Food Security and the Development Agenda

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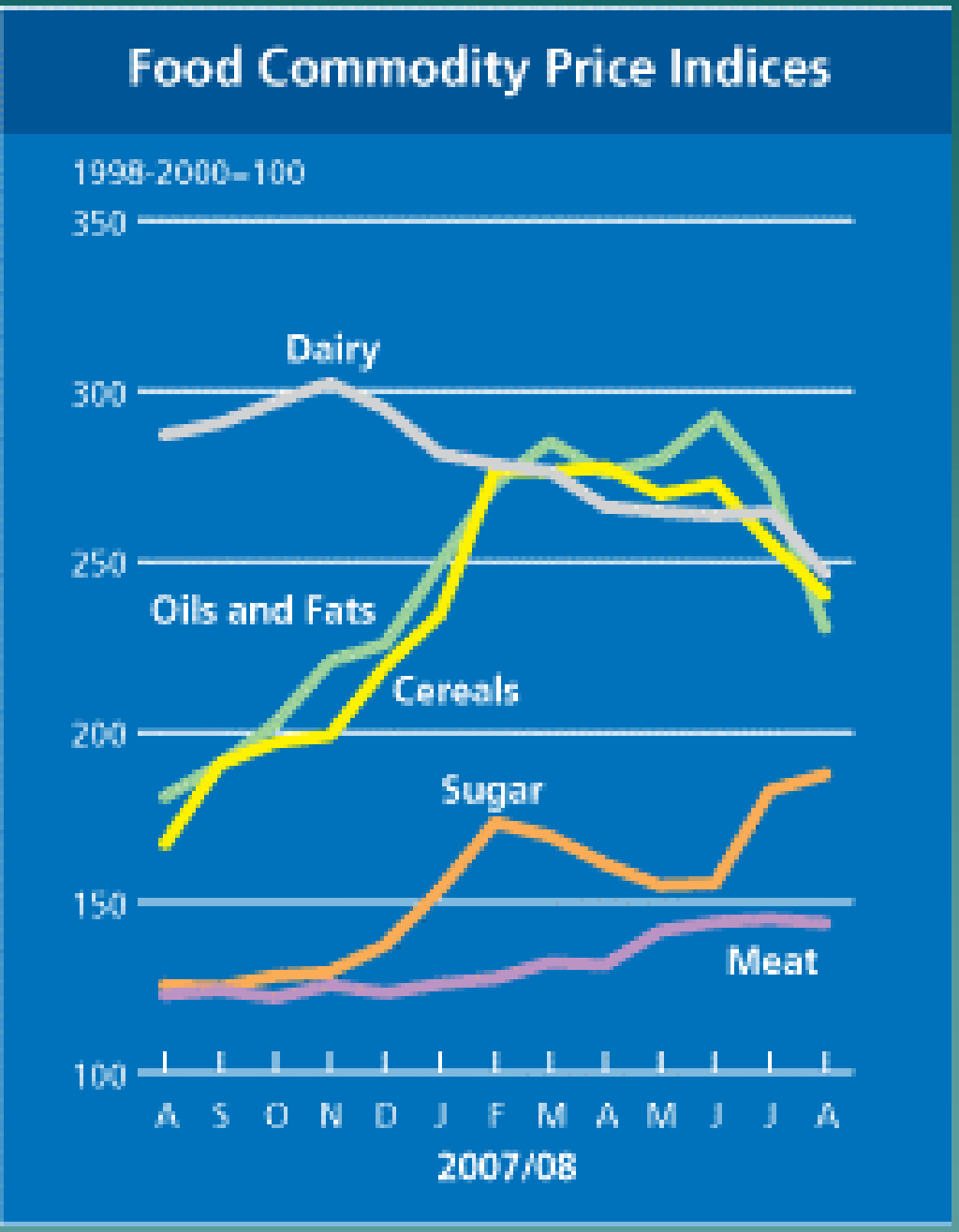
Outline

