

AI-assisted GIS assessment for Earth Map

[Earth Map](#) is an innovative, free, and open-source tool developed by the Food and Agriculture Organization of the United Nations (FAO) in the framework of the FAO-Google partnership. It was created to support countries, research institutes, farmers, and members of the public with internet access to monitor their land in an easy, integrated, and multi-temporal manner. It allows everyone to visualize, process and analyze satellite imagery and global datasets on climate, vegetation, fires, biodiversity, geo-social and other topics.

Earth Map was designed with the intention to make Geographical Information Systems (GIS) available to the wide audience, without prior knowledge of remote sensing. The recent development of Large Language Models, such as Chat GPT, opens the way to build an AI-based assistant that would further facilitate users' experience of Earth Map.

Earth Map's AI-based assistant would be designed to help users identify water-related challenges in a specific Area of Interest (AOI). By leveraging the available datasets and functionalities within Earth Map, the assistant could provide valuable insights and analysis on water resources. Users would interact with the assistant in natural language to obtain information and guidance on water-related topics. The assistant's capabilities should include:

1. **Dataset Identification:** The AI assistant can understand requests related to water and hydrology datasets available within Earth Map.
2. **Geospatial Data Visualization:** Users can specify the area and period of interest to the assistant, and it will display geospatial data tailored to that specific region and time frame. The assistant can present satellite imagery, maps, and other relevant data layers related to water resources in the AOI.
3. **Aggregation and Analysis:** When requested, the assistant can utilize existing scripts within Earth Map to aggregate geospatial data over a specified area of interest and/or timeframe. It will then process the data using the selected script and generate informative charts, including time series, bar charts, pie charts, or any other suitable visualizations. These visualizations should aid users in understanding water-related patterns and trends, leveraging the pre-existing analysis capabilities of Earth Map.
4. **(Optional) Interpretation and Guidance:** The AI assistant will utilize metadata and dataset source information to provide clear interpretation and guidance. It should offer insights into the significance of the displayed data, including its source, methodology, and limitations. The assistant will also provide recommendations for water management strategies, conservation practices, and further analysis based on identified issues in the AOI.

More information:

- Access Earth Map: <http://earthmap.org/>
- Earth Map Help Center: <https://help.earthmap.org/home>
- Earth Map Intro Video: https://www.youtube.com/watch?v=nySuP_G3LkA