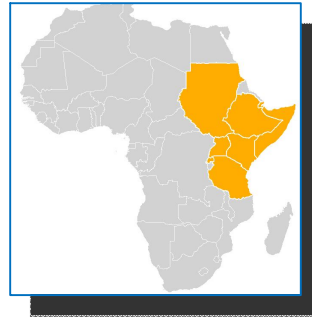




FEWS NET – East Africa:

User Needs & Expectations



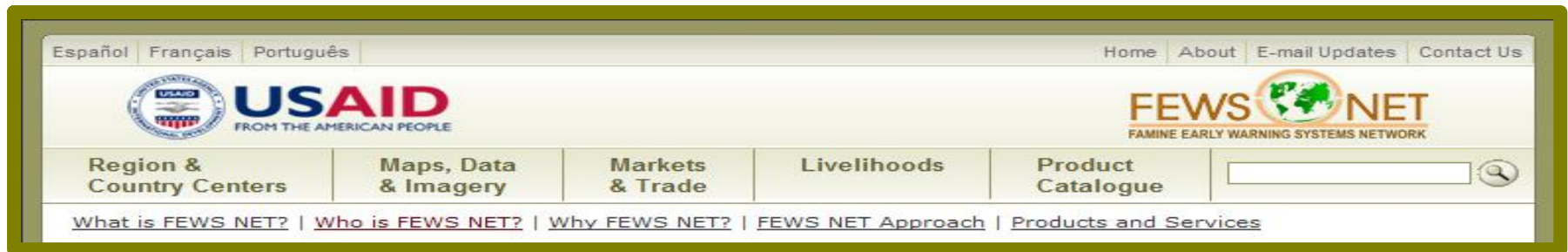
Gideon Galu
ggalu@fews.net
USGS/FEWSNET

Outline:

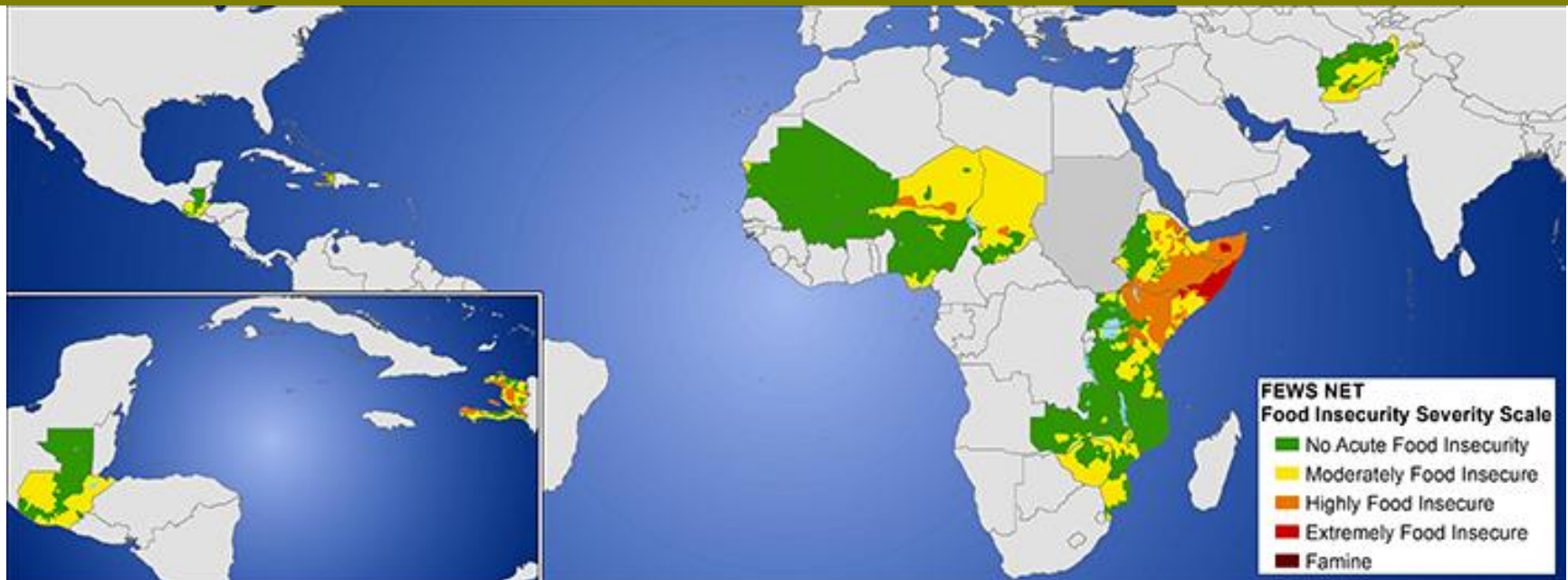
- 1. Overview: FEWS NET (Mandate, Coverage & Activities)**
- 2. Needs & Challenges: Early Warning & Monitoring**
 - Spatial and Temporal resolution
 - Time-lines & Reliability
 - Agro-Hydro-Climatic characterization: Vulnerability Mapping
 - Seasonal Forecasts interpretation & assimilation
 - Regional/National climate change scenarios
- 3. Opportunities & Recommendations**
- 4. Conclusion**

USAID/Famine Early Warning Systems - NETwork

<http://www.fews.net>



The screenshot shows the top navigation bar of the FEWS NET website. It includes language options (Español, Français, Português), utility links (Home, About, E-mail Updates, Contact Us), the USAID logo with the tagline 'FROM THE AMERICAN PEOPLE', and the FEWS NET logo with the tagline 'FAMINE EARLY WARNING SYSTEMS NETWORK'. Below these are five main menu categories: 'Region & Country Centers', 'Maps, Data & Imagery', 'Markets & Trade', 'Livelihoods', and 'Product Catalogue'. A search bar is located to the right of the menu. At the bottom of the header, there are several links: 'What is FEWS NET?', 'Who is FEWS NET?', 'Why FEWS NET?', 'FEWS NET Approach', and 'Products and Services'.



1. Covering over 26 countries in Africa, Afghanistan, Central America and Haiti.
2. Over 20 years experience in food security monitoring, analysis & early warning in sub-Saharan Africa.
3. Work in collaboration with International, Regional & National Partners...

The vision and working assumptions for FEWS NET:

Appropriate information, provided to the right people in the right way, is a powerful tool for saving lives and supporting livelihoods.

Appropriate information	right people	right way	saving lives	supporting livelihoods
Using a rigorous analytical framework to connect a field reality to ongoing decision making.	Building networks of information providers and decision-makers who have the power to make important changes	Developing consensus around good information and building capacity in African institutions to meet specific information needs.	Encouraging appropriate targeting of emergency provisions and services both geographically and to particular income groups within an area.	Identifying appropriate policies and development initiatives to help rural (and urban) households become better off and to prevent future food crises.

“ Overall Goal: Save Lives & Livelihoods ”

FEWS NET Livelihood-based Approach:

<http://www.fews.net>

- **Livelihood (socio-economic)- based Monitoring & Analysis** of food security indicators:
 - Availability (food production)
 - Accessibility (Markets & Trade)
 - Utilization (Nutrition & Health)
 - Stability of these indicators (Volatility)

All these are highly impacted by both Weather/Climatic & Non-Climatic factors...

Example: Current Food Security Status

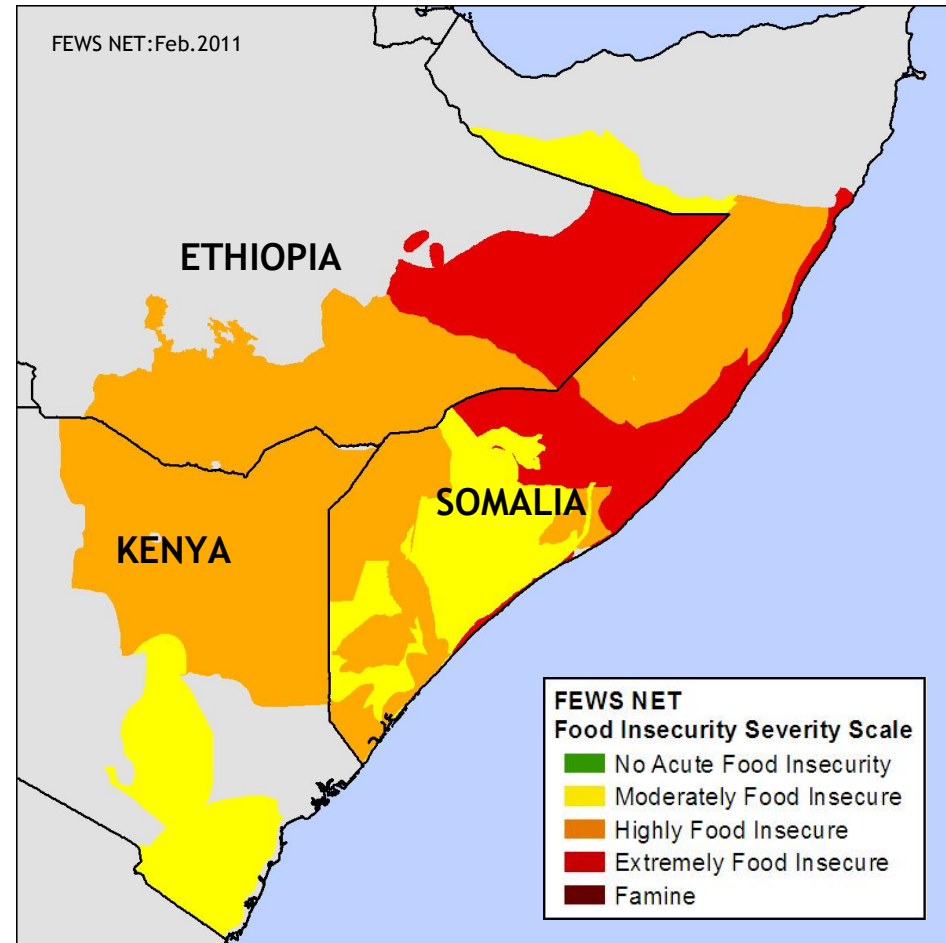
Roughly 4.7 million people in the “scenario” areas are currently unable to make the investments needed to maintain current livelihoods. A significant proportion are also unable to meet basic food and water needs required for survival.