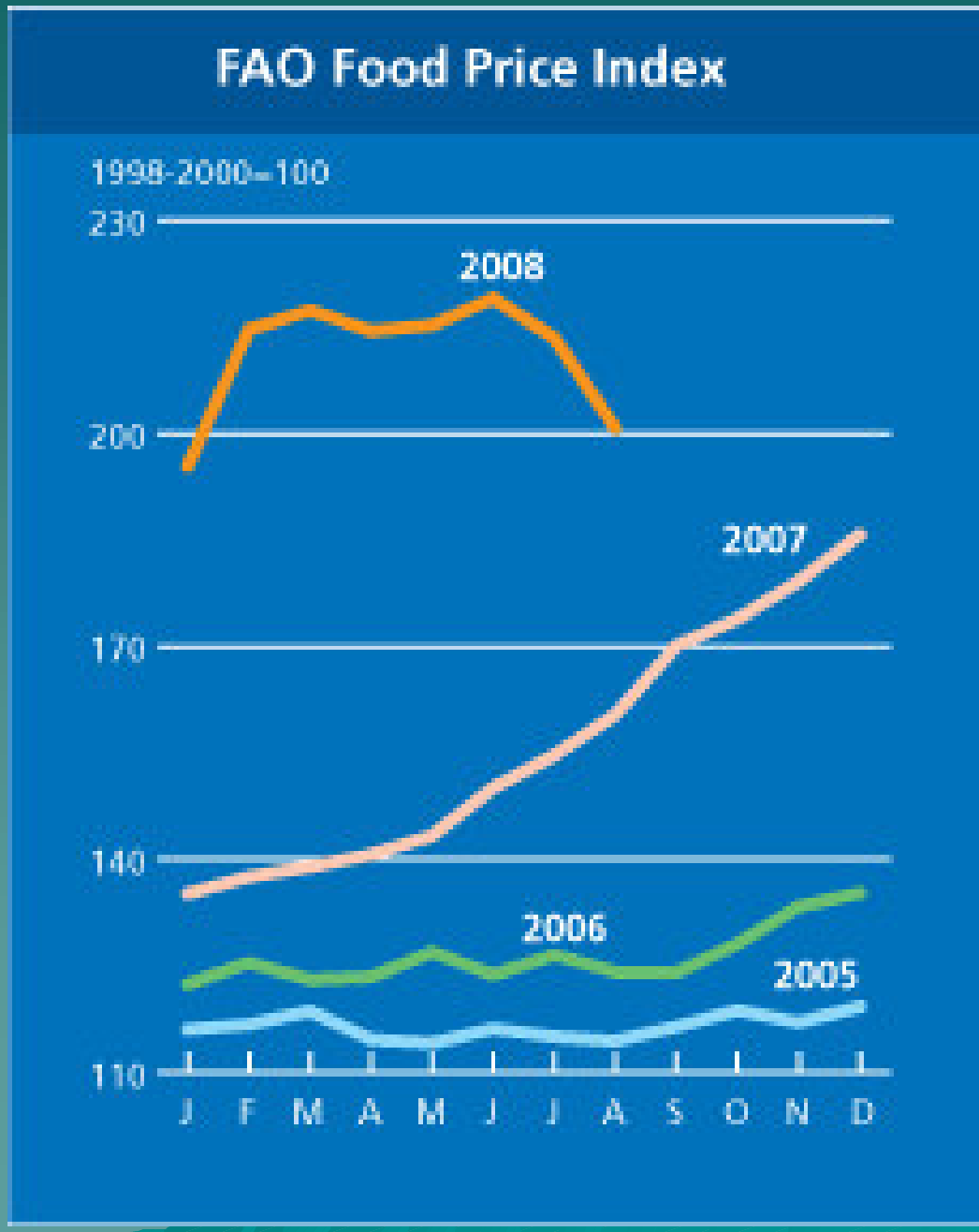
- Recent trends
  - food prices
  - food security
  - vulnerable countries
- The macro links
  - Balance of payments
  - Inflation
  - Government budget
- The micro links
  - Nutrition
  - Human development

Outline (cont'd)

- Structural determinants of current food crisis
- Policy response
  - Short-term
  - Medium- and long-term

