GYGA results for Kenya

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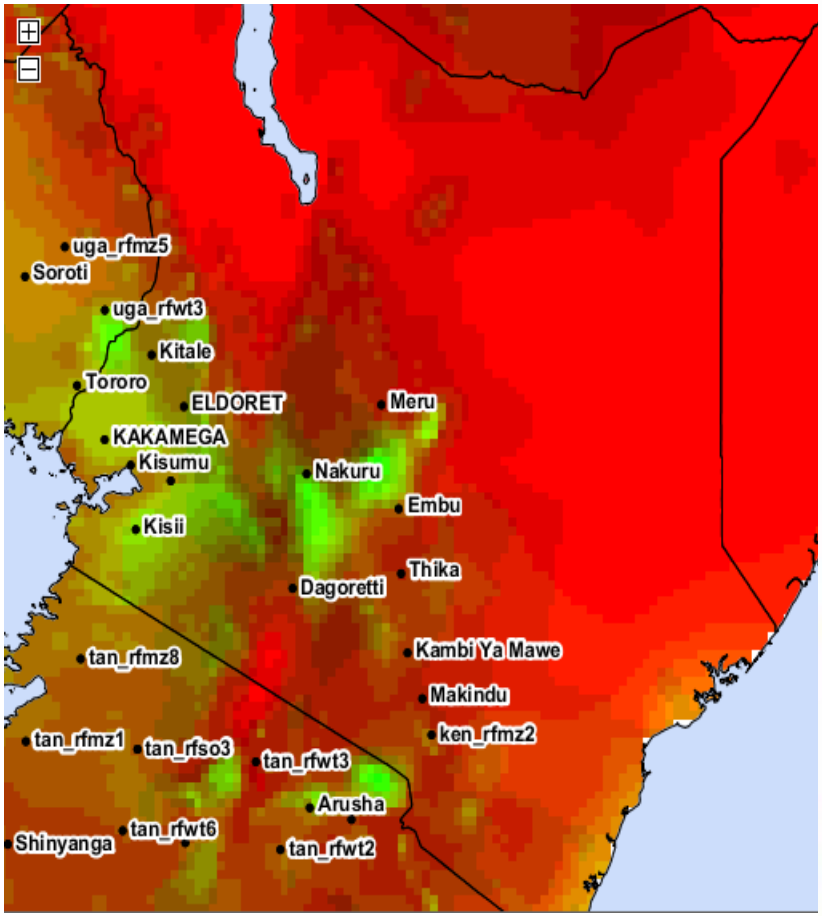
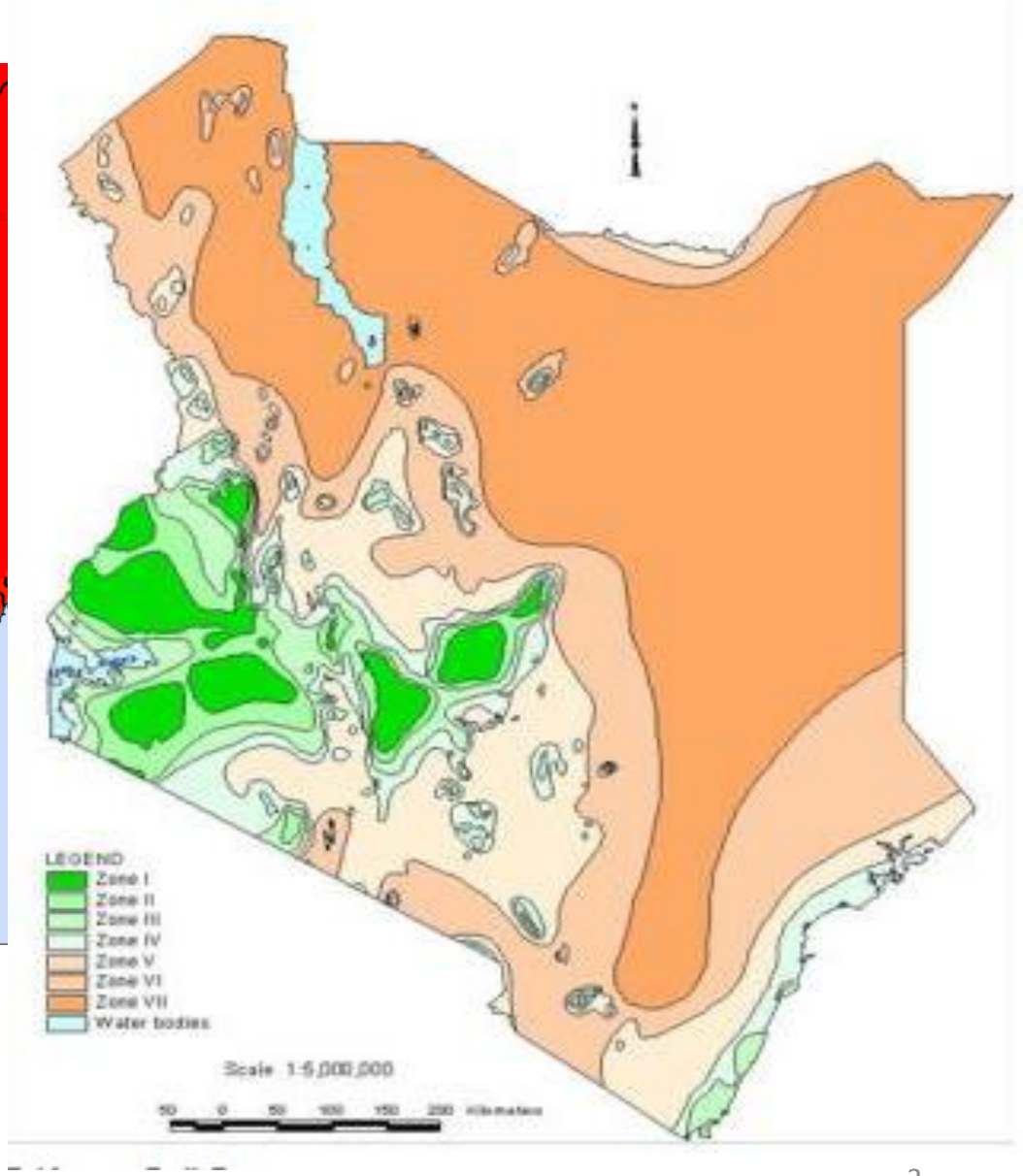
Country		Maize	Maize	Sorg-hum	Millet	Wheat	Wheat	Rice	Rice
		Irrigated	Rainfed	Rainfed	Rainfed	Irriga-ted	Rainfed	Irriga-ted	Rainfe d
Kenya	Yield Wat-lim or Pot. (ton/ha)	14.8	7.1	5.3	3.2	8.7	4.8	n.a.	n.a.
Idem	CV of Yield Wat-lim or Pot (%)	3.6	24.7	18.3	20.1	1.9	41.6	n.a.	n.a.
Idem	Yield actual (ton/ha)	1.9	1.9	1.0	0.7	2.5	2.5	n.a.	n.a.
Idem	Yield gap (ton/ha)	12.9	5.2	4.3	2.5	6.2	2.3	n.a.	n.a.
Idem	Actual cropping intensity	1.3	1.3	1	1	1	1	n.a.	n.a.
Idem	Harvested area (10^3 ha)	-	2008.3	225.8	99.1	-	160.0	n.a.	n.a.

