TASA

RVS CHENNAI
PADMAVATHY SCHOOL OF ARCHITECTURE

BuildHQ
Build Happy

De-coding chandigarh through GIS

FOR ALL ASPIRING STUDENTS, ARCHITECTS AND FACULTIES

GEOGRAPHICAL INFORMATION SYSTEM

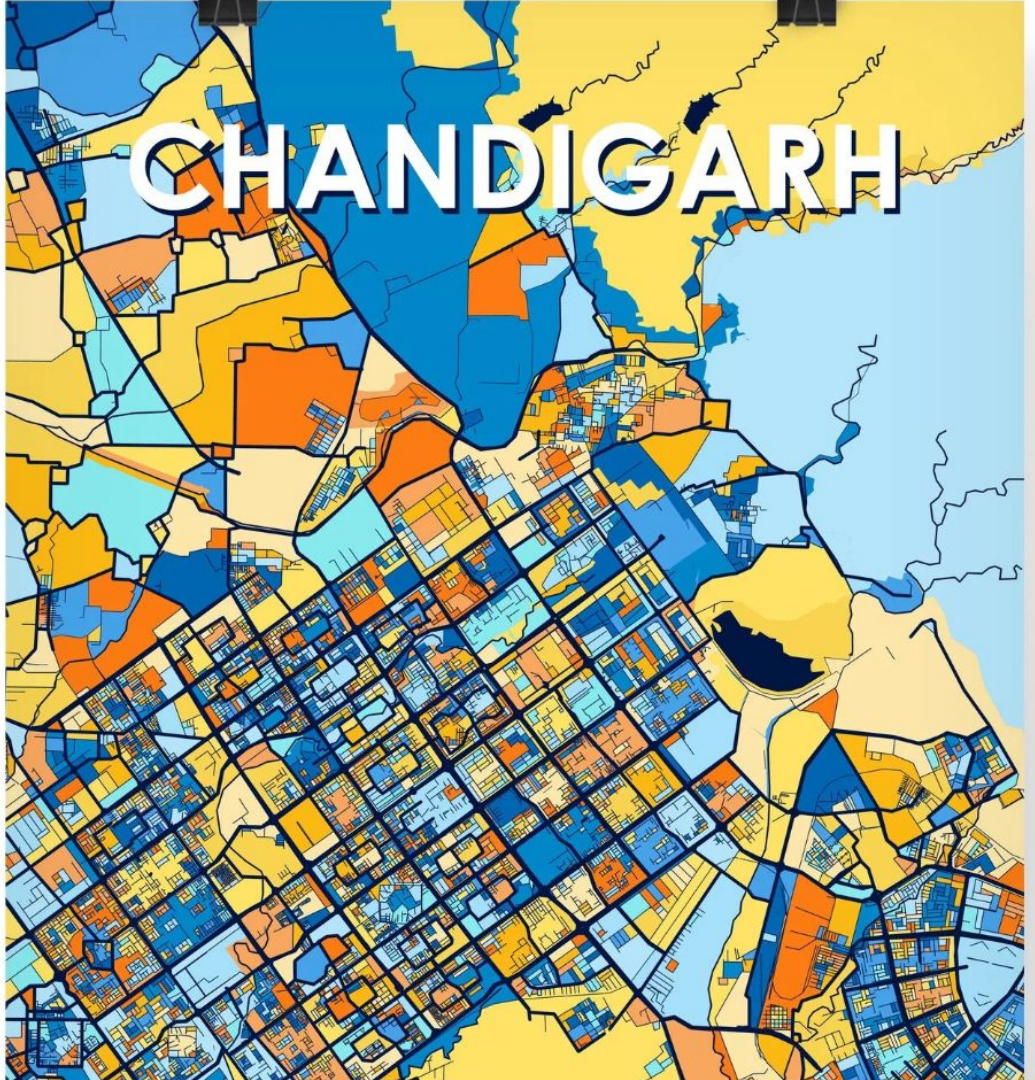
with

Town planning expert

DONGA SRAVANI

5 DAYS | FREE CERTIFIED ONLINE WORKSHOP

MAR
18 - 22
7:30
9:00 PM



WHAT TO EXPECT

01 Basics of Spatial Mapping

Introduction to GIS - Remote Sensing - Google Earth - Image Extraction & Identification of Co-Ordinates of Site - Basic Navigations on ARCMAP - Extraction of Chandigarh Map on Google Earth.

02 Digitization of Mapping Area

GIS & Architecture - Making Architects life easy with GIS - Introduction to ArcMap - Georeferencing - Introduction to Shapefiles

03 Digitization of Mapping Area

Examples of GIS in Real Time Projects - Digitization of Satellite Images - Addition of Attribute Tables - Different types of Maps and its uses.

04 Symbology & Thematic Maps

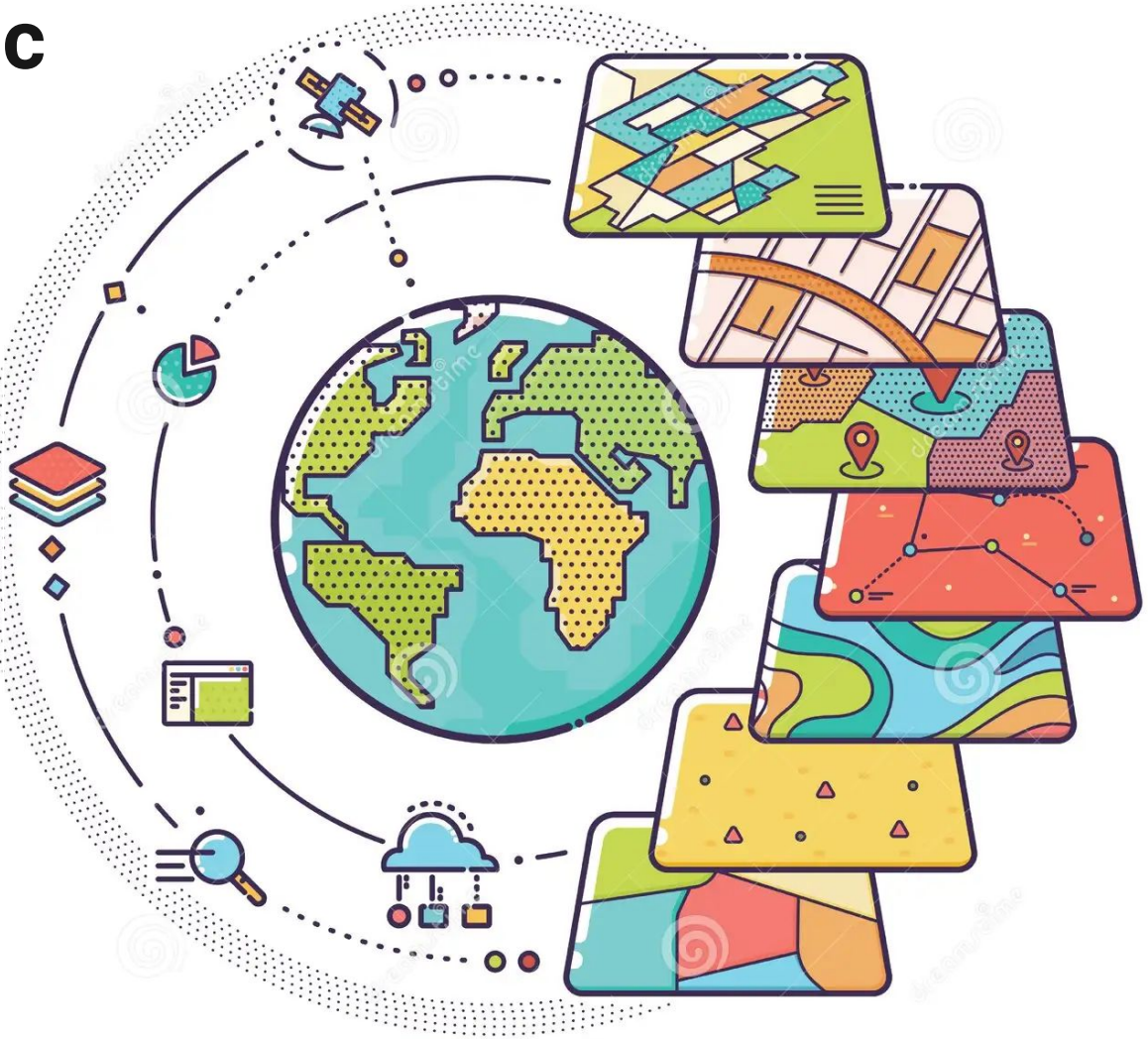
Creation of Symbology - Labels - Thematic Map - Exporting a Map - Examples of Integration of GIS in Architecture

05 Data Platforms & Analysis

Introduction to Bhuvan - Downloading DEM files - Contour Analysis - Conclusion

What is a geographic information system (GIS)?

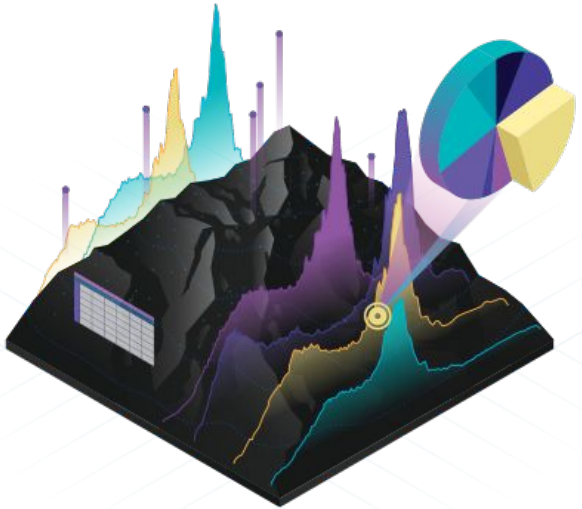
ESRI defines geographic information system (GIS) is a system that creates, manages, analyzes, and maps all types of data. GIS connects data to a map, integrating location data (where things are) with all types of descriptive information (what things are like there). This provides a foundation for mapping and analysis that is used in science and almost every industry. GIS helps users understand patterns, relationships, and geographic context. The benefits include improved communication and efficiency as well as better management and decision making.



1. **Identify Problems**
   For Example studying the landscapes of Earth to identify the areas prone to natural disasters to identify and assess risks.

2. **Monitor Changes**
   Monitoring the morphology of the development of a city to understand the growth pattern of the area and respond accordingly

3. **Manage and respond to Events**
   Identifying the trends of traffic in a busy city and respond accordingly to help people navigate through the traffic seamlessly.



GIS acts as an one stop solution with most of the pointers mentioned in here. It acts as an interdisciplinary program that bridges the gaps in researches and helps us to arrive at better solutions to keep the system running seamlessly.