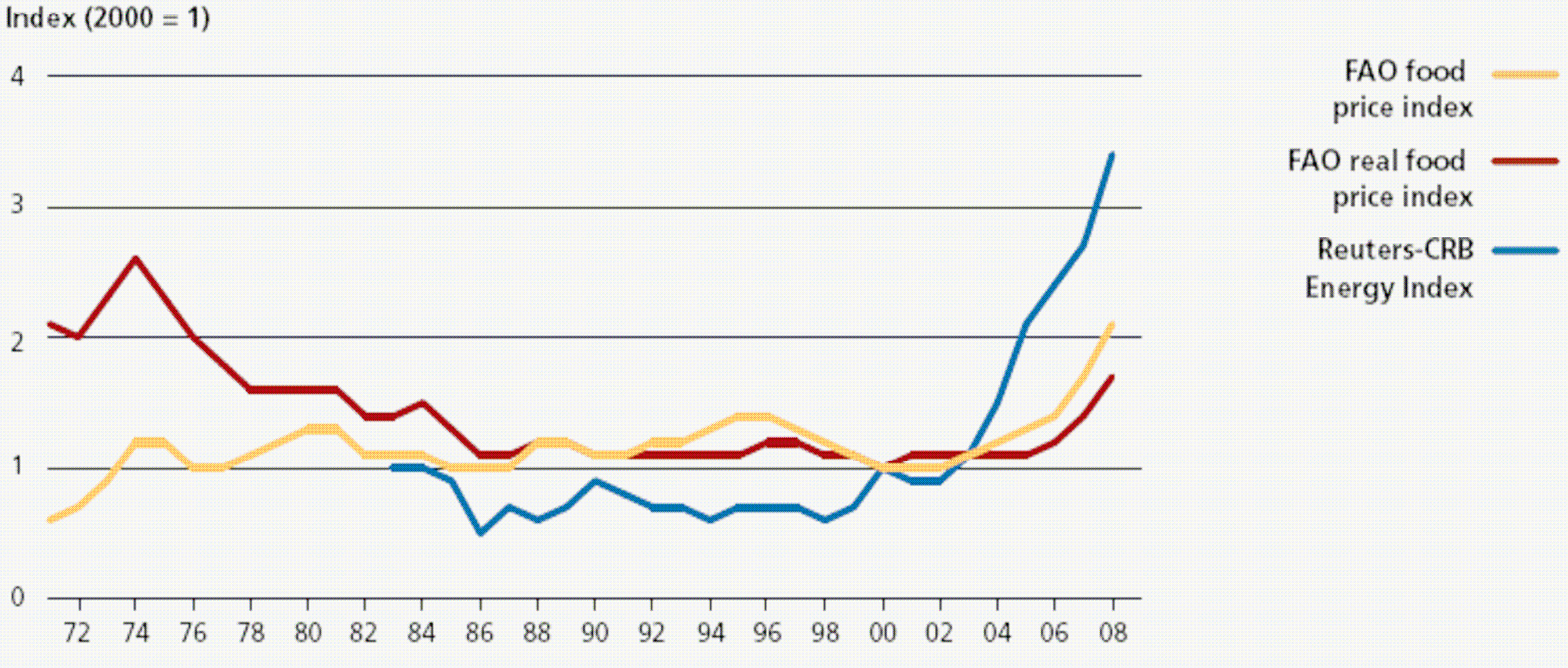
Recent price trends





Real food prices were falling or stagnant for a quarter century

FIGURE 30
Long-term food and energy price trends, real and nominal



Source: FAO.

Food security has dramatically improved over past 40 years

- The proportion of people living in developing countries with average food intakes below 2 200 kcal per day fell from 57 percent in 1964-66 to just 10 percent in 1997-99.
- Still, an estimated 800 million people in developing countries remain undernourished
  - About one person in six
  - This number may have increased by tens of million along with food prices in the past 2 yrs.

In past few years, grain stocks have fallen sharply relative to use

FIGURE 36
Ratio of global stocks to use

Note: Wheat equivalent based on relative 2000–02 prices from OECD–FAO, 2008.

Source: Stock and use data from USDA Foreign Agricultural Service, 2008.

50 Countries Still Hurt By Food, Fuel Crisis

Fifty low- and middle-income countries have reserve cover of less than 3 months

The macro impacts

- Balance of payments
  - For 43 PRGF-eligible net food importers with data, the rise in the food bill in 2008 is equal to 0.8% of 2008 GDP
    - $7.2 billion, or
    - 0.3 months of imports for this group.
  - Fuel price shocks have contributed almost 4 times more than food prices to BOP impacts.

The macro impacts

- Inflation
  - High global food prices have fed into domestic prices to varying degrees.
  - The median inflation rate for non-OECD countries has risen from 5% in 2006 to 8.1% in 2008.
    - Both food and fuel prices have contributed.
  - A few countries with high food price inflation: Kyrgyz Rep. (32%), Viet Nam (26%), Chile (16%)

The macro impacts

- Government budgets
  - High food and energy prices have increased the fiscal burden of gov't food and fuel subsidies.
    - 29 countries have increased subsidy outlays
  - Governments have also reduced fuel and food taxes (inc. tariffs) to relieve domestic price pressure.
    - This has further compromised government finances.
    - 92 countries have decreased taxes on food.

The macro impacts

- Other elements of fiscal response
  - expanded transfer programs
  - higher public sector wages
- Median fiscal cost of all food-related measures:
  - @ 0.5% of GDP

The micro impacts

- More difficult to quantify
- The poor are falling deeper into poverty – doesn't show up in the $1 a day headcount
- Long-term consequences for health, education, human development
- Picture mixed:
  - urban poor worst affected
  - landless rural poor may enjoy higher demand for their labor (some evidence in India)

Coping strategies

- The poor may eat less and substitute less nutritious foods.
  - Exacerbates malnutrition
- They may consume or sell assets (seeds, livestock) to feed themselves.
  - Undermines basis for income generation.
- They may increase borrowing from moneylenders
  - Leads to chronic indebtedness

Structural determinants

- Demand conditions have been shifting
  - Changing consumption patterns
  - Growing demand for biofuels
- Supply side response weakened by:
  - Trade as answer to food insecurity: global efficiency all that matters
  - Washington consensus: dismantle state's role in support of agriculture

Short-term response

Timely intervention critical to avoid a 'lost generation'

- Targeted cash transfers
- In-kind food distribution, including:
  - school feeding programs
  - targeted support to vulnerable groups: infants and lactating mothers
- Other social protection measures: increased pension benefits

