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of the United Nations

Geospatial World Forum 2022

Digital Agriculture FAO Hand-in-Hand Geospatial Platform

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Food security and nutrition around the world

Between 720 and 811 million people affected by hunger

150 million more people impacted since the outbreak of the COVID-19 pandemic

1 in 3 people do not have access to adequate food



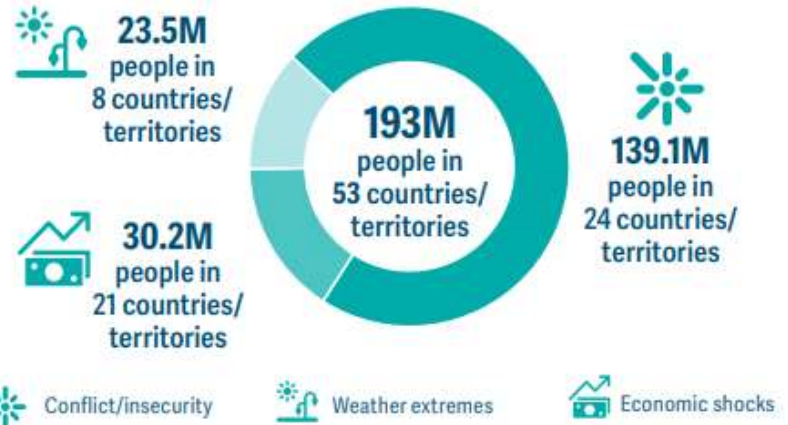


Agrifood systems need urgent action

193 million people in 53 countries or territories **experienced acute food insecurity at crisis or worse levels** in 2021

This represented an **increase** of nearly **40 million** people compared with the numbers of 2020

Numbers of people in Crisis or worse (IPC/CH Phase 3 or above) or equivalent by key driver in 2021



Note: Many food crises are the result of multiple drivers. The GRFC has based this infographic on the predominant driver in each country/territory.

Source: FSIN, GRFC 2022.



Leveraging digital agriculture's potential



- Digital technologies have a key role to play in **accelerating progress towards the Sustainable Development Goals**
- FAO is committed to **leveraging their potential** to contribute **better production, better nutrition, a better environment and a better life**, leaving no one behind.



Leveraging digital agriculture's potential

Data-driven technologies are **impact** and **transformation enablers and accelerators**

- Geospatial technologies bring new opportunities to reduce hunger and poverty
- Agricultural data and access to digital technologies directly support the overall rural transformation





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Hand-in-Hand Geospatial Platform



<https://data.apps.fao.org>

Show Worldwide | Story | Map | Share / Print | About



Give Feedback

Lat Lon Elev 300 km




FAO Hand-in-Hand Initiative (HiH)

Hand in Hand Initiative

 Target the poorest

 Match making

 FAO mandate and
SDG targets

 Partnerships

 Provide a framework

The Geospatial Platform is
the main technical tool
enabling the Hand-in-Hand
Initiative

Evidence-based, country-led and country-owned initiative to improve targeting and tailoring of policy interventions, drive innovation, encourage finance and investment flow, and institutional reforms.

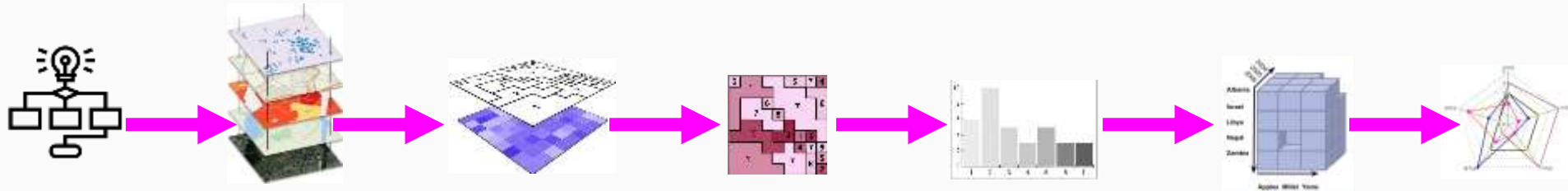
Help identify and actualize the biggest opportunities to raise the incomes and reduce the inequities and vulnerabilities of rural populations, who constitute the vast majority of the world's poor.