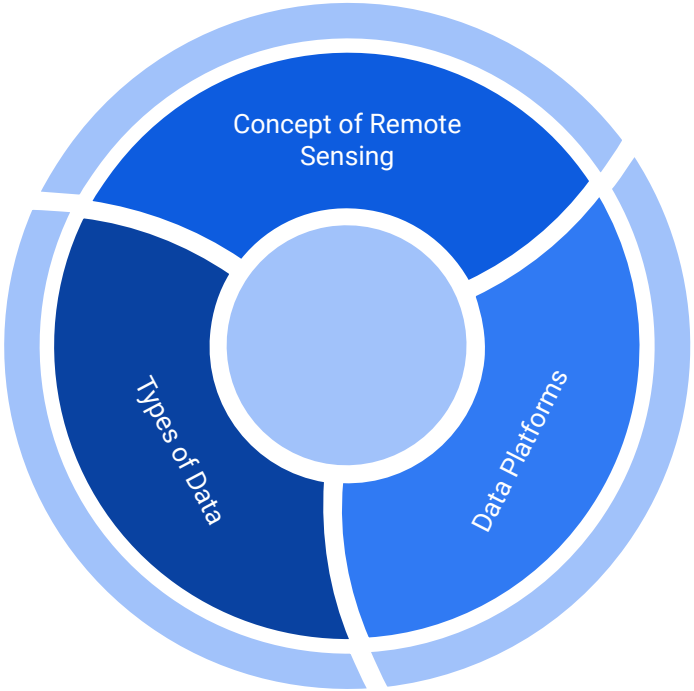
Why use GIS?

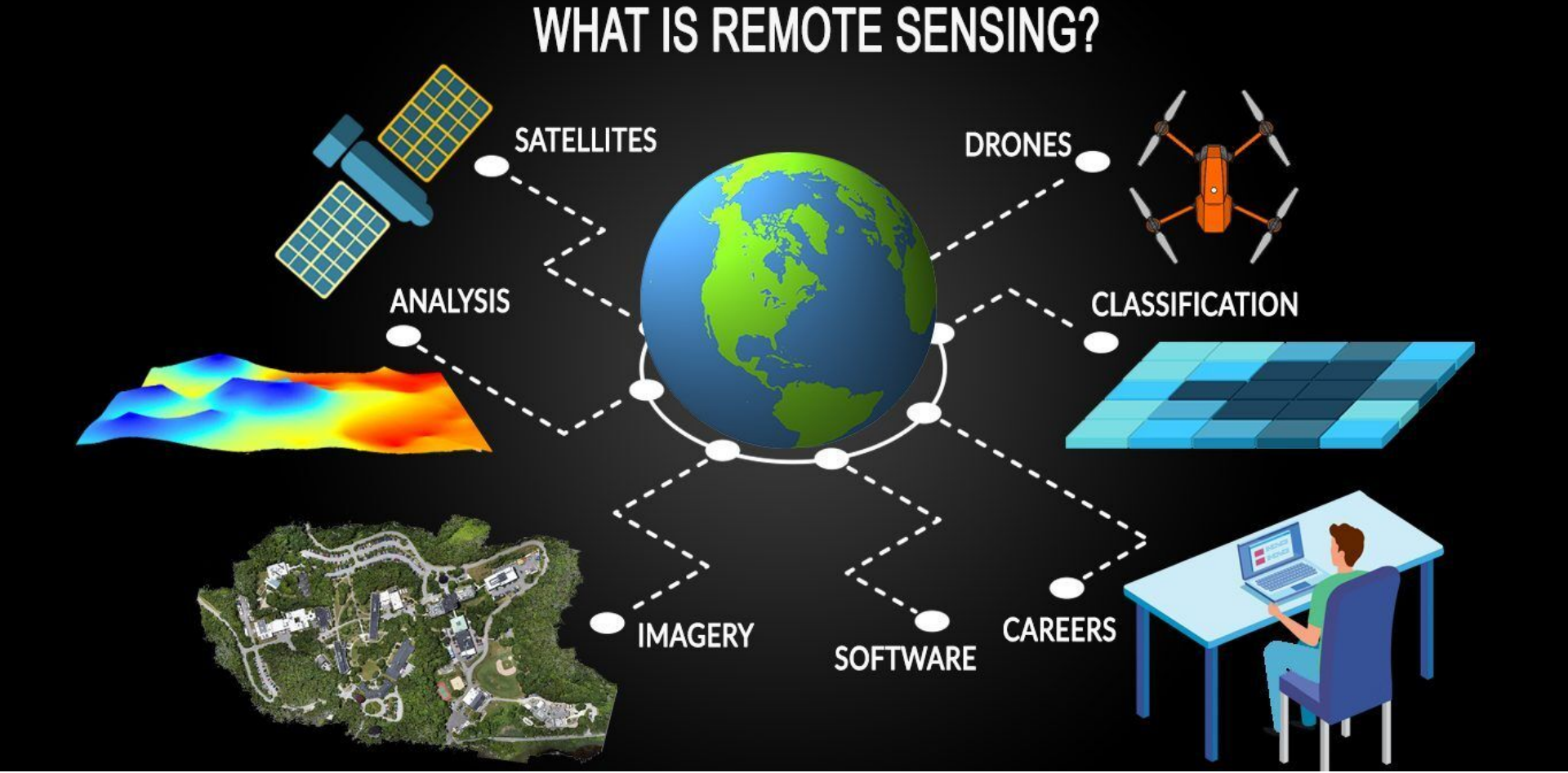
4. **Perform Forecasting**
   Forecasting the weather across the globe and take informed decisions to keep the public prepared in case of natural calamity.

5. **Set Priorities**
   To study the impacts on environment with developments of civilizations,

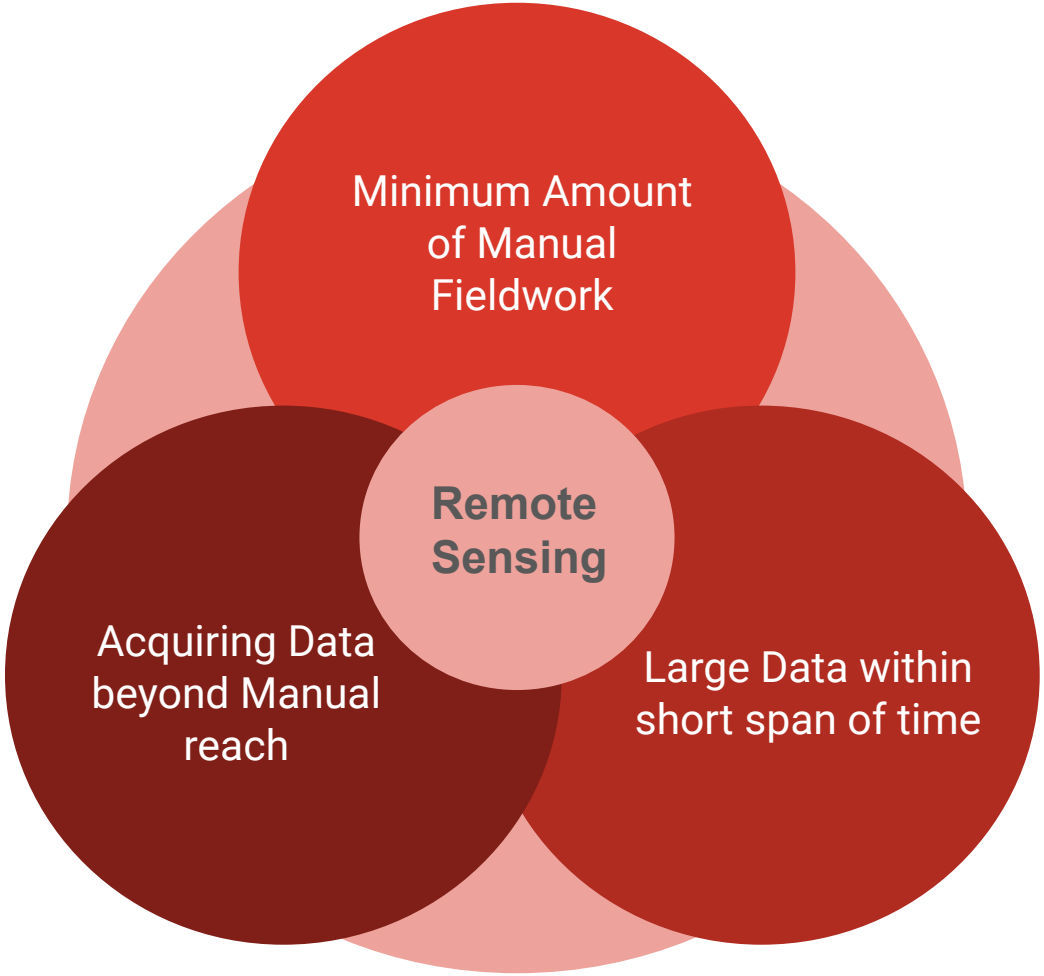
6. **Understand Trends**
   To understand the growth pattern trends in terms of various factors such as demographics, infrastructure and identify the changes with respect to time and study its impacts.

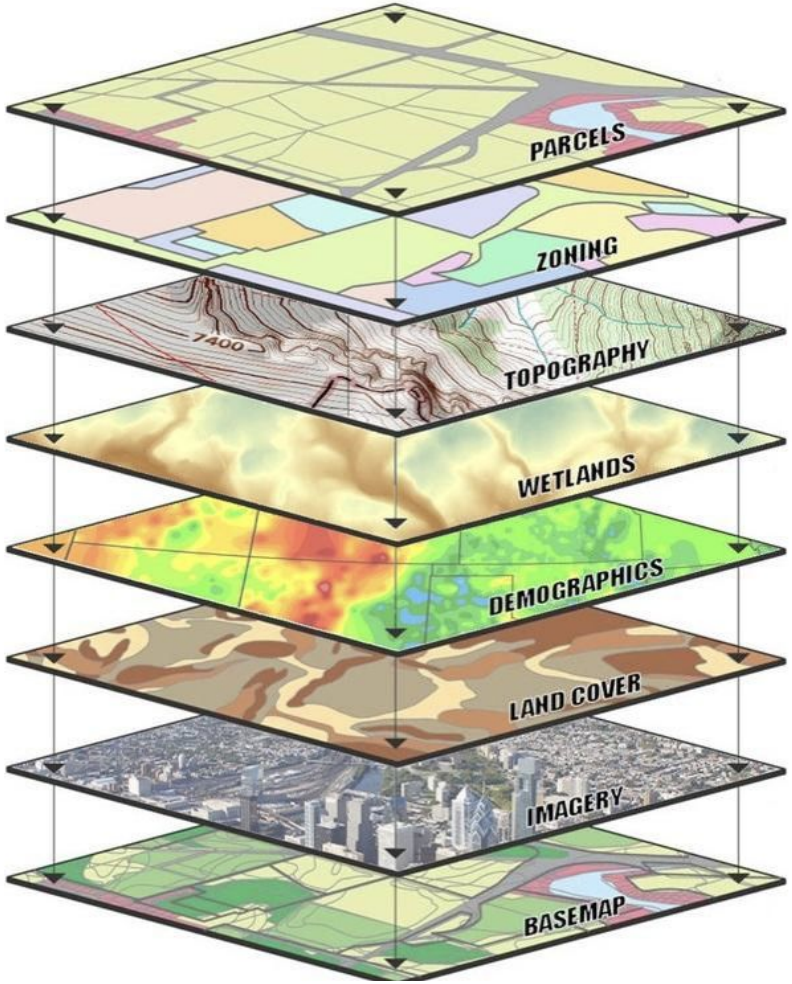
A Few Basic Concepts to Understand the functions of GIS



