



Food and Agriculture
Organization of the
United Nations

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FAO DIGITAL SERVICES PORTFOLIO

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Working together for Zero Hunger
through digital innovation

FAO AGRICULTURAL STRESS INDEX SYSTEM (ASIS)

The Agricultural Stress Index System (ASIS) monitors agricultural areas with a high likelihood of water stress/drought at global, regional and country level, using satellite technology.

ISSUE

Drought affects more people than any other type of natural disaster and is the most damaging to livelihoods, especially in developing countries. Recent trends indicate that droughts are increasing in magnitude and severity, affecting livelihoods and food security, and generating losses that may be felt well beyond drought-affected areas.

Monitoring crop growth across the globe is crucial to forecast production and provide early warning of situations where crop failures may lead to food shortages.

As ground meteorological data for drought monitoring is seldom adequate or timely, FAO developed the Agricultural Stress Index System (ASIS), together with the Flemish Institute for Technological Research (VITO) and the Joint Research Centre of the European Commission.

ACTION

ASIS uses satellite-based remote sensing data to detect agricultural areas (cropland or grassland) with a high likelihood of water stress (dry spells and drought). It simulates the analysis that an expert in remote sensing would undertake and simplifies the

- **Satellite data from METOP-AVHRR sensor at 1 km resolution.**
- **Detects hotspots around the world every 10 days.**
- **Unique archive of agricultural drought hotspots since 1984.**
- **ASIS won the Geospatial World Excellence Award in 2016.**



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interpretation and use of the data for users who are not remote sensing experts.

The ASIS global website, available in six languages, went online in 2014. It provides analysts with updated indicators every 10 days at the global level and for 196 countries.

A standalone version (Country-level ASIS) has been developed for use at country or regional level to strengthen National Early Warning System for food security. The standalone tool allows countries to fine-tune parameters of the system based on detailed land-use maps and national crop

MORE INFORMATION

GIEWS Earth Observation website:
www.fao.org/giews/earthobservation/



statistics, thereby generating more accurate results.

ASIS supports FAO's global staple food supply and demand monitoring work, especially in the context of the Global Information and Early Warning System (GIEWS).

IMPACT

ASIS is an important advancement in the use of

satellite-based data for crop/pasture monitoring as it provides an easy-to-interpret product for non-experts in remote sensing. Since 2016, Country-level ASIS has been implemented in Bolivia (Plurinational State of), Nicaragua, the Philippines and Central America (Dry Corridor) and is currently being implemented in Peru (Puno Province), Panama, Paraguay, Pakistan and Viet Nam.

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Working for  #ZeroHunger

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