FAO Geospatial Platform

Integrates many dimensions of reliable, timely, high resolution data to support identifying opportunities, designing interventions, monitoring progress, and evaluating impact:

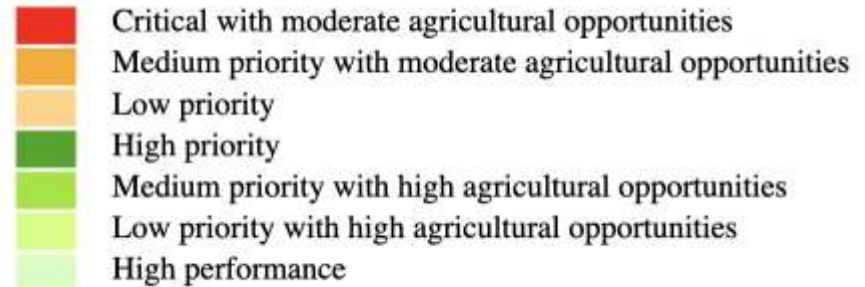
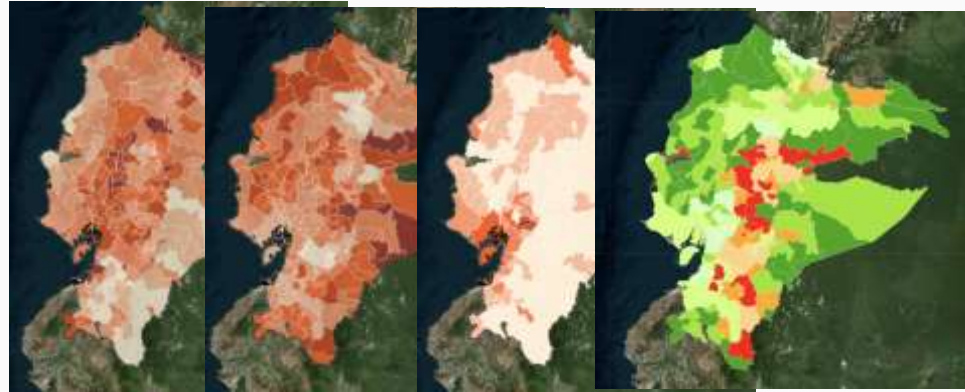
Soil, Land, Water, Climate, Fisheries, Livestock, Crops, Forestry, Trade, Social and Economics and much more