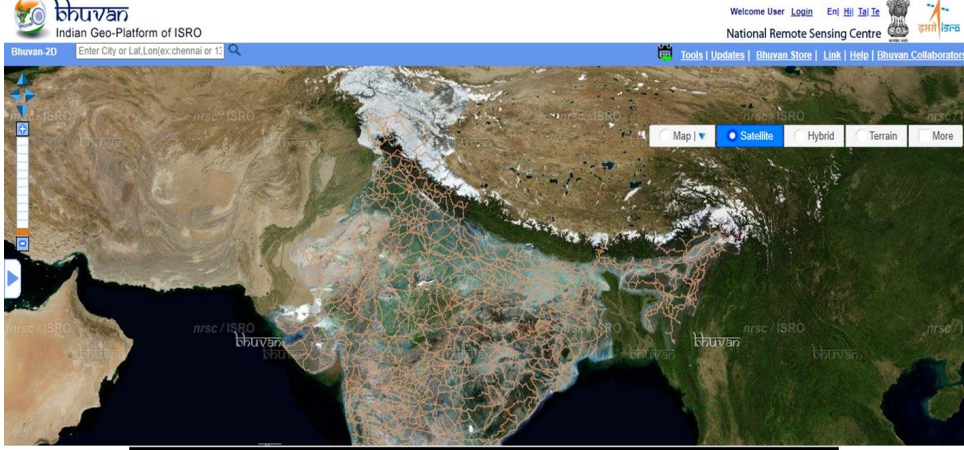


Remote sensing is the science of obtaining the physical properties of an area without being there. It allows users to capture, visualize, and analyze objects and features on the Earth's surface. By collecting imagery, we can classify it into land cover and other types of analyses.





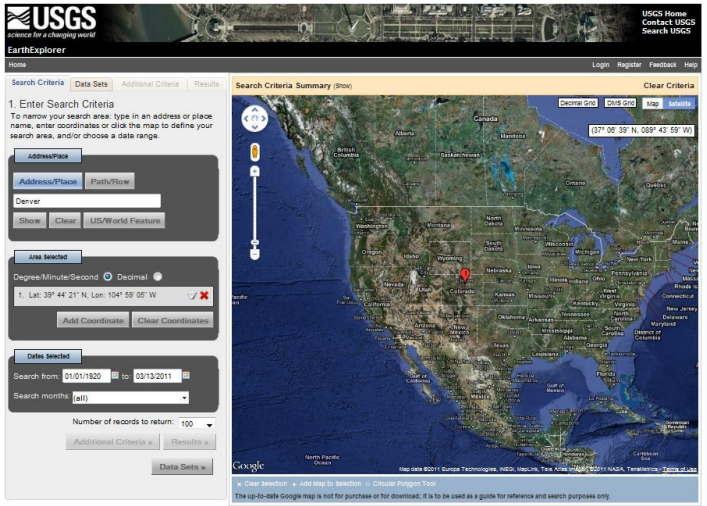
Remote Sensing



Pscprep

BHUVAN PORTAL

Pscprep

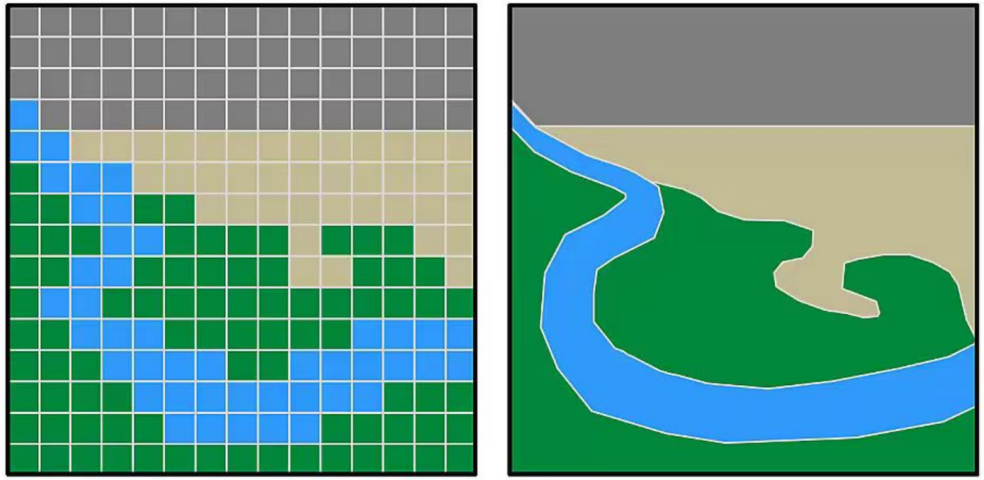


Data Platforms

Available Open Source Softwares

Available Paid Softwares

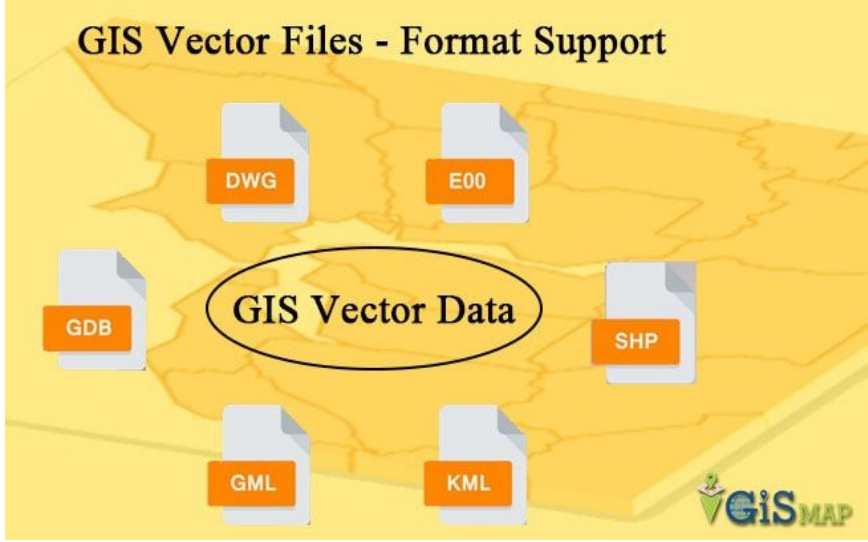
THE WORLD can be represented in two ways:

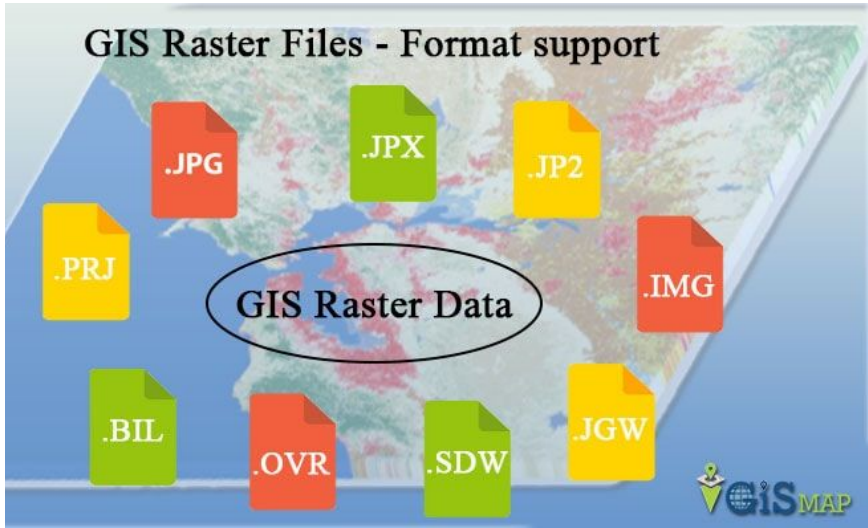


RASTER **VECTOR**

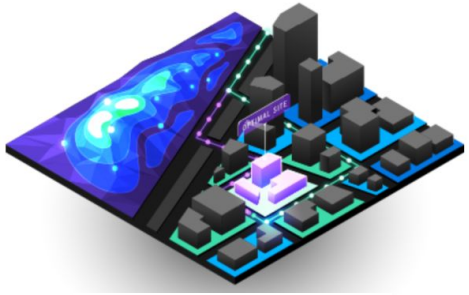
Vector data is the most common type of GIS data. Most data loaded into a GIS software program tends to be in vector data. Vector data represents geographic data symbolized as points, lines, or polygons.

Raster data represents geographic data as a matrix of cells that each contains an attribute value. While the area of different polygon shapes in a data set can differ, each cell in a raster data set is the same cell. The size of the area in the real world that each cell represents is known as the spatial resolution.