Scenario areas	Est. food insecure pop.
Somalia ¹	~2.1 million
Kenya ²	~1.5 million
Ethiopia (Somali)	~1.1 million
Total	~4.7 million

¹ FSNAU post-Deyr analysis (national total = 2.4 million)

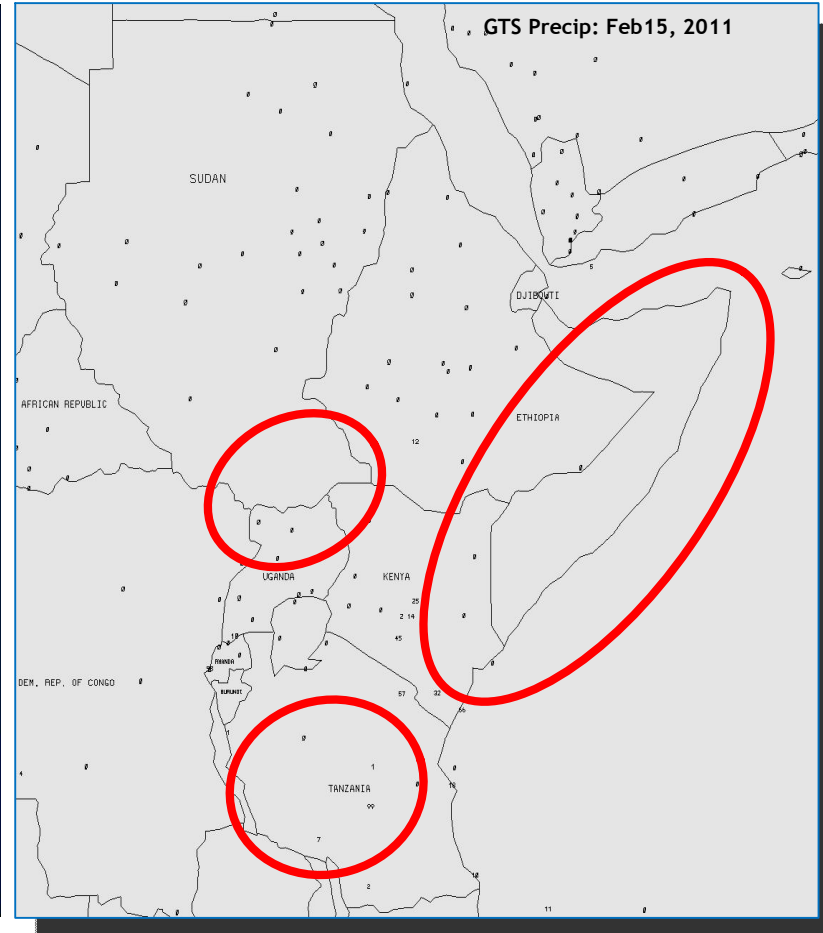
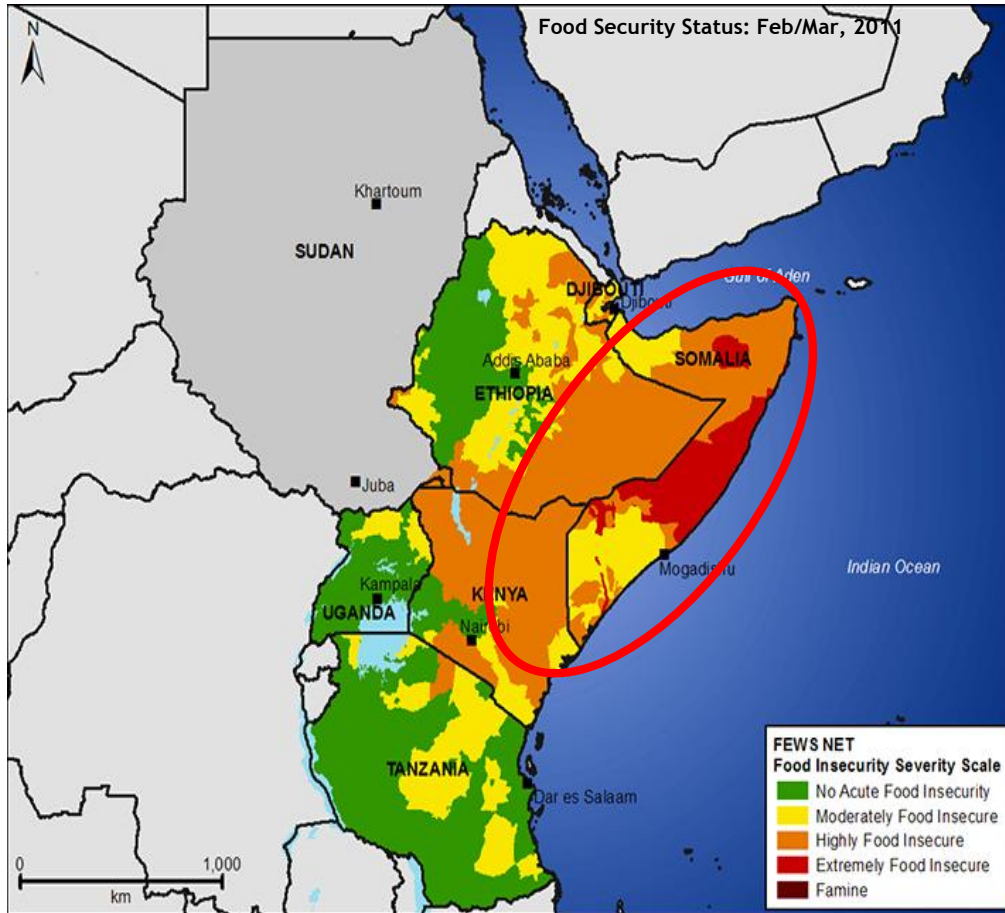
² Short-rains assessment findings (national total = 2.44 million)

³ February 2010 Humanitarian requirements document (national total = xx million)



Needs & Challenges:

