Climate Care Alliance

Core Team:

- Dr Mahdi Maktabdar Oghaz (AI / Data Science)
- Dr Lakshmi Babu Saheer (Climate change / AI)
- Dr Naim Abdulmohdi (Health / Clinical Data)

Partners:

- Mexico Academia: (UTeM, INECC), Healthcare (Clinician)
- Mexico Stake holders: Flood relief NGO, Local Government
- UK stake holders: Mid and South Essex NHS Foundation Trust, Colchester and Hertfordshire county councils
- Mental Health Experts and Other collaborators in UK

Context

- Various climate datasets exist, yet they are often challenging to utilize in health research due to different spatiotemporal scales and incompatibilities with other data types such as health or financial data.

- The complexity of climate data often creates a barrier to entry, making data cleaning, harmonisation, standardization and pre-processing a challenging starting point for any analysis.

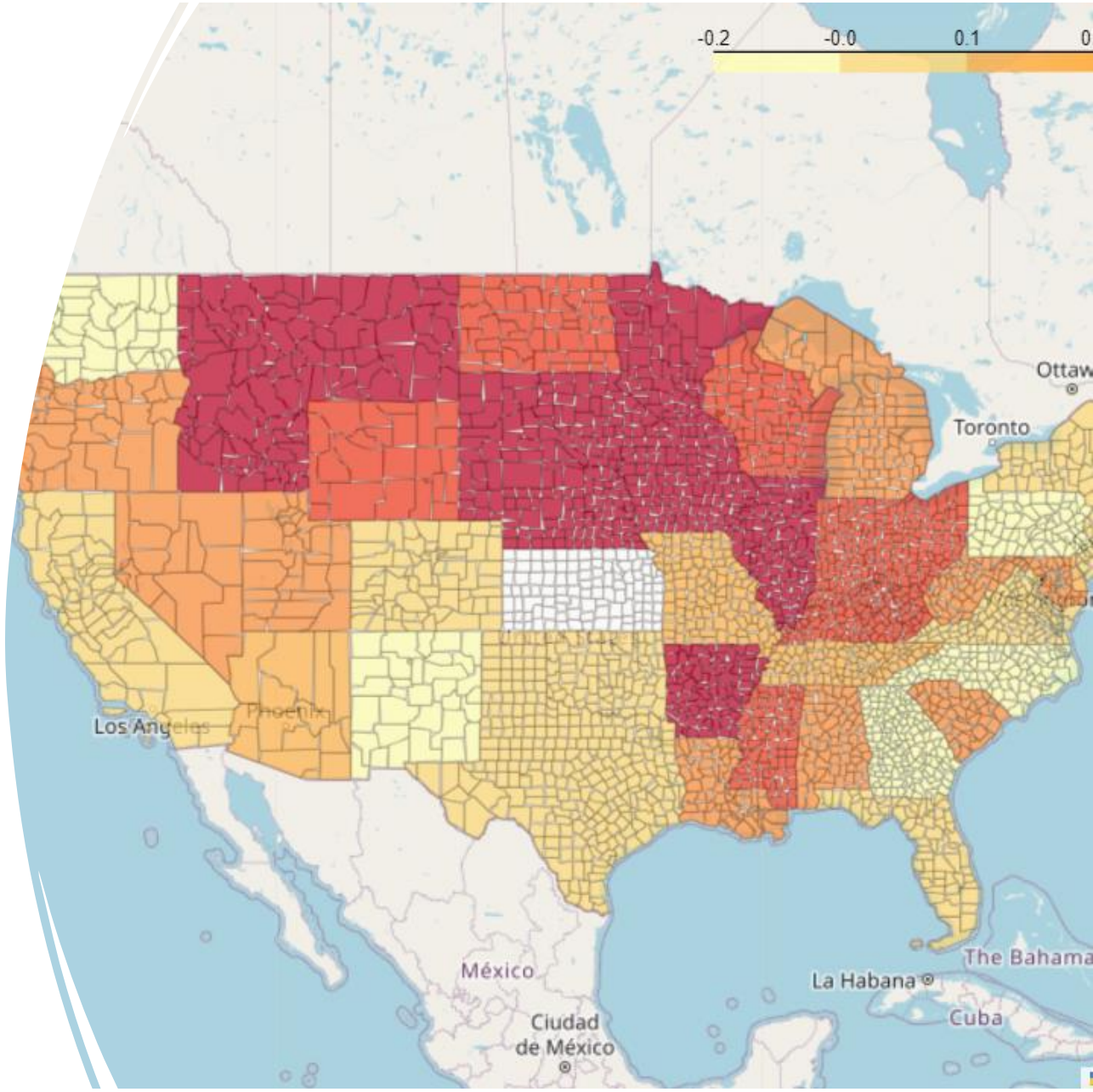
- Augmenting health data with climate data enables researchers to analyze the impact of environmental changes on health conditions, disease outbreaks, and overall public health.

