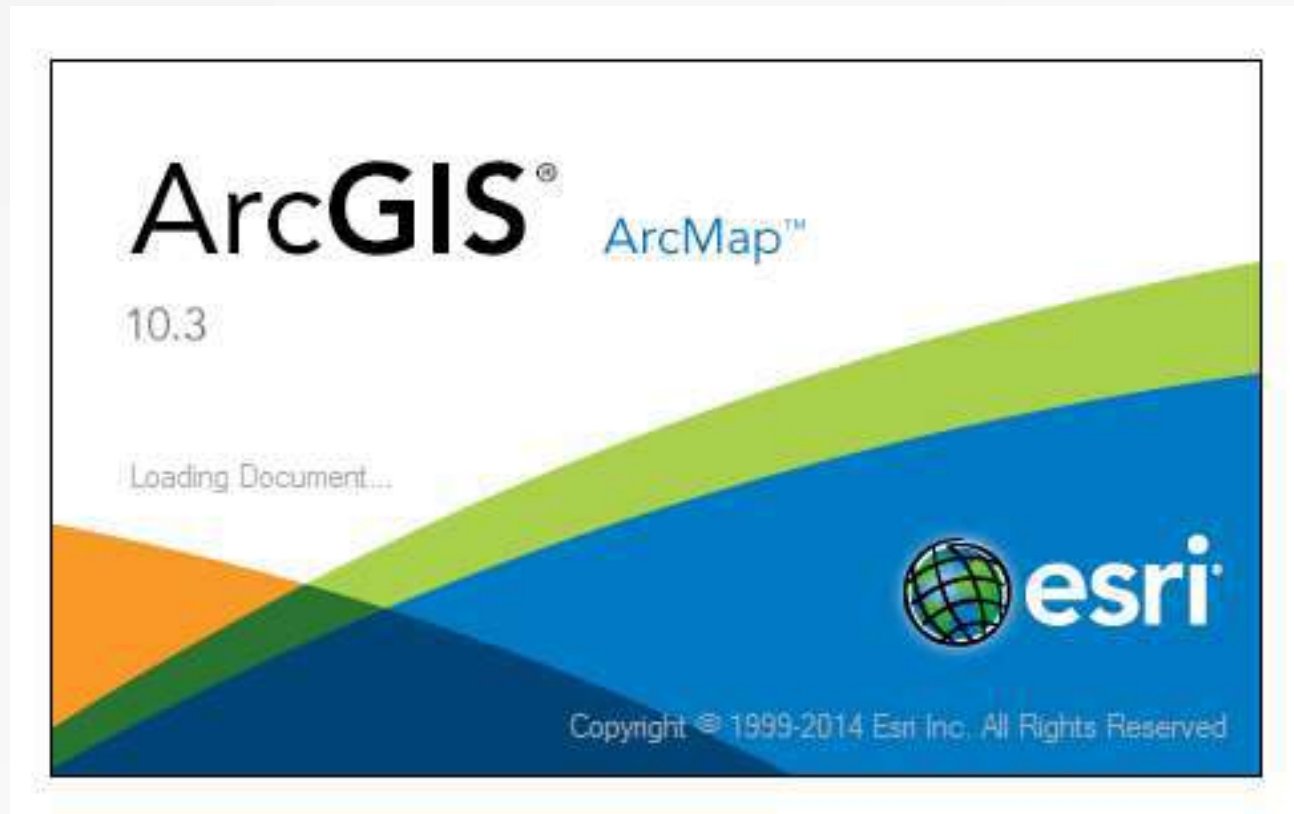
- ❖ x-coordinates
- ❖ y-coordinates

6 Benda yang Perlu ada Didalam Peta :-

- ❖ Tajuk
- ❖ Scale/Sekala
- ❖ Scale Bar
- ❖ Garis Grid/Kordinat
- ❖ Arah Utara
- ❖ Legend/Penunjuk
- ❖ Gambar jika perlu***