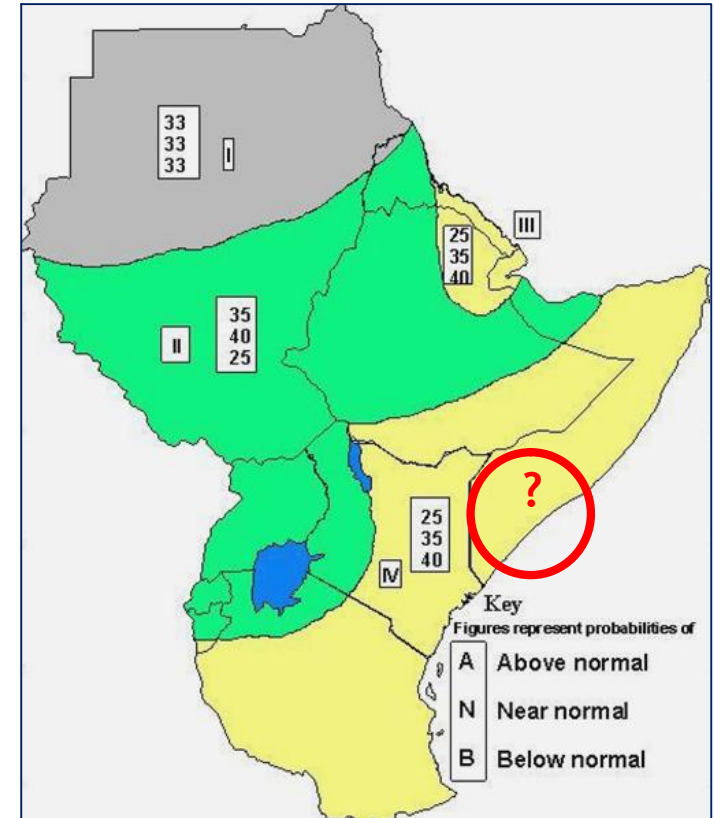
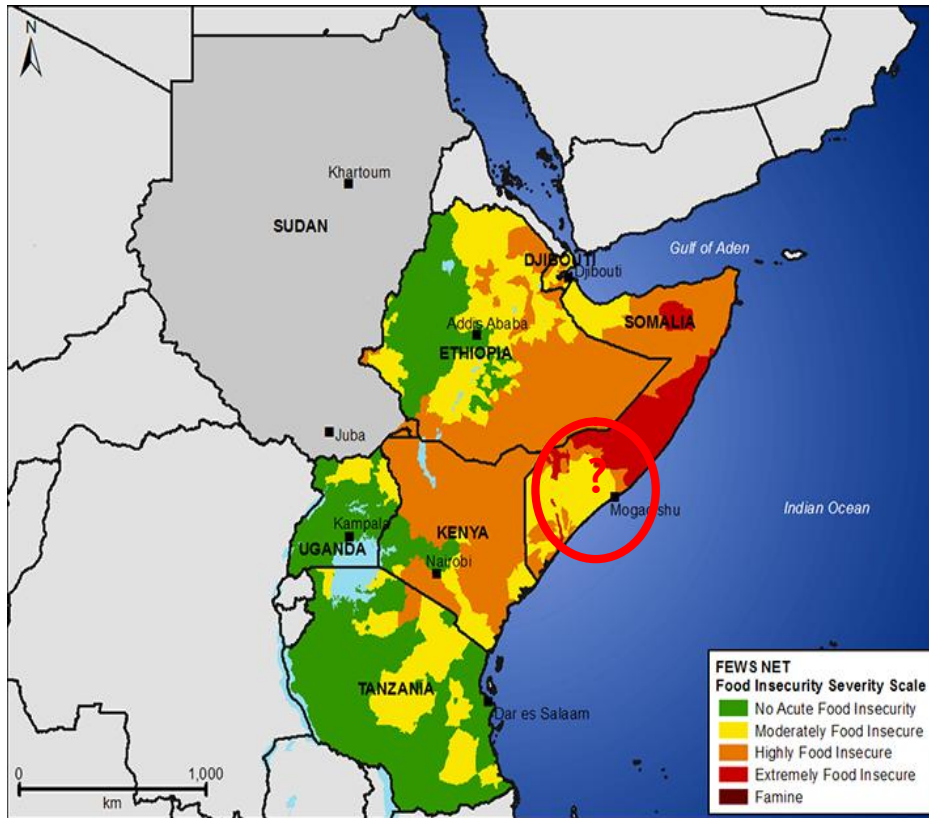
1. Spatial & Temporal resolution for continuous monitoring ...



1. Sparse meteorological observations to support comprehensive Agro-Hydro-Climatic monitoring in chronically food insecure regions.
2. GTS disseminated observations are inconsistent/irregular and impact on our basic products (RFE and surrogate) for trends/change analysis..

Needs & Challenges:

2. Spatial & Temporal resolution for early warning/ seasonal forecasts...

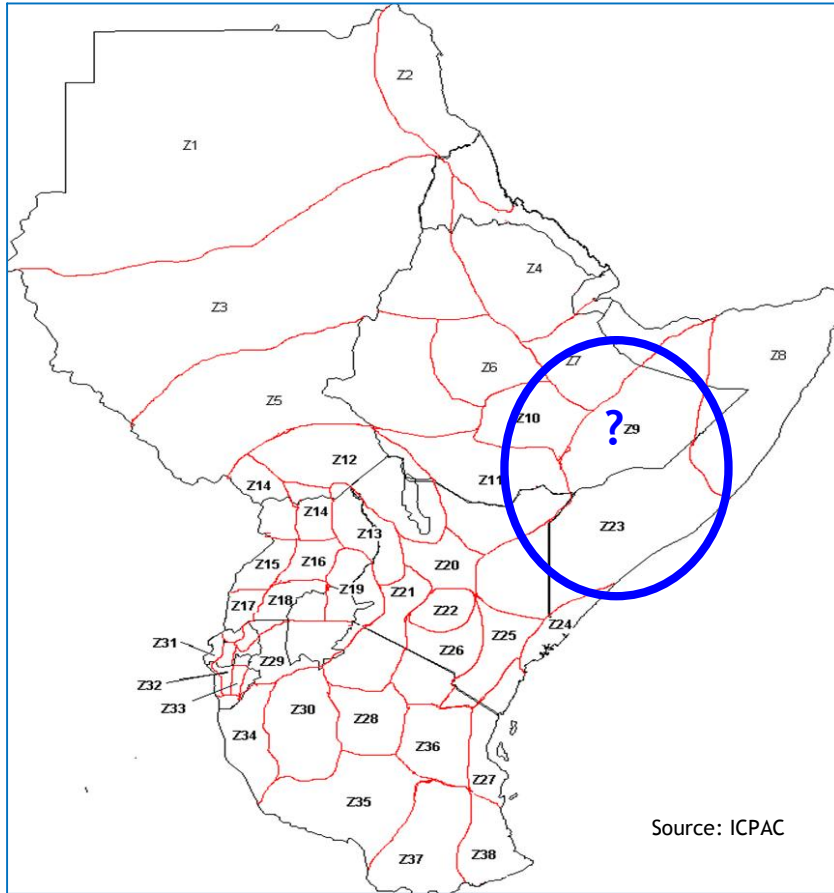


1. Need to improve on the spatial scales of the forecasts to “very least” correspond to identified climatic - zones in the countries/region. Generalized forecast’s lead to many ambiguous assumptions ..
2. Timeliness of forecasts is very important and 1-month lead time is usefulbut, too late is NOT useful.
3. Information on onset, distribution and cessation of rainfall is very important.
4. Need to improve on translating seasonal/monthly forecasts from meteorological drought to agricultural and hydrological drought risks, to reduce assumptions on the possible Ag. Production prospects...
5. Surface temperature observations and forecasts are becoming more increasingly important. with recurrent drought.

Needs & Challenges:

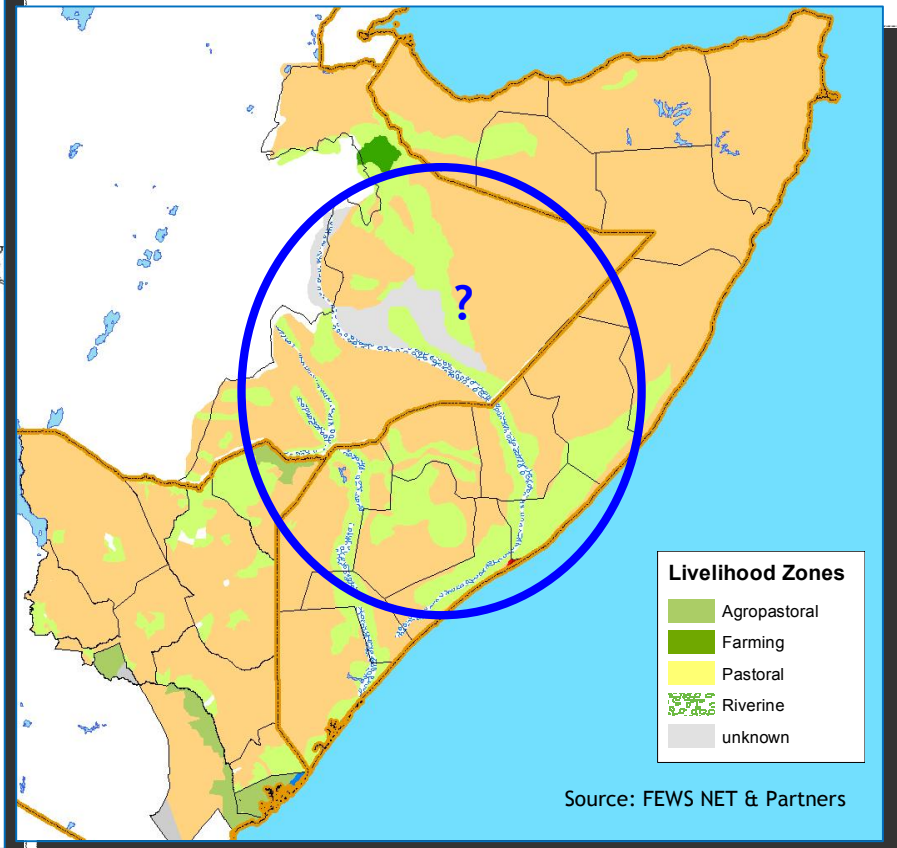
3. Improve spatial resolution to support better monitoring and early warning of livelihood zones...

