MyGeoHub: A geospatial science gateway for collaborative science

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MyGeoHub:

Making it easy for non-geographic information system expert to access, use and share geospatial data free, on the web
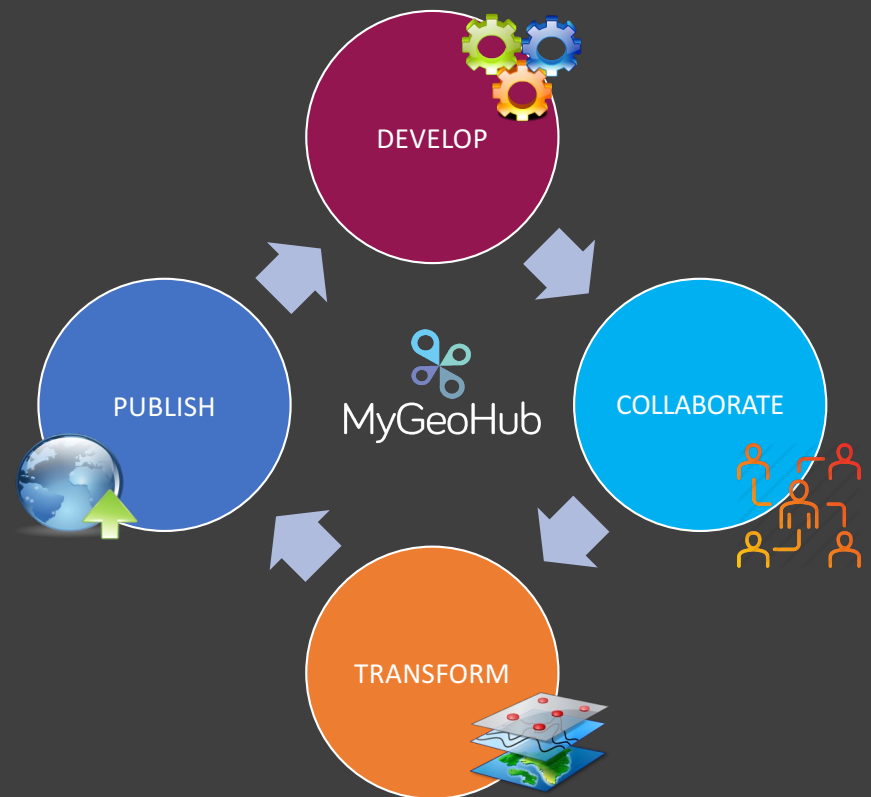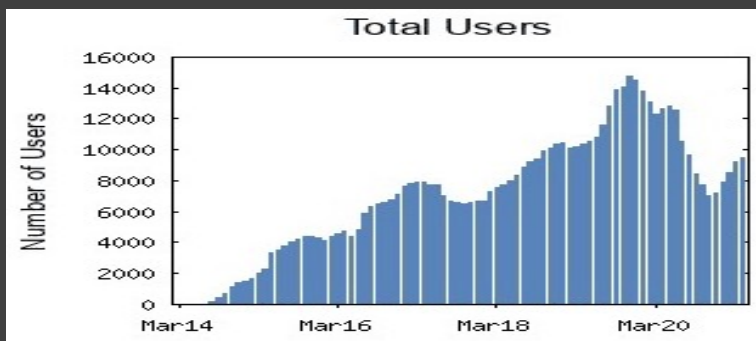
A web platform connected with powerful computing resources (campus, national)

Specialize in supporting geospatial data (maps, location related data, data that has a geographic context e.g., earth surface elevation data,