Aim

Build a comprehensive data platform for visualization to aid researchers and policymakers to leverage the climate and health data for informed decision making and policy generation.

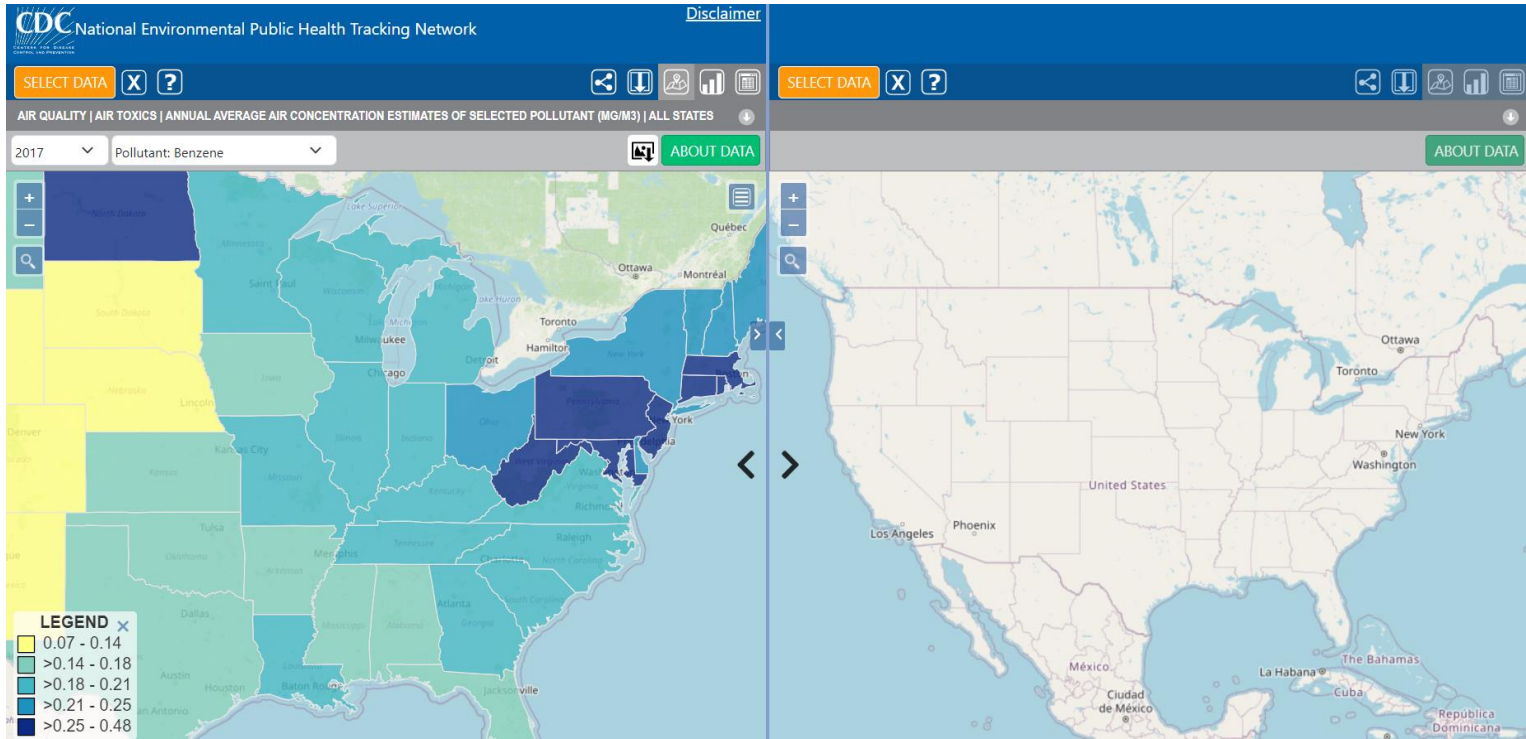
Vision

Create a platform for data driven policy making for healthcare and climate actions.



