



NSF's Convergence Accelerator

## NSF Convergence Accelerator's 2022 Cohort Phase 1 Award

### Project Title

Food, Land, Water Environmental  
Open-Source Risk Intelligence Synthesis  
Model (FLOWER-ISM)

### Awardee

Mesur.io

### Award/Contract #

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### Award Contract Type

R&D

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### NSF Funded Program

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### PROJECT ABSTRACT

Effective forecasting and strategic collaborations are essential to providing decision makers at every level of government with the tools needed to make investment decisions that ensure access to food is met for all citizens. Led by Mesur.io, the project team will incorporate machine learning (ML) to establish the Food, Land, Water Environmental Open-Source Risk Intelligence Synthesis Model (FLOWER-ISM).

This project will provide a technical and policy toolset, as well as the framework for a highly collaborative approach that engages leading governmental, industry, and academic partners to achieve both program-specific objectives and broader objectives of the NSF's Convergence Accelerator. This multidisciplinary effort brings together experts with diverse backgrounds in data science, technology development, food systems, urban greenspace, business, policy, curriculum development, community management, interdisciplinary research, law, intellectual property, and international trade. Areas of focus include identifying risks for conflict, water shortage, and food availability; forecasting for competing needs of water for human consumption, agriculture, industry, urban greenspace; and recognizing the impacts of climate change and land use change on food & water systems.

Built as a Verified Information Environment (VIE) and acting as a clearinghouse with standards for integrating multiple sources of data; this platform will be built to integrate data from national and international food chain/web sources to allow it to be scalable for use in multiple states, regions, and continents. The initial work will target North Carolina where there is a rich history in the agricultural sector.

Using a multidisciplinary approach, use-inspired research, and innovation processes, the National Science Foundation's Convergence Accelerator provides an opportunity to accelerate solutions into practical application and provide a positive societal impact.