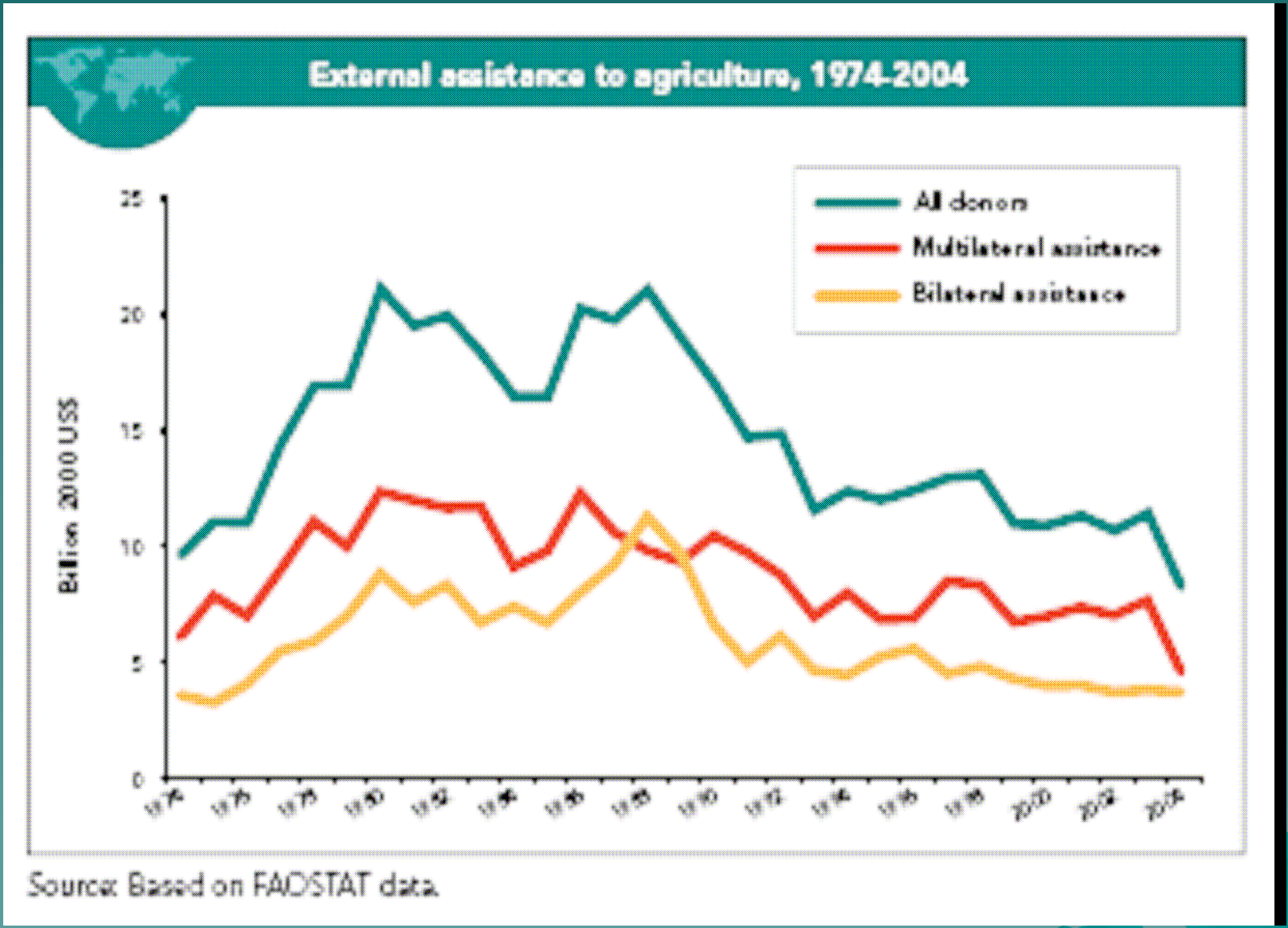
Near-term supply side response

- Prioritize seed, fertilizer, water provision to small farmers
- Ensure that emergency food aid stimulates local production
- Provide a secure market and a minimum price to local producers

Medium- to long-term response

- increase public investment in
  - agriculture, including agr R&D
  - Irrigation, rural roads, other infrastructure
- More donor, international support for agriculture, including R&D through CGIAR network

Reverse declining donor support



Climate change

- will greatly complicate food security in future
  - Africa and So Asia are most vulnerable to reduced yields
  - Drought, temperature stress will increase
  - So too will flooding as precipitation patterns change
    - More intense rainfall episodes

Climate change …

- is making development of drought-resilient, heat-tolerant crops ever more urgent
- … mitigating greenhouse gas emissions makes a less fossil fuel dependent agriculture imperative …

A green revolution in Africa

- Africa did not enjoy much of the benefits of first green revolution
- Now is its chance …
  - Much interest in food production in Africa – with investment must come technology
  - Biofuels also hold considerable potential.
- Need for sustainable agriculture, one where food and fuel don't compete

Biofuels and/or food security

- Debate rages
  - US and EU subsidies for biofuels have contributed to high corn prices
  - Will further expansion of biofuels undermine food security?
- Food, fuel can but need not compete
  - Sugar
  - Sweet sorghum

Competition for land

- Multinational agribusiness sees opportunities
- Sovereign wealth funds see opportunities
- Will small farmers in Africa see opportunities?
- Land tenure crucial
  - Clear, secure titles
- Also other policies and institutions to support shall farmers

