



Keys to Overcoming Global Food Security Challenges

Role of Early Warning

USDA Summit on
Global Food Security Challenges: Monitoring Earth Resources

April 22, 2009

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Scope of this session

Identify key challenges to overcoming
“new” food security

Describe new early warning approaches
to respond to these challenges

Who is FEWS NET?

24 year-old
“project”
activity

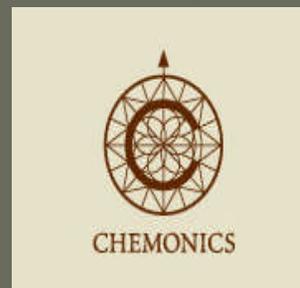
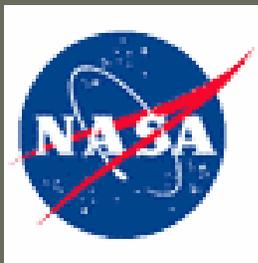


DCHA/FFP/PTD



Partners

FFP FEWS NET



Inter-Agency
Agreement

Inter-Agency
Agreement

Contract

Inter-Agency
Agreement

Inter-Agency
Agreement

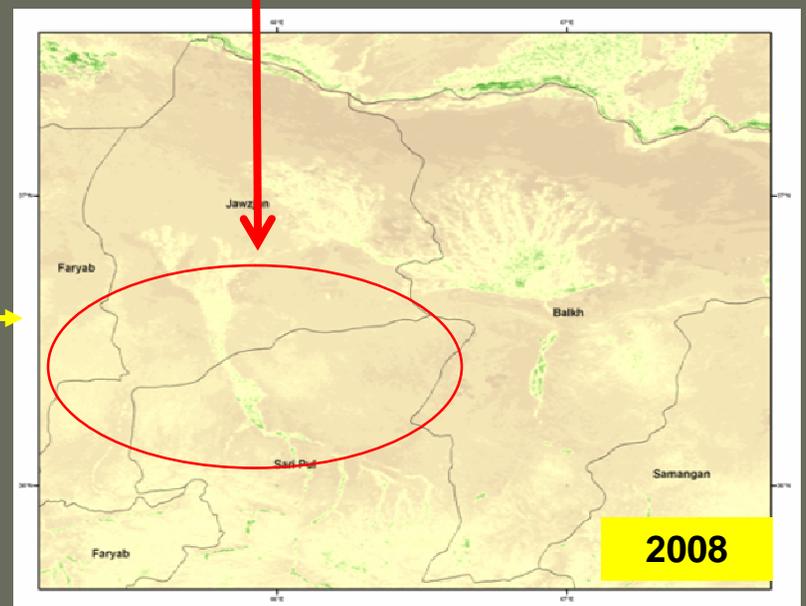
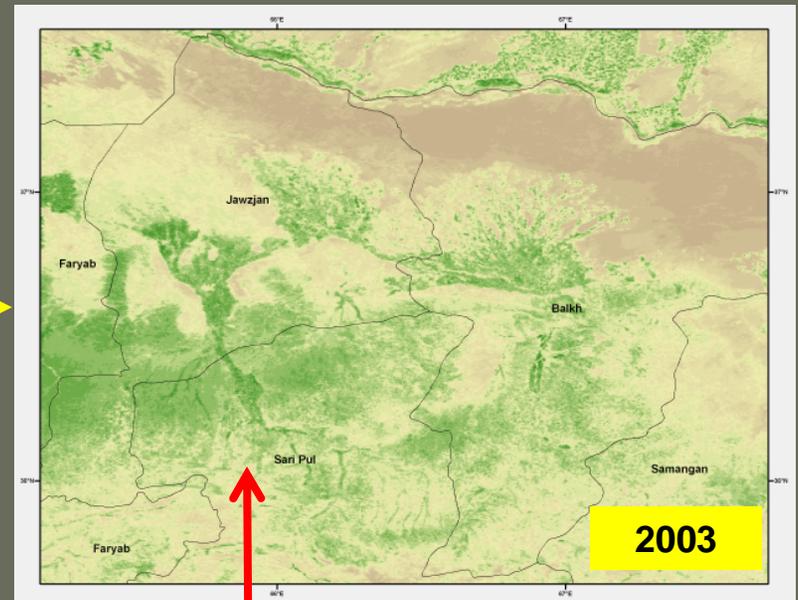
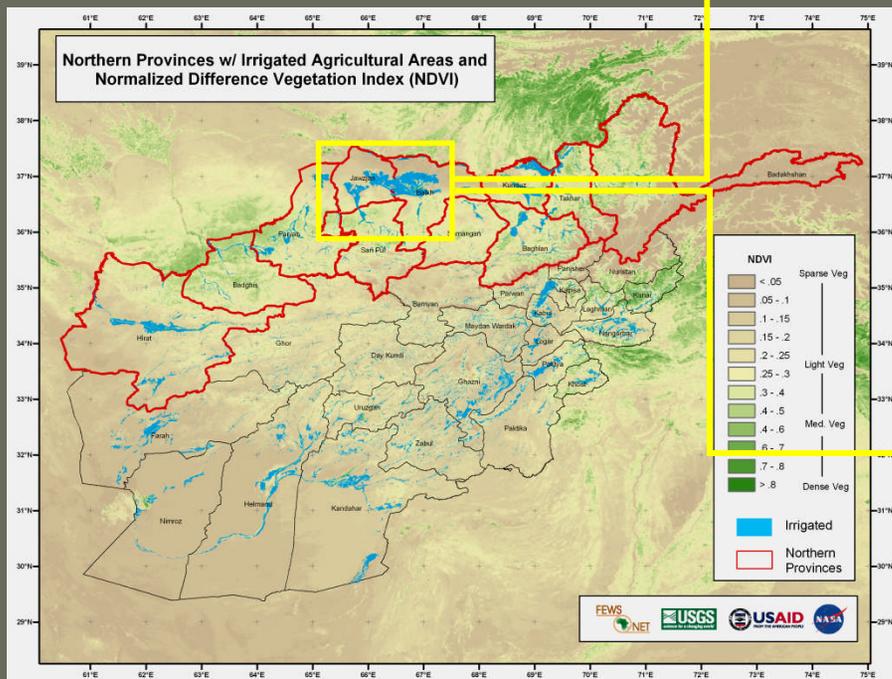
Key: understand new causes of food insecurity