KENYA AGROECOLOGICAL ZONE

GYGA CLIMATIC ZONATION



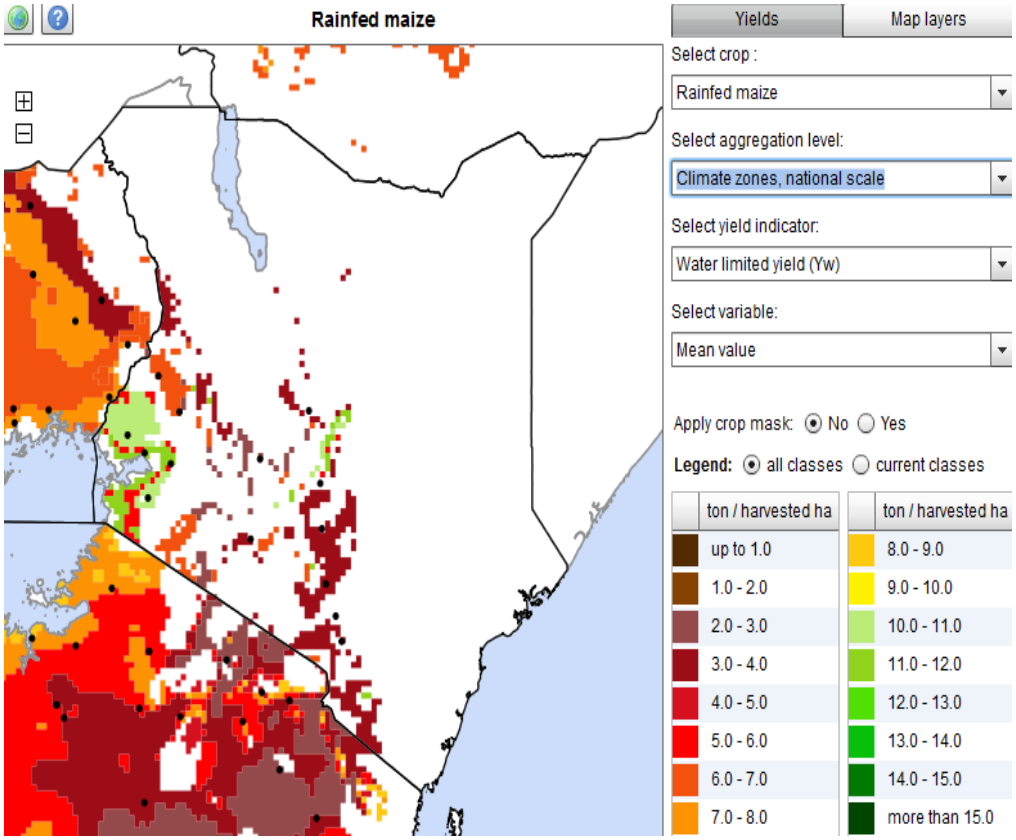


Bio-physical explanations for spatial patterns in yield potential

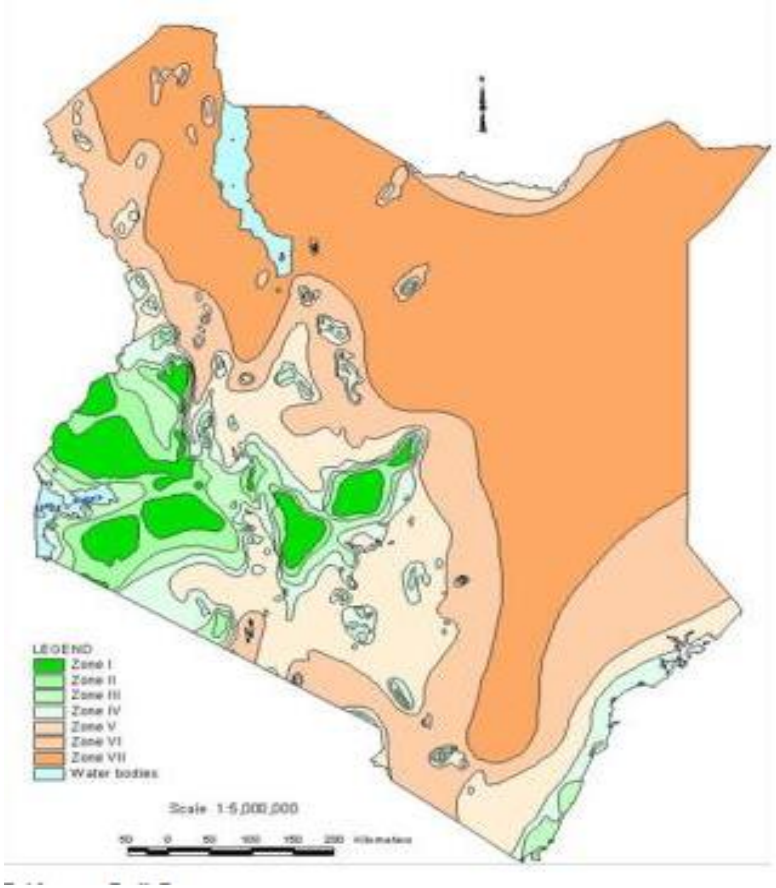
Rainfall distribution and low soil fertility

- In Kenya, maize yield fluctuates significantly from year to year, more so because of the variable distribution of rainfall than from the total received.
- Unsuitable rainfall distribution affects crop growth and development significantly and reduce yields, even when the total rainfall during the growing seasons is normal and adequate for high crop yields.
- Low soil fertility generally has also led to the yield gap

Water limited yield GYGA



Agro ecological zones



Management explanations for spatial patterns in yield potential

- In Kenya 70% of maize production is under smallholder farmers - ***low production efficiency***
- Fertilizer application inadequate due - **high Cost and insufficient knowledge**
- Lack of good seed- **limited Access to good or improved cultivars**
- **Rainfed production – High cost of irrigation facilities**
- **Intercropping – plant density, farm sizes**

- How results can be used to better understand the potential for meeting current and future cereal demand in Kenya.
- Spatial and AEZ yield gaps for prioritization and have county specific targets based on biophysical potential- research/production
- Integrated into early warning system for famine vulnerability mapping for Kenya