Building a G4AW partnership
State of the art information services

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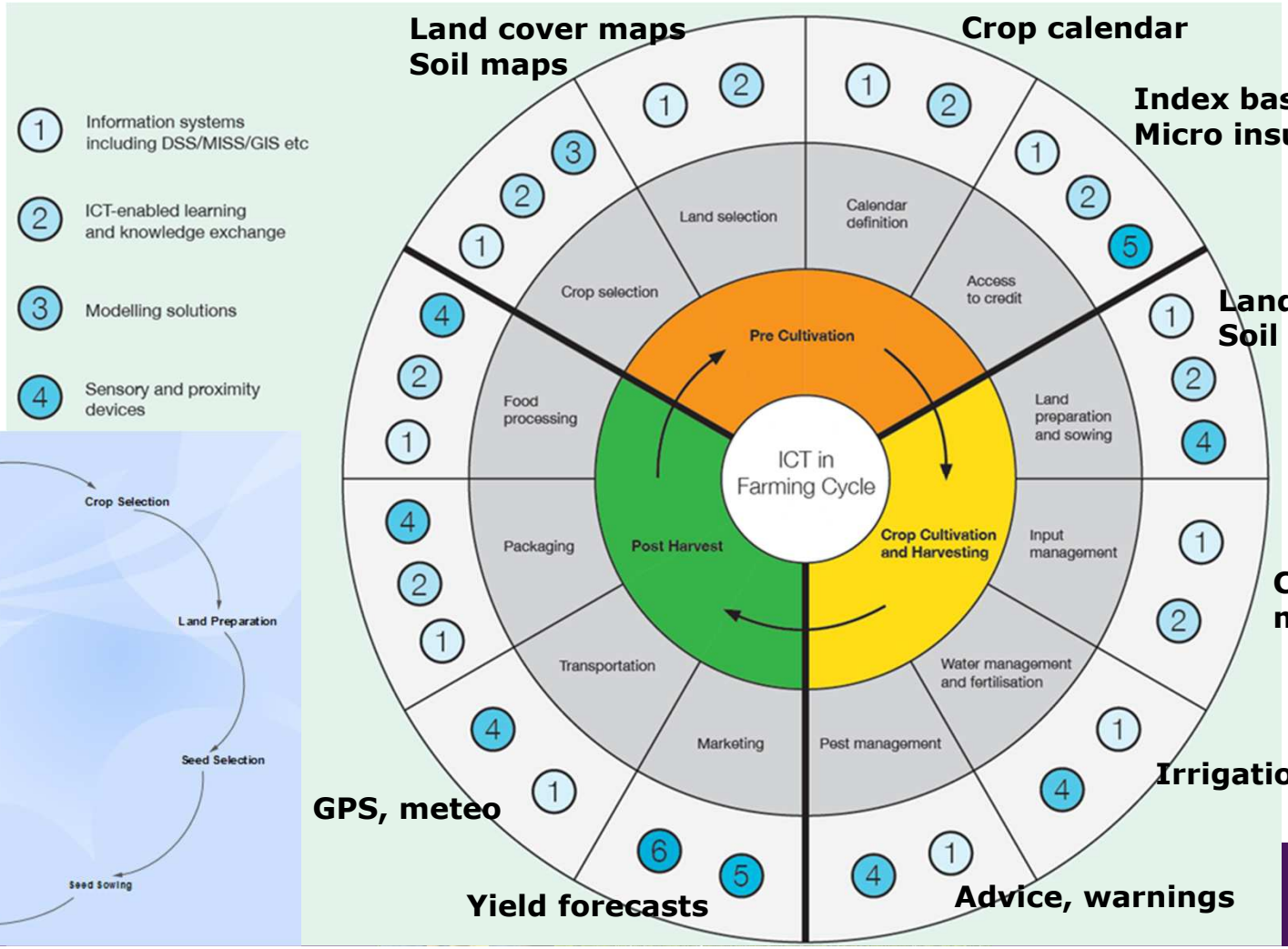
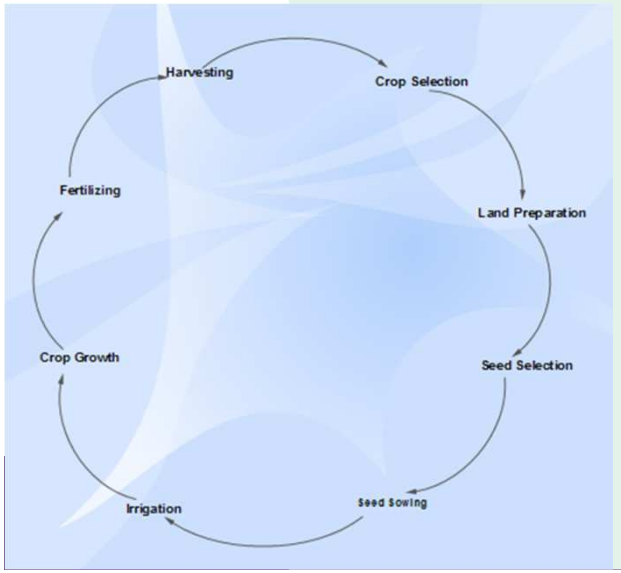
Required for a G4AW application

- User demand / information needs
- Possible service provision
- Partnership
- Business model
- Cooperation Agreement