Homogeneous climatic zones



Source: ICPAC

Simplified Livelihood Systems



Livelihood Zones	
Light Green	Agropastoral
Dark Green	Farming
Yellow	Pastoral
Light Blue	Riverine
Grey	unknown

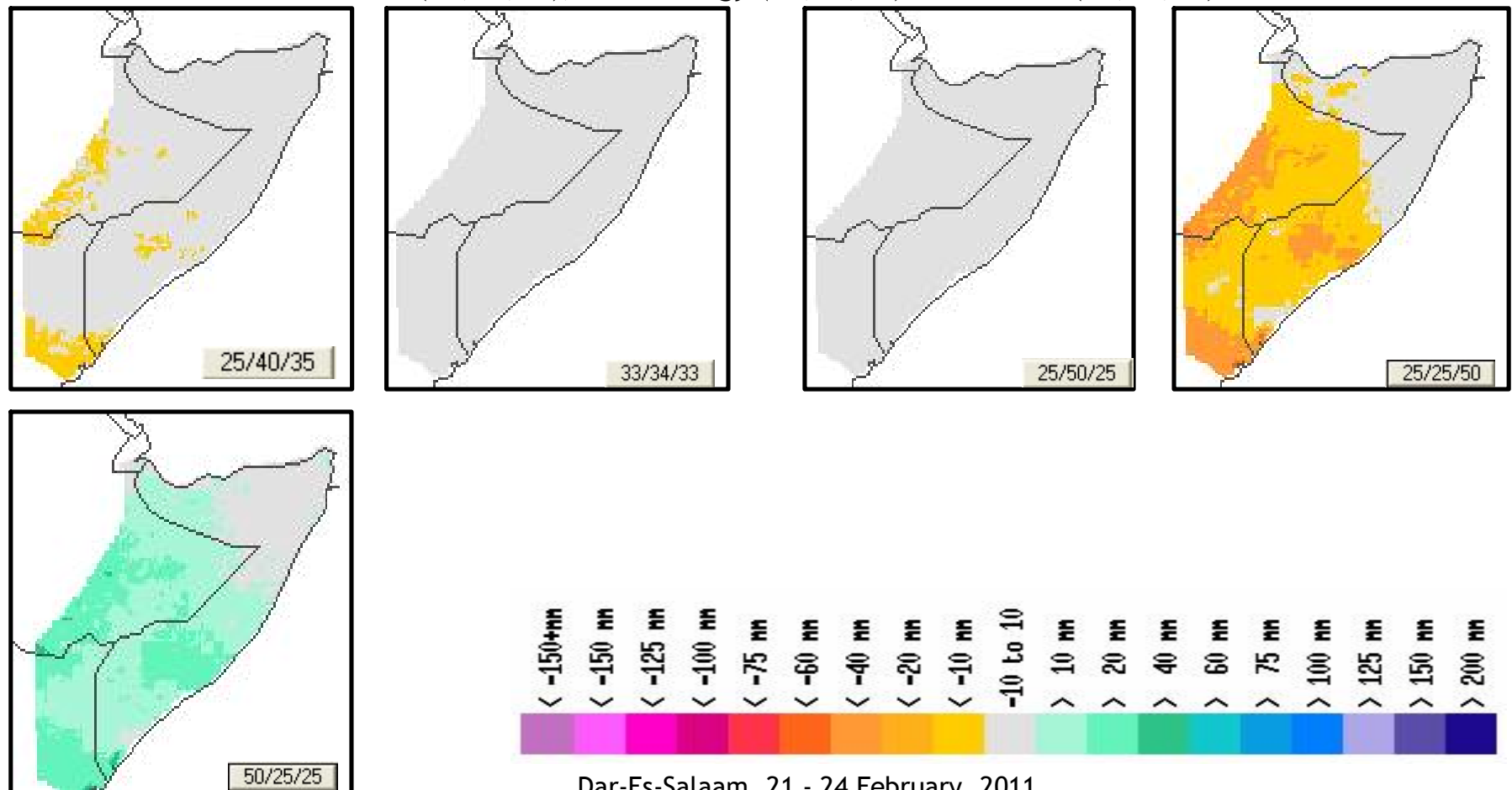
Source: FEWS NET & Partners

1. Detailed forecasts at national/regional scales to support better early warning and monitoring of food productions systems across diverse livelihoods, with regard to determined homogeneous climatological zones..

Needs & Challenges:

“Value of Near-Normal Seasonal Forecast”
(Sharpen the forecast & include reliability/confidence levels)

- Seasonal Forecast (25,40,35), Climatology (33,34,33) and others (25,50,25)

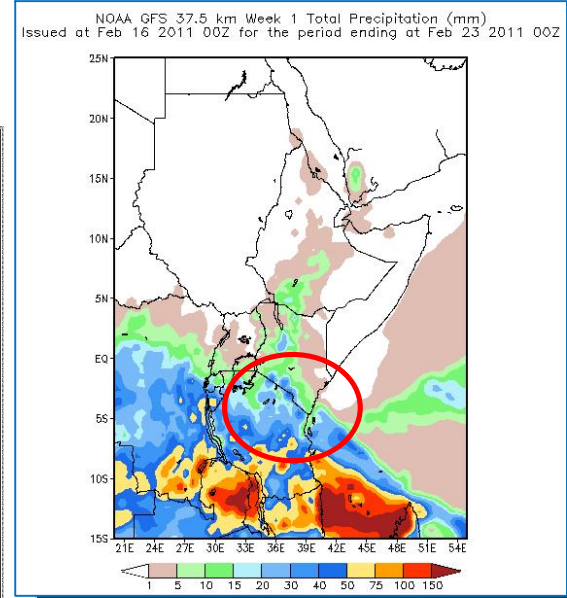
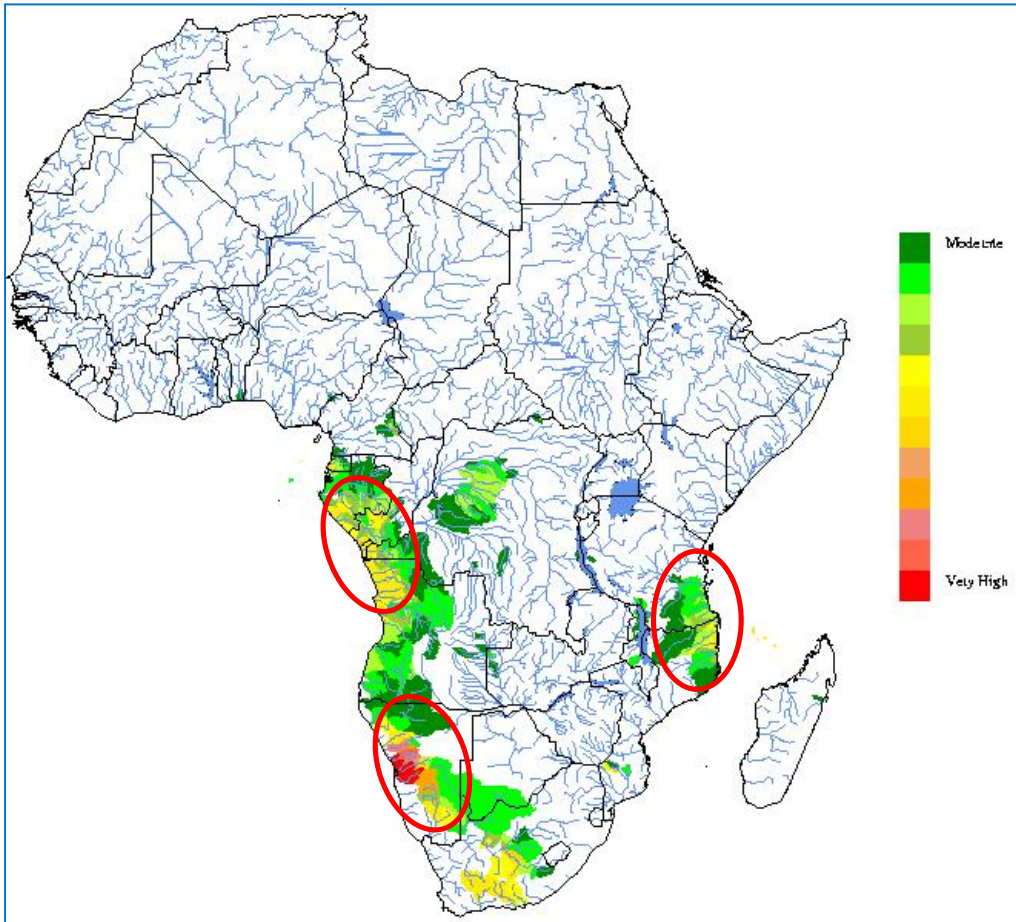


Dar-Es-Salaam, 21 - 24 February. 2011

Needs & Challenges:

Hydro-Climatic Monitoring & Early Warning

Basin Excessive Rainfall Map (BERM): 10 Feb. 2011

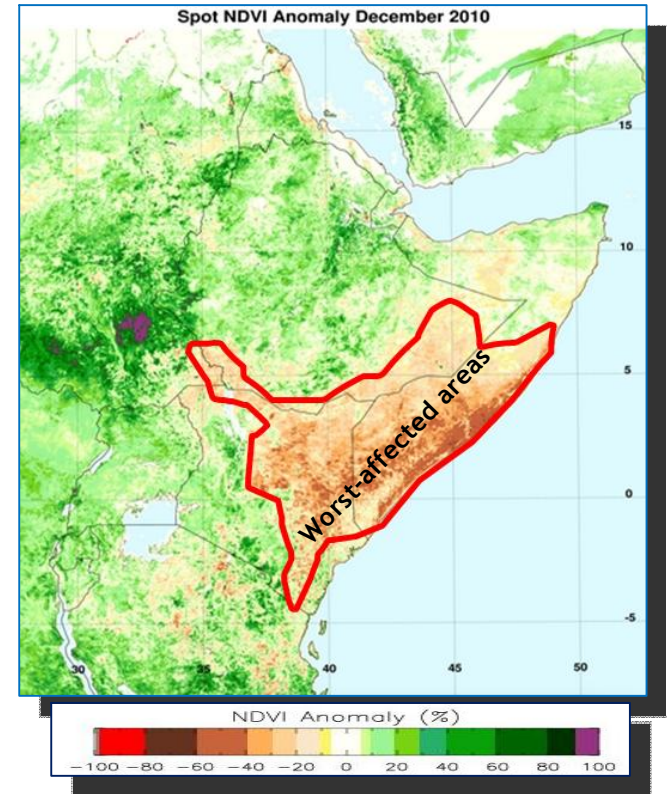
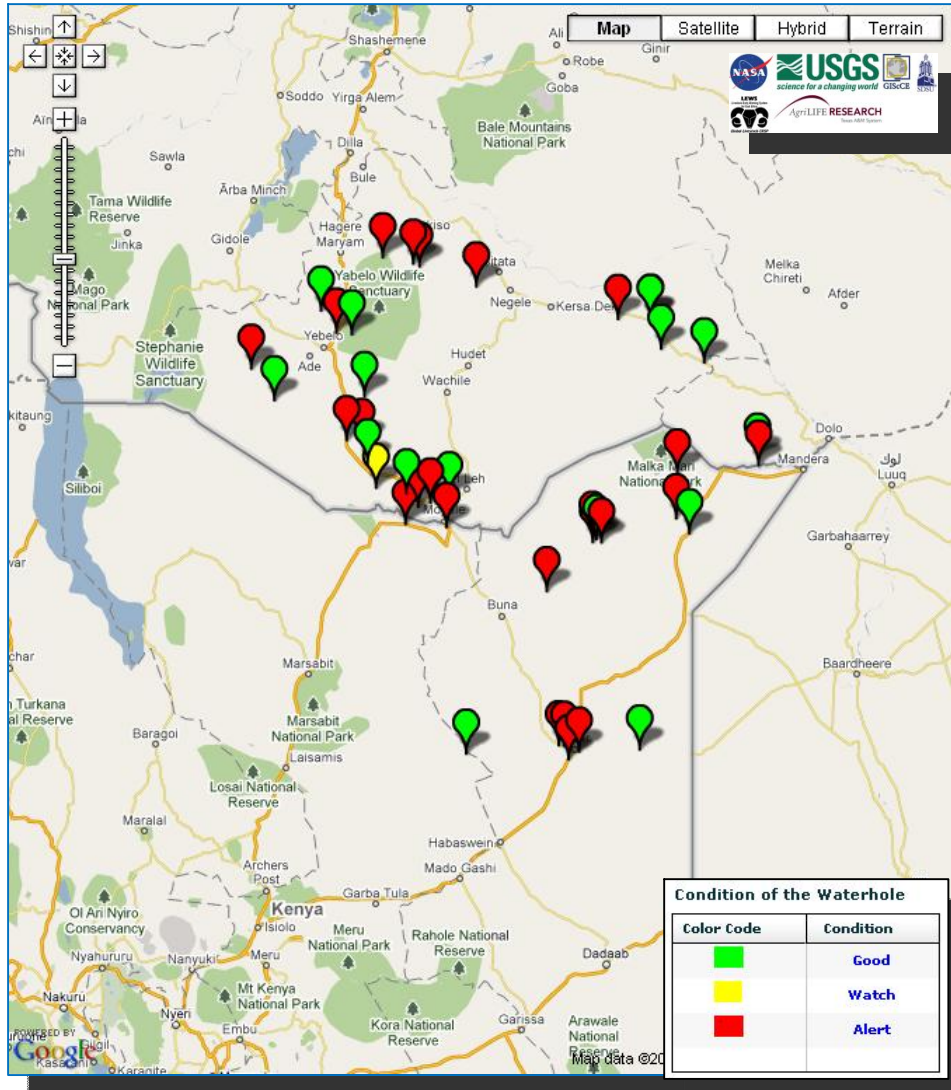


1. Need for river-gauge obs. & weekly regional scale weather forecasts to calibrate GeoSFM (stream-flow) models for flood monitoring and risk mapping.

Needs & Challenges:

Rangeland Resources Monitoring & Early Warning

Surface Water Monitoring (WaterMon): Feb. 2011

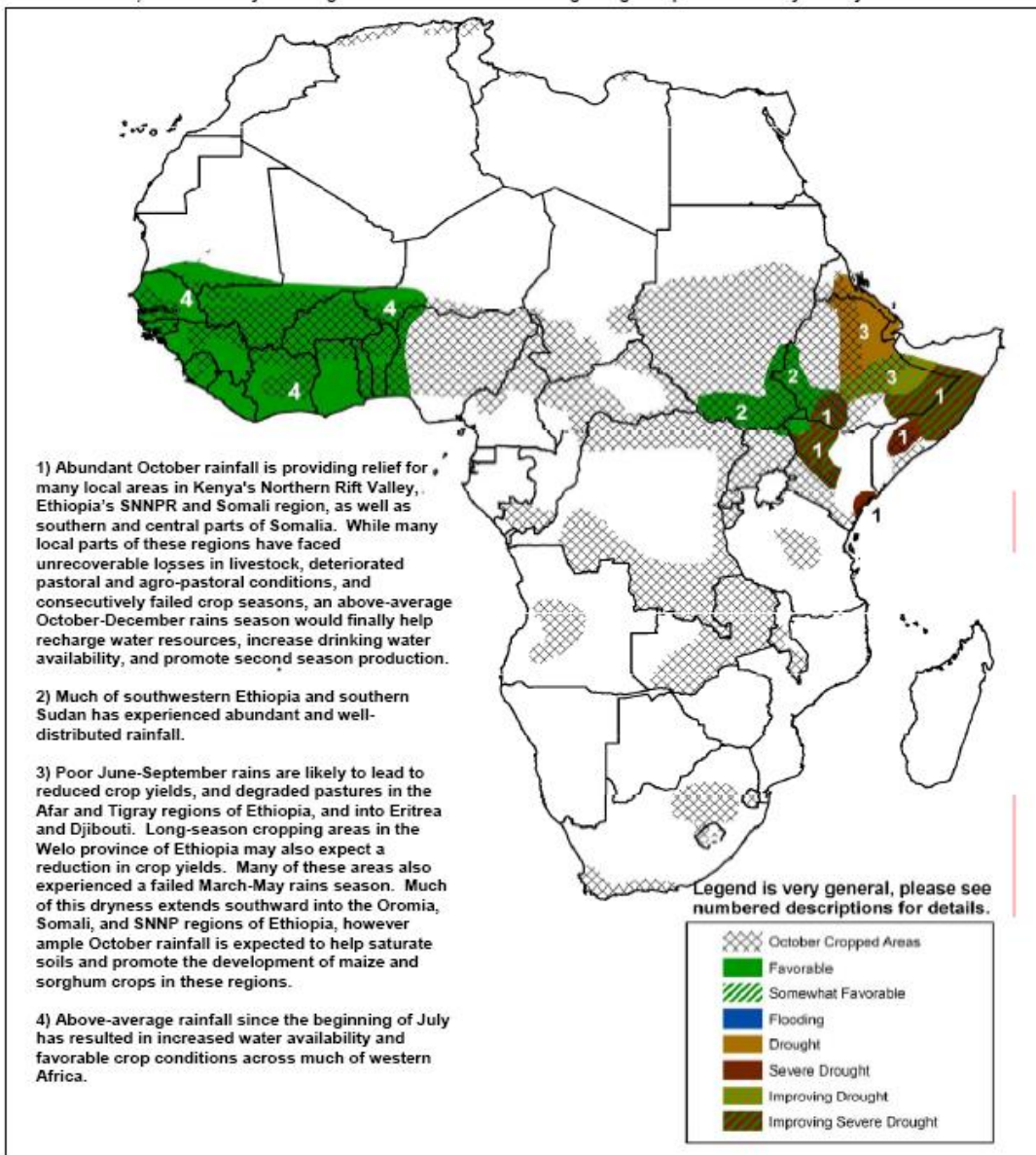


1. Need for daily/dekadal surface temp. & evaporation obs. to support better rangeland resource monitoring and forecasting, if/where possible.

- Remnants from Tropical Cyclone “Three” in the Gulf of Aden produced significant amounts of rain across many areas of northern Somalia and eastern Ethiopia. Increased moisture associated with this tropical disturbance has further increased Oct-Dec seasonal rain totals across the Greater Horn.
- Another week of fair rainfall continues to promote early season cropping activities in parts of the Maize Triangle and southern Zimbabwe, however many other regions in southern Africa are beginning to experience a delay in early season rain totals.

