AGROCLIMATOLOGY
Analyzing the effects of weather and climate on food security

Rainfall, snowfall, air and sea surface temperatures - all these directly affect the ability of small and large scale farmers to grow crops, raise livestock, and produce food for their families and communities. While food security depends on a complexity of factors, perhaps none is more consistently influential than weather and climate.

FEWS NET AND AGROCLIMATOLOGY

Against the backdrop of a changing environment, FEWS NET draws heavily on weather and climate information for its integrated food security analysis. Four United States government agencies - the National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), US Department of Agriculture (USDA), and US Geological Survey (USGS) - are indispensable partners, providing data on current conditions, historical trends, and future forecasts.
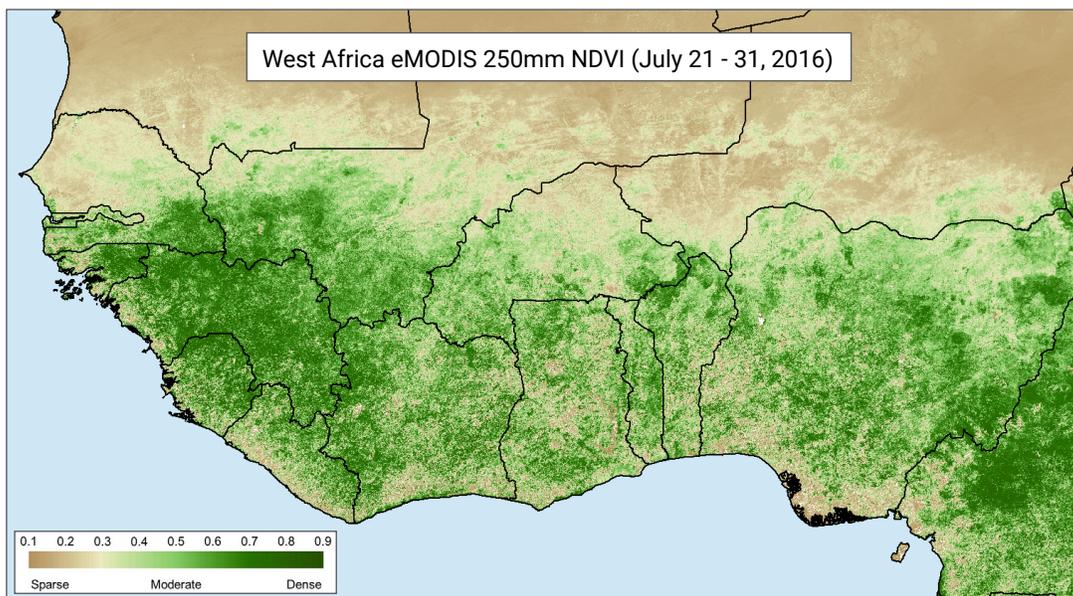
THE PARTNERSHIP IN PRACTICE

NASA and NOAA collect and process satellite data, which is used by all FEWS NET partners to derive specialized products, typically represented by maps. More specifically:

- NOAA's Climate Prediction Center provides regular weather forecasts and longer-term seasonal outlooks, highlighting trends, hazards, and anomalies.

- NASA's Applied Sciences Program conducts interdisciplinary research and develops land surface models on vegetation and water availability.

- USGS's Earth Resources Observation and Science Center, together with researchers at the University of California, Santa Barbara, and four FEWS NET regional scientists, analyzes remote sensing and geospatial data on vegetation, rainfall, and water use to produce country and region specific depictions related to the growing season. The regional scientists are based in Botswana, Guatemala, Kenya, and Niger.

- USDA's Foreign Agricultural Service supports in-country crop assessments.

- FEWS NET food security analysts integrate weather and climate data with information on markets and trade, nutrition, and livelihoods to evaluate current and future food security conditions for some 35 countries. FEWS NET's worldwide field offices and Washington, DC technical office are managed by Chemonics International Inc.

FEWS NET IN BRIEF

Created by USAID in response to the 1984 famines in East and West Africa, the Famine Early Warning Systems Network (FEWS NET) provides early warning and integrated, forward-looking analysis of the many factors that contribute to food insecurity. FEWS NET aims to:

- Inform decision-makers and contribute to their emergency response planning

- Support partners in conducting early warning analysis and forecasting

- Provide technical assistance to partner-led initiatives

West Africa eMODIS 250mm NDVI (July 21 - 31, 2016)

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9
Sparse   Moderate   Dense

KEY PRODUCTS

- Normalized Difference Vegetation Index (NDVI)
- Rainfall Estimate (RFE)
- Actual Evapotranspiration (ETa)
- Water Requirement Satisfaction Index (WRSI)
- Climate Hazard Group InfraRed Precipitation (CHIRPS)
- Monthly reports on global weather hazards and seasonal monitoring by region

USAID FROM THE AMERICAN PEOPLE