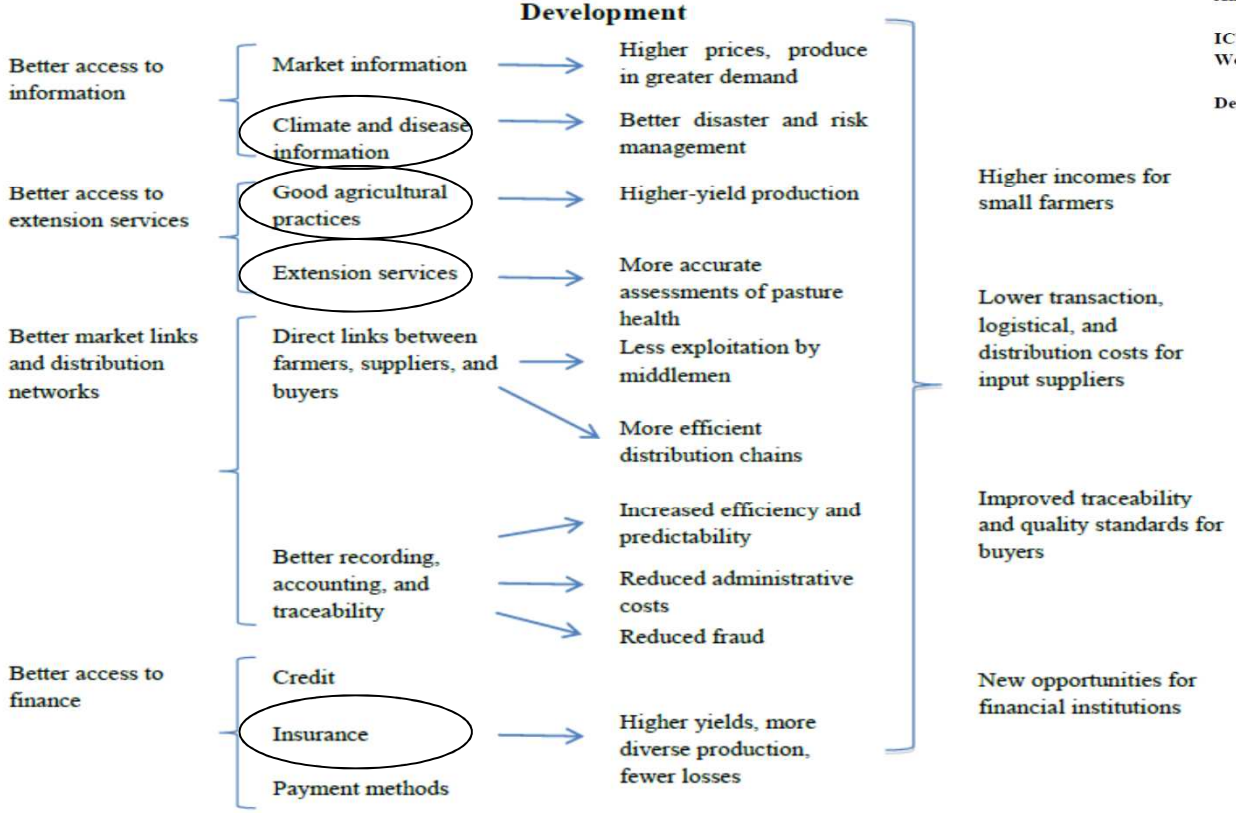
User demand & information needs





Mobile/ICT applications

Figure 1. Results Generated by Mobile Applications for Agricultural and Rural Development



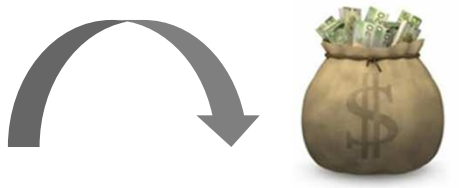
Mobile Applications for Agriculture and Rural Development

Christine Zhenwei Qiang, Siou Chew Kuek*, Andrew Dymond and Steve Esselaar

ICT Sector Unit
World Bank

December 2011

Advisory



Insurance/finance

Reaching small holders

- Small holders represented through intermediate, e.g.:

  - Ministry of Agriculture (extension officers)
  - Industry (brewery, nutrient supplier, etc)
  - local NGO
  - farmer cooperation
  - other

Possible service provision – insurance (1)

- Many pilot projects
- Technical guidance IFAD
- Upscaling has started
  - New, not yet fully accepted
  - Requires (large) investments

- Examples:
  - Kilimo Salama
  - Planet Guarantee (EARS FESA project)
  - Micro Insure
  - and others

Weather Index-based Insurance in Agricultural Development

A Technical Guide

WFP World Food Programme wfp.org

IFAD Enabling poor rural people to overcome poverty

http://www.ifad.org/ruralfinance/pub/WII_tech_guide.pdf

Possible service provision – insurance (2)

Partnership might include e.g.:

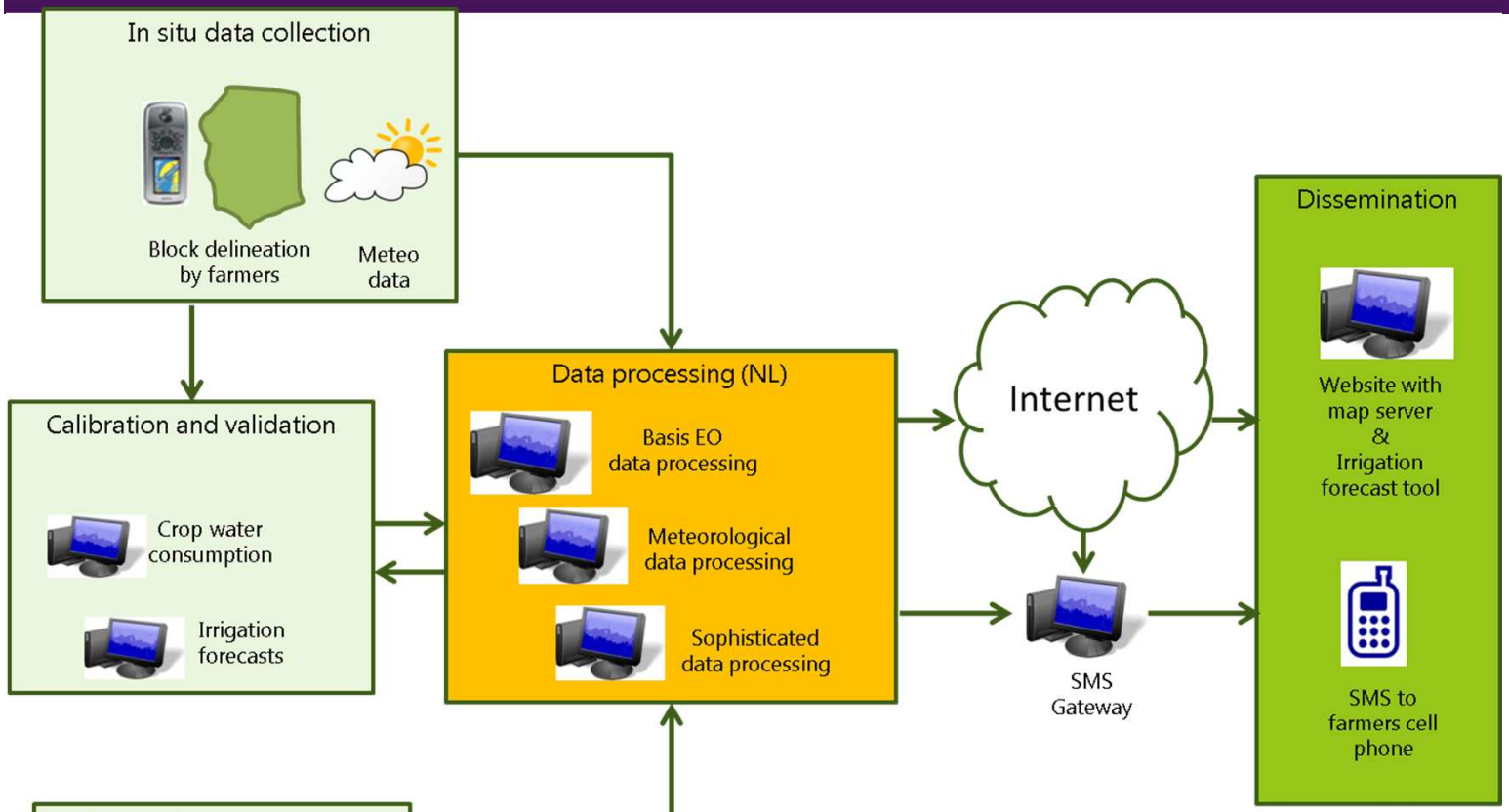
- Intermediate(s) (MinAg, NGO, value chain organization, other)
- (Spatial) information service provider(s)
- Local insurance companies
- Re-insurance company
- Others, e.g. mobile telecom provider, bank

Possible service provision – advice (1)

Possible advisory services may include, e.g.:

- Crop calendars
- Weather information
- Mapping
- Monitoring (e.g. vegetation growth
- Irrigation / nutrient supply advices

- Stand alone
- Integrated in value chain services
- Complementary to micro-insurance



Smart ICT infrastructure

The crop has no water stress when the soil moisture is above the critical level and below the field capacity

When the soil moisture drops below the critical line, irrigation is advised

Irrigation advice

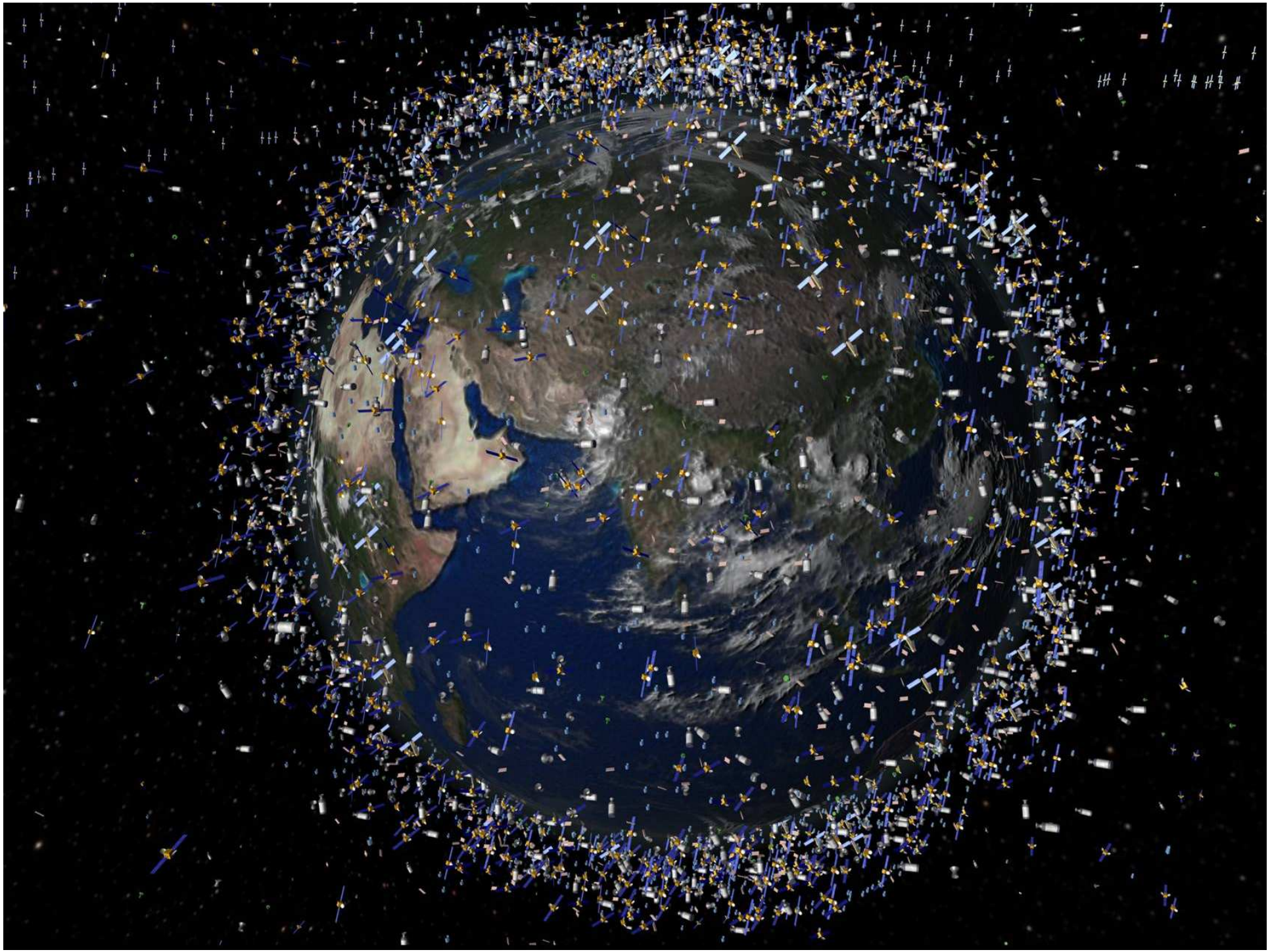
Possible service provision – advice (2)