Causes:

- Local intrusions of global markets and trade
- Increasing energy costs
- Urbanization
- Climate change
- Changes in food stock levels, and ?consumption?
- Global transmission of information

Impacts: **Plausibly, possibly, there will be more hungry, who are hungrier, in more countries**

Challenge: “Old” food insecurity (esp. drought), strong geographic signature



Challenge:

“New” food
insecurity
is less
geographic,
and more
“socio-
economic”

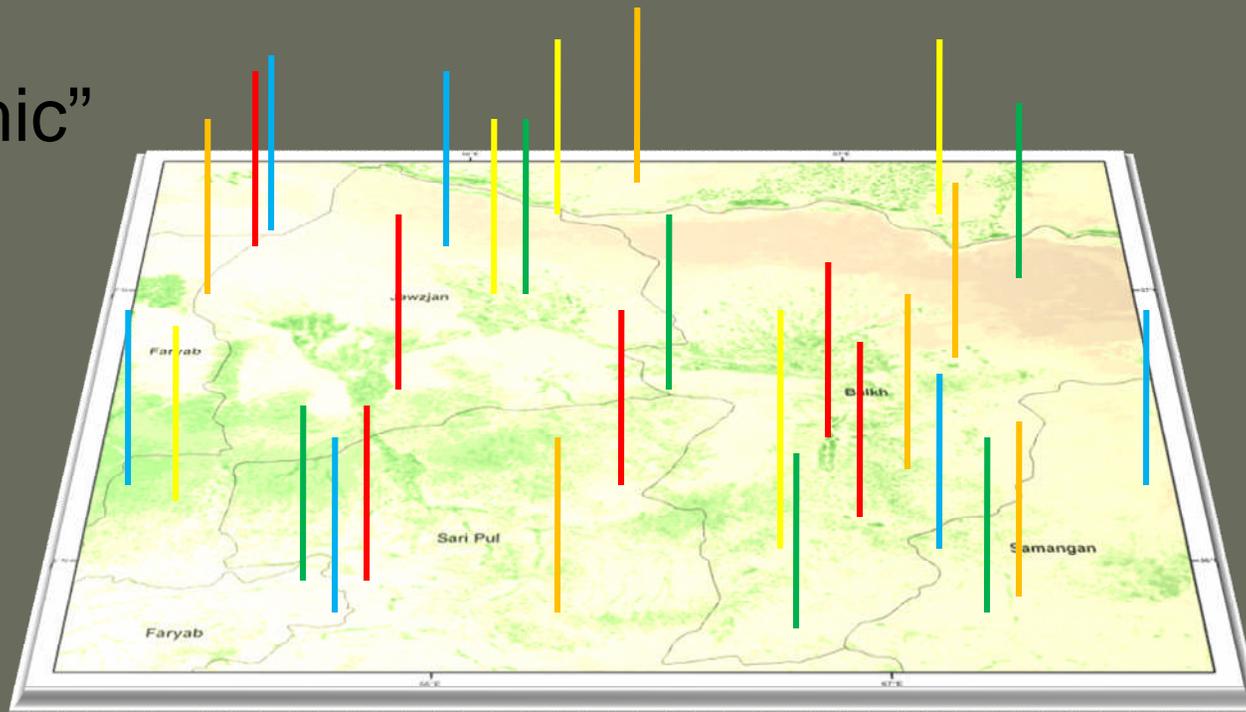
Can't afford sufficient seed, fertilizer for planting