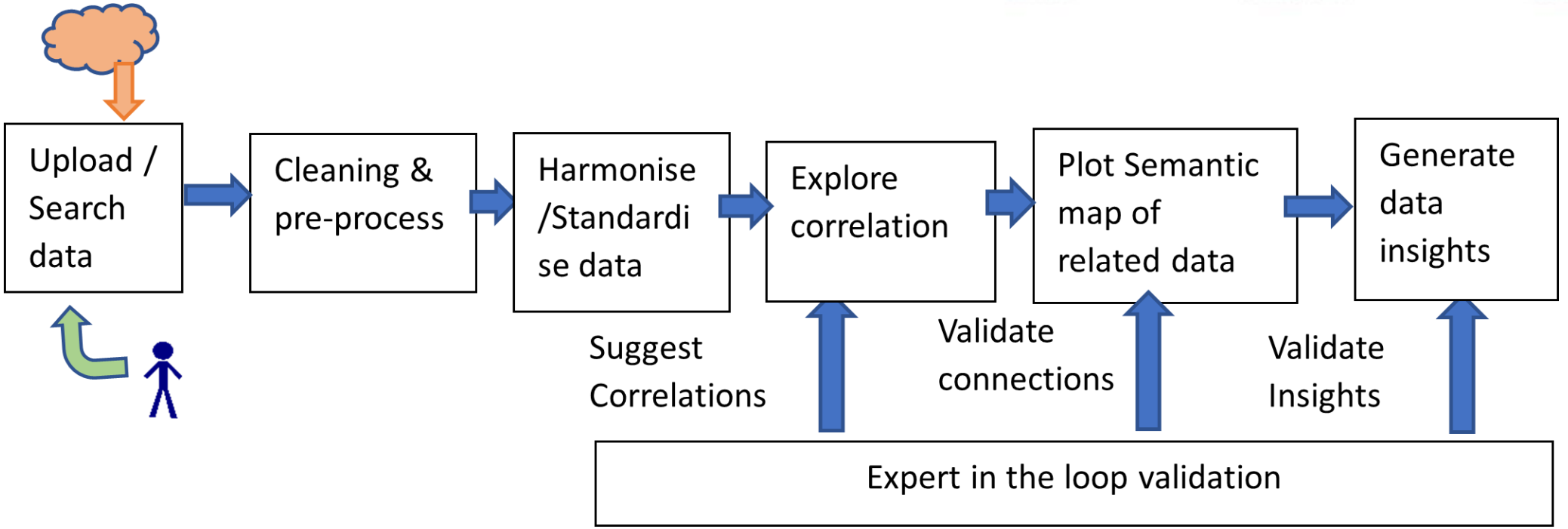
Accessible Climate & Health Data

- CDC Dashboard as reference
- Lack of Data correlations and Connections / Insights
- Limited Flexibility/Scalability
- Better visualisations
- Limited to US



MVP Key Contributions

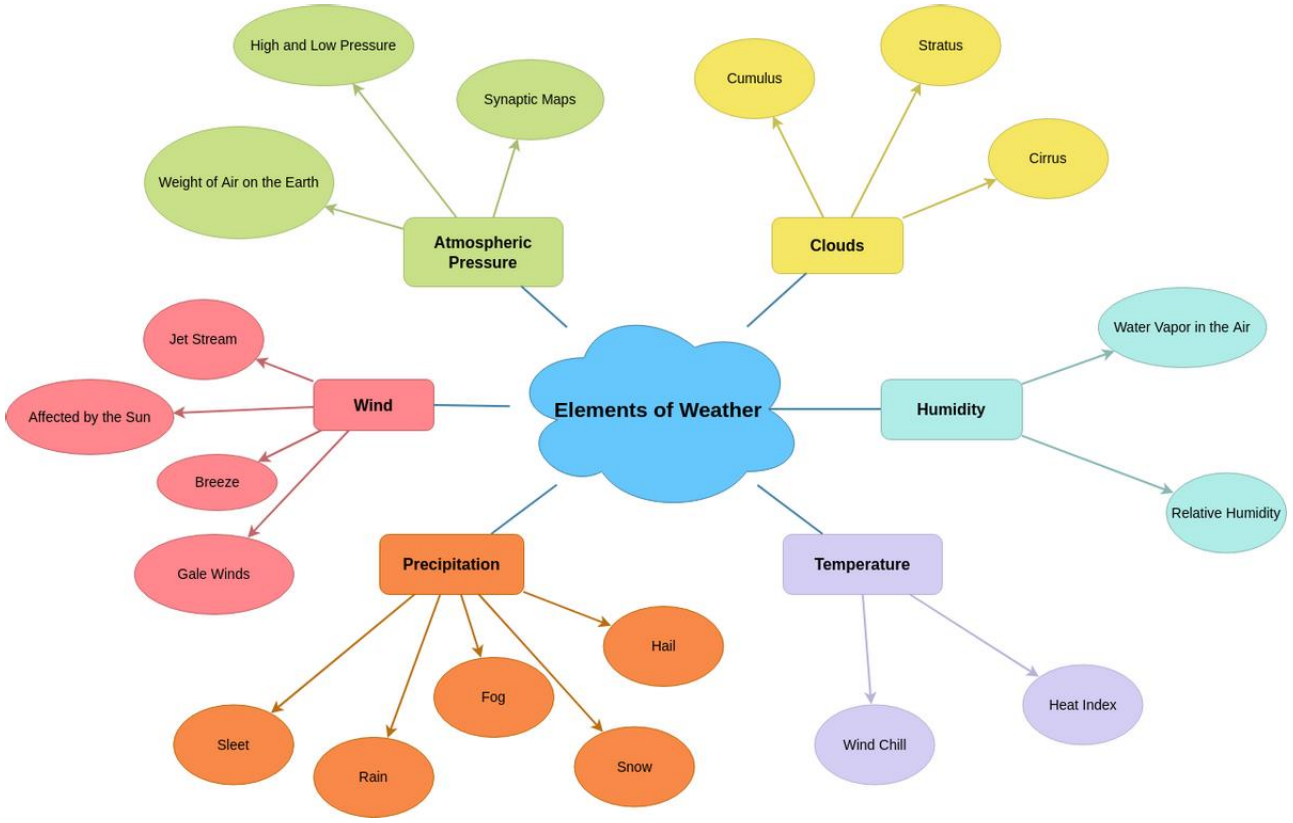
- Improved correlation metrics
- Expert in the loop
- Modularised Pipeline