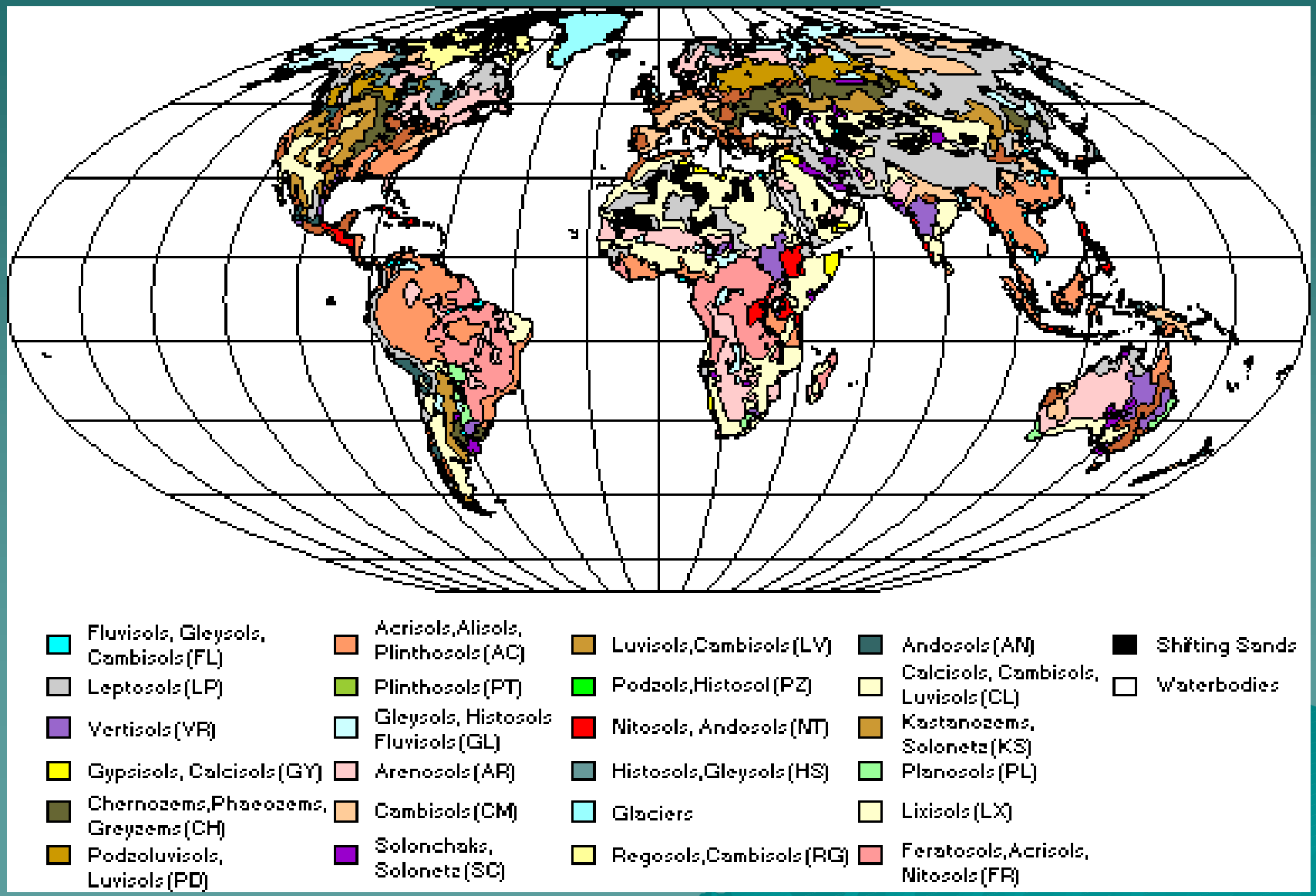
Medium to Long-term response

- Establish system of shared buffer stocks
  - much concern in importing countries over recent inability to purchase grain on world market at any price
  - virtual stocks: donor guarantees
    - assurances of availability in crisis
    - stronger regional transport links

