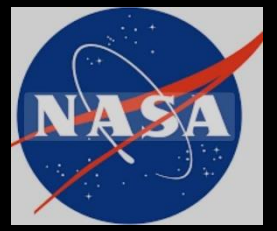
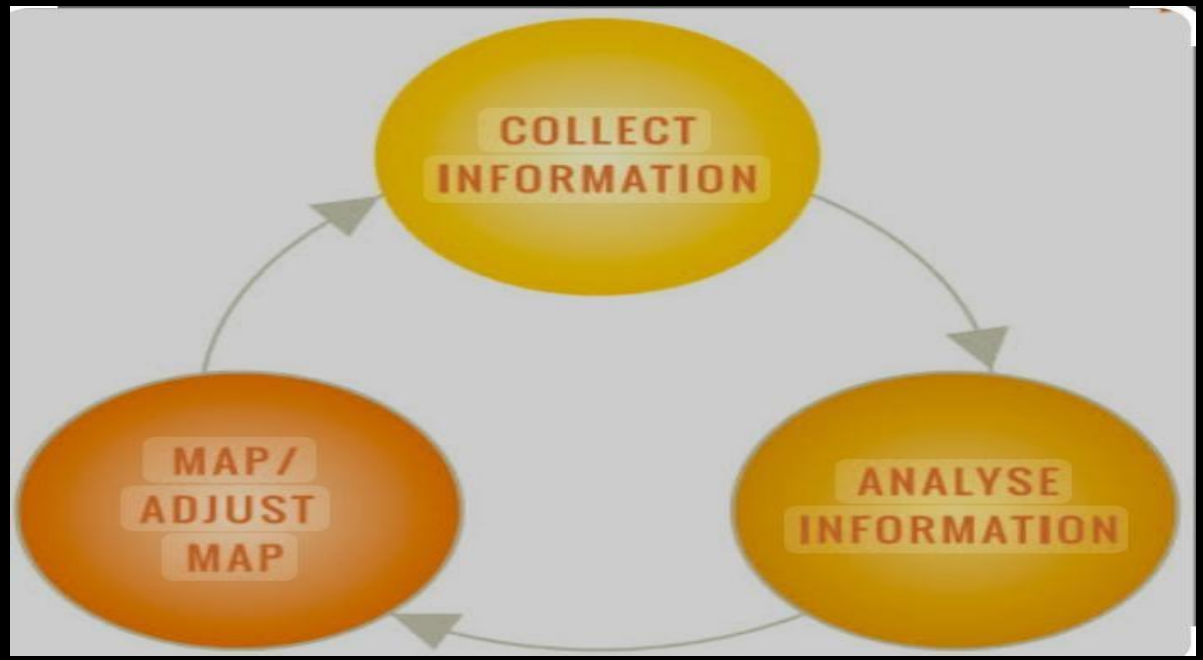


COMMUNITY MAPPING

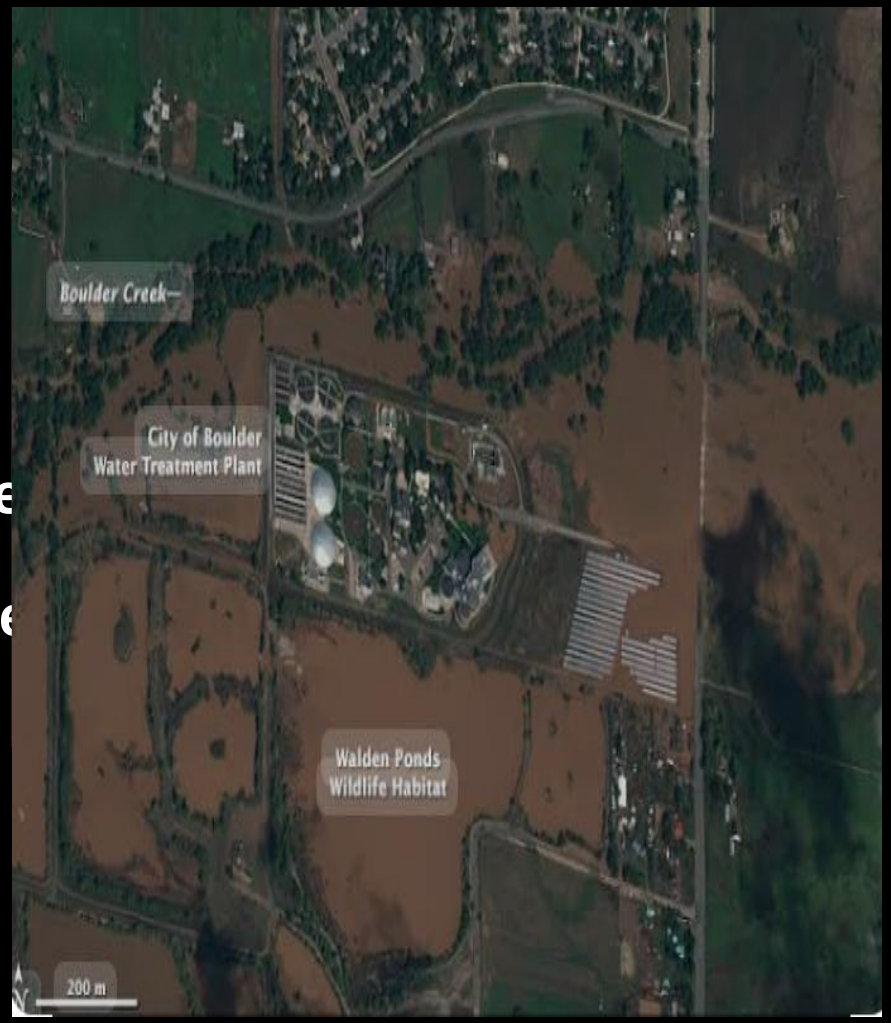
INTRODUCTION:

- A geographic information system (GIS) can create, manage, analyze, and map many types of data. With GIS and other mapping technologies, you can create a map of an area and layer open data over it spatially to reveal new, enriching insights.