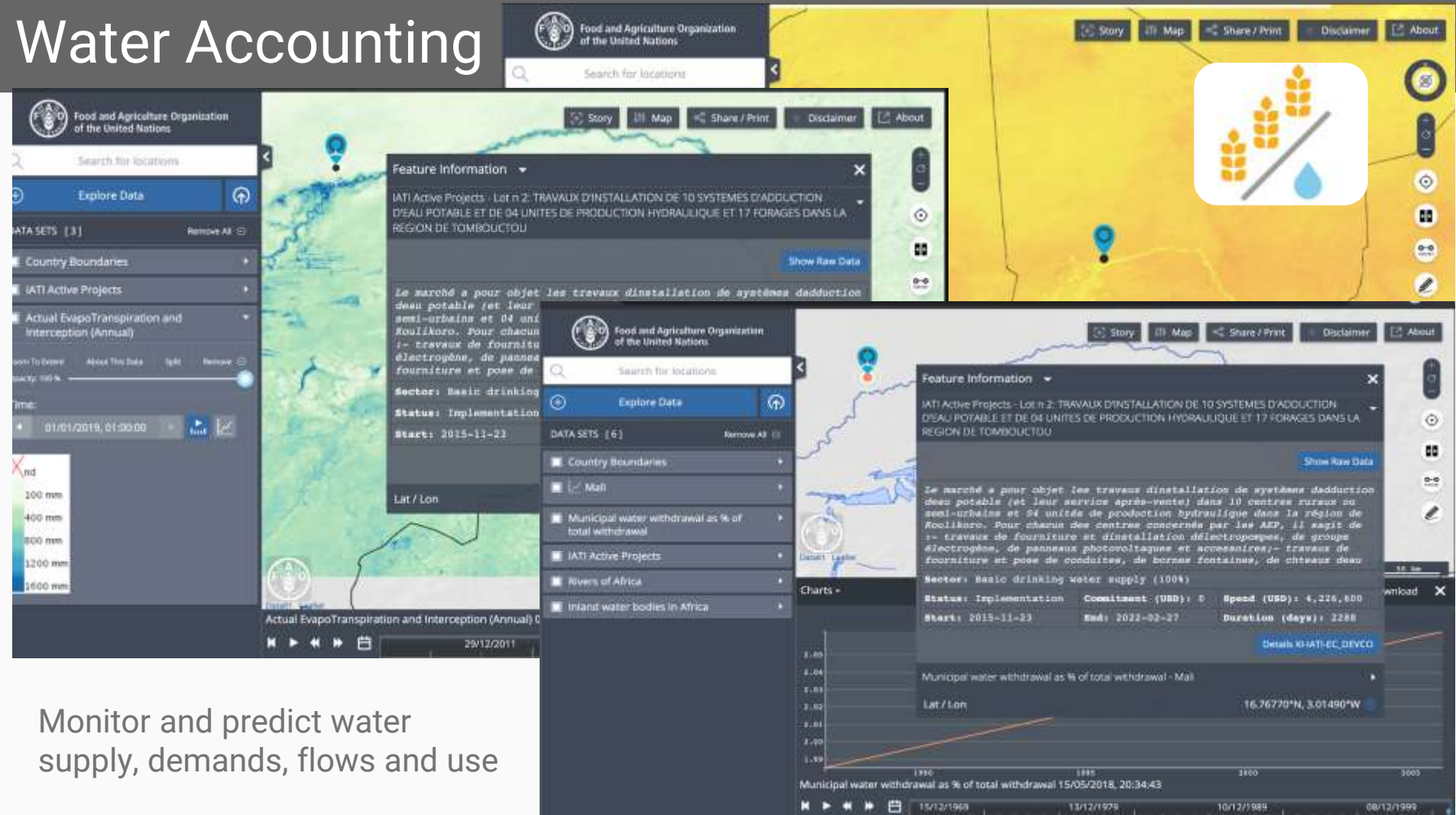


HiH Agricultural Typology Analysis

Micro-regional level innovation opportunities, bottlenecks and investment gaps are identified. The concept is based on production possibilities frontier applied to farm activities, it draws on highly detailed household-level survey, agro-ecological conditions, accessibility, and poverty geospatial data.



Water Accounting



Monitor and predict water supply, demands, flows and use

Search for locations

Explore Data

DATA SETS [2]

Remove All

Country Boundaries

Agricultural Stress Index (ASI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

Zoom To Extent
Opacity: 60%

Season

Season 1

Land

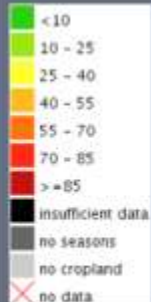
Cropland (ha)

Time:

20/02/2021, 01:00:00

Live

Chart



Food Security Crops and Vegetation Livestock Trade and Production Land Water Climate Fishery Forestry

Done

Socioeconomic and Demographic Novel Coronavirus (COVID-19) Boundaries and Backgrounds Tools My Data

Search the catalogue

Hotspots (Countries with unfavourable prospects for current crops)

Production, Yield and Harvested Area

Agricultural Stress Index (ASI)

Agricultural Stress Index (ASI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

Agricultural Stress Index (ASI) - Annual Summary (Global - Annual - 1 Km) - ASIS

Historic Agricultural Drought Frequency (Global - 1 Km - ASIS)

Crop/Pasture Phenology (Global - 1 Km - ASIS)

Vegetation Condition Index (VCI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

Vegetation Condition Index (VCI) - Monthly Summary (Global - Monthly - 1 Km) - ASIS

Vegetation Health Index (VHI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

Vegetation Health Index (VHI) - Monthly Summary (Global - Monthly - 1 Km) - ASIS

Mean Vegetation Health Index (Mean VHI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

Mean Vegetation Health Index (Mean VHI) - Annual Summary

DATA PREVIEW

Remove from the map



Agricultural Stress Index (ASI) - Near Real Time (Global - Dekadal - 1 Km) - ASIS

