TreeHome App

Team UNB 2023

TreeHome App is a web-based application that allows users to observe the Land use Land cover of the Fredericton city for the year 2017 and 2022. The raster file based on which the vector layer has been generated is download from ESRI/Sentinal-2 Land cover explorer and has a resolution of 10 m. All the processing has been done using ESRI software like ArcGIS Pro, ArcGIS online and ArcGIS web Appbuilder.

Some of the key characteristics of the TreeHome App that we have built are:

Map Display: The map display is the main feature of the TreeHome App, and it provides users with a detailed view of geographic data, including various layers and their attribute. TreeHome App contains two LULC layer for the year 2017 and 2022.The It Legend shows the classes present in the layer and we can easily switch the layers to visualize them individually.

Search Functionality: The TreeHome App offers users the ability to search for specific locations, addresses, or points of interest within the map. This feature makes it easy for users to find the information they need quickly.

Interactive Tools: The TreeHome App offers a wide range of interactive tools, including measurement tools and direction tools. These tools enable users to interact with the map and manipulate data.

Customizable Themes: The TreeHome App allows users to customize the visual appearance of their application by choosing from a range of customizable themes and styles. We can even change the base map.

Data Sharing: the TreeHome App makes it easy for users to share their data and applications with others. Users can share their applications with specific groups or make them available to the public.

Data Visualization: One of the main features of the App is that it provides users with various options for data visualization, which includes a dashboard and a story map.

The **dashboard** displays each class's percentage distribution for the years 2017 and 2022. The proportion has been shown using a pie chart, along with a legend that lists the entire area in square metres that made up that percentage underneath the pie chart. The LULC layer is also displayed on the dashboard, and we can easily flip between the layers and acquire details about a polygon by just left-clicking on it. For example, we can left-click on any polygon, then use the next feature and previous feature options to view the change between the two years. In some areas we can clearly observe some forest in 2017 being converted to built area. We can not only visualize all the data in one place on the dashboard, but we can even expand them individually.

Then the App contains a **story map** with the title Home for nature versus Home for human. It explains the context in which this app was created and conveys the message that despite all efforts to conserve them, the amount of forest cover is declining. The story map illustrates a portion of the Fredericton region where the forest has been converted to other classes.