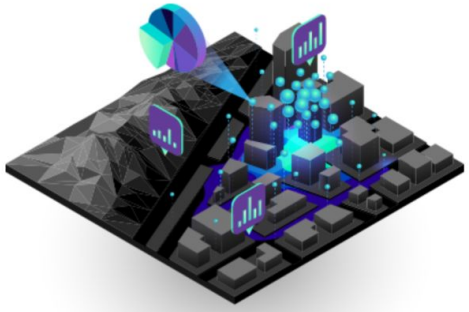


And the Output looks like……



Spatial Analysis & Data Science

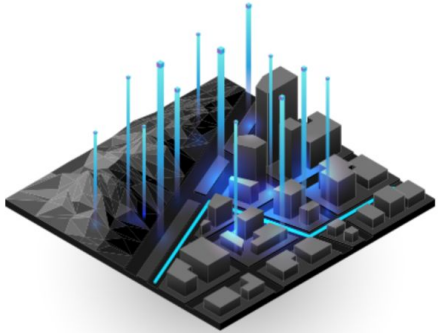
Field Operations



Mapping

3D GIS

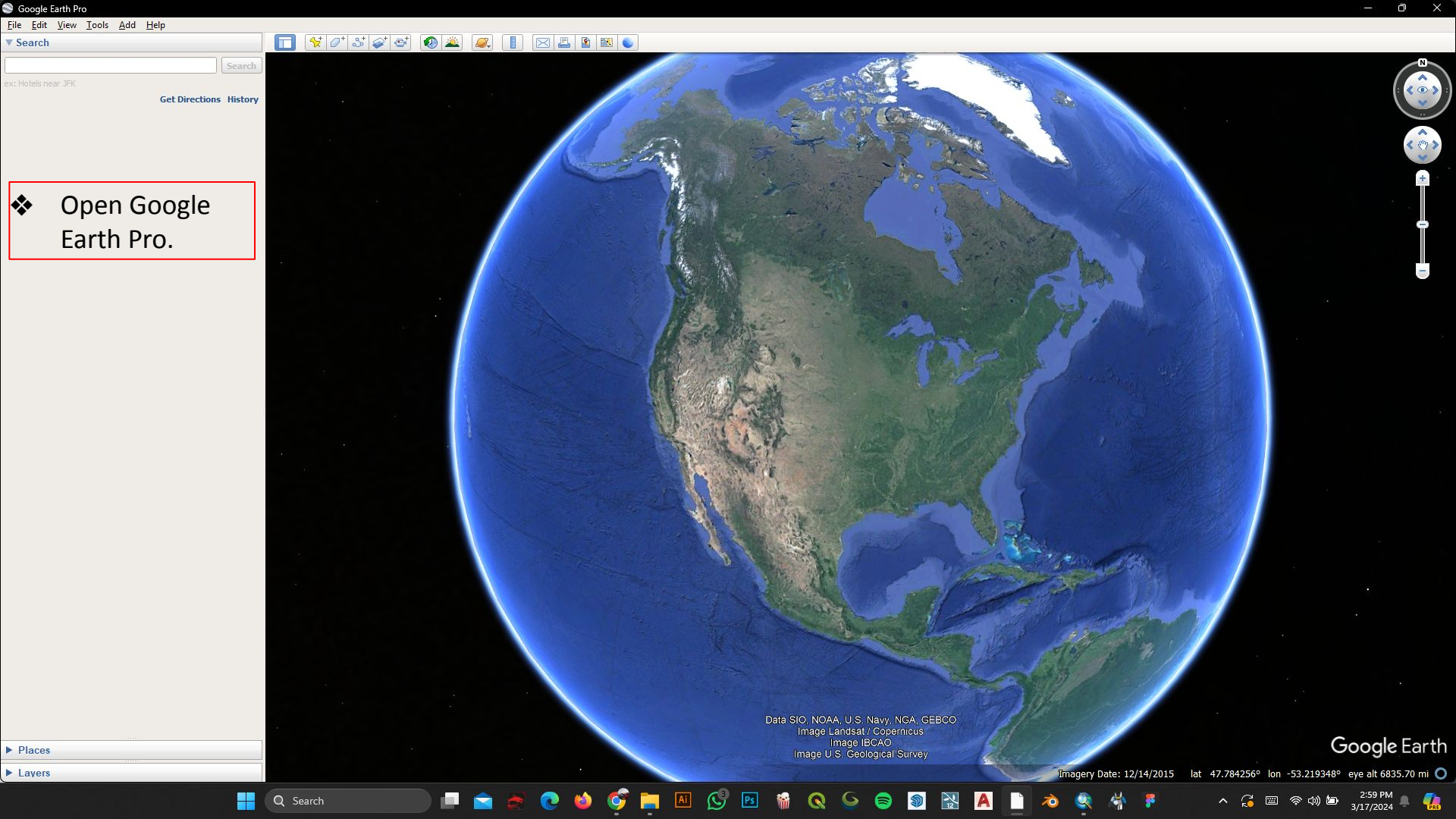
Imagery & Remote Sensing



Data Collection & Management

Work Agenda

Google Earth	Extraction of the Satellite Image of the Study area - 500mts radius max. With Georeference Points.
ArcMap	ArcMap Basic Navigations - Dropping Satellite image - Georeferencing - Creation of Shapefiles
ArcMap	Adding Symbols and labels to the map - Addition of Attribute tables - Exporting the map
ArcMap & Data Platform	Contour Analysis - Extraction of DEM files from Data Platforms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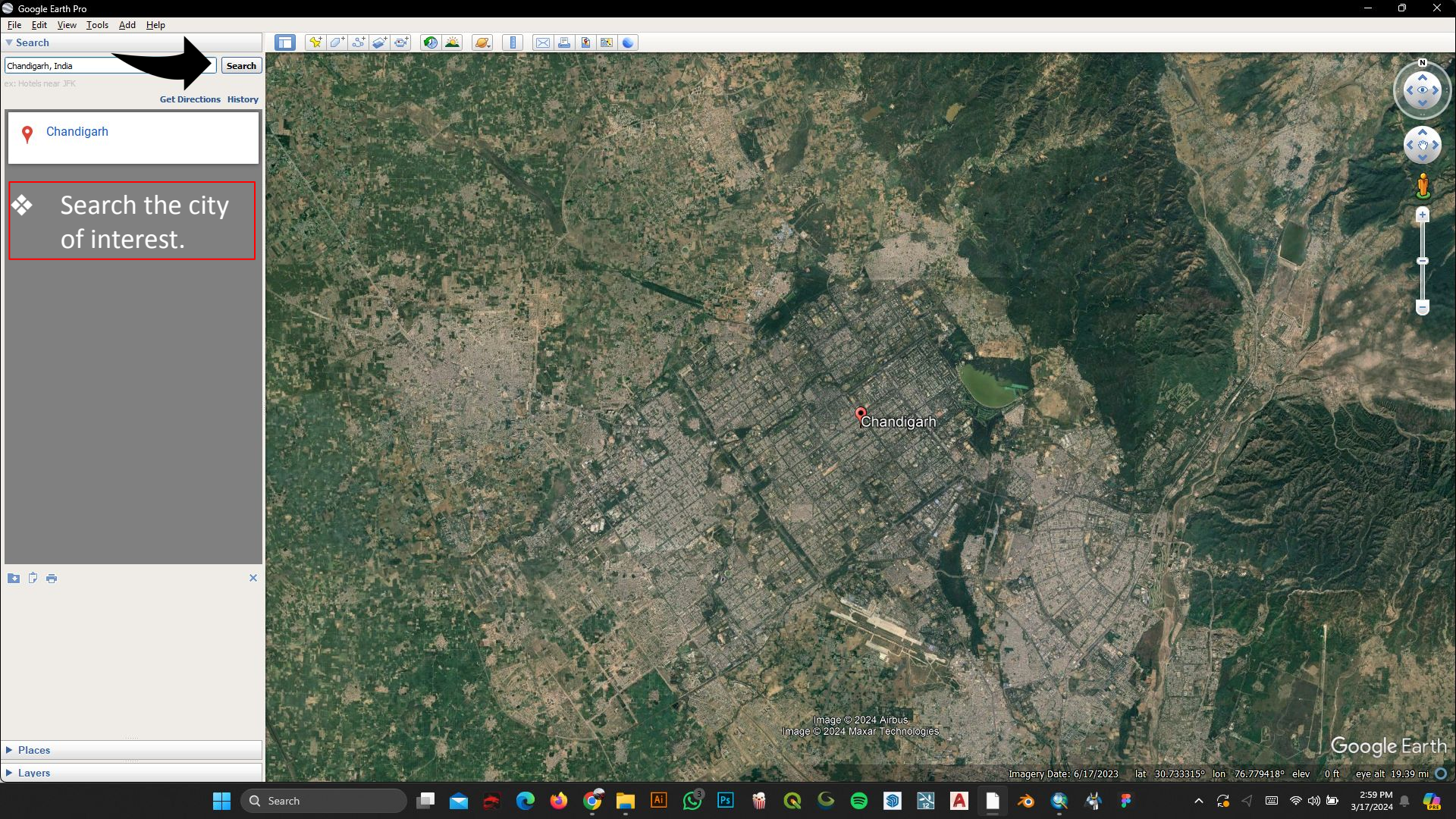