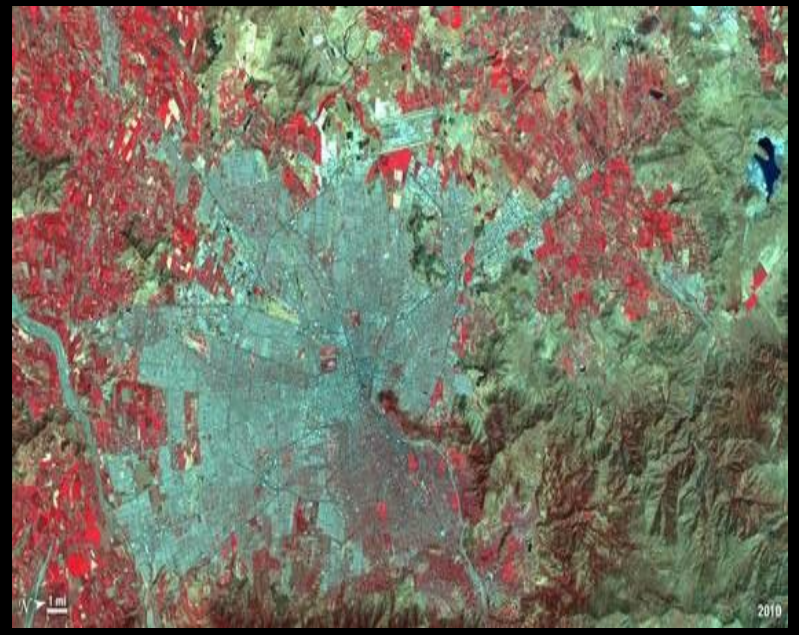
Ideation:

- This idea is used to **overcome the problems of health issues, food infections** and also **helps to avoid the suicidal rate of farmers**. It helps to increase the profit of the farmers.
- Highlights organic food outlets on the map would be valuable for health-conscious individuals.
- **Vehicle Garages:** Vehicle garages and **repair shops are essential for maintaining transportation. Mapping these helps residents find nearby locations for vehicle repair and maintenance.** Details to Include:
  Location of garages or service centers - Types of vehicles serviced (cars, bikes, etc.) - Special services (towing, 24-hour service)



Feasible solutions:

- **Low-Cost and Accessible Tools:**
- **Use Open-Source Software**: Platforms like **QGIS** and **Open Street Map (OSM)** provide powerful, free tools for creating and sharing maps. These tools can be used on basic computers and do not require expensive software licenses.
  - **Solution**: Train community members in using open-source mapping tools and integrate local knowledge into the maps. Tools like **Map box** and **Google My Maps** offer user-friendly interfaces for creating maps without technical expertise.
  - **Blending Traditional and Digital Mapping:**
  - :**Hybrid Approaches**: Use paper maps during community workshops and transfer the results into digital systems afterward. This ensures everyone can participate, regardless of technological skills.



Challenges:

- Technological Barriers:
- **Limited access to technology**: In rural or low-income communities, access to GPS devices, smartphones, or computers may be limited, making digital mapping difficult.
- Power Dynamics:
- **Unequal participation**: Certain groups may be excluded or dominate the process. This can result in biased maps that fail to reflect the needs of the entire community.
- Complex Data Interpretation:
- **Limited understanding of data**: Some community members may struggle to interpret complex spatial data, reducing the effectiveness of the mapping outputs.

Strategies :

- Inclusive Participation:
- **Engage diverse groups**: Ensure that everyone in the community, including marginalized and underrepresented voices, is Involved in the mapping process.
- Sustainability:
- **Long-term maintenance**: Ensure that maps are regularly updated and used in decision-making processes within the community.

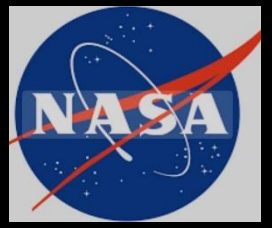
- **Complex Data Interpretation:**
- **Understanding of data**: Some community members may struggle
- **Data Privacy:**
- **Confidentiality concerns**: Some community members may not want sensitive data

Benefits of mapping:

- Empowerment and Ownership:
- **Local knowledge utilization**: Community mapping relies on local knowledge, giving residents the chance to document and validate their understanding of their own environment. This promotes a sense of ownership and control over community planning and development.
- **Enhanced Community Collaboration:**
- **Building consensus**: The participatory nature of community mapping fosters dialogue and collaboration among different stakeholders, including community members, local authorities, and external organizations.

BYTE

Technologies:



- **Geographic Information Systems (GIS):**
- GIS is a powerful tool for creating, managing, and analyzing spatial data.
- Cloud Computing :- access the location
- Python :- frontend
- Json:- dataset
- **Popular GIS tools**:
  - **QGIS** (open-source)
  - **ArcGIS** (proprietary but widely used)
  - **Google Earth Pro**

References:-

- https://youtu.be/A4sv41tSDAI?si=UHPVdbWXz2GQiCUj

For ideation video

- https://sites.google.com/view/jayashree1/home/untitled-page

For prototype

Thank You