

Flood and Drought Crop Risk

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June 12, 2013

Prologue

Two extreme version of water, too much and too less

Too much: difficult to stop... it creates floods

Not enough: living beings suffer dehydration

When water is temporally not enough, it impacts plants, their production and our food security, that is where agricultural water management is important.

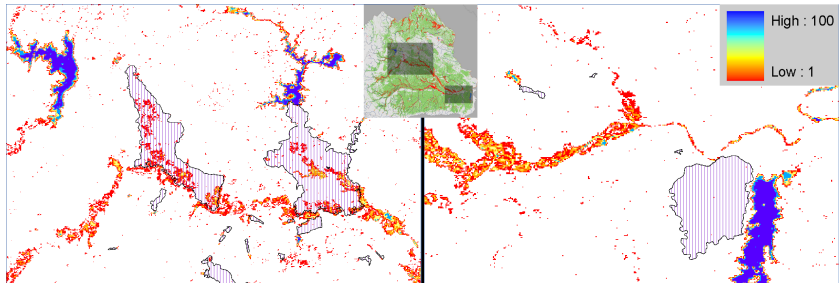
Overview

Agriculture suffers of hazards related to water, too much, too less. Those are submergence and inadequate amount of water for crop.

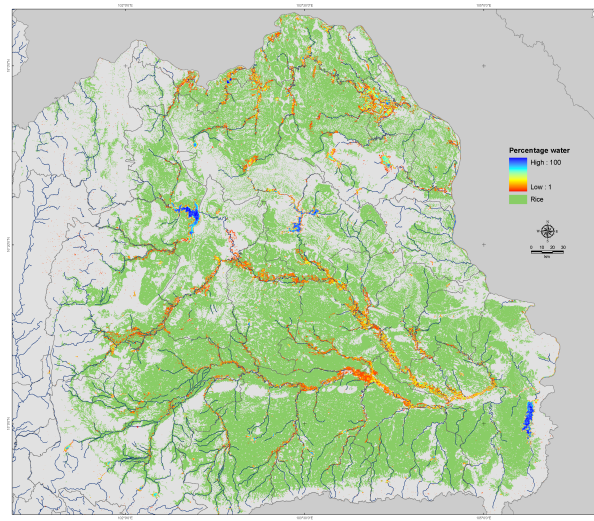
- ▶ Flood events & the rice submergence risk
- ▶ Plant and environmental stress

Rice submergence

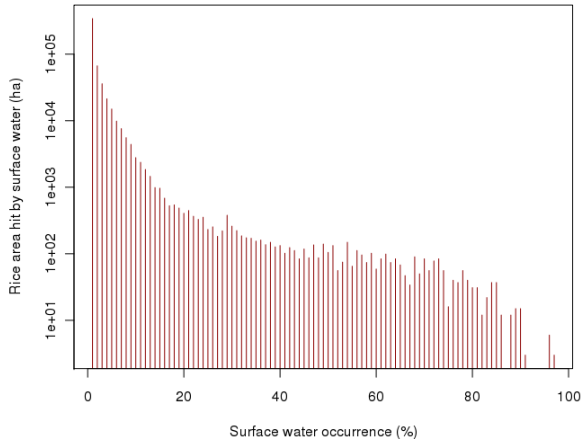
MODIS: return several times a day for more than 10 years
Probability of open water leads to understand rice submergence.



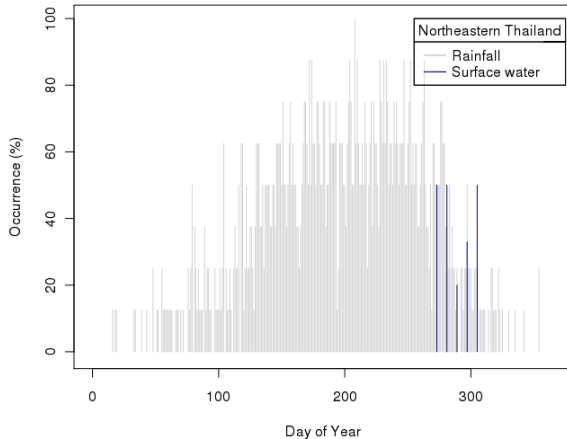
Rice submergence occurrence for large areas



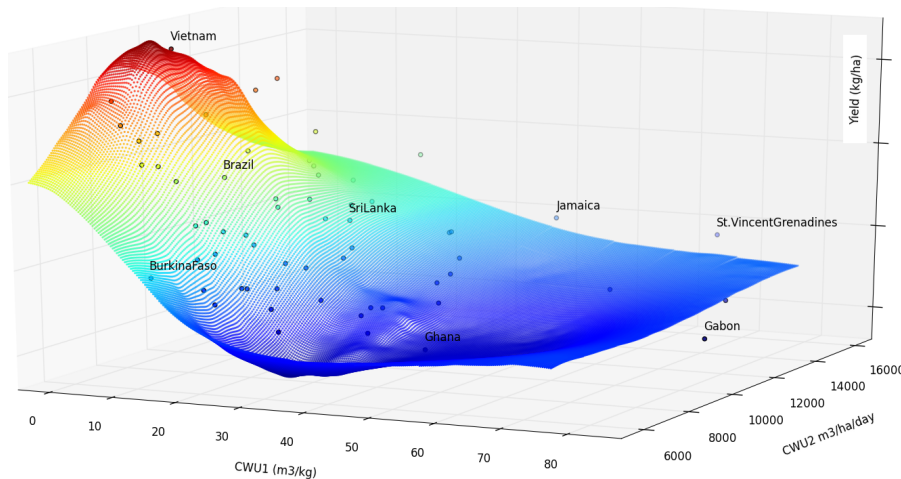
Rice Irrigated Area Risk



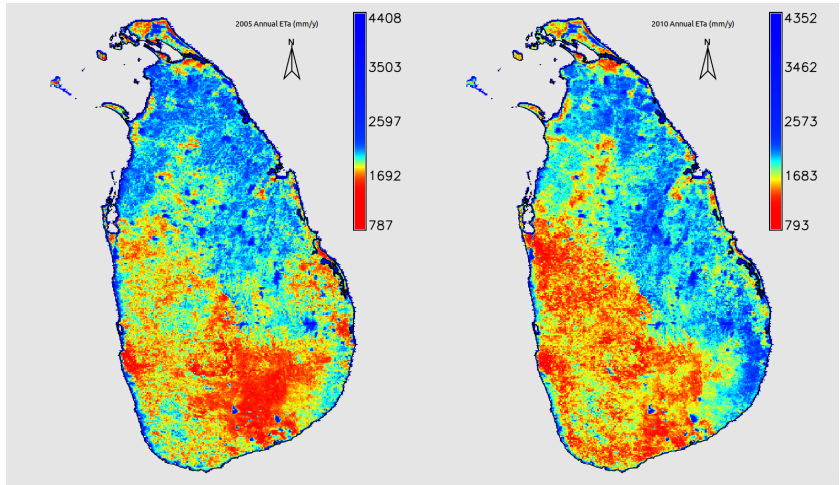
Rice Temporal Submergence Risk (Event-based)



Yield, Water & Land Productivity



Environmental Water Stress



Conclusions

Public domain RS data is used for crop risk assessment

1. Space monitoring technology in space and time
2. Landsat8 has 24 hours delivery, high resolution.

Thank You