Cost to transport almonds/fruits to market is too high

Can only afford 70% of food normally purchased in market

Remittances from family member in Dubai plummet

Import/export ban, trader suffers less income



Challenge:
Similar
problem in
“finding”
the urban
food
insecure
and hungry

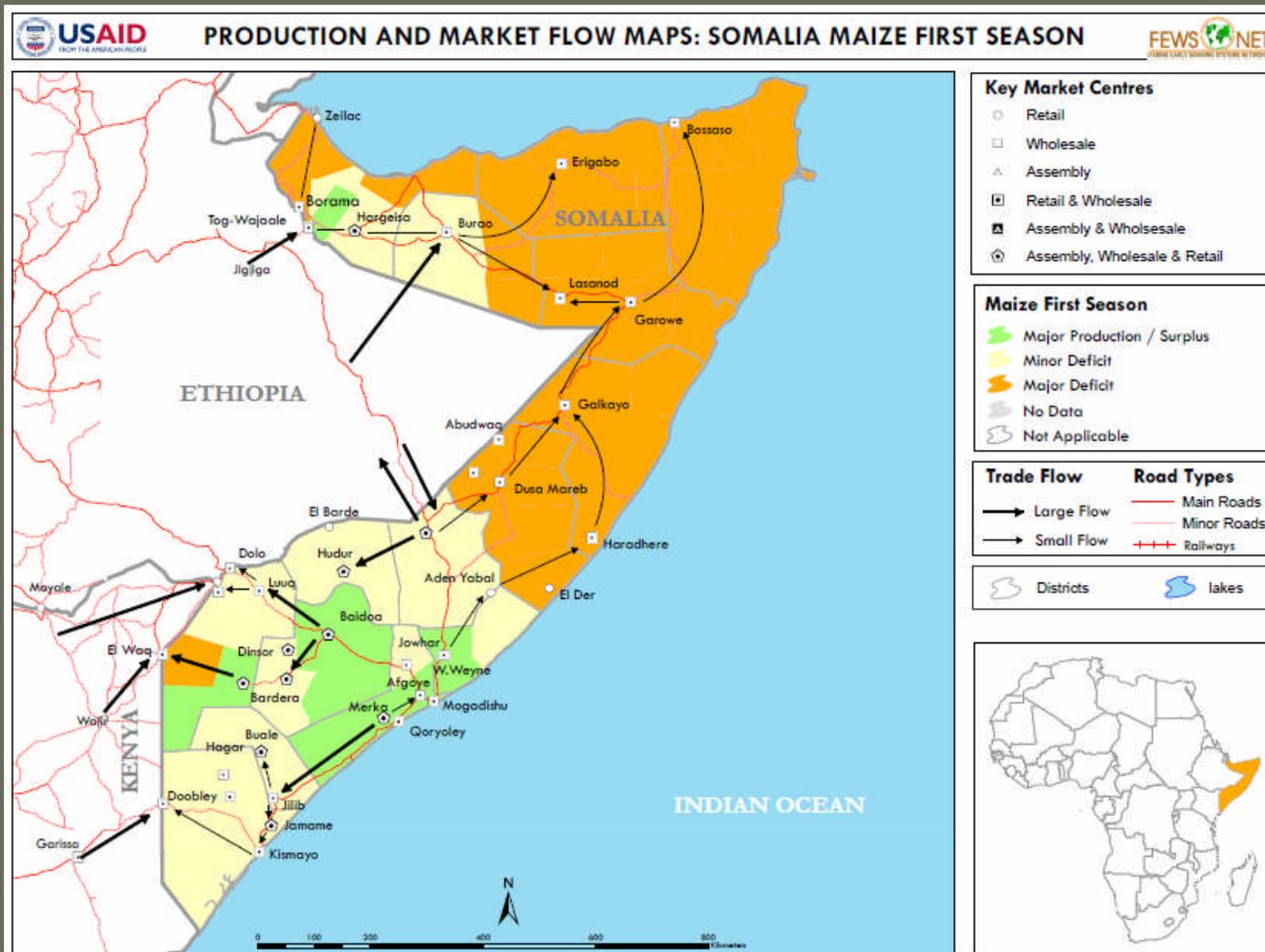


Challenge: how to monitor the food market, trade?

- Prices only tell us so much
- Historic patterns of trade, prices, are they diagnostic?
- Trader characteristics fundamentally important to know
- Perceptions are often reality; what are they?
- What's the marketshed? Border conditions? Policy constraints?

Need to understand the sub-national, regional and global structure, conduct and performance of markets and trade