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Image © 2024 Airbus
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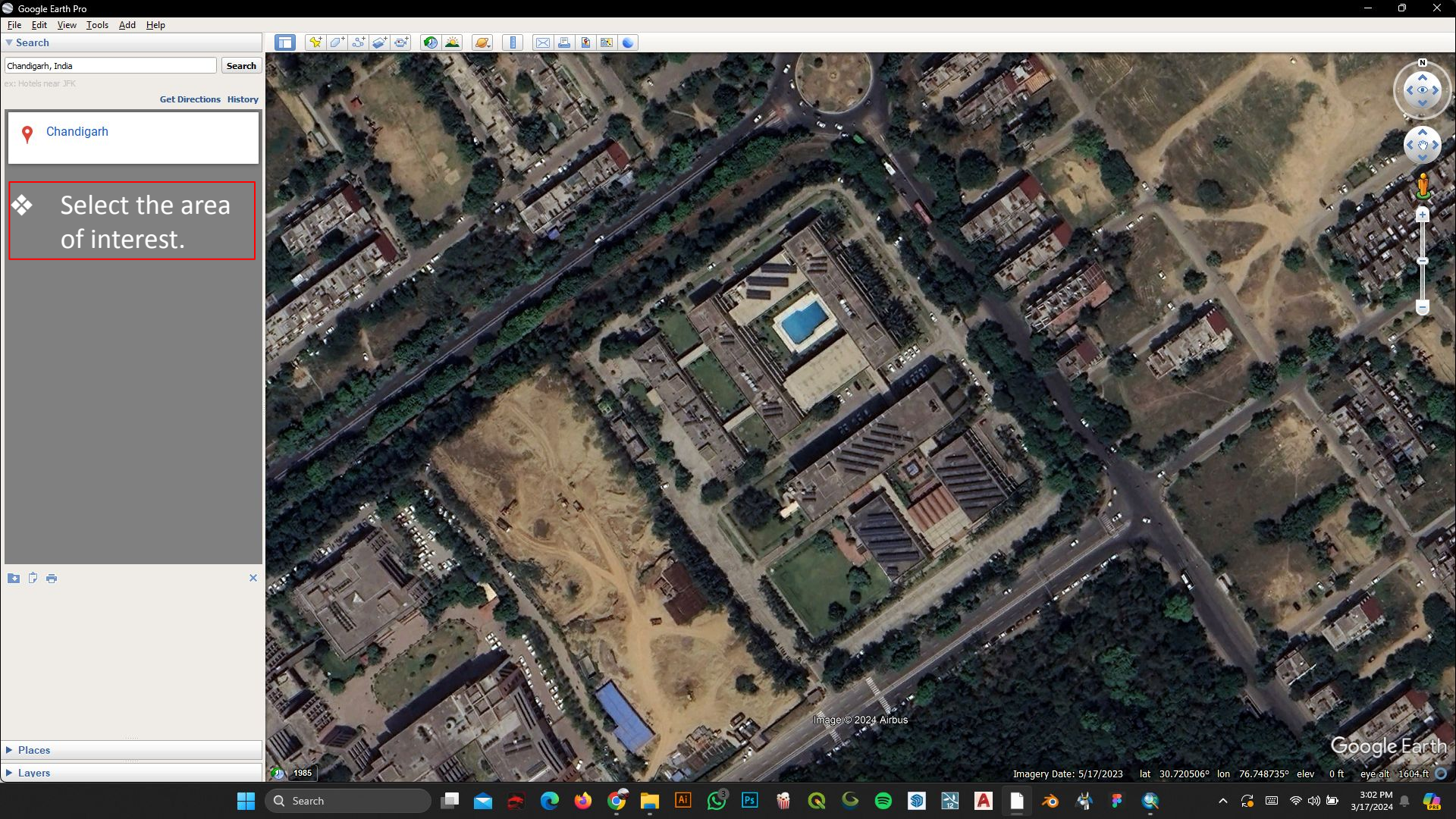
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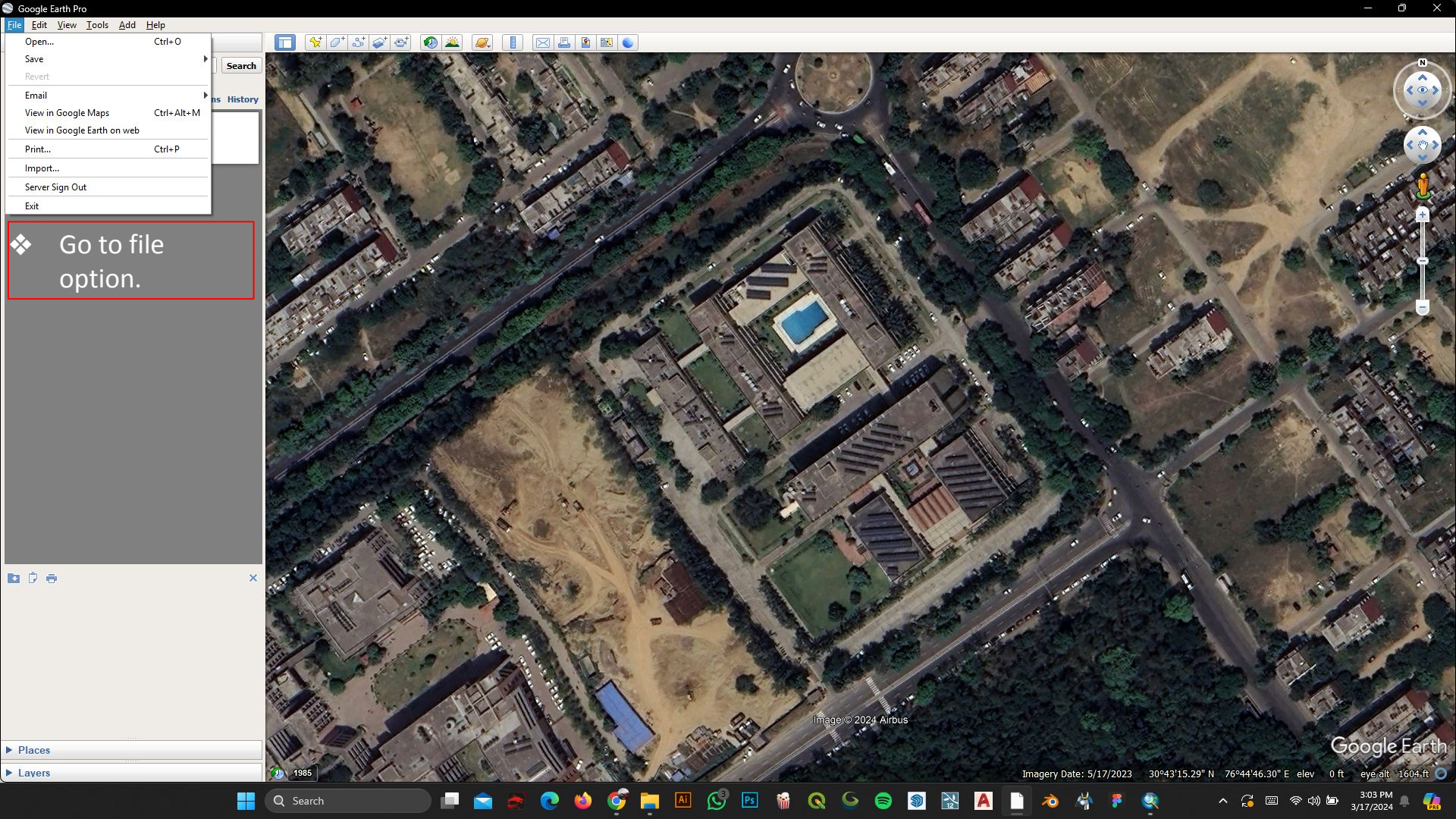
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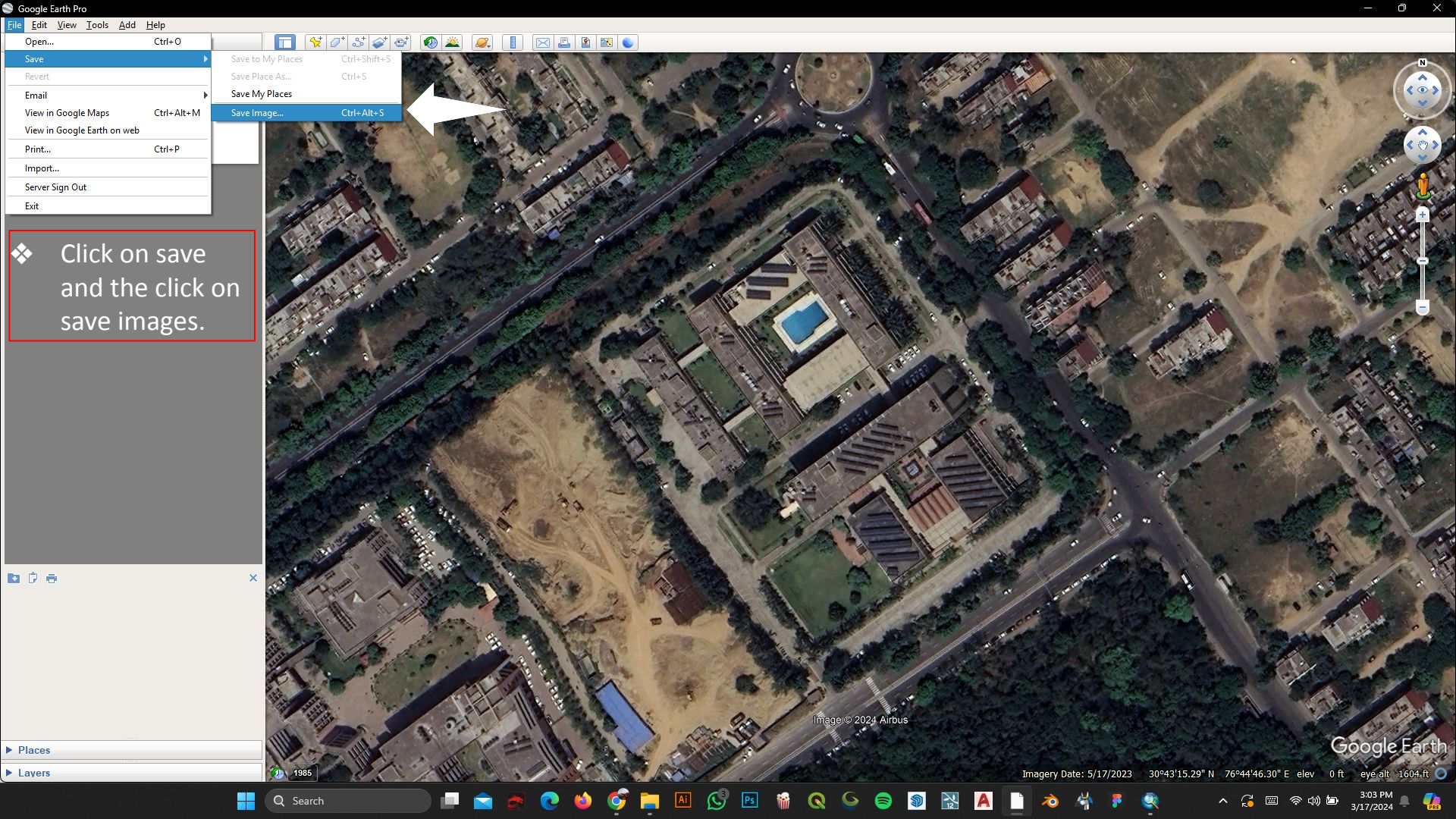
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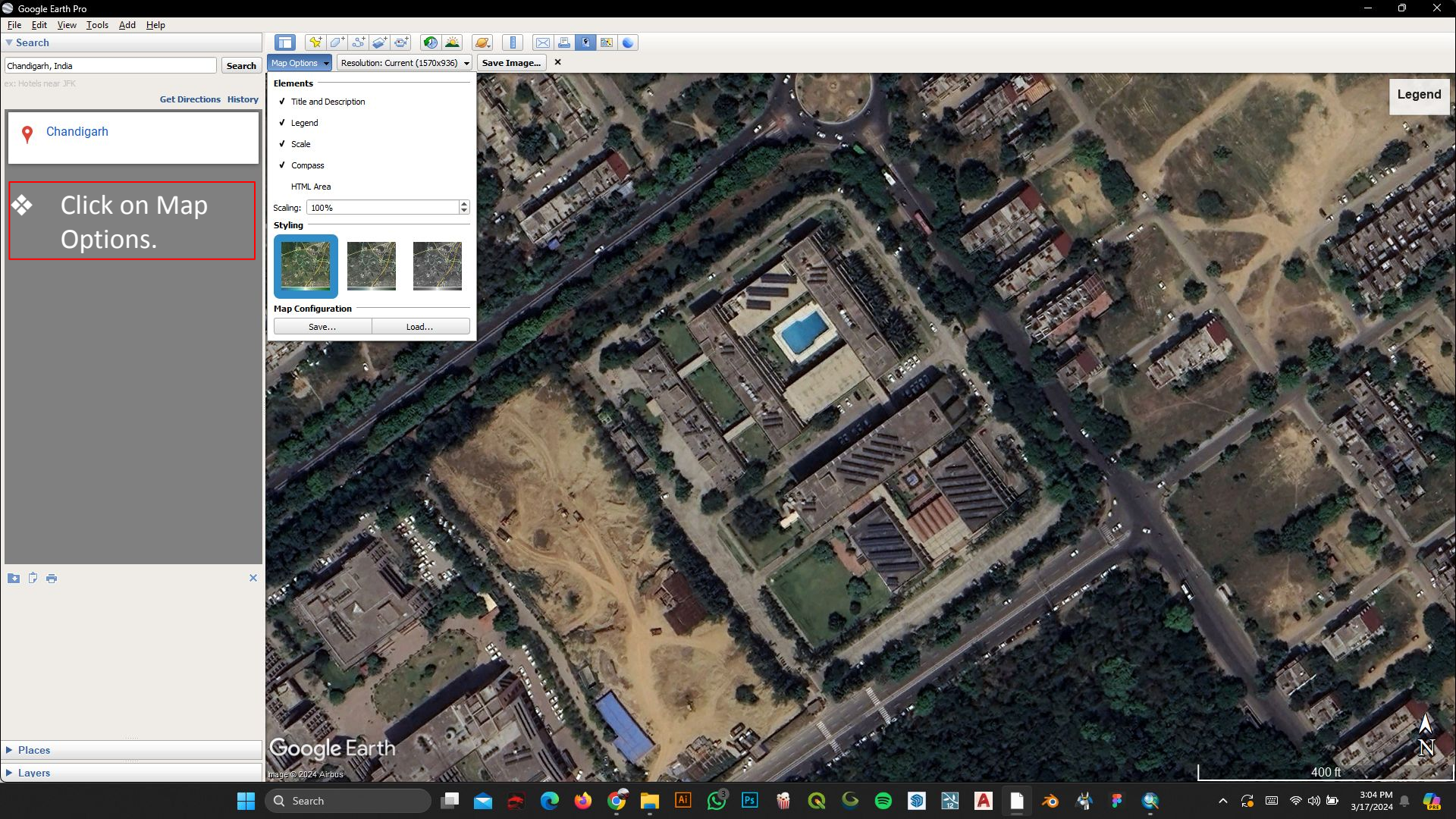
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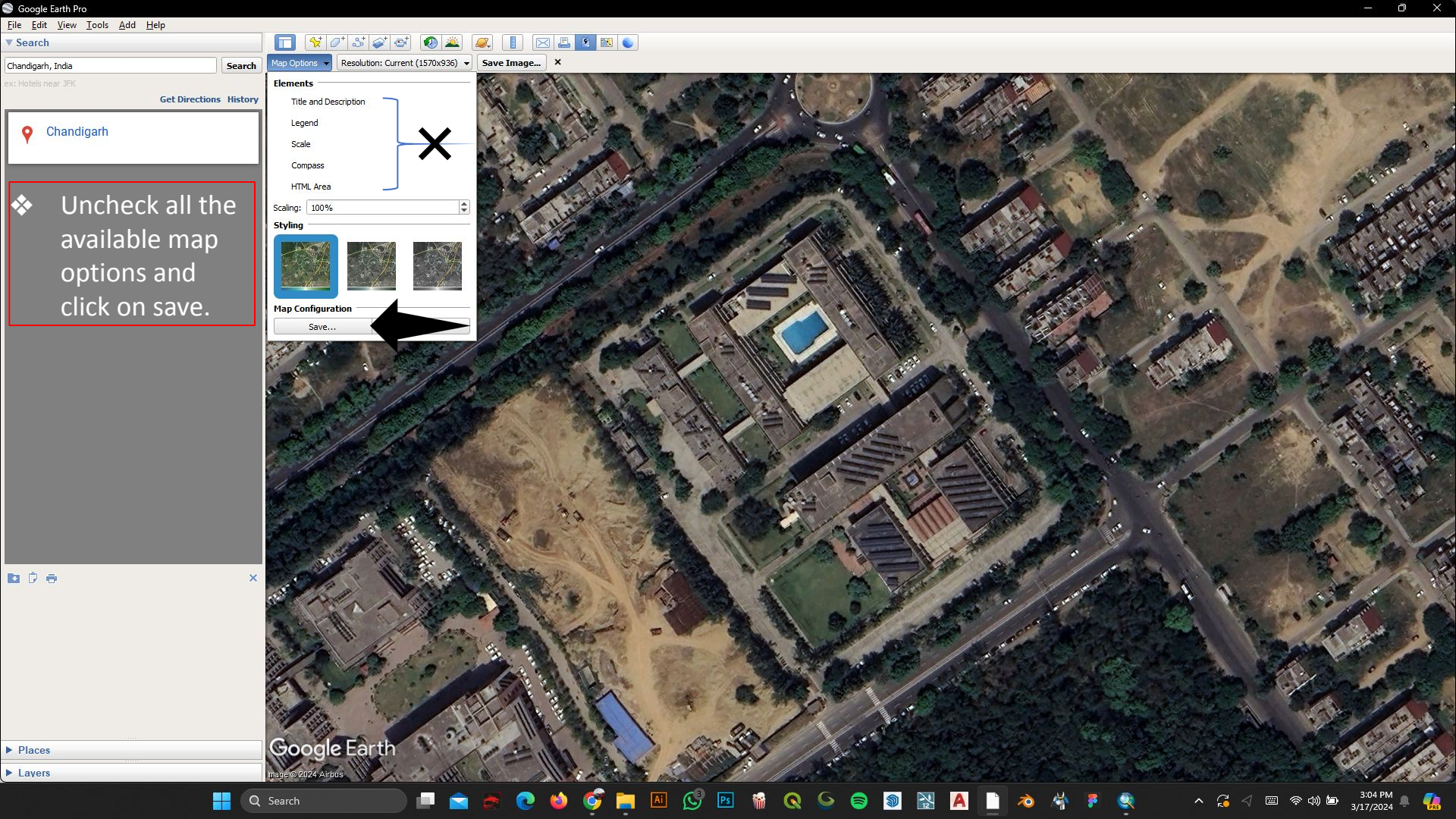
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Google Earth Pro