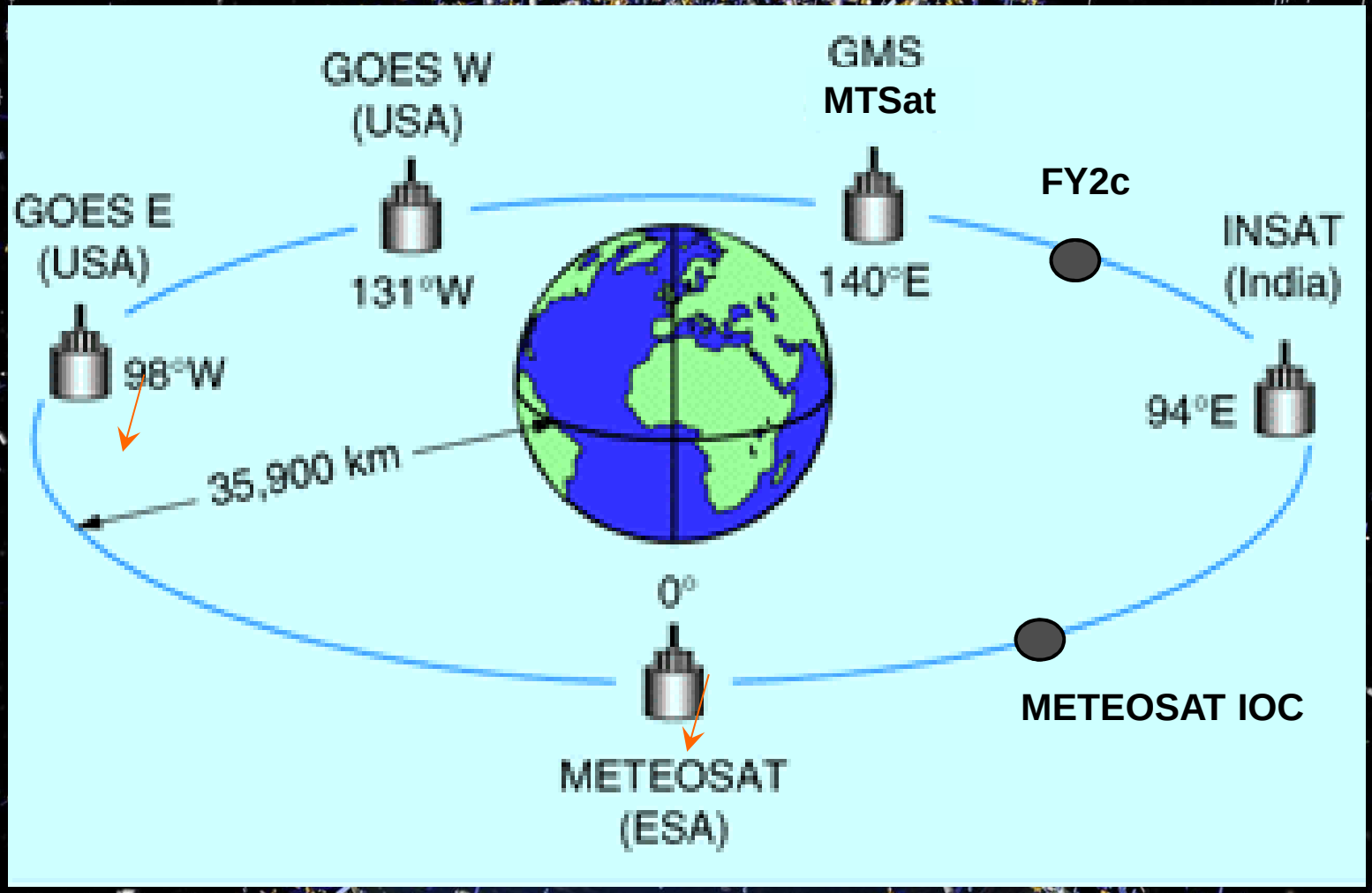
Partnership may include, e.g.:

- Intermediate(s) (MinAg, NGO, value chain organization, other)
- (Spatial) information service provider(s)
- Knowledge institutes
- Meteorological Offices
- Others, e.g. mobile telecom provider, bank

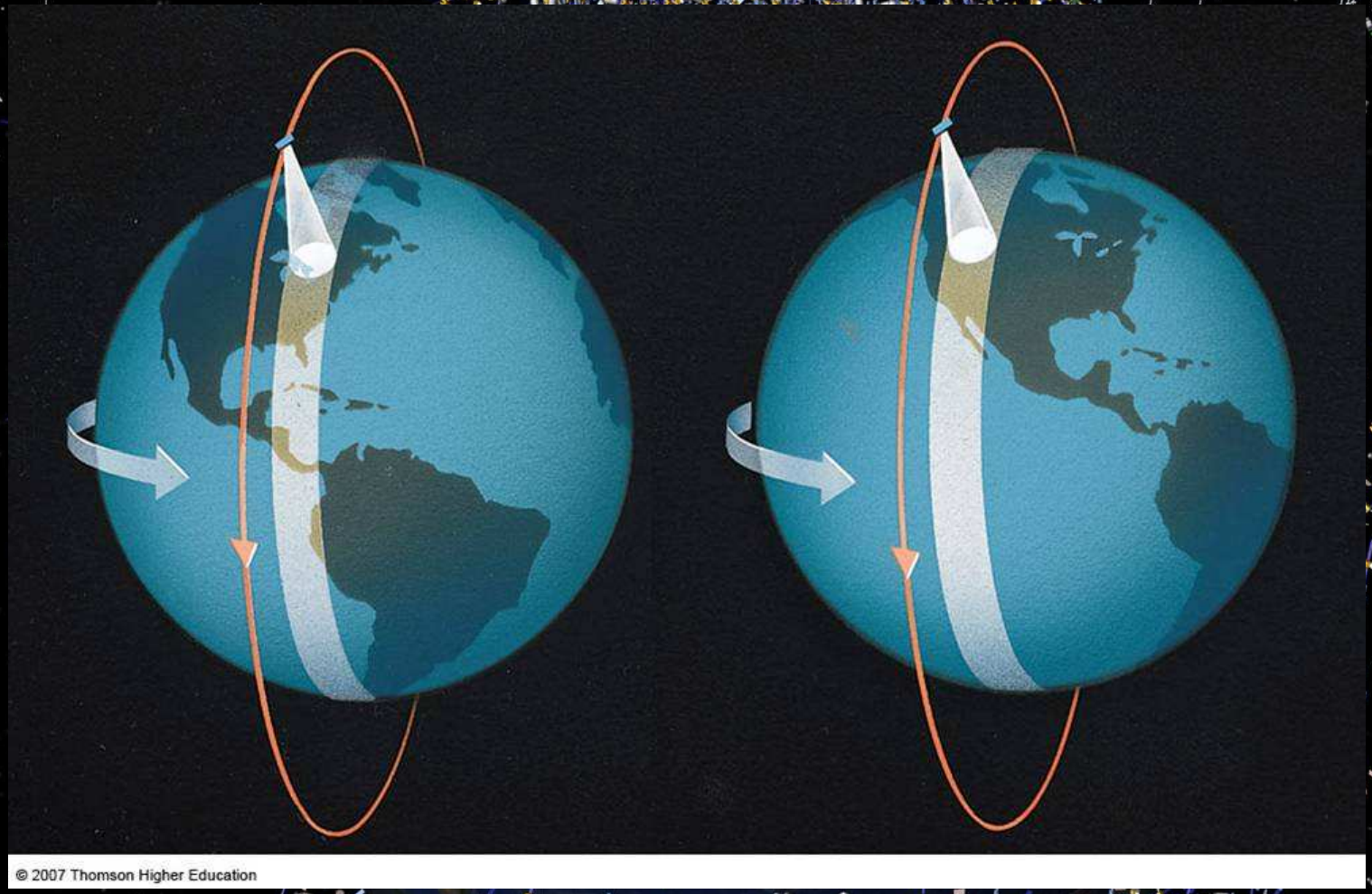
Why based on satellite data?

- Objective, consistent, cross border
- No of few (local) monitoring infrastructure
- 25+ years time series (geostationary satellite, Landsat)
- Many new satellites (to be) launched, no or low cost