Understand the structure and conduct of markets



Regularly monitor local food prices

Country	City	Staple	Staple			Substitute				CPE value
			Current price	1 mo. Δ (%)	3 mos. Δ (%)	1 yr. Δ (%)	Current price	1 mo. Δ (%)	3 mos. Δ (%)	
Afghanistan 4/08	Kabul	Wheat flour 23.0/kg	● 9.5	■ -0.4	▲ 64.3	Rice 23.0/kg	● 9.5	● -7.3	▲ 21.1	● 9.5
Burkina Faso 2/08	Ouagadougou	Millet 144.0/kg	● 6.7	● -8.3	▲ 14.3	Sorghum 133.6/kg	● 2.5	▼ -14.0	▲ 11.8	● 4.6
Chad 5/08	N'Djamena	Pearl millet 203.0/kg	● 5.7	▲ 20.8	▲ 26.9	Sorghum 135.0/kg	● -4.9	▼ -10.0	▲ 16.4	● 1.2
Djibouti 4/08	Djibouti City	Belem rice 150.0/kg	▲ 25.0	▲ 25.0	▲ 87.5	Wheat flour 150.0/kg	▲ 15.4	▲ 15.4	▲ 50.0	▲ 20.0
Ethiopia 4/08	Addis Ababa	White maize 3.3/kg	■ 0.6	▲ 32.7	▲ 99.4	White sorghum 4.4/kg	● 2.1	▲ 21.9	▲ 34.7	● 1.5
Guatemala 4/08	Guatemala City	Rice 3.5/kg	▲ 13.6	▲ 21.5	▲ 40.0	Black beans 3.8/kg	● 5.2	● 9.1	▲ 14.0	● 9.1
Haiti 5/08	Port au Prince	Imported rice 20.8/lb	● -9.4	▲ 10.6	▲ 56.3	Maize flour 18.3/lb	● 4.8	▲ 76.0	▲ 54.4	● -3.3
Kenya (w) 4/08	Nairobi	White maize 16.8/kg	▲ 10.1	▲ 15.5	▲ 28.4	Sorghum 25.6/kg	● -8.7	▲ 26.4	▲ 33.6	● -2.1
Malawi 4/08	Lilongwe	Maize 44.7/kg	▼ -25.4	▲ 49.1	▲ 135.5	Rice 130.0/kg	▲ 18.2	▲ 18.5	● 9.2	● 2.8
Mali 5/08	Bamako	Millet 350.0/kg	● 3.9	▲ 16.7	▲ 16.7	Rice 150.0/kg	■ 0.0	■ 0.0	■ 0.8	● 2.7
Mauritania 5/08	Nouakchott	Sorghum 240.0/kg	▲ 20.0	● (5 mos.) 4.0	▼ -20.0	Imported rice 220.0/kg	▲ 10.0	▲ 22.2	▲ 22.2	▲ 15.0
Mozambique 5/08	Maputo	Rice 17.4/kg	● 9.4	▲ 10.7	▲ 32.2	Maize meal 25.8/kg	▲ 62.3	▲ 64.3	▲ 96.1	● 1.7
Niger 5/08	Niamey	Millet 197.0/kg	● -1.5	● 8.4	▲ 20.9	Maize 204.0/kg	● -1.9	● 9.9	▲ 25.2	● -1.7
Nigeria (w) 5/08	Kano	Maize grain 41.0/kg	● -4.7	▲ 46.7	▲ 42.6	Sorghum 52.0/kg	● 5.7	● -2.3	▲ 16.7	● -4.6
Somalia 5/08	Mogadishu	Sorghum 8,250.0/kg	▲ 10.0	▲ 116.1	▲ 376.1	Maize 16,058.0/kg	▲ 43.8	▲ 129.4	▲ 439.3	▲ 30.2
Tanzania (w) 4/08	Dar es Salaam	White maize 369.2/kg	● -4.7	● 2.0	▲ 142.8	No sub commodity				N/A
Uganda 5/08	Kampala	Sorghum 600.0/kg	▲ 13.6	▲ 19.2	N/A	Maize 683.3/kg	● 3.1	▲ 22.4	▲ 42.7	● 7.8
Zambia 4/08	Lusaka	Maize 1,000.0/kg	● -2.3	▲ 37.7	■ 0.0	Roller maize 1,095.8/kg	■ 0.4	● 6.3	▲ 15.0	● -0.4
Zimbabwe 5/08	Harare	Maize grain 28,571,428.6/kg	▲ 150.0	▲ 566.7	▲ 11,010.5	Maize flour 25,000,000.0/kg	▲ 25.0	▲ 172,551.9	▲ 631,109.5	▲ 70.5



Change of > +/-
10%



Change of +/- 1-
9.9%



Change of < +/-
1%

Note: monitoring and assessing markets for food security is a different game

- Perceptions, even wrong ones, are reality in the market
- Can they be used to address food insecurity?
- We're not very good at this
- Food "aid", without procuring, transporting, or delivering food?

“jawbone” interventions?

Challenge: how accurate are current ag production estimates?

- Most have no basis in evidence.
- If there are large errors, there will be large impacts
- If we focus on improving food production, do we have a known baseline?

Need to improve agricultural area–planted estimates, at lowest level

FEWS now using hi-res imagery from NGA to make more accurate estimates of area planted



Ethiopia: MinAg and CSA differ tremendously in ests of area planted (1 million ha, could be equivalent to 2 million MT difference)

Challenge: how many are hungry, where?

- Poor, or no credible national population estimates
- Excruciatingly bad local estimates
- Accurate local denominator data is a fundamental need

Need to know how many people live where, at
the lowest level

1 kilometer Landscan population data, on-line

USAID FROM THE AMERICAN PEOPLE

DEMOGRAPHIC DATA MANAGER

Version 1.0

Powered by **Kimetrica**

Tools Administration Downloads Help

User: geilerts [Logout](#)

Current Scenario Scenario Type

Age Sex Cohort - Mozilla Firefox

http://www.populationexplorer.net/Forms/AgeSe

Population Breakdown

Total Population:	1716837
Total Male:	858422
Total Female:	858414

Custom Age-Sex Cohorts

Sex:

Start Age:

End Age:

Results: 183702

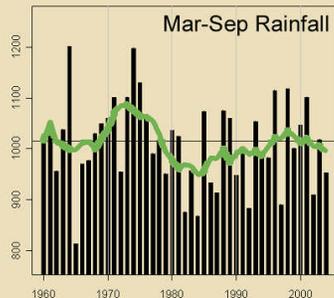
Windows taskbar: Start, Bulk M..., FW: et..., It does..., DDM V..., Age Se..., IrfanView, 1:56 AM

Challenge: Detect climate change influences on seasonal food insecurity

- Global patterns seem certain and evidence-based
- Surprising acceleration in expected impacts
- Volatility in weather, changing patterns
- We are already seeing local impacts on seasonal level

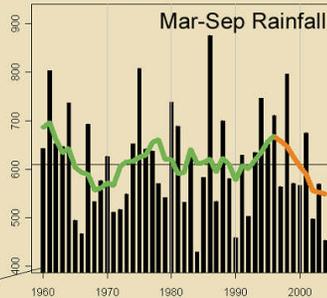
For food security monitoring,
need to identify climate change
impacts in more local areas

Changing Ethiopian rainfall patterns



Northwest

Fairly constant over period of record, decline in mid-1980's followed by a gradual recovery to present

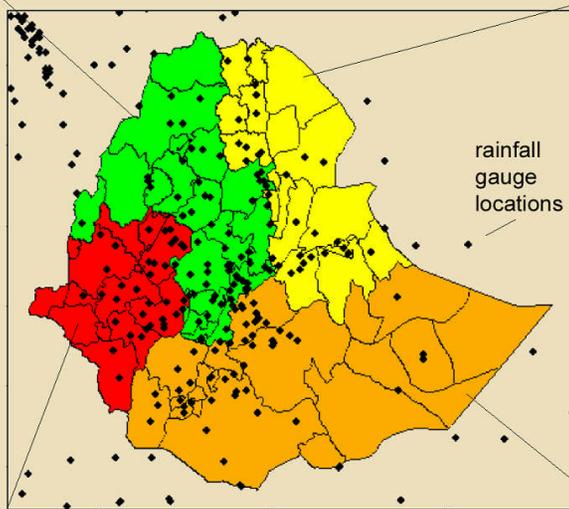
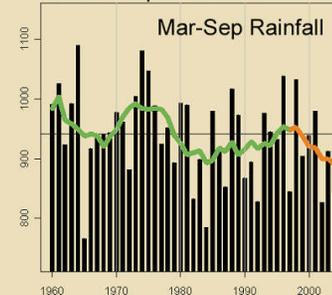