Prototype Demo

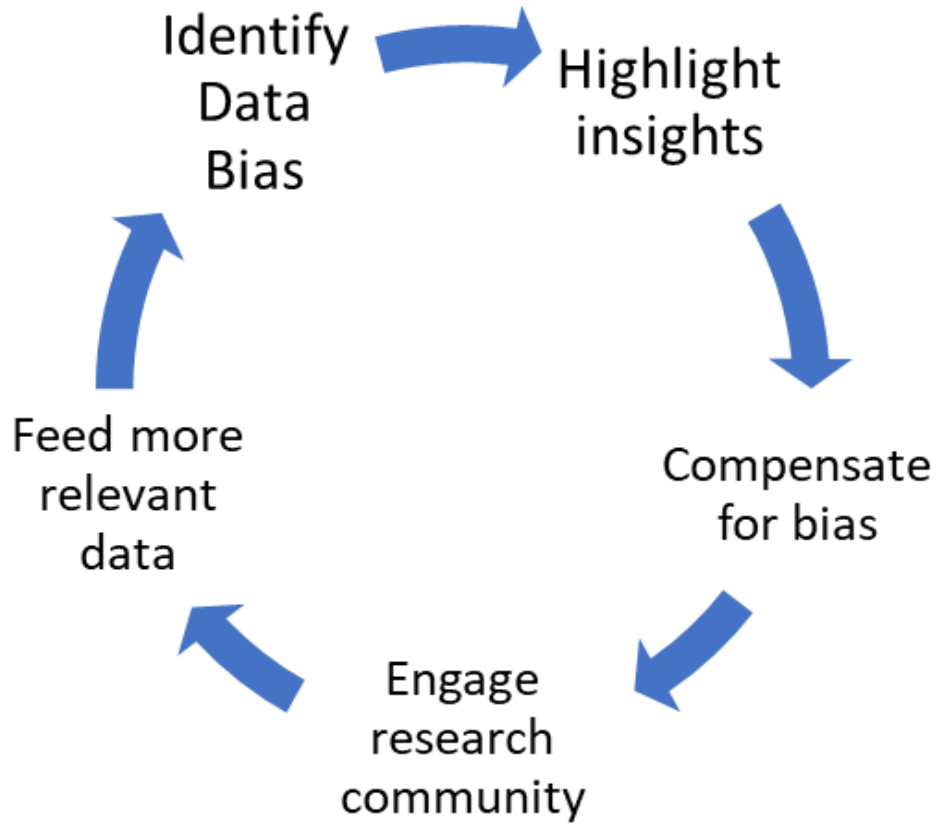
Planned Contributions

- Semantic maps for related datasets
- Designing advanced data relationship index – prior expert knowledge
- Automated Data Insights to support informed decisions



