ResiliSense: Satellite-Driven Climate Resilience Measurement Platform



Measure resilience from space. Direct evidence for climate-smart investment.

ResiliSense is a digital platform that provides climate resilience indicators for farms, districts, and agricultural systems using satellite data and machine learning. It helps governments identify vulnerable areas, target public investments, support climate adaptation planning, and track progress toward national and international climate commitments.

International Institute of Tropical Agriculture (IITA)
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This technology is **not yet validated**.

6·5 Scaling readiness: idea maturity 6/9; level of use5/9

Inclusion assessment 16 12 12

Climate impact 5 1

Problem

- Outdated and infrequent resilience data
- Lack of detailed local-level information for decision-making
- Difficulty tracking and reporting climate adaptation progress

Solution

- Regular, up-to-date resilience monitoring from satellite data
- Local-level insights to guide targeted public investment
- Standard indicators for NDC, NAP, and climate reporting

Key points to design your project

ResiliSense is a satellite and AI-based platform that measures climate resilience at farm level using Earth observation data.It strengthens climate reporting, adaptation finance proposals, and progress tracking for global goals like the SDGs and international climate frameworks.

To implement it effectively, projects need to:

- Define the geographic area and key resilience indicators with IITA
- Prepare or collect ground-truth data for model calibration and validation
- Budget for adaptation costs such as localization, training, and analysis (the tool itself is free)
- Train users and stakeholders to interpret and use the results in decision-making
- Communicate results through reports, dashboards, and policy materials
- Integrate resilience indicators into national or project M&E systems

For best results, ResiliSense should be linked with national M&E systems, climate services, early warning systems, insurance schemes, and agricultural extension programs, and implemented in collaboration with research institutes and climate agencies.

IP

Open source / open access

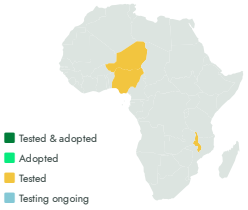
Commodities

Sustainable Development Goals

Categories

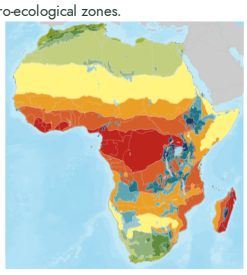
Production, Postharvest, Marketing, Pre-production, Digital applications, Advisory and information service, + -3 more

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers, Governments, Researcher center, Soil scientists, Advisory and Extension Services, Seed Regulators, + 2 more