<http://www.cpc.ncep.noaa.gov/products/fews/briefing.htm>

Continuous Monitoring, Analysis & Updating



Unseasonable amounts of rain from tropical systems affect Greater Horn and regions in southern Africa

The passage of Tropical Cyclone “Three” in the northwestern Indian Ocean produced ample amounts of rain across many of the climatologically dry regions near the Gulf of Aden. In the last week, widespread precipitation totals in excess of 30-40 mm were observed across the Sool and Sanaag regions of Somalia, with locally heavier amounts in the Bari region and other local areas along the coast (Figure 1). Much of the moisture associated with tropical system was also observed further south, producing average to above-average rainfall across the Oromia and Somali regions of Ethiopia, as well as into the Shabelle and southern regions of Somalia.

Extreme isolated totals (>100 mm) were also observed north of Mogadishu, and local areas downstream in the Shabelle river basin. Since early October, heavy rains have reportedly attributed to rising river levels across southern Somalia, as there are increased concerns of flooding if above-average rains continue. To date, above-average precipitation in October has resulted in favorable crop conditions across many areas where inputs are available for second season production (Figure 2).

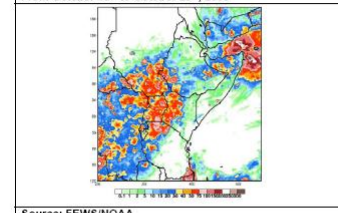
Further south, another tropical disturbance (formally tropical cyclone “ASMA”) produced plentiful amounts of rain in parts of Madagascar and northern Mozambique / southern Tanzania. While these areas have not begun their start of season, this rainfall is expected to promote early season soil conditions and increase drinking water availability.

Precipitation forecasts over the next seven days show another week of moderate to heavy rains across the Greater Horn. Rainfall totals ranging between 30-50 are expected across the drier parts of Ethiopia and Somalia, with high probabilities for significant rainfall further south into parts of central Kenya and northern Tanzania.

A delayed start of season for cropping regions in South Africa.

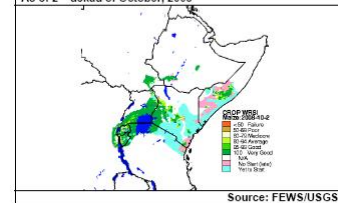
Since abundant rains were observed in early October, there are parts of the eastern Cape and KwaZulu-Natal regions of South Africa that are now beginning to experience a delayed start of season. Satellite-derived rainfall analyses indicate seasonal rain deficits have been increasing gradually over the past two weeks (Figure 3). While rainfall totals are currently below-average for this time of year, this has not thwarted early season cropping activities as ground moisture analyses remain near normal.

Figure 1: Satellite Derived Rainfall Estimates (mm) From October 19th to October 25th, 2008



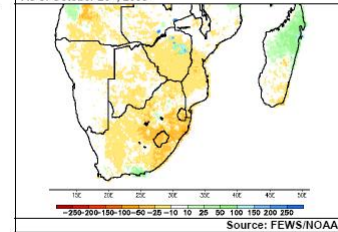
Source: FEWS/NOAA

Figure 2: Crop WRSI for Maize As of 2nd decade of October, 2008



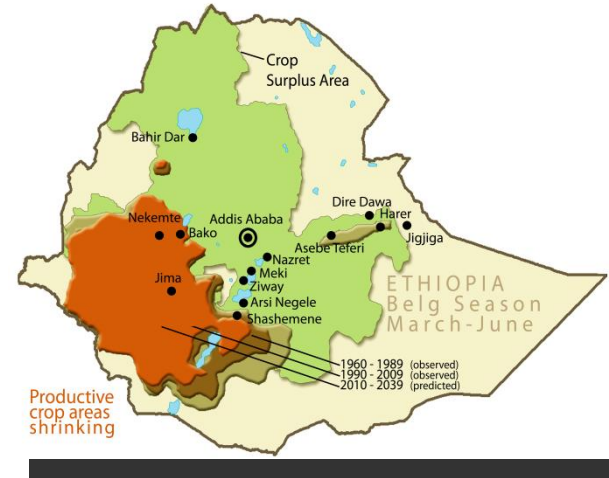
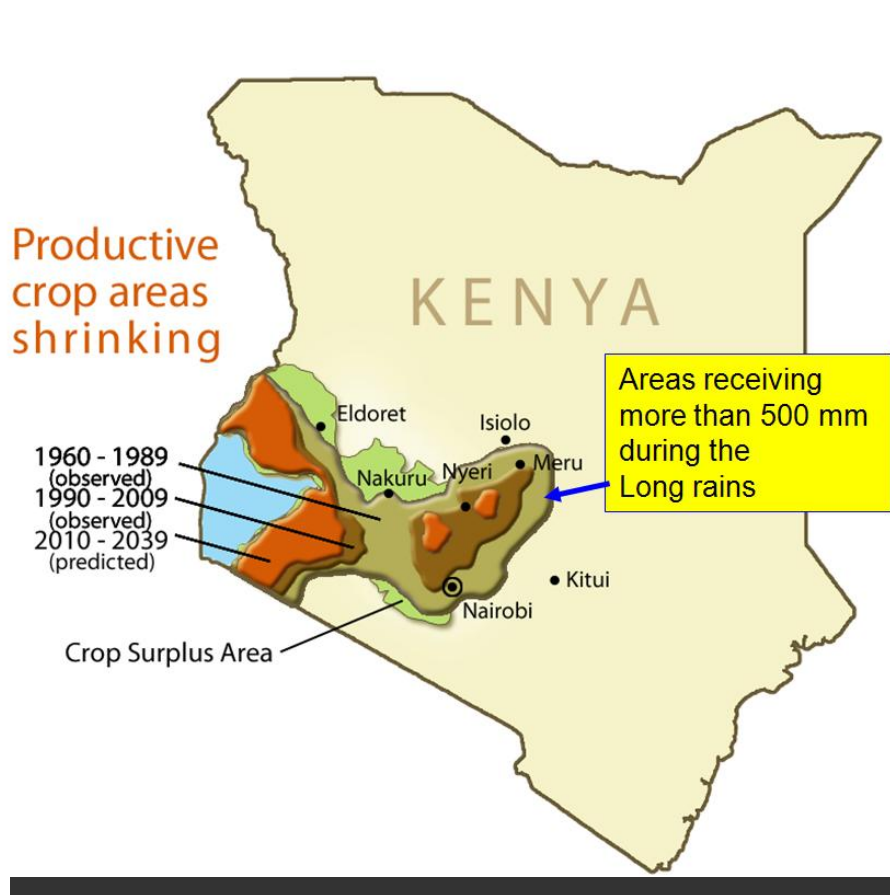
Source: FEWS/USGS