Northeast

Decline since 1996, with average of last 3 years very low

Entire Country: Mar-Sep

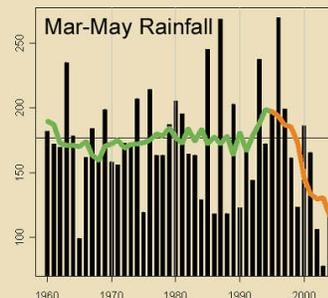
Overall drop after 1996



rainfall gauge locations

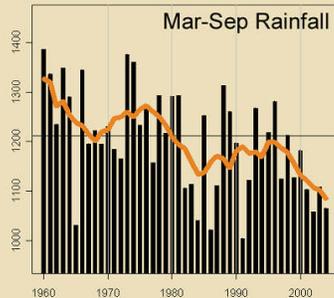
Entire Country: Belg

Abrupt decline since 1996



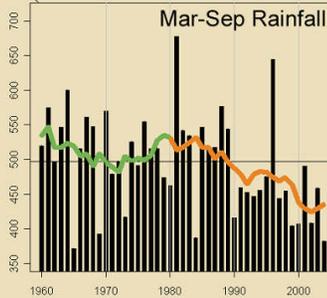
Entire Country: kiremt

Rains remain consistent



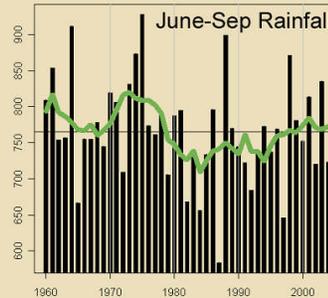
Southwest /west

Overall decline since 1960's, steep drop after 1996

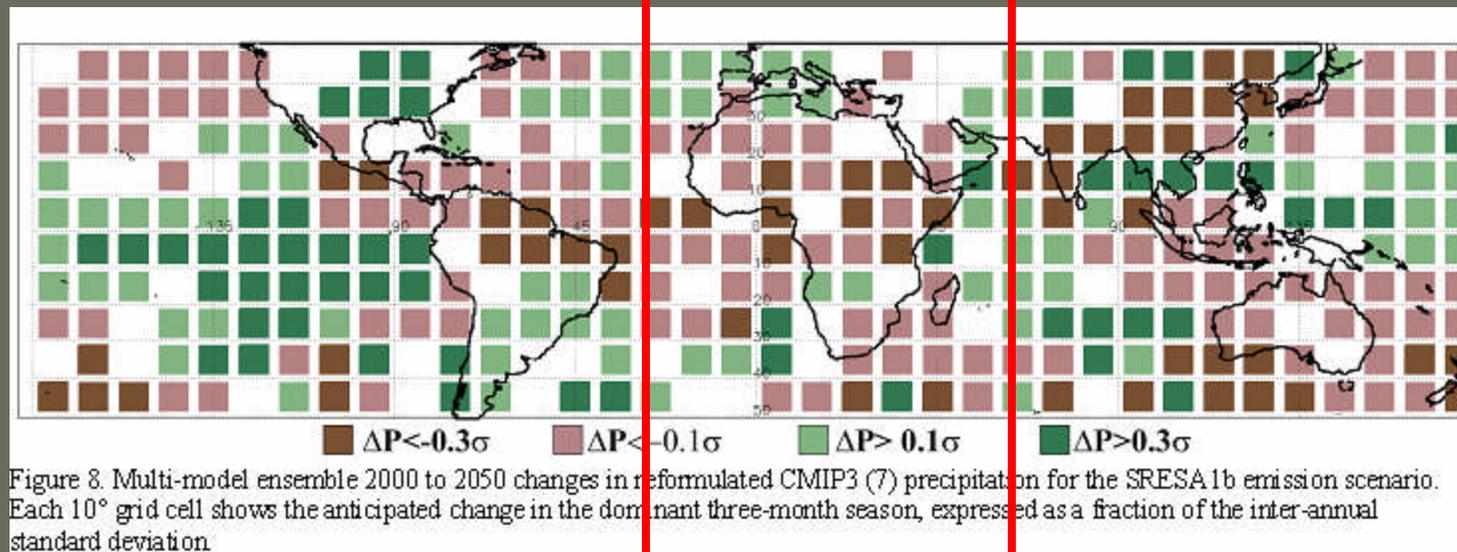


Southeast /east

Decline since early 1980's, with 4 of last 6 years very dry



Detect new local patterns

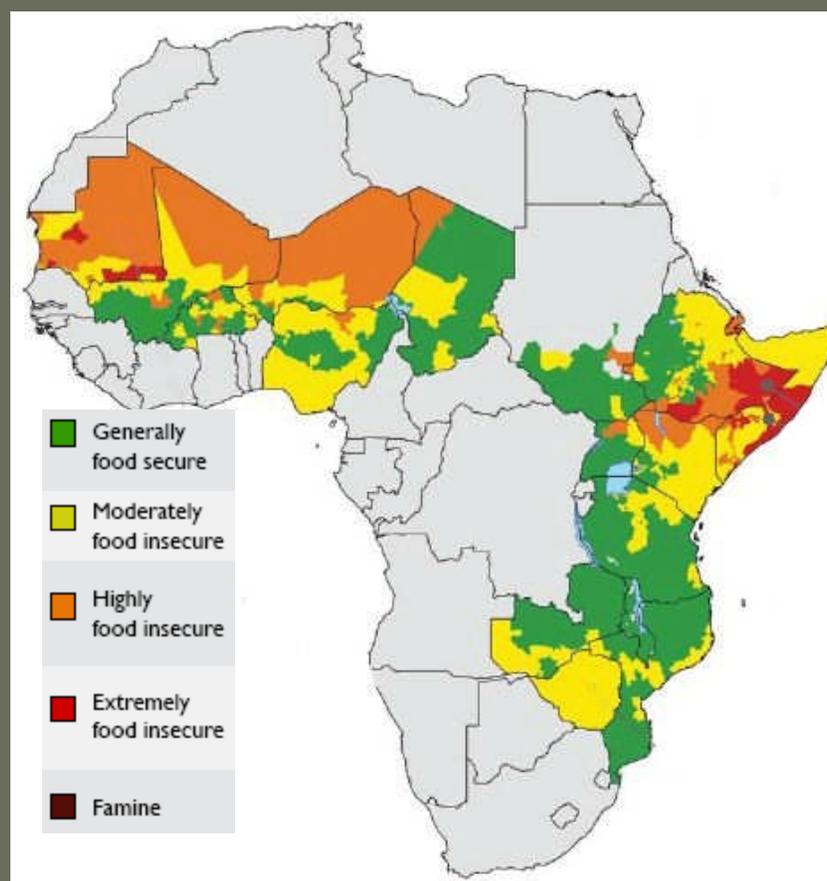


FEWS NET/USGS and UCSB

- Inserting local rainfall pattern data changes some global hypotheses
- Warming of Indian Ocean fundamentally important for Africa
- Somber prospects for most of Africa

Challenge: communicate food security conditions and outcomes in the same language?

The Integrated Phase Classification (IPC), a promising, but unfinished, initiative of great promise



Challenge: partnerships only way to meet increasing dimensions of food insecurity

Partnerships: One party can't do it all

USDA/FAS, FAO/GIEWS, FEWS global ag monitoring partnership?

Conclusions

Significant new challenges to food security exist

They are already significantly affecting food security

Early warning, food security and vulnerability assessment, needs assessment, developmental actions all need to adapt