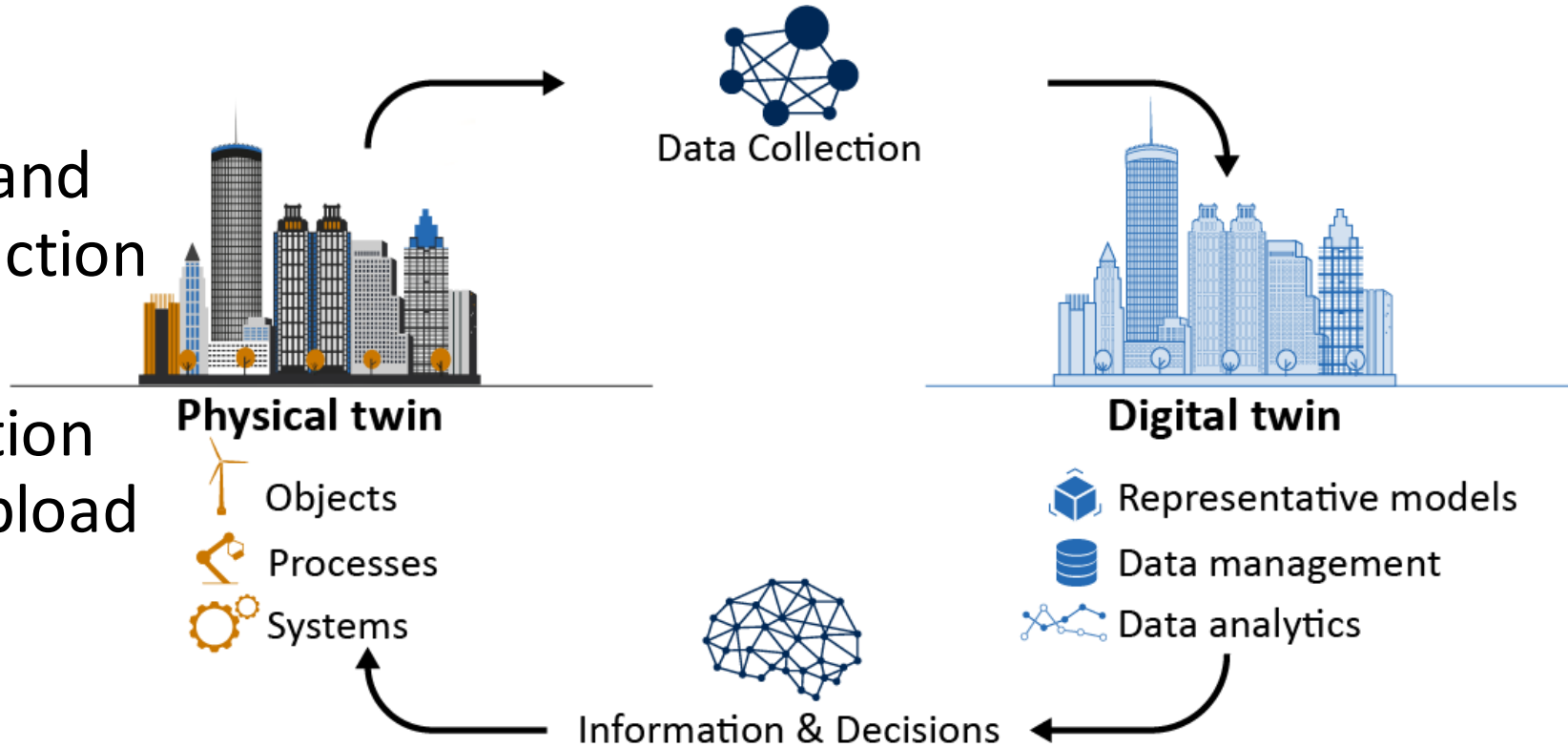
Future Work

- Co-creation of the platform with stake holders/policy makers
- Improved Geospatial Evaluation Index (dataset Correlation) alongside Confidence scores
- Identify, compensate and highlight bias
- Two Case Study in UK and Mexico
- Risk and EDI considerations



Long term Goals

- Digital Twin for impact and mitigation/adaptation action planning
- Standardise data collection protocols and enable upload of harmonised data



Sources: GAO; ladoga/stock.adobe.com. | GAO-23-106453

Challenge Questions

- 1. How can your platform handle multiple types of data and how can users choose how data can be collapsed and interpolated? How will you trade-off user-choice against design decisions that favour optimal methods?

Customisable Pipeline with build-in data harmonisation (customisable).

2. How would you visualise complex data across multiple spatiotemporal scales?

Interactive Semantic maps and advanced geospatial index.

- 3. How can users search and access data and be informed about benefits and limitations (including possible biases) of data and data types across different scales?

Bias compensation cycle.and data insights

Thank you