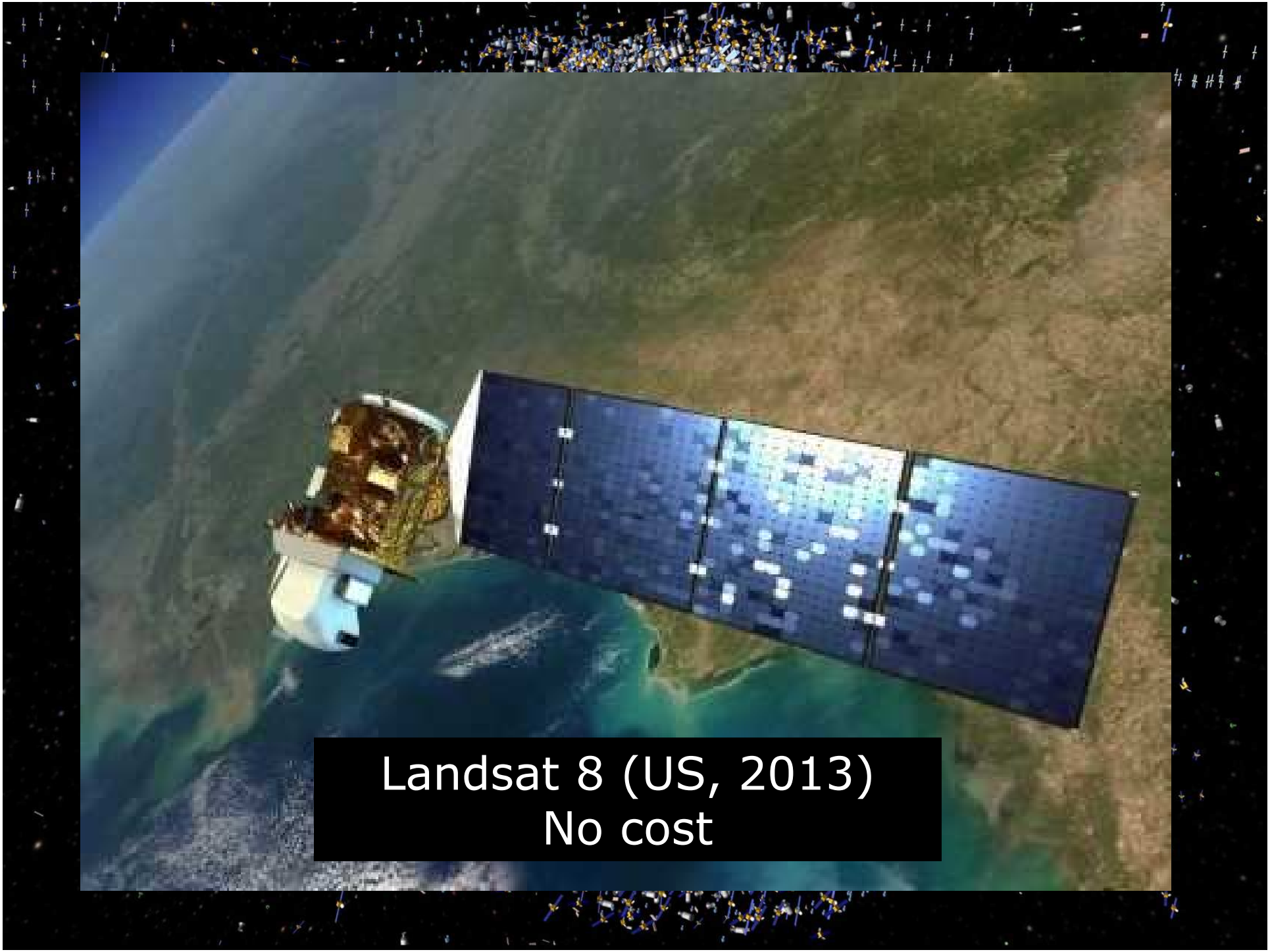




Geostationary satellites
(upto every 15min, 3x3 km)



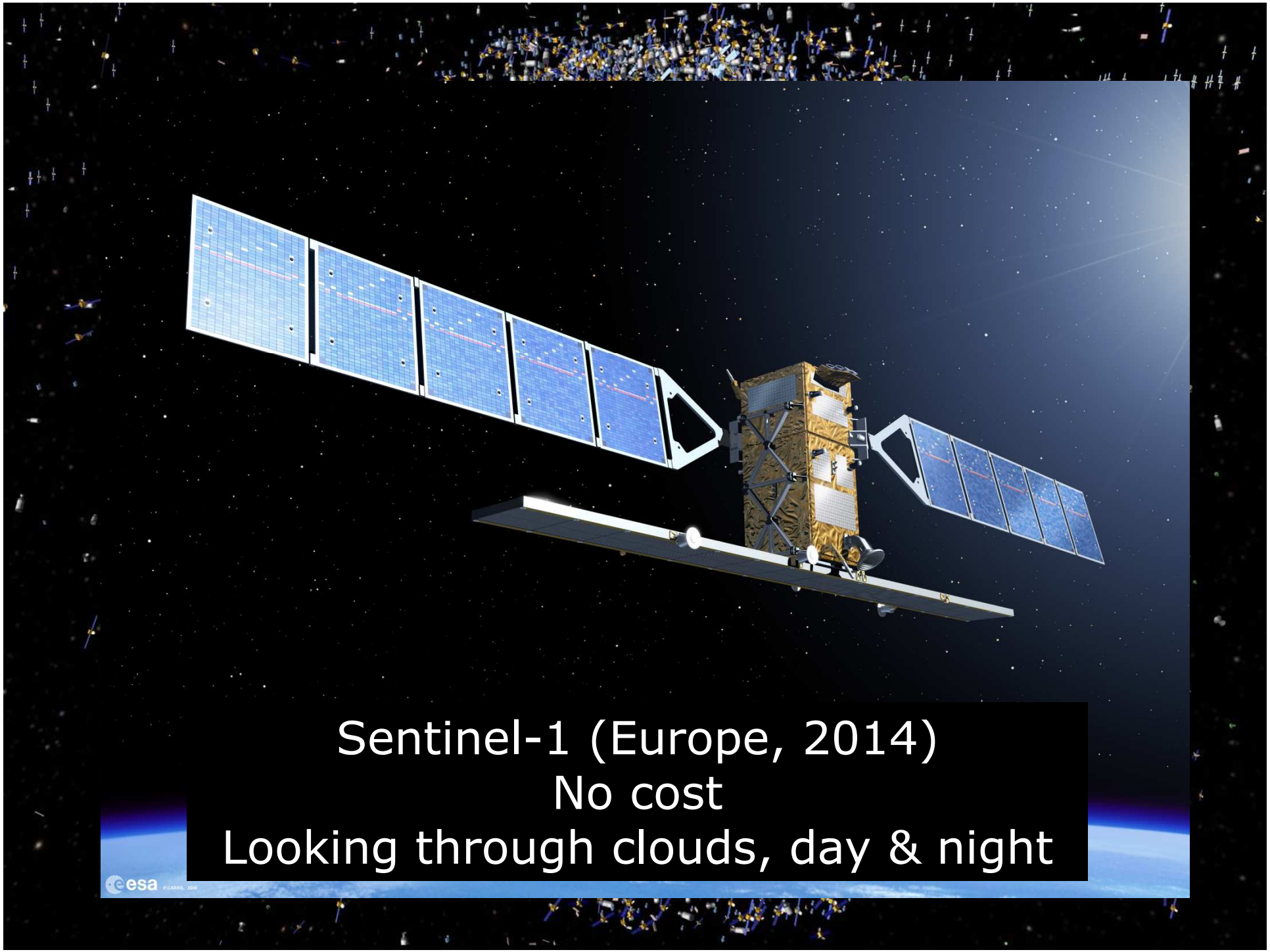
Polar orbiting satellites
(cycle ~90min, revisit few to ~30 days)

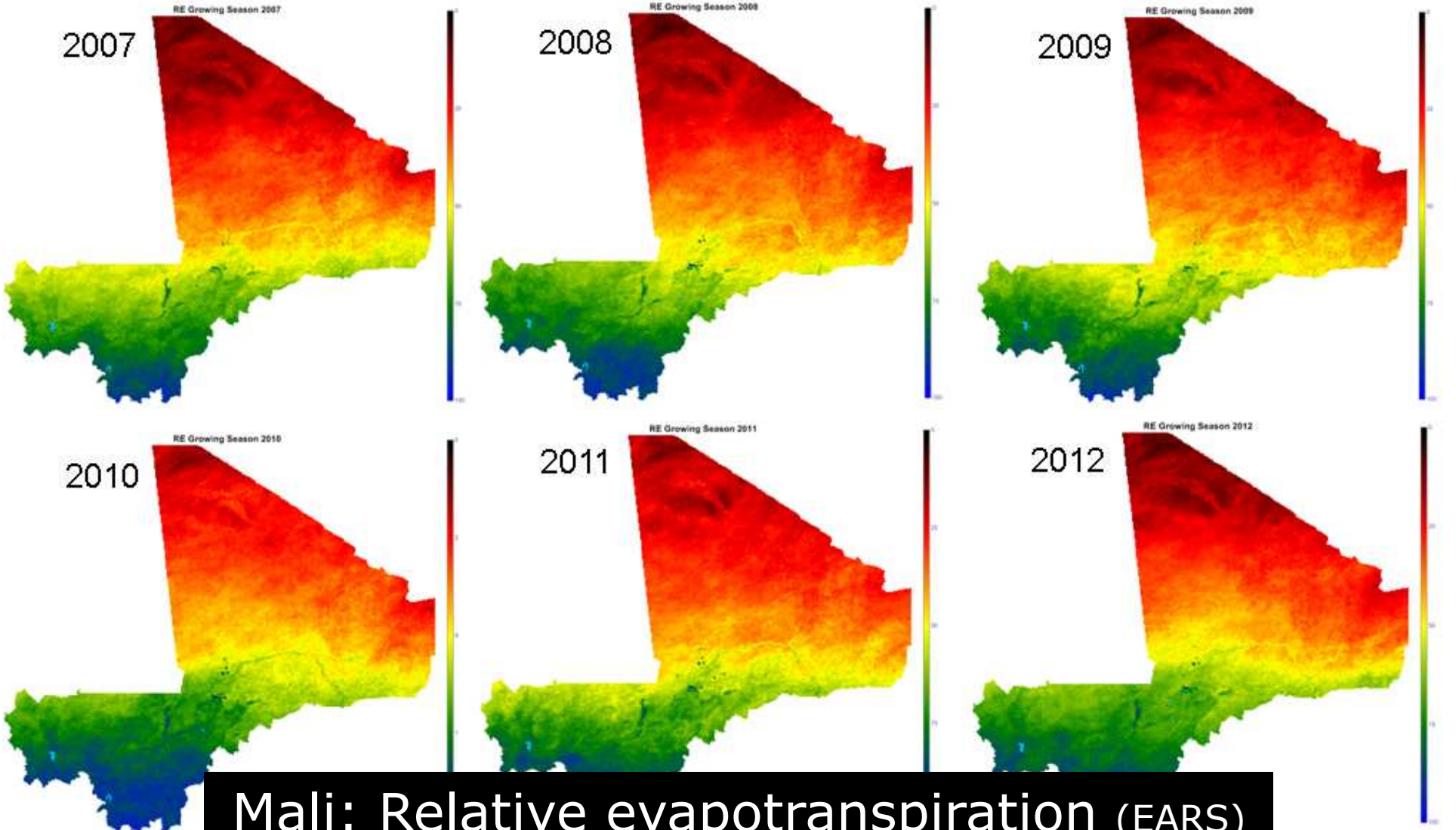

Landsat 8 (US, 2013)
No cost

Planet Labs (2014)

