

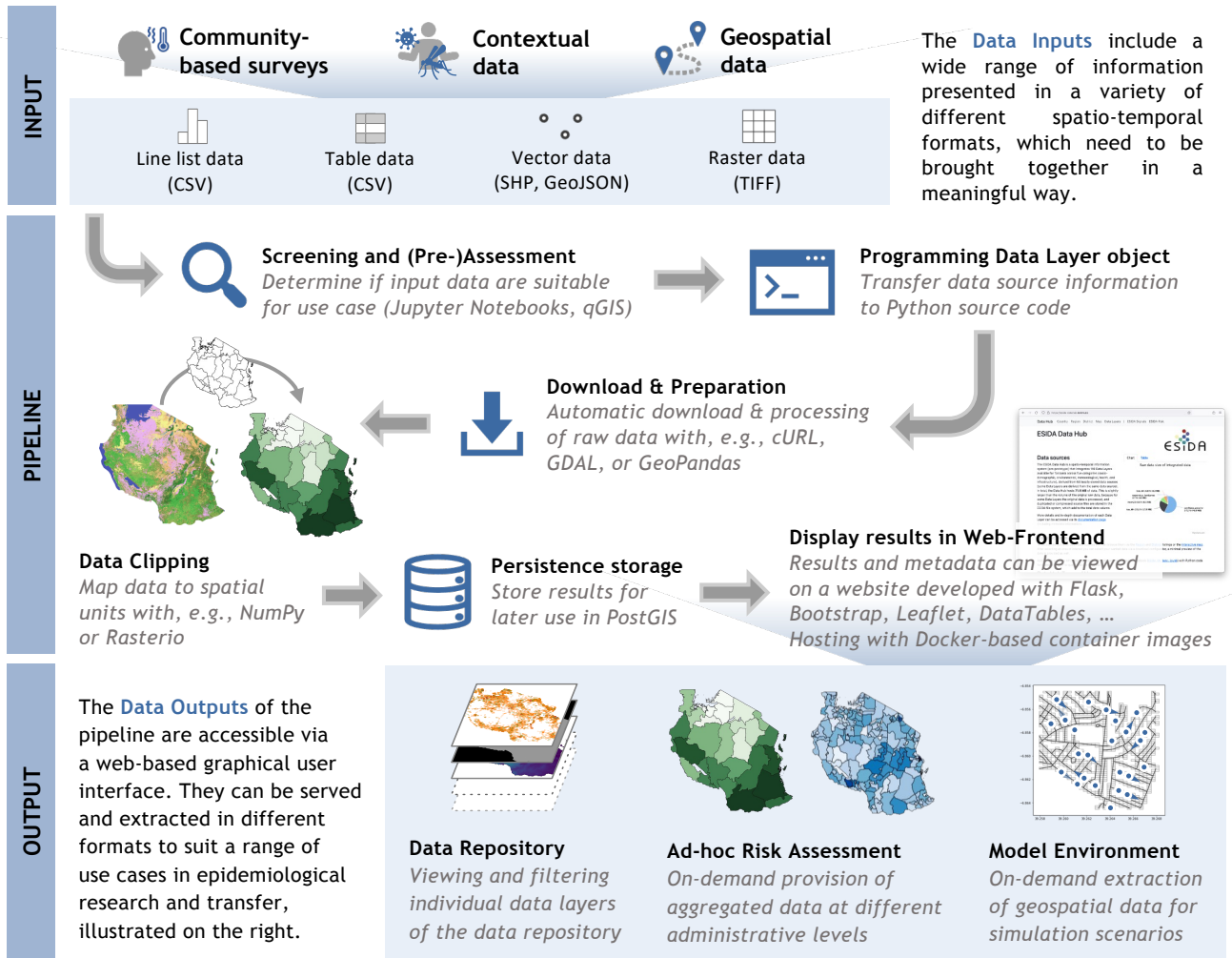
ESIDA MODULE 4

Harmonization and Processing of Spatio-Temporal Data

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BACKGROUND AND OBJECTIVE:

Infectious diseases remain a significant disease burden in low-and-middle-income countries, favoured by limited capacity for timely detection and response. Intelligence from various data sources can help overcome this challenge and strengthen epidemic preparedness and response. **Module 4** aims to develop a novel information system, the **ESIDA Data Hub**, that harmonizes health and contextual data gathered through mobile health tools (Module 2) and Open Data sources (Module 3) to inform public health decisions. Dengue fever in Tanzania, East Africa, serves as our test case, given its multifaceted epidemiology and regional relevance.



SUMMARY AND OUTLOOK:

The **ESIDA Data Hub** affords stakeholders access to a comprehensive repository of 100+ data layers across five categories (socio-demographic, environmental, meteorological, health, and infrastructure) from more than 50 sources. This enables the creation of dynamic workflows to determine data values for specific locations and points in time (e.g., outbreak events) and inform subsequent data analysis. Being an open-source and locally deployable system, the Data Hub can be transferred to other use cases and geographic scales, facilitating broad adoption in public health, research, and education.



The source code of the **ESIDA Data Hub** is licensed under **MIT** and is available on **GitHub**.
<https://github.com/MARS-Group-HAW/esida-db>

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