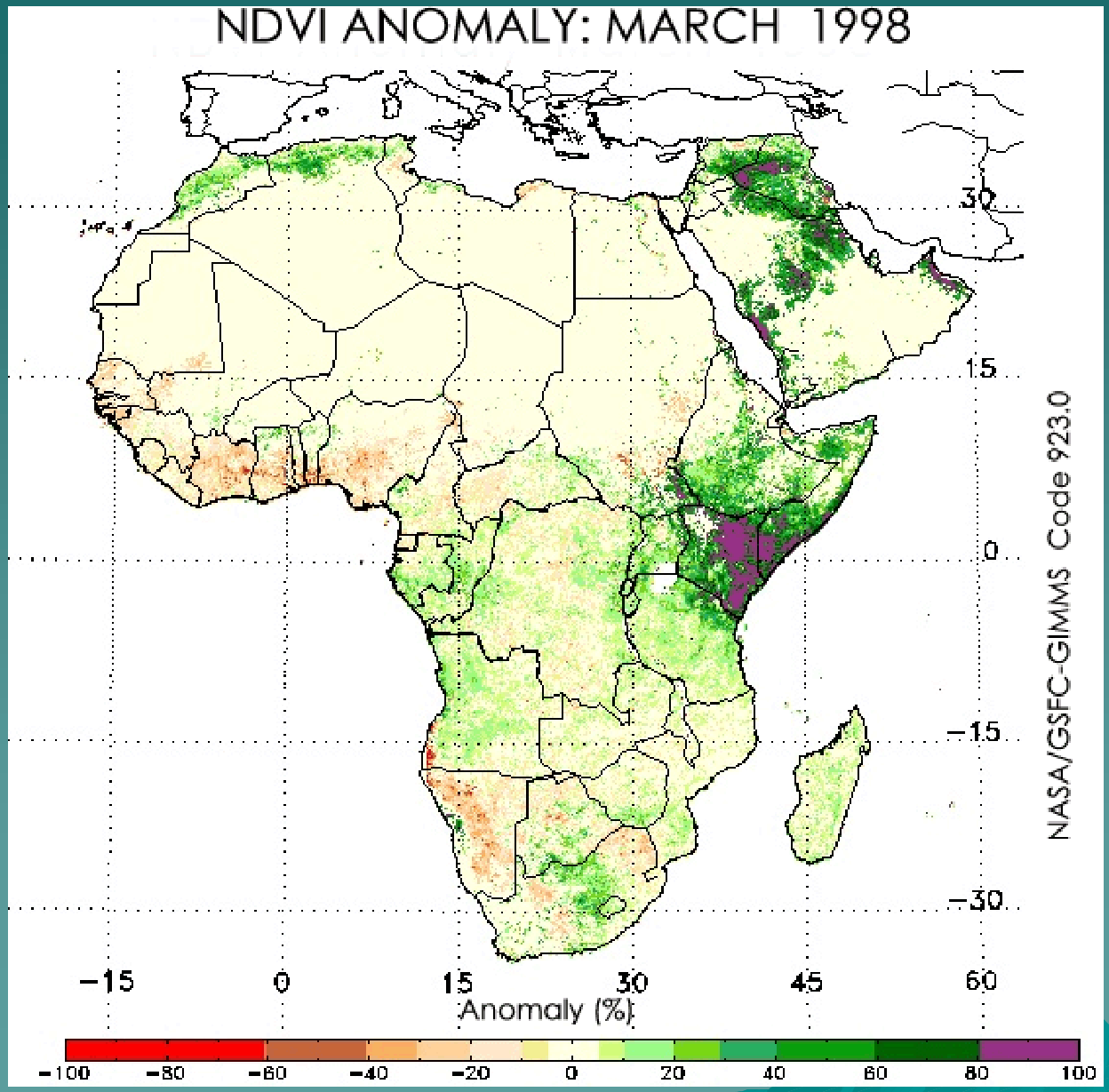
Multiple roles of space technologies

- Weather satellites
- Remote sensing
- GPS tracking of food shipments
- Global climate monitoring
  - ENSO impacts
  - Input into General Circulation Models
- Crop assessment
  - Yield analysis
  - Crop identification and growth stage