Figure 3: Rainfall Anomalies (mm) As of October 26th, 2008



Source: FEWS/NOAA

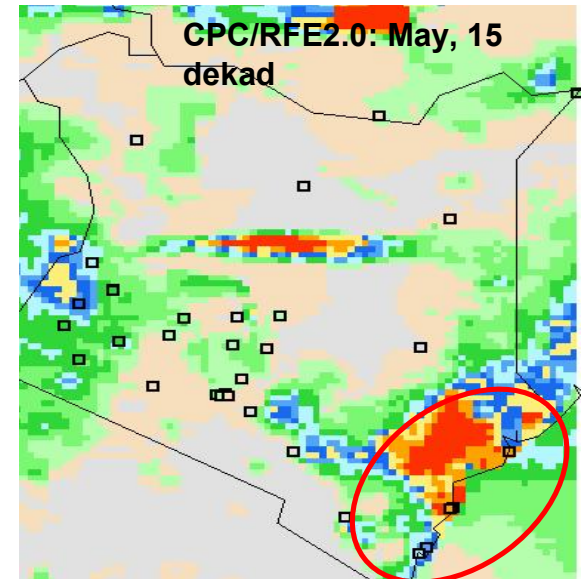
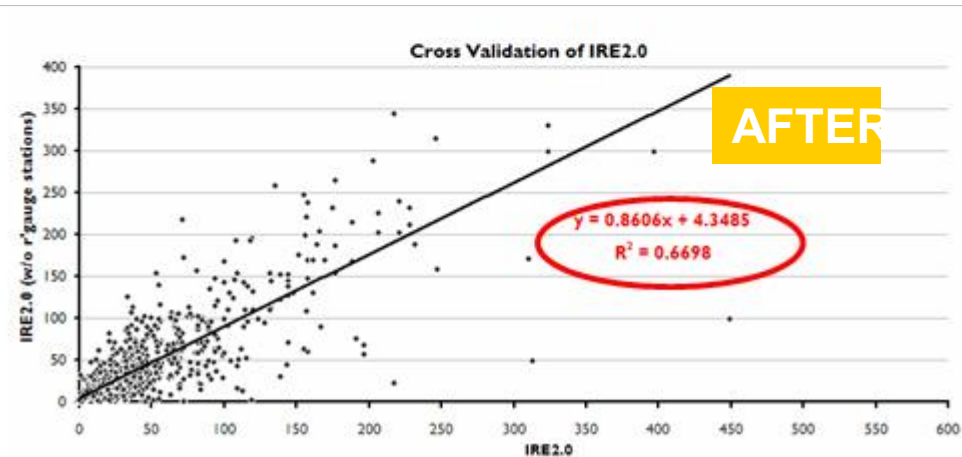
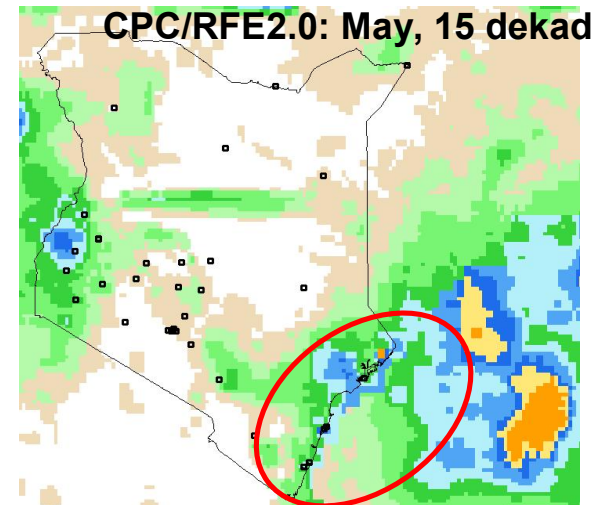
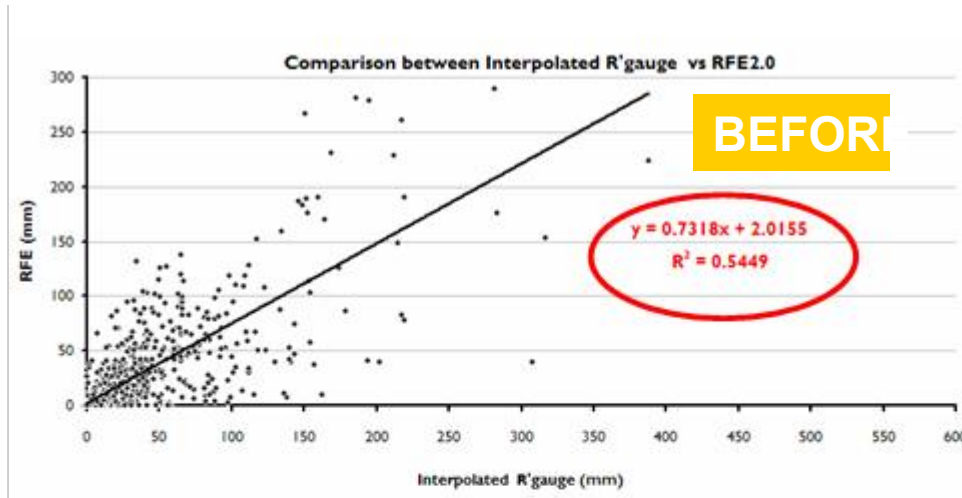
FEWS NET: National / Regional Climatic Scenario's



1. With increased climatic variability / undetermined climate change trends in the region..
 - there is a need for national scale climate change scenario's for both rainfall and temperature and implications to Ag. Production and water resources.
 - Identification of areas with high inter-seasonal to monthly rainfall variability
2. Expected to support short- to long-term development programs aimed at sustainable livelihoods.

Opportunities: " Maximize on Available Met. Observations"

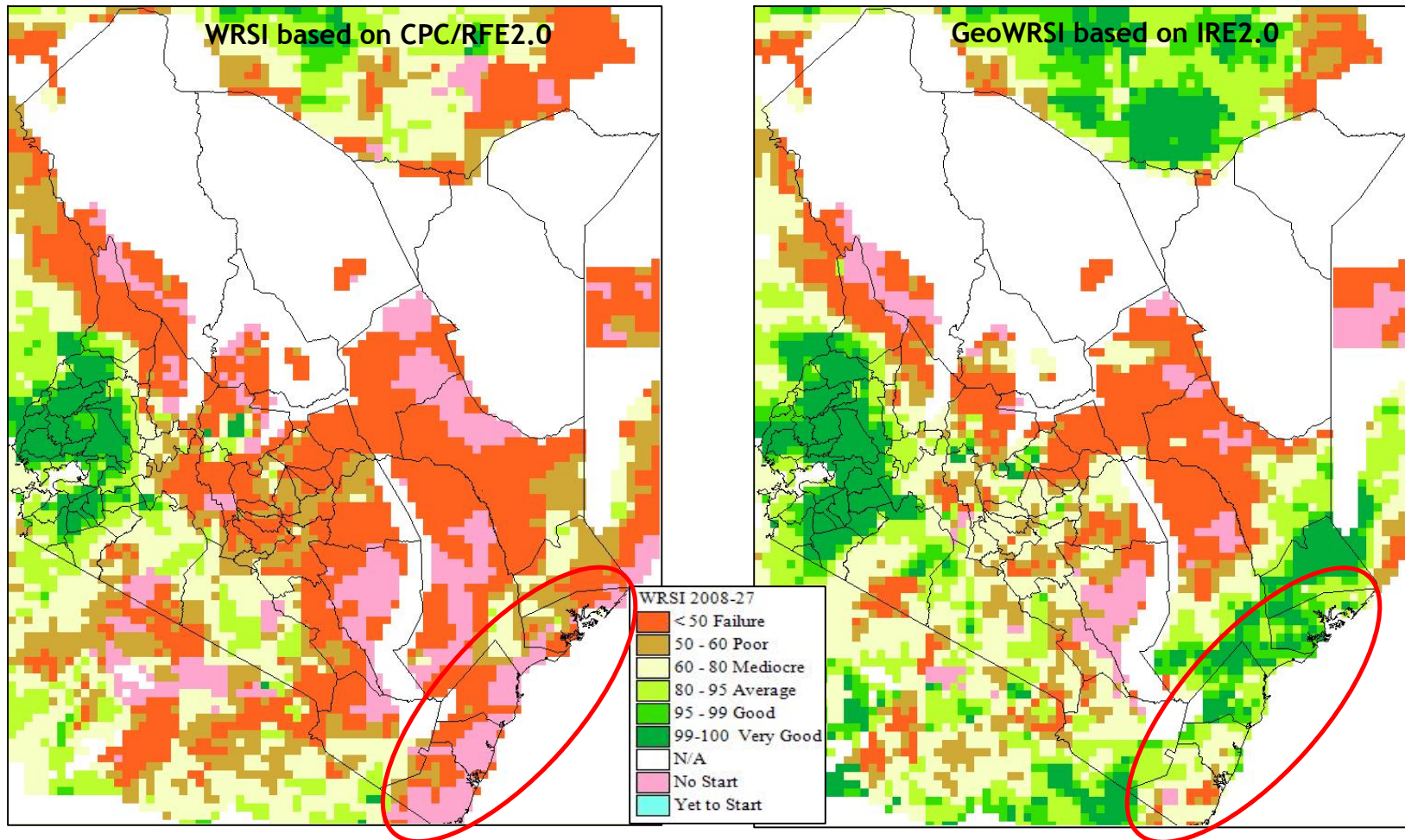
Kenya Coastal Strip: RFE2.0 Validation & Improvement with Non-GTS raingauges



Dar-Es-Salaam, 21 - 24 February, 2011

Opportunities: " Better Crop/Rangeland monitoring"

Impacts of Improved RFE (IRE) on Crop Monitoring



Qns: How can we improve FS Monitoring & Early Warning?



FEWS NET Food Security Outlook

April - September 2008



Current estimated food security conditions

April to June 2008

This map shows estimated food security conditions for the second quarter of 2008 using the FEWS NET food insecurity severity scale.