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ex: Hotels near JFK

Get Directions History

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Current (1570x936)
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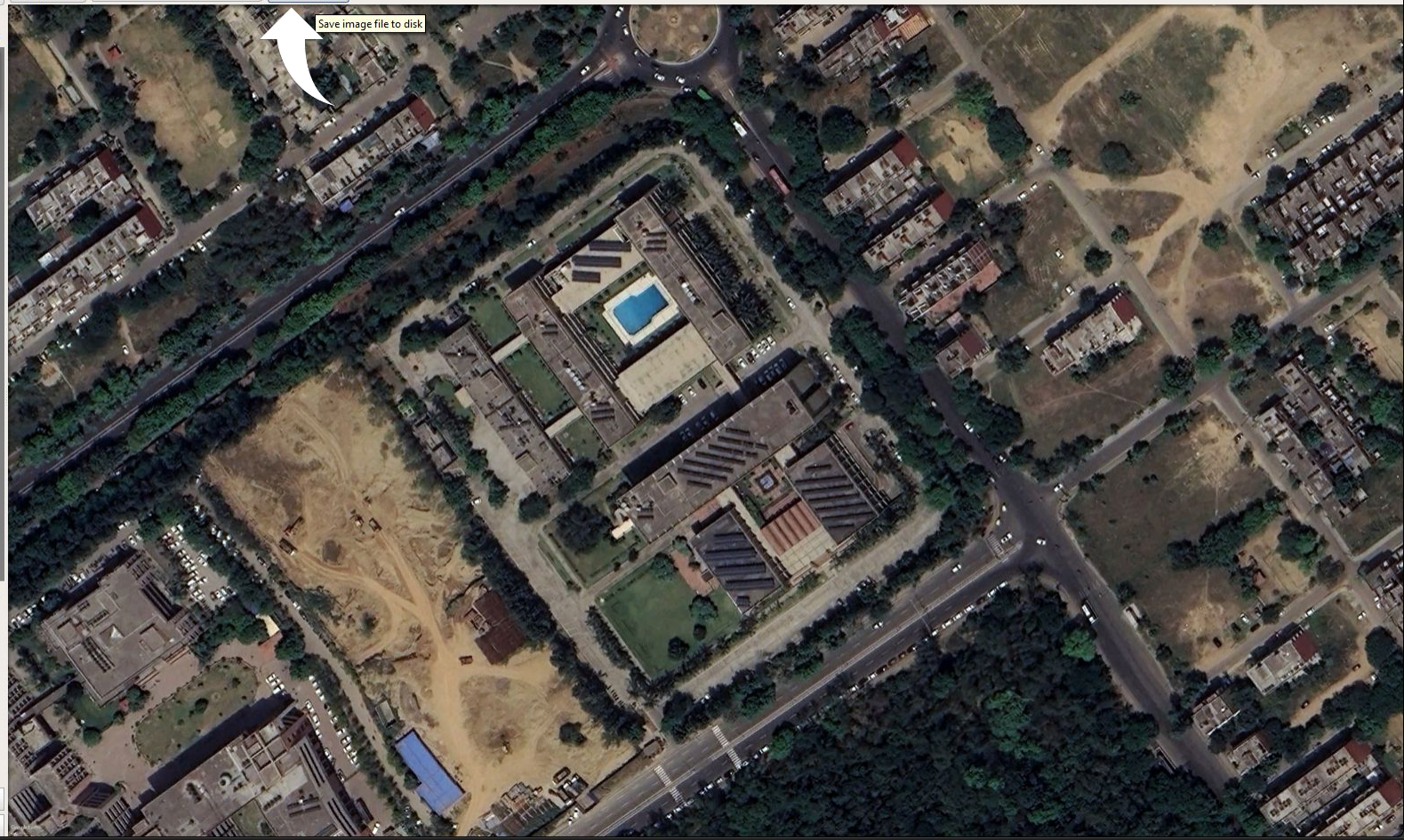

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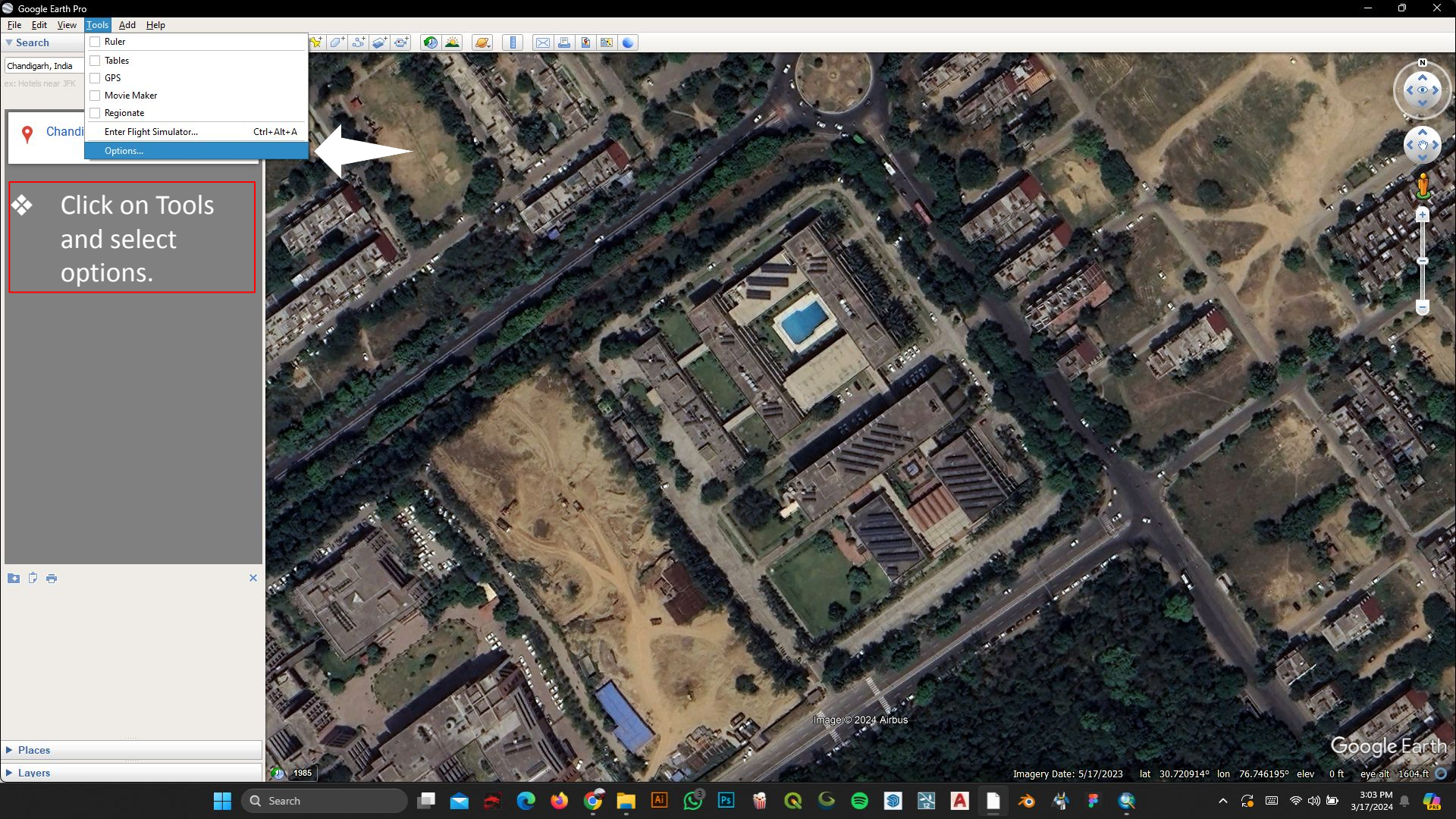
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Get Directions History

Chandigarh

Click on Show Lat,Long and check Degrees, Minutes and seconds, then click apply and ok.