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Markets & Trade

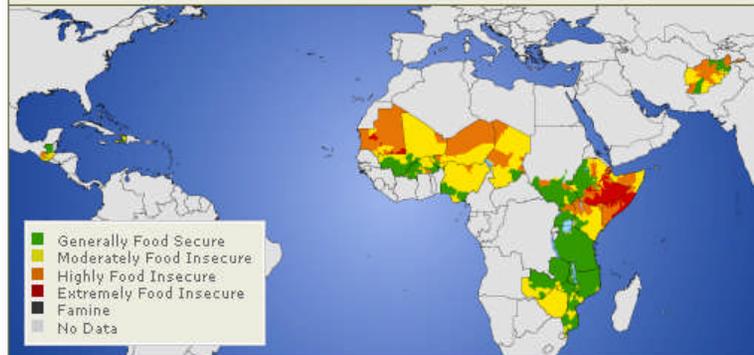
Livelihoods

Product Catalogue

Latest Headlines: [Slow cereal imports leave Zimbabwe facing major shortages](#)

Current Status Outlook Weather Hazards Satellite Imagery

Estimated food security conditions, 3rd Quarter 2008 (July-September) [Enlarge](#)



Geographic data are partly derived from the UN/FAO GAUL system. [Read Disclaimer](#)

West Africa

Mali

07/14/2008

- Cereal availability at the national level is satisfactory, following 3 successful growing seasons. Production in 2007/08 left a surplus of almost 900,000 MT [... more](#)
- [Burkina Faso](#) | [Chad](#) | [Mauritania](#) | [Niger](#) | [Nigeria](#) | [Regional Center](#)

Southern Africa

Mozambique

10/02/2008

- An estimated 302,664 people are currently acutely food insecure due to floods and drought in the country

East Africa

Kenya

10/09/2008

- The current food security situation includes the presence of high levels of food insecurity in the northern and northwestern pastoral areas, resulting from t [... more](#)
- [Djibouti](#) | [Ethiopia](#) | [Somalia](#) | [Sudan](#) | [Tanzania](#) | [Uganda](#) | [Regional Center](#)

Central America

Guatemala

09/17/2008

- While the April to August hunger season continues to cause fear

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