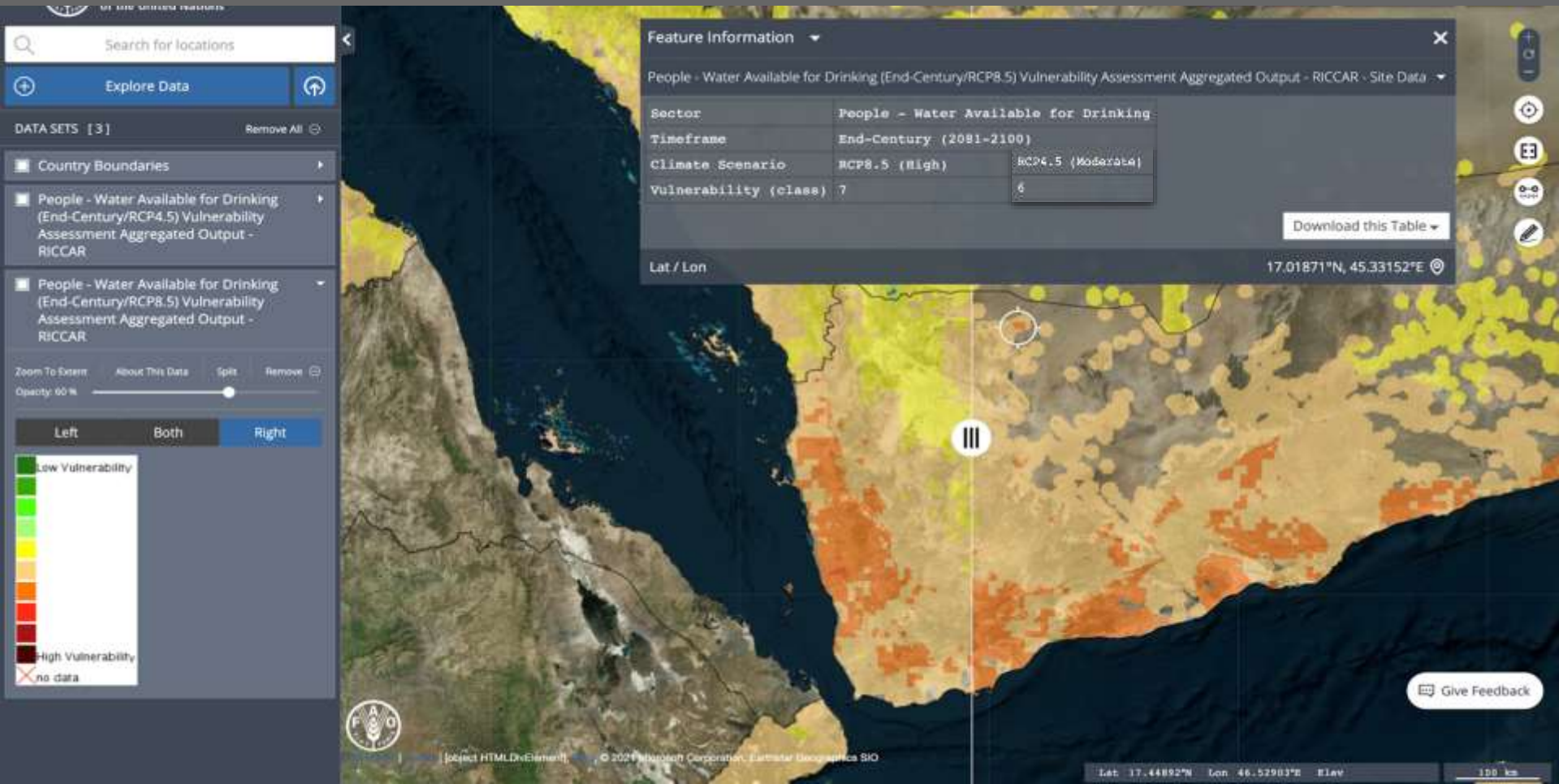
Description

Agricultural Stress Index (ASI) - Near Real Time is a quick-look indicator that facilitates the early identification of cropped land with a high likelihood of water stress (drought). It depicts the percentage of arable land, within an administrative area, that has been affected by drought conditions from the start of the season up to the current dekadal. It differs from ASI Annual product which describes the drought conditions over the entire crop season.

The Index is based on the integration of the Vegetation Health Index (VHI) in two dimensions that are critical in the assessment of a drought event in agriculture: temporal and spatial. The first step of the ASI calculation is a temporal averaging of the VHI, assessing the intensity and duration of dry periods occurring during the crop cycle at the pixel level; this calculation includes the use of crop coefficients, which introduces sensitivity of a crop to water stress during each phenological phase. The second step determines the spatial extent of drought events by calculating the percentage of pixels in arable areas with a VHI value below a critical threshold (this value was identified as a critical threshold in assessing the extent of drought in research by Kogan, 1995). Each administrative area is classified according to the percentage of