Places

Layers

Google Earth Options

3D View | Cache | Touring | Navigation | General

Texture Colors
- High Color (16 bit)
- True Color (32 bit)
- Compress

Anisotropic Filtering
- Off
- Medium
- High

Labels/Icon Size
- Small
- Medium
- Large

Graphics Mode
- OpenGL
- DirectX
- Use safe mode

Show Lat/Long
- Decimal Degrees
- Degrees, Minutes, Seconds
- Universal Transverse Mercator
- Military Grid Reference System

Show latitude & longitude in Degrees, Minutes, Seconds

Units of Measurement
- System default
- Meters, Kilometers

Fonts
- Choose 3D Font

Antialiasing
- Off
- Medium
- High

Terrain

Elevation Exaggeration (also scales 3D buildings and trees): 1 (0.01 - 3)
- Use high quality terrain (disable for quicker resolution and faster rendering)
- Use 3D Imagery (disable to use legacy 3D buildings)

Atmosphere
- Use photorealistic atmosphere rendering (EXPERIMENTAL)

Overview Map

Map Size: Small — Large

Zoom Relation: infinity 1:1 — 1:infinity

Restore Defaults | OK | Cancel | Apply

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Google Earth Pro

File Edit View Tools Add Help

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Chandigarh, India

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Get Directions History

Chandigarh

Click on Placemark.