Employ a "multi-tenant model" for project hosting – shared infrastructure cost
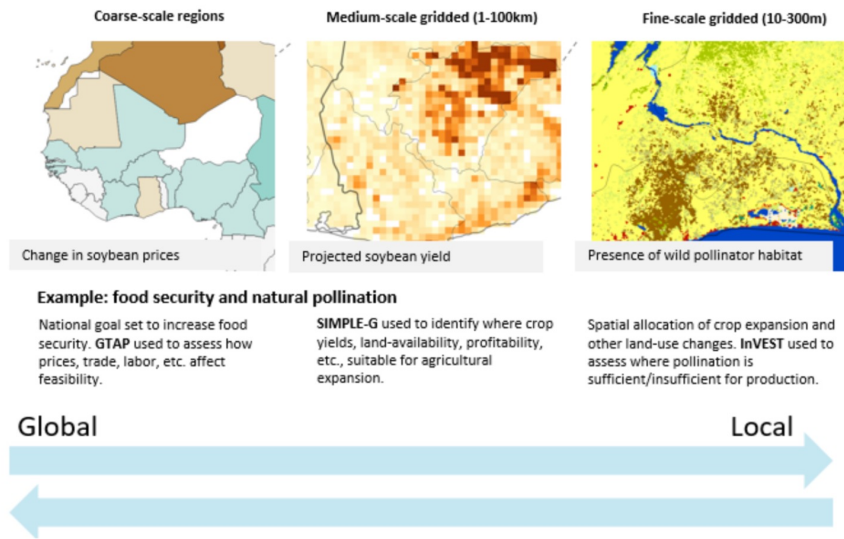
Support >10 funded projects + more

Annual users ~10,000

DEVELOP

COLLABORATE

TRANSFORM

PUBLISH

MyGeoHub

GLASSNET
Global-Local-Global Analysis of Systems Sustainability
An International Network of Networks

Meeting Sustainable Development Goals on a planet with limited land and water resources

Coarse-scale regions — Change in soybean prices
Medium-scale gridded (1-100km) — Projected soybean yield
Fine-scale gridded (10-300m) — Presence of wild pollinator habitat

Example: food security and natural pollination

National goal set to increase food security. **GTAP** used to assess how prices, trade, labor, etc. affect feasibility.

SIMPLE-G used to identify where crop yields, land-availability, profitability, etc., suitable for agricultural expansion.

Spatial allocation of crop expansion and other land-use changes. **InVEST** used to assess where pollination is sufficient/insufficient for production.

Global → Local

Gaps and Challenges

- Incomplete, inaccurate, and non-standard data on different **scales**
- Conceptual and scale-dependent modeling differences across **disciplines**
- **Computational** challenges
- Poor **interoperability** of data, models, and software
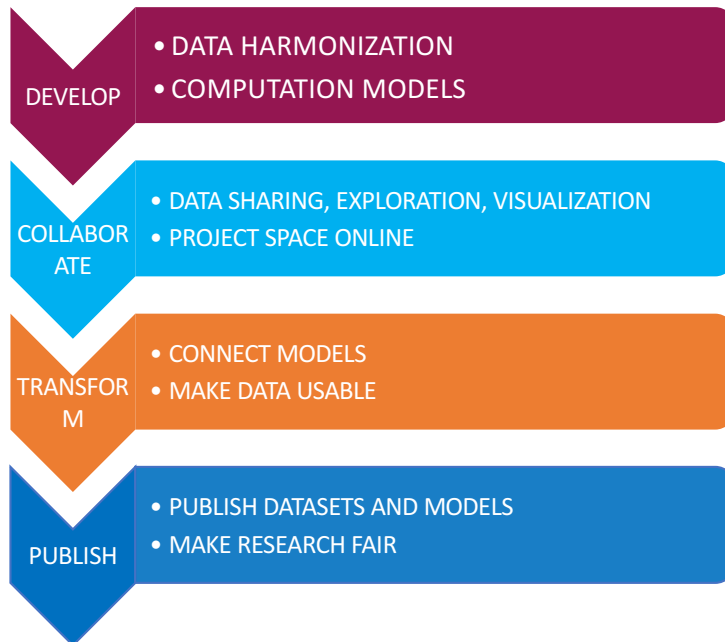- Lack of institutional support and **incentives for collaboration**

Team includes 7 networks globally, from students to senior researchers, social scientists to physical scientists

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MyGeoHub

DEVELOP
- DATA HARMONIZATION
- COMPUTATION MODELS

COLLABORATE
- DATA SHARING, EXPLORATION, VISUALIZATION
- PROJECT SPACE ONLINE

TRANSFORM
- CONNECT MODELS
- MAKE DATA USABLE

PUBLISH
- PUBLISH DATASETS AND MODELS
- MAKE RESEARCH FAIR

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