Give Feedback

Climate Change Risk Assessment (RICCAR)



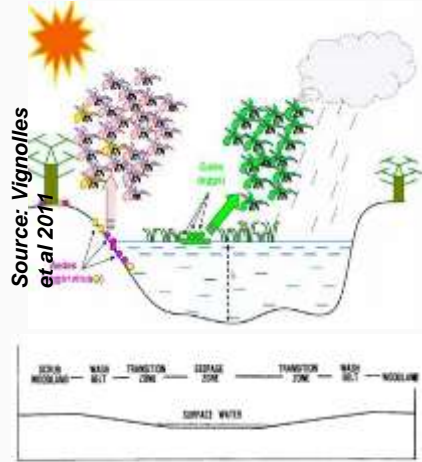
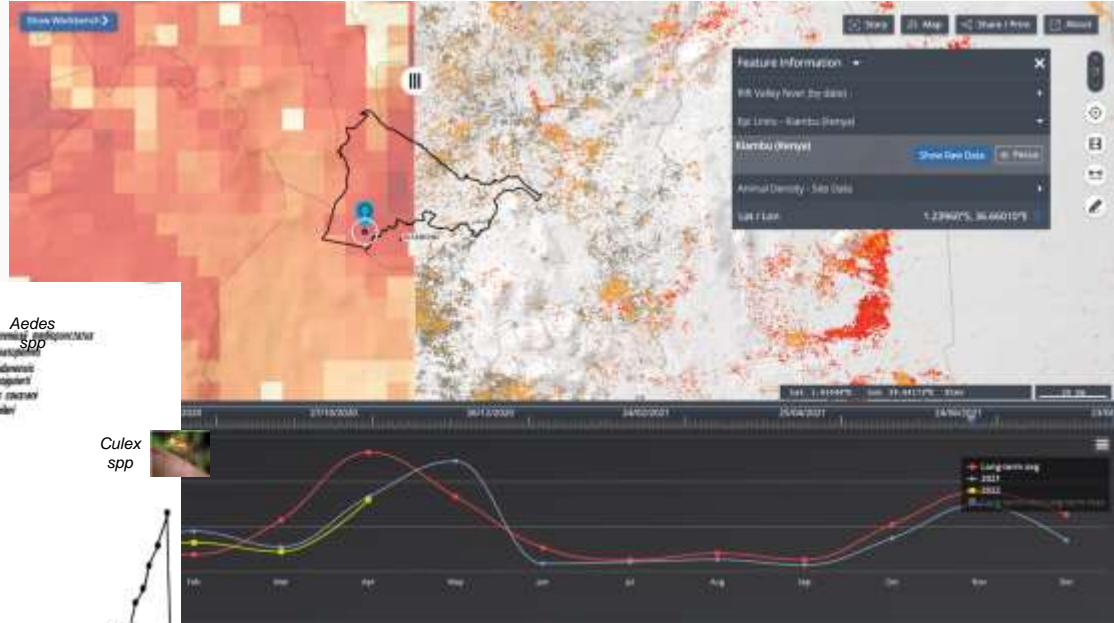


Prediction and Early Warning

Rift Valley Fever Decision Support

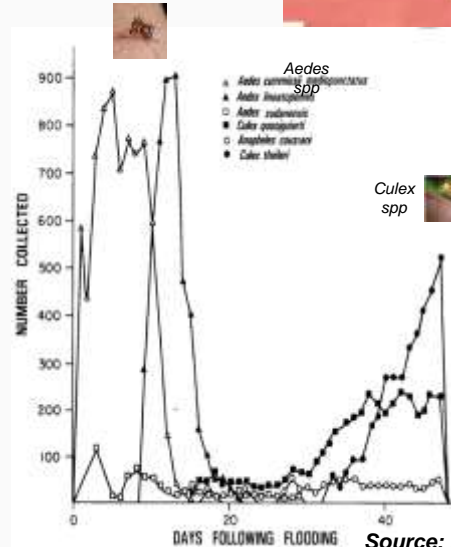
vector amplification risk

dynamic model



Source: Vignolles et al 2011

Source: Linthicum et al. 1983



Source: Linthicum et al. 1983



Feedback and More



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Hand-In-Hand Geospatial Platform



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Welcome to FAO Hand-In-Hand Geospatial Platform



fao-data@fao.org

<http://www.fao.org/hih-geospatial-platform/en/get-started/quick-start-guide/>



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Thank you

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