Add Placemark

Places

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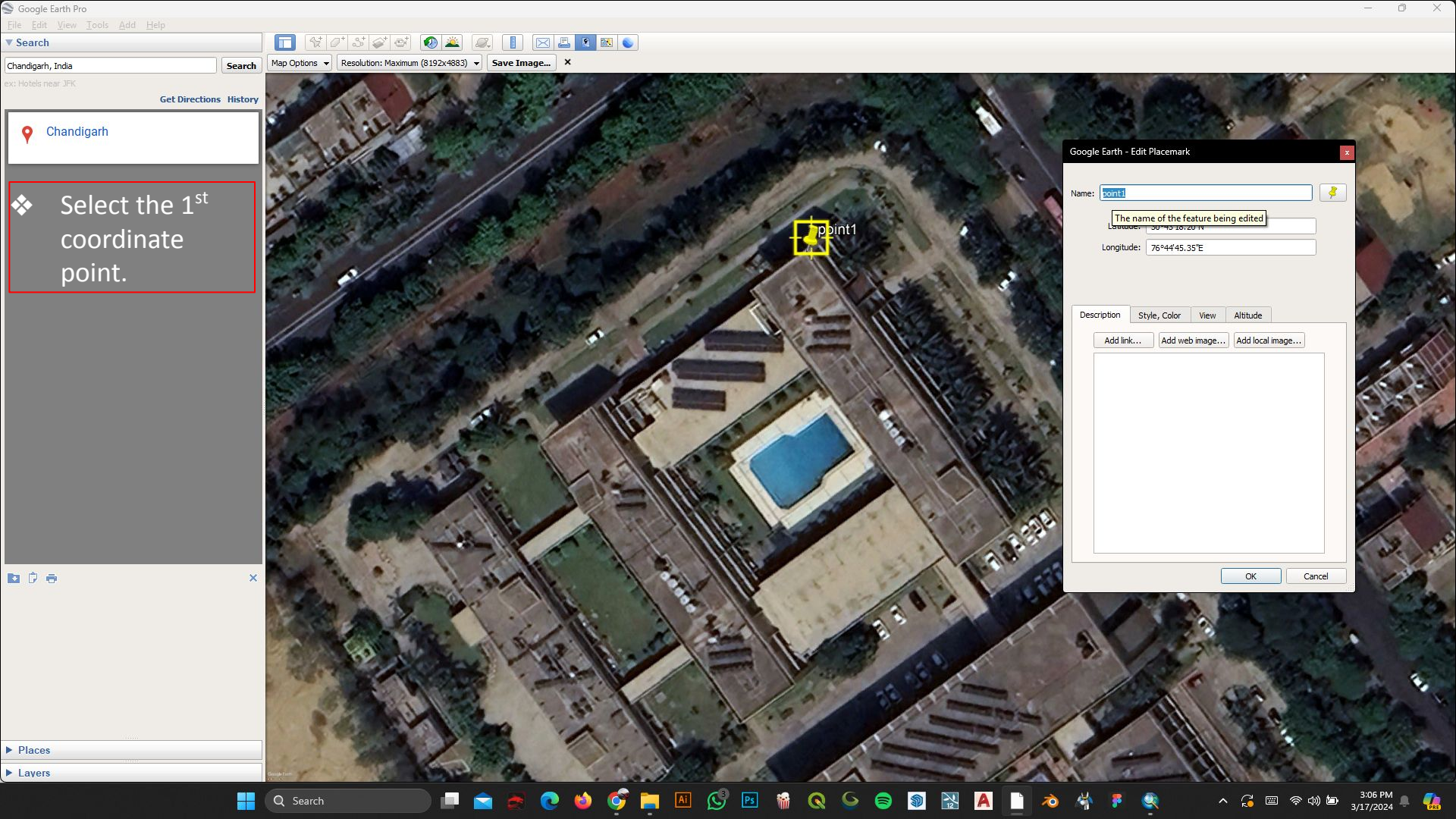
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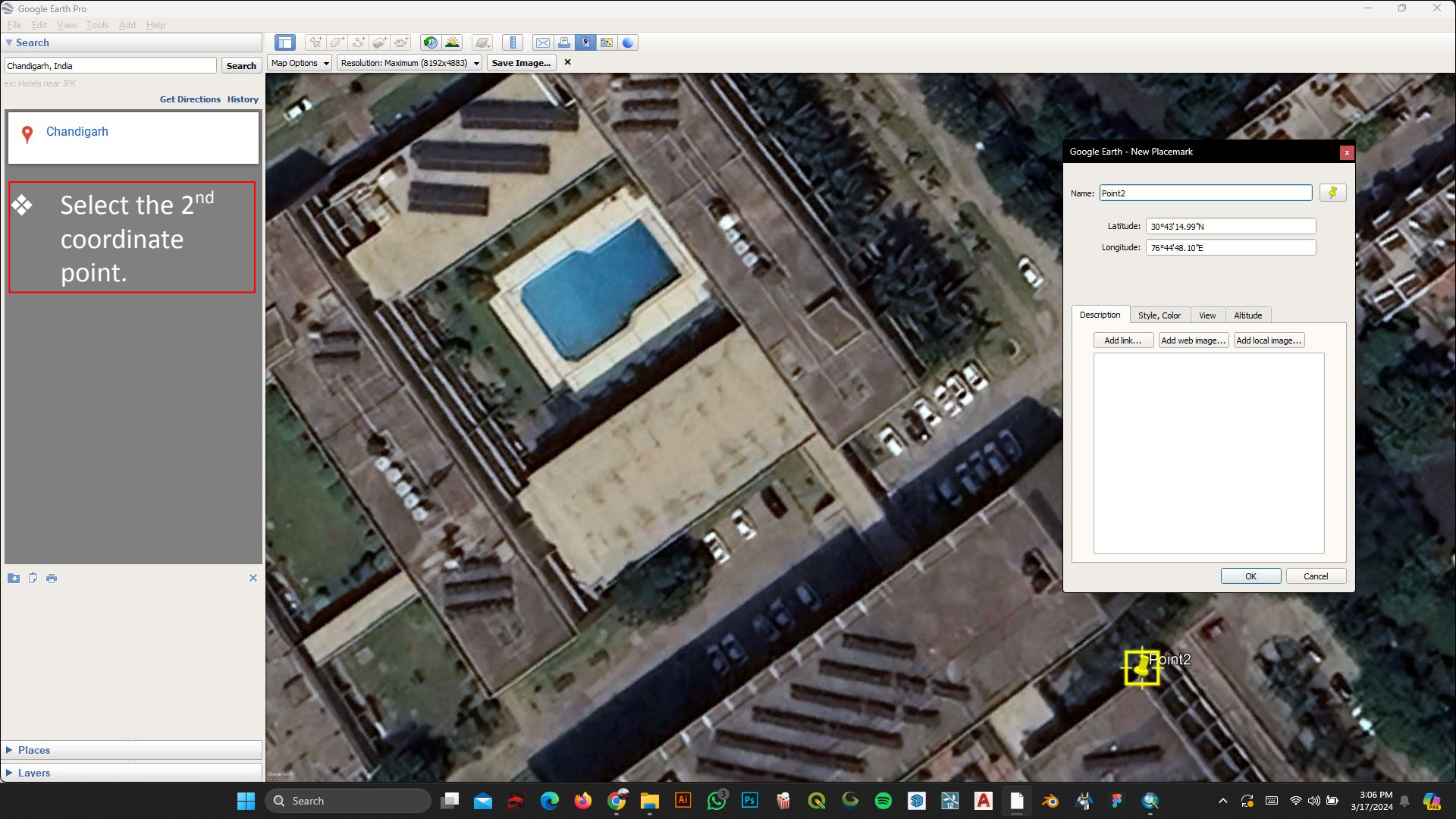
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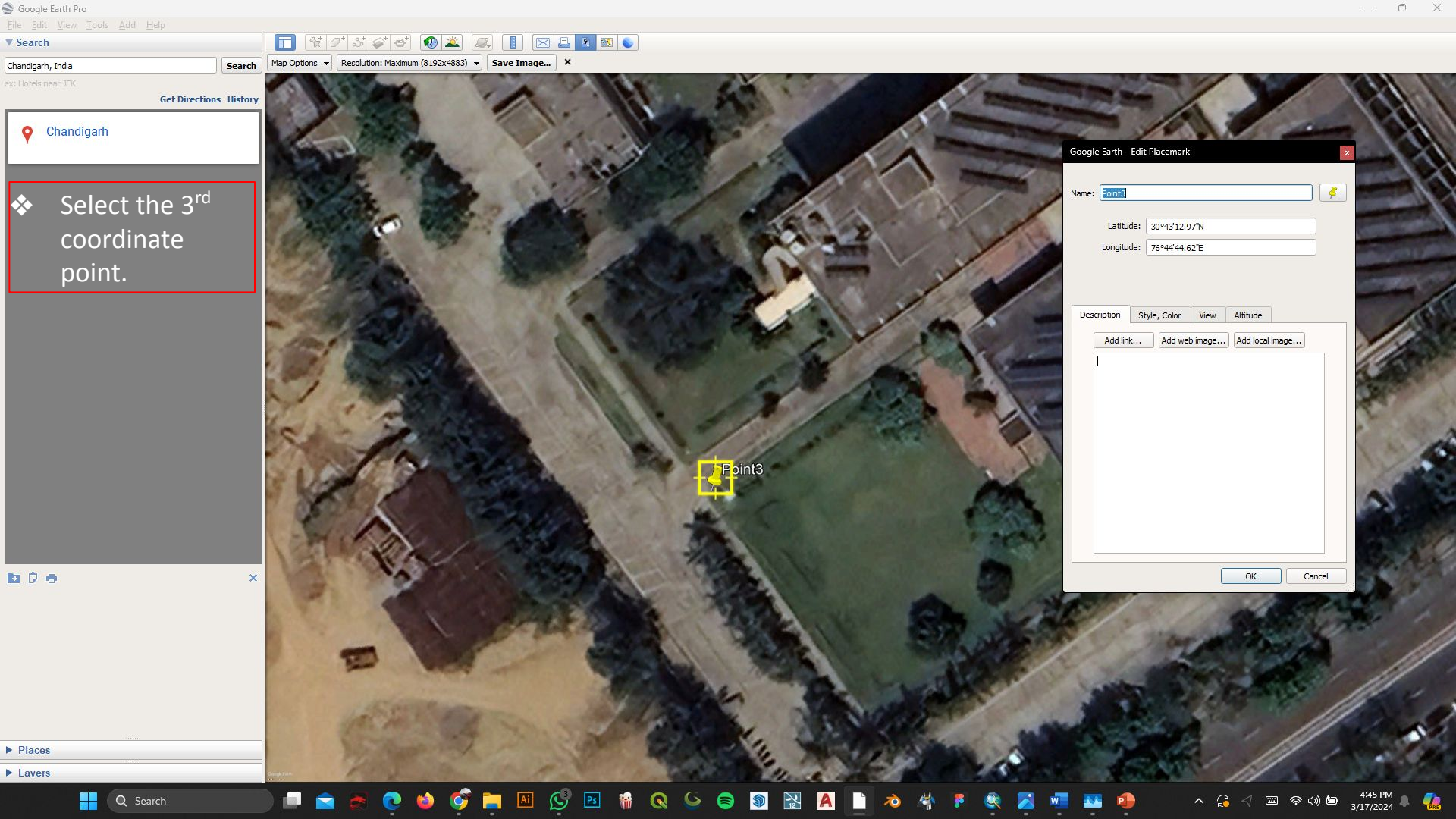
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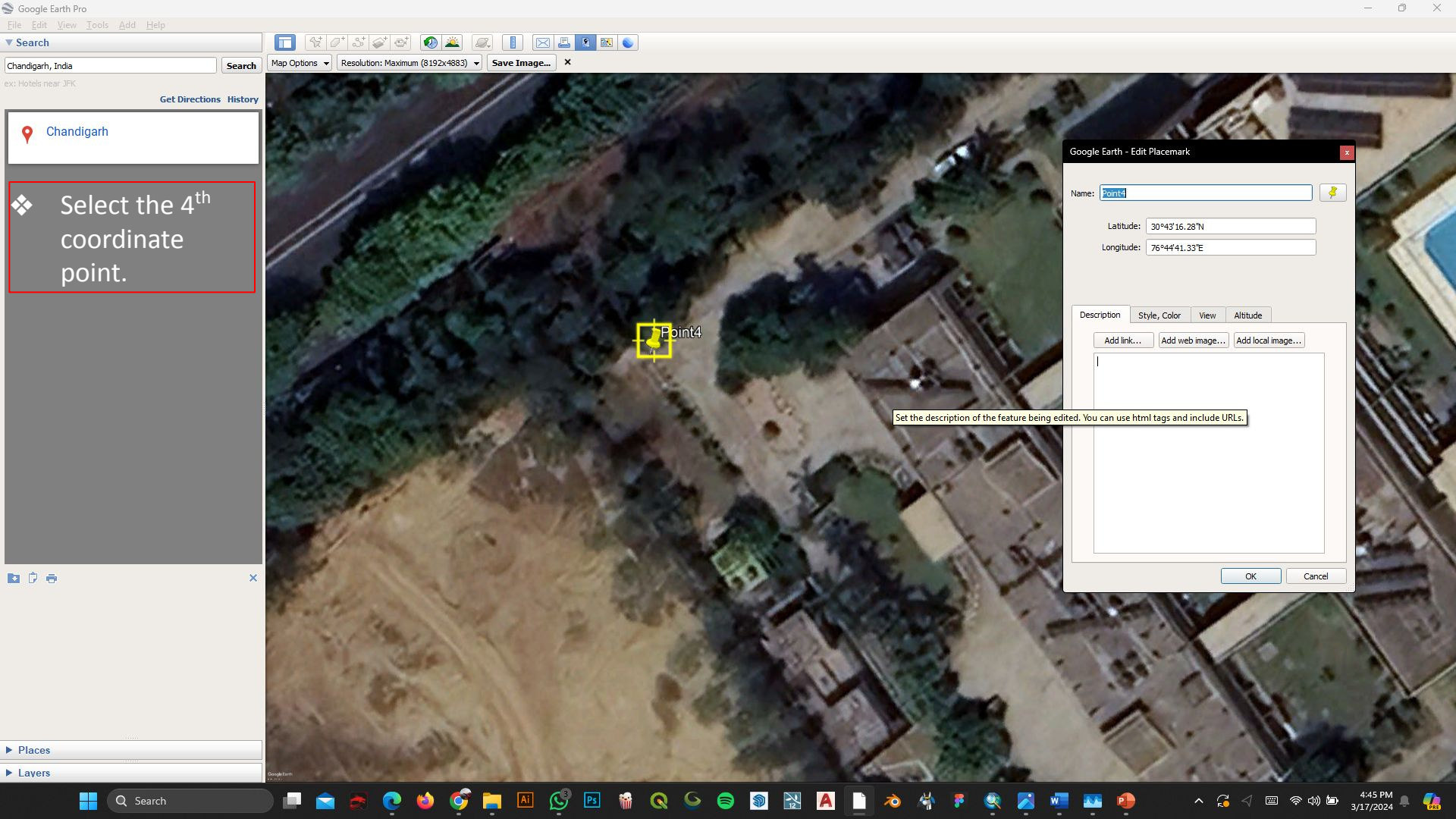
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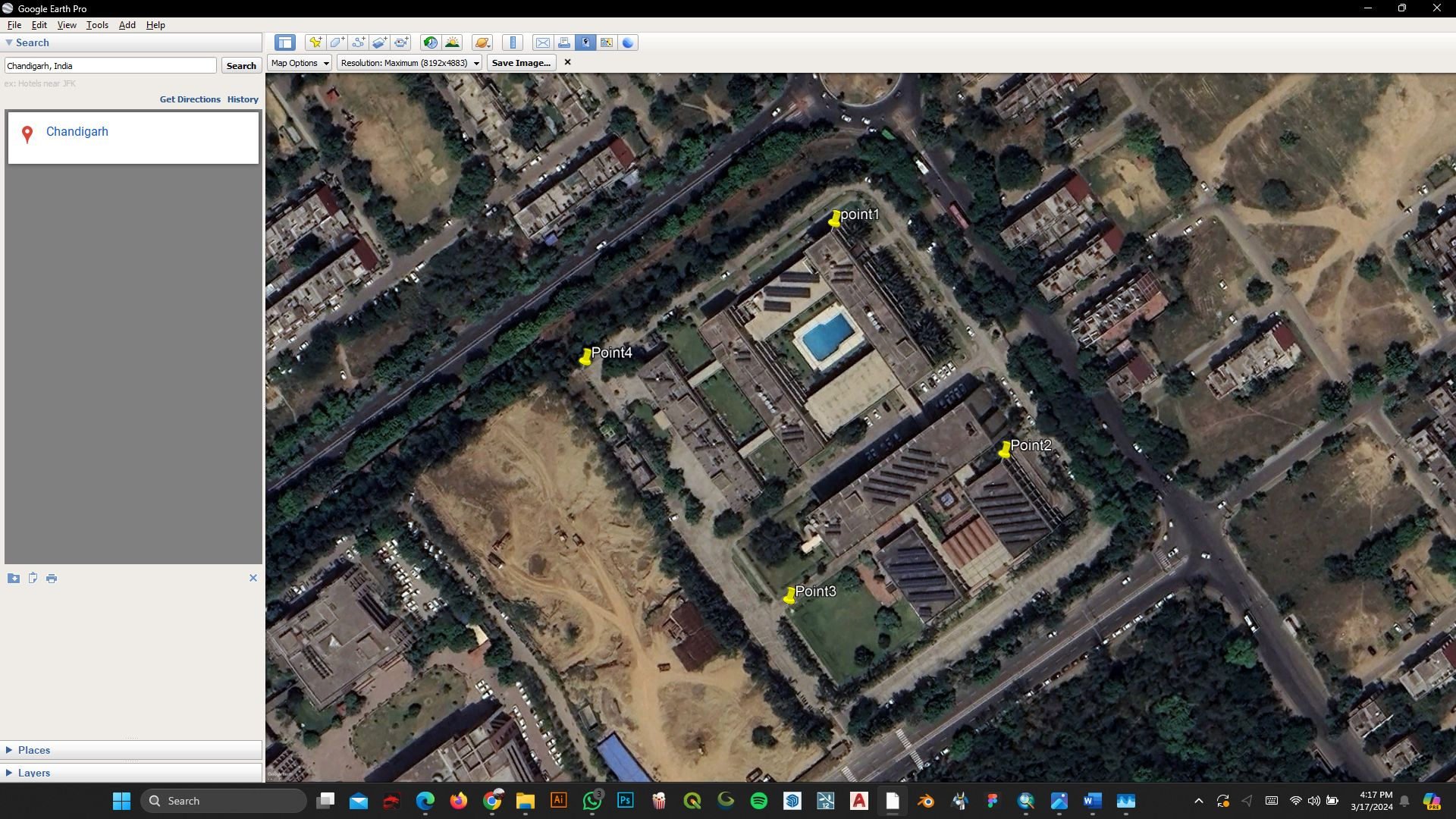
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point1
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Thank you!