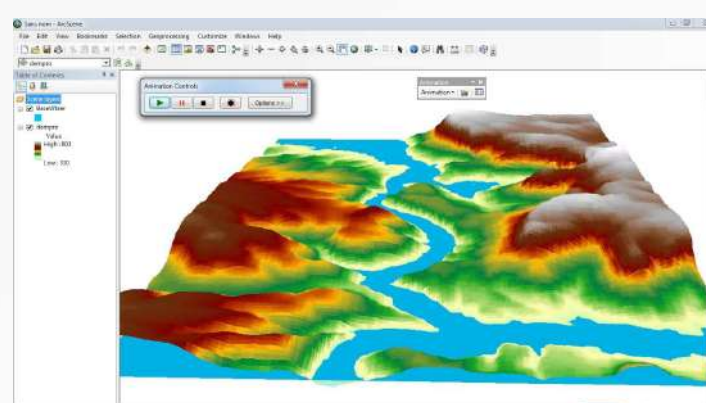
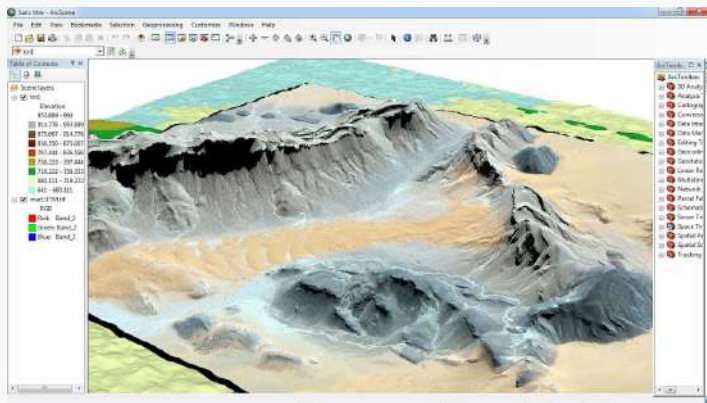
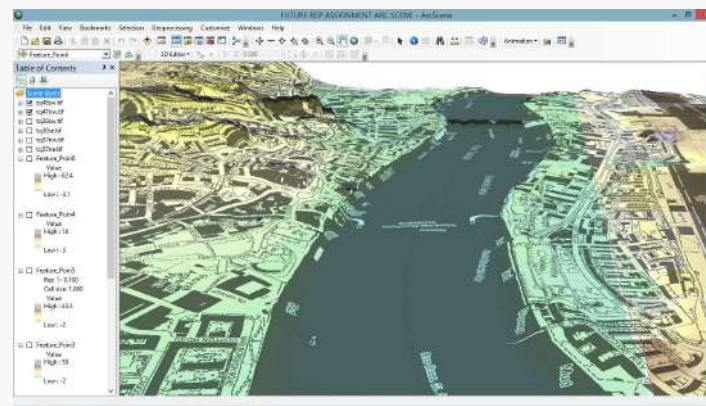
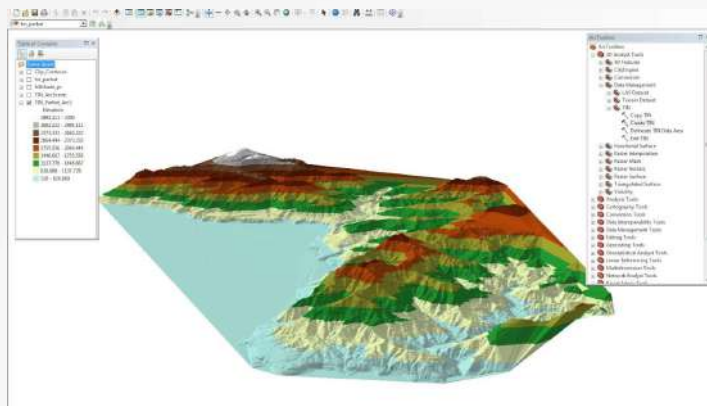


ArcMAP :-



3D map

- ❖ x-coordinates
- ❖ y-coordinates
- ❖ z-height



ArcScene :-

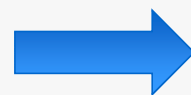


Menghasilkan Map 3D menggunakan Aplikasi BLENDER :-

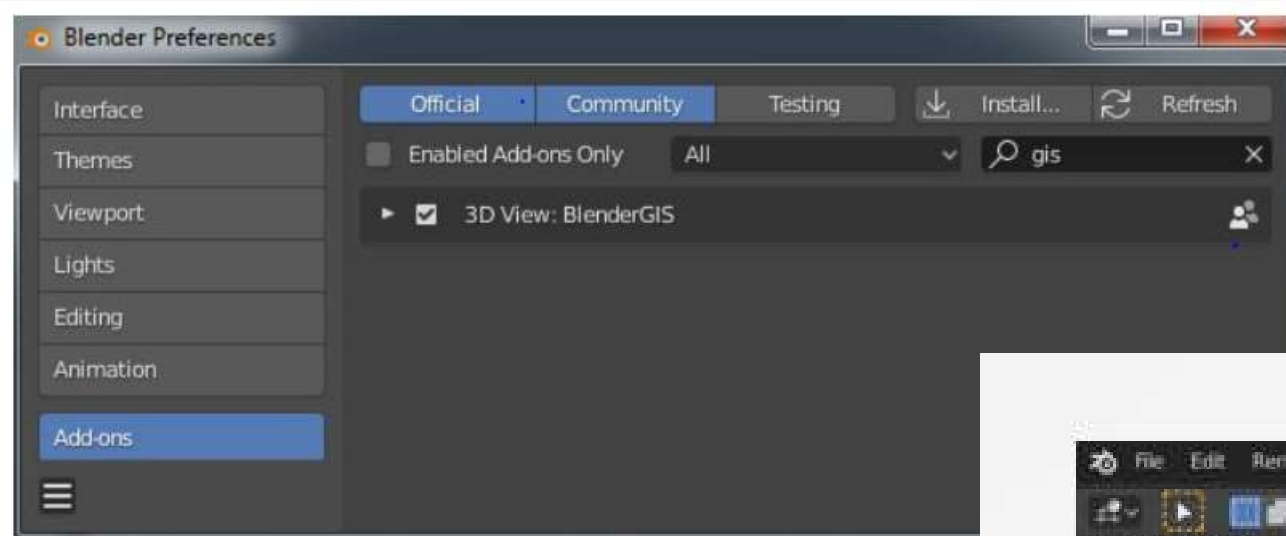


The screenshot shows the Blender 2.82a download page. The header includes the Blender logo and navigation links: Features, Download (active), Support, Get Involved, Jobs, About, Store, and a Donate button. Below the header, there's a sub-navigation bar with links: Download, Release Notes, Requirements, Demo Files, and Previous Versions. The main content area features a large blue button labeled 'Download Blender 2.82a'. Below this button, it specifies 'Windows Installer · 129MB · [info](#)'. A dropdown menu shows 'macOS, Linux, and other versions'. The page is divided into three columns with the following content:

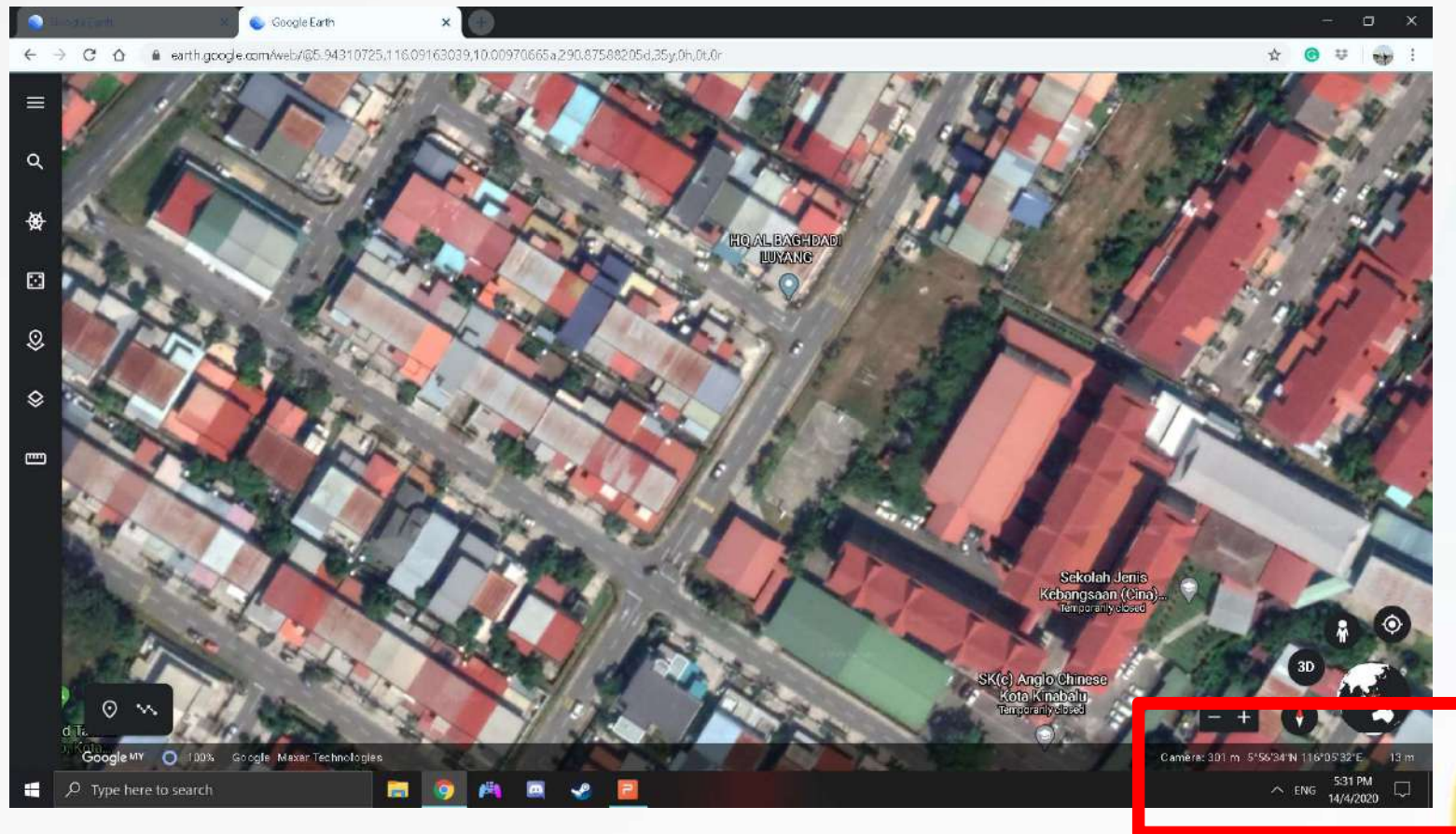
- Fully Featured**
Whether you are an animator, modeler, VFX, game developer, 3D Printing, you name it. Blender's got you covered.
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Blender's main strength is its huge community. Made by hundreds of contributors from around the world.
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<https://github.com/domlysz/BlenderGIS>



Google Earth Pro :-



Result :-