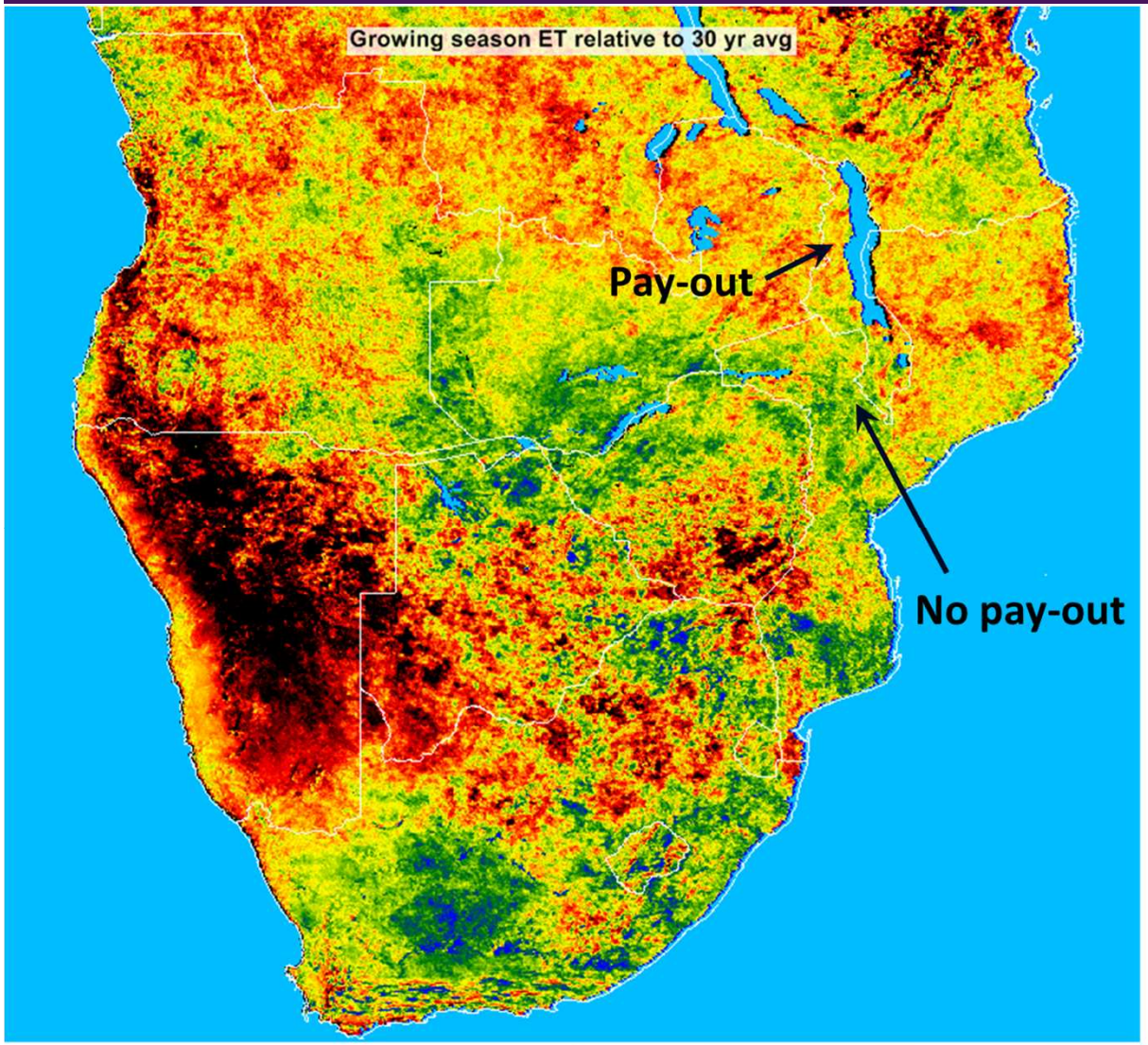
Skybox (2014)

Constellation
High revisit time
Commercial
Low cost

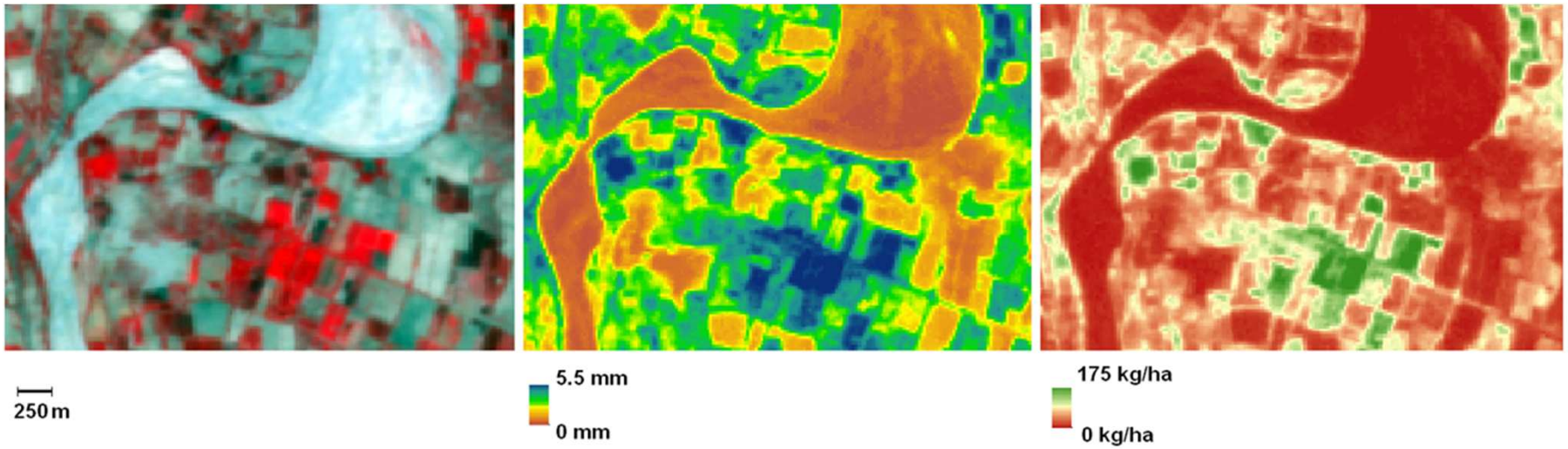

Sentinel-1 (Europe, 2014)
No cost
Looking through clouds, day & night



Mali: Relative evapotranspiration (EARS)