Most-likely scenario

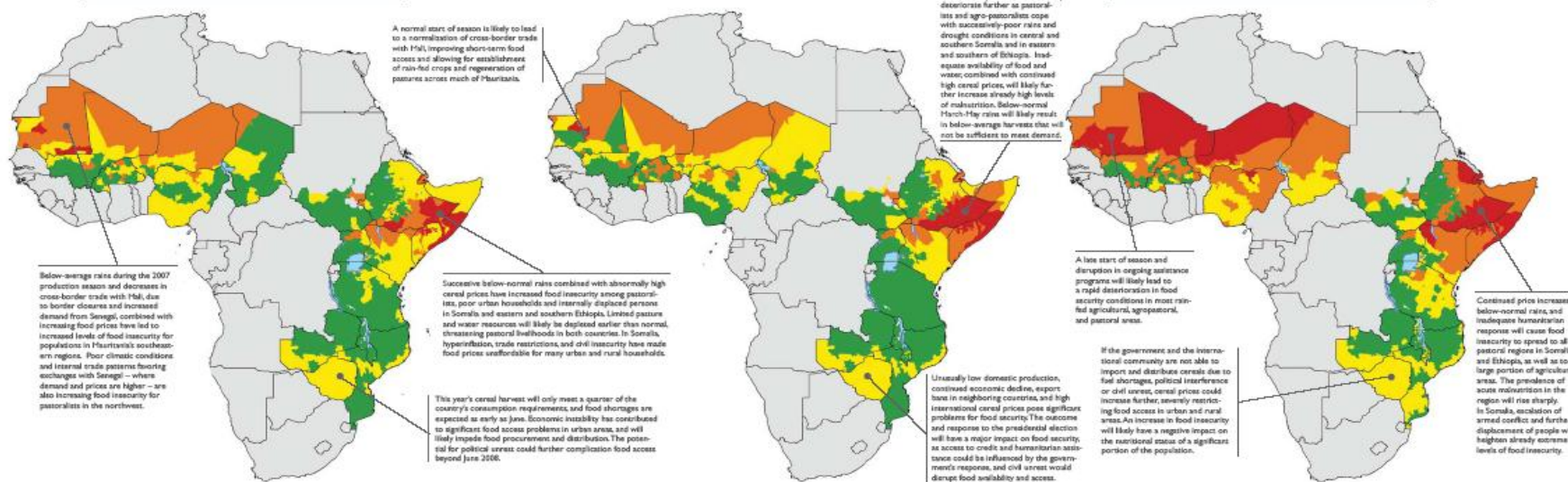
July to September 2008

This map shows projected food security conditions for the third quarter of 2008 in the most-likely scenario.

Worst-case scenarios

July to September 2008

This map shows projected worst-case scenarios of food security conditions for the third quarter of 2008. While these conditions may arise in some areas, it is extremely unlikely that the assumptions underlying these scenarios will occur across the entire continent.



For country and regional outlook reports go to www.fews.net

The Pan-African Early Warning Systems Network (PEWS NET) is a USAID-funded entity that provides timely and rigorous early warning and vulnerability information about emerging and evolving food security issues. We collaborate with and work through local, regional and international food security networks and partners to build consensus and develop local capacity to strengthen the role of food insecurity. PEWS NET currently operates in 17 countries in Africa and West, Central and Asia.

Food security outlooks are a core component of FEWS NET's work in translating early warning into actionable information. The outlooks indicate a list of comparable areas of concern and projected food security conditions. The maps show the highest level of food insecurity per geographic area; the maps do not indicate the number of food insecure people in a given area.

Current estimated food security conditions are mapped by assigning a level of severity of food insecurity to each area of a country, using the latest monitoring data and the expert judgment of FEWS NET field staff and their partners. Projected future severity was assessed using severity assessment levels are mapped by analyzing potential hazards and their potential impact, comparing spatial extent of hazards with data on vulnerability and current estimated food security conditions; and then assigning a level of estimated severity of food insecurity. The FEWS NET food insecurity severity scale provides a tool to guide expert analysis and judgments on that a core set of reference indicators are interpreted in a consistent manner. These reference indicators have been developed as part of the FAO-led Integrated Food Security Classification (IPC) process, in which FEWS NET is a participating member.

The logo above is a trademark of USAID 27, 2008.

FEWS NET Food Insecurity Severity Scale

Severity	Summary Description
Generally food secure	Virtually all households in an area are perceived to have adequate access to sufficient food to maintain an active and healthy life. This means that there is adequate food available that households have adequate resources and/or entitlement to obtain sufficient food and that they are healthy enough to receive the nutritional value of the food.
Moderately food insecure	Some or all households in an area are unable to meet their basic food requirements, resulting in under-nutrition and/or erosion of assets.
Highly food insecure	Some or all households in an area face severe shortfalls in meeting their basic food requirements. High rates of acute malnutrition and excess mortality exist, combined with significant levels of destitution.
Extremely food insecure	Some or all households in an area face a significant shortfall in their basic food requirements, resulting in dangerous and irreversible strategies, such as distress sales of productive assets and reduced food consumption, and high levels of acute malnutrition.
Famine	Populations in an area face mass starvation, and death is widespread due to an extreme lack of access to food and other basic needs.

FAO Integrated Food Security and Humanitarian Classification (IPC) System Reference Indicators

Grade	Acute malnutrition	Chronic malnutrition	Stress	Food access	Market access	Water access	Distribution/availability	Civil security	Coping	Impact	Prevalence	Unmet needs
CHG <0.5	<3%	<20%	NDC	Usually adequate, stable (2,100 kcal pop/d)	Consumer quality and quantity of food	Usually adequate, stable (1.5 lit pop/d)	NDC	Prevalence and structural peace	NDC	Highers to low probability of, and/or vulnerability	NDC	Generally unmet
CHG <0.5 USHR <+1	>3% but <10%; usual range, stable	20-40%	NDC	Borderline adequate, unstable (2,100 kcal pop/d)	Chronic deficit, indicators	Borderline adequate, unstable (1.5 lit pop/d)	NDC	Unstable, disruptive tension	Insurance strategies	Recurrent, with high vulnerability	Unmet	Stressed
CHG 0.5-1.0, increasing USHR 1.0	10-15%; usual, increasing	>40%	NDC	Episodic, outlook increasing	Lack of equipment (2,100 kcal pop/d)	Acute dietary deficit	7.5-10 lit pop/d	Emerging/active	Unstable	Crisis strategies, low-vulnerability	NDC	Accelerated and critical
CHG 1.0-2.0, increasing or >2 reference USHR 2.0	>15%; usual, increasing	>40%	NDC	Episodic, outlook increasing	Severe equipment gaps, unable to meet minimum needs	Regularly 2.0 or lower (min. human usage only)	<7.5 lit pop/d	Converging/increasing	Unstable	Crisis strategies, CCI significantly vulnerable	NDC	Near complete and irreversible
USHR >4 CHG >2	>20%	>40%	NDC	Episodic, outlook increasing	Extreme equipment gaps, unable to meet basic needs (2,100 kcal pop/d)	NDC	<4 lit pop/d	Large scale, concentrated	Unstable	Crisis strategies, CCI significantly vulnerable	NDC	Effectively complete loss; collapse

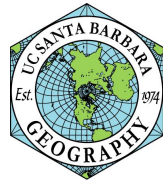
Note: NDC = not a defining characteristic; pop/d = per person per day; kcal = kcal; CCI = Coping Strategies Index; developed by CARE and WFP. For more information on the FEWS NET Food Insecurity Scale and the IPC, visit <http://www.fews.net/foodsecurity/faq>



Countries with FEWS NET presence

Major Network Partners

US Partners



International/ Regional Partners ...



Food &
Agriculture
Organization



World Food
Programme



IGAD/ICPAC



Regional Centre for
Mapping of
Resources for
Development



Partners within countries....

Ministries of Agriculture and Livestock, **National Met. Services**, UN Agencies, Disaster Management Units, Other Early Warning Projects, NGOs, Private Sector, etc...

Opportunities & Recommendations

1. Monitoring:

- **Short-term:** Work with the National Met. services & partners to Improve Rainfall Estimates (RFE's) using readily available non-GTS raingauges.
- **Long-term:** increase raingauge observations to cover all vulnerable livelihood zones across the GHA region.
- **Characterize Agro-Hydro-Climatic hotspots;** to support vulnerability/risk mapping and improved monitoring and early warning.

2. Forecasting:

- **Strong/moderate La-Nino & El-Nino events:** sharpen the seasonal forecasts to help detect better extreme weather events.
- **Weak/neutral events:** more regular seasonal weather updates, with special focus on climatic-hot spots (vulnerable areas).
- Include "level of confidence/reliability" in the forecasts to support decision-making

3. Partnership & Applications Developments:

- Identify key partners, competencies & strengthen collaboration
- Leverage on existing capacities in the region.






Conclusion

1. Meteorological/Climate agencies are **providing valuable decision support information** to the food security sector.
2. Need to work more closely with the **sector/end-users' in identifying and prioritizing their needs, capacities**, so as to **improve their early warning and monitoring capacities at sub-national level, national and regional level.**

Thank you...

FEWS NET Food Insecurity Severity Scale

Summary Description

	Generally food secure	Nearly all households have adequate access to sufficient food to maintain an active and healthy life, without depending on external assistance. This means that there is adequate food available; that households have adequate resources to obtain sufficient food; and that they are healthy enough to receive the nutritional value of the food.
	Moderately food insecure	Some or all households are barely able to meet their basic food requirements on their own. To meet their requirements, they are relying on external assistance and/or coping strategies that begin to erode their asset base.
	Highly food insecure	Some or all households face shortfalls in meeting their basic food requirements. Negative household response strategies are prominent, including reduction in the quantity and/or quality of meals, and/or increased depletion or liquidation of assets. Rates of acute malnutrition are above normal.
	Extremely food insecure	Some or all households face a severe shortfall in their basic food requirements. Reduced food intake is widespread, resulting in significantly increased rates of acute malnutrition and gradual destitution.
	Famine	Destitution and starvation become prominent, and populations face high mortality risk, due to an extreme lack of access to food and other basic needs.