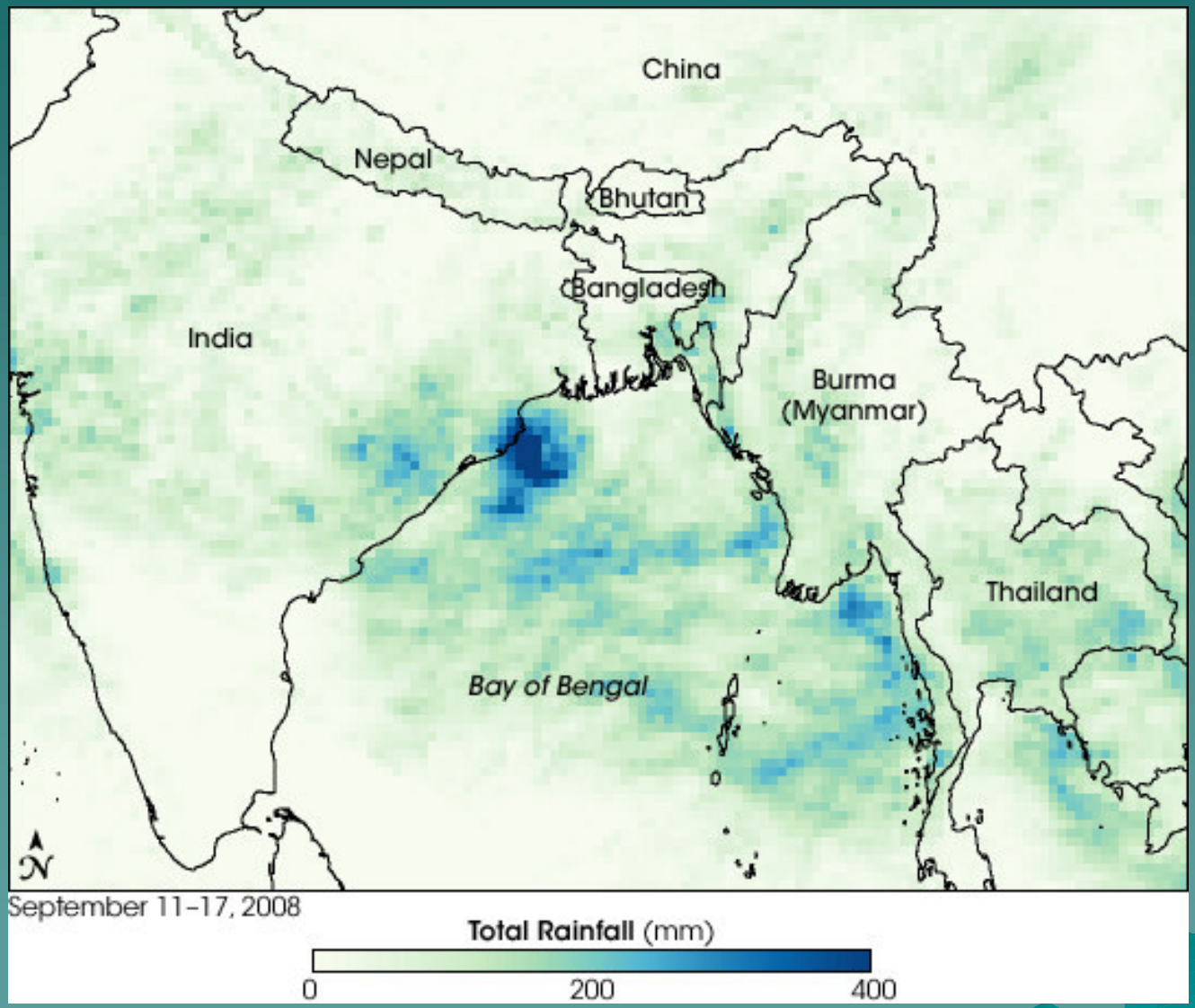
Global mapping of soils



ENSO effects on vegetation

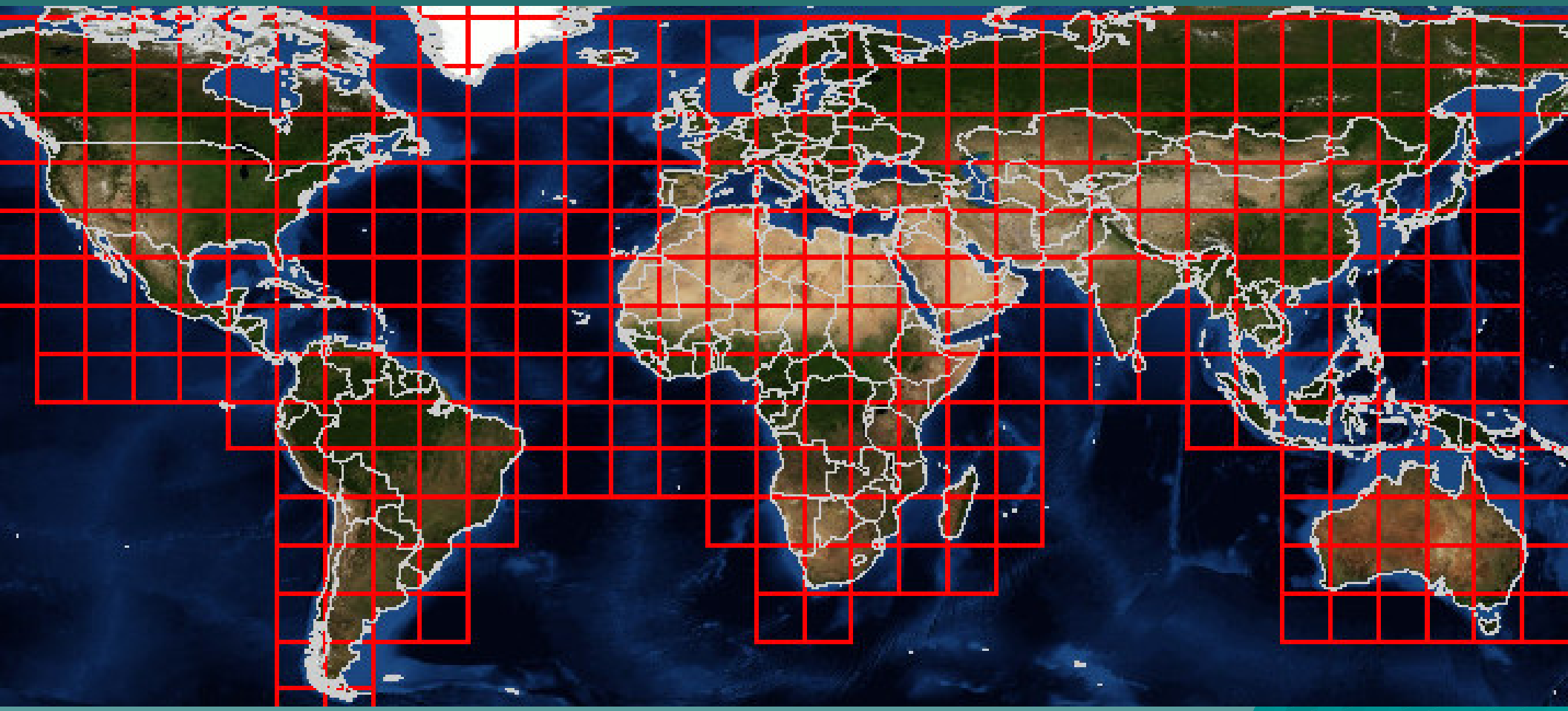


Satellite image of rainfall, India

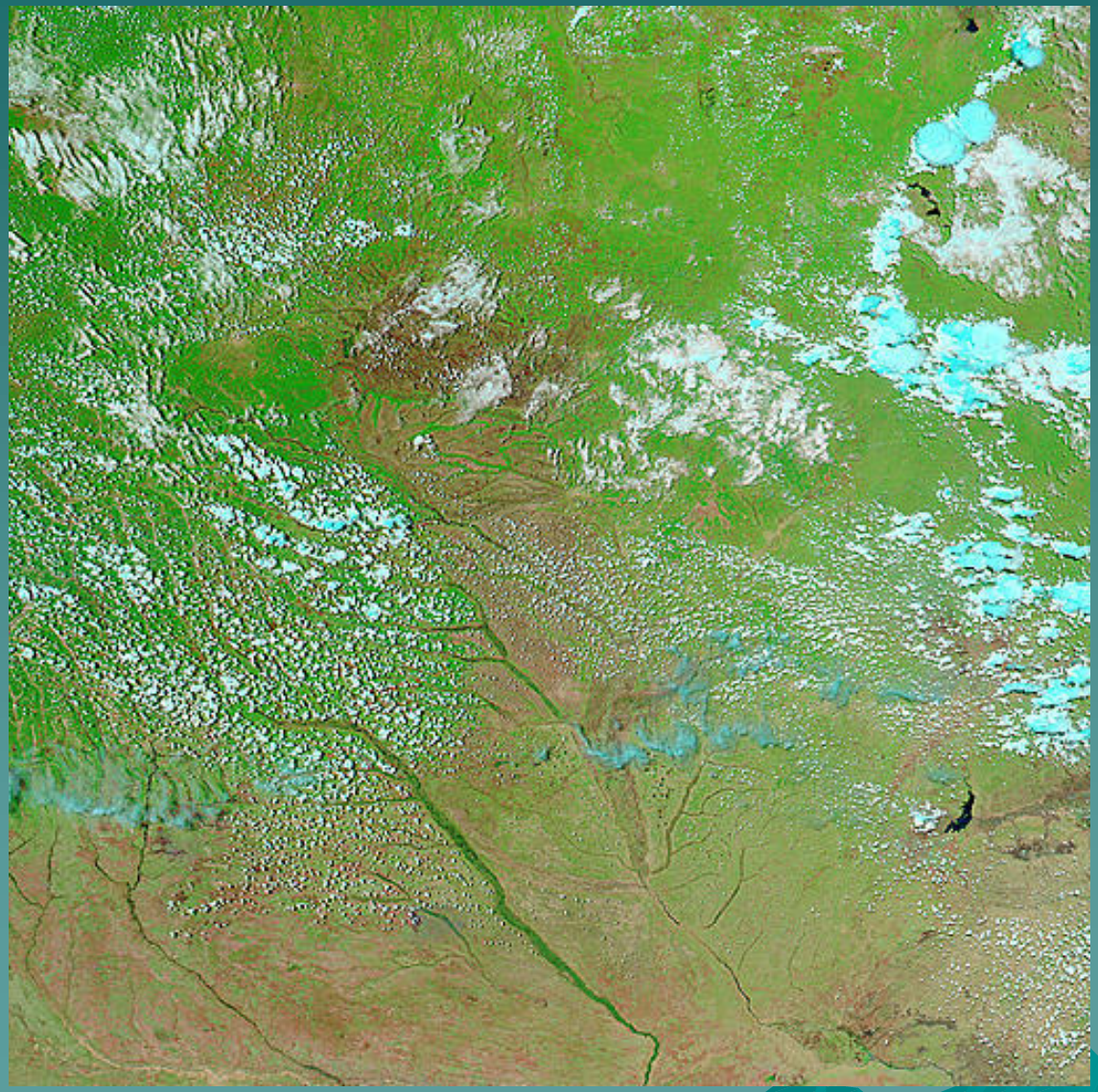


Source: NASA

USDA crop explorer



Cell of the grid in Central Africa



Conclusions

- Food and agriculture will remain high on int'l agenda for years to come
- Increased investment, including by donors, will be crucial
- Also, policy and institutional support to small farmers
- Climate change will greatly complicate food security in future

Conclusions – cont'd

- Space technology plays a crucial role in identifying emerging crises
  - Water flows, scarcities, drought
  - Crop growth
- Also in addressing those crises
  - Supporting emergency assistance
  - Monitoring population movements

Conclusions – cont'd

- Long-term role of space technologies
  - To monitor impact of biofuels growth on land use
  - To assess climate change impacts on vegetation, crop productivity
  - To help determine payouts on index-based crop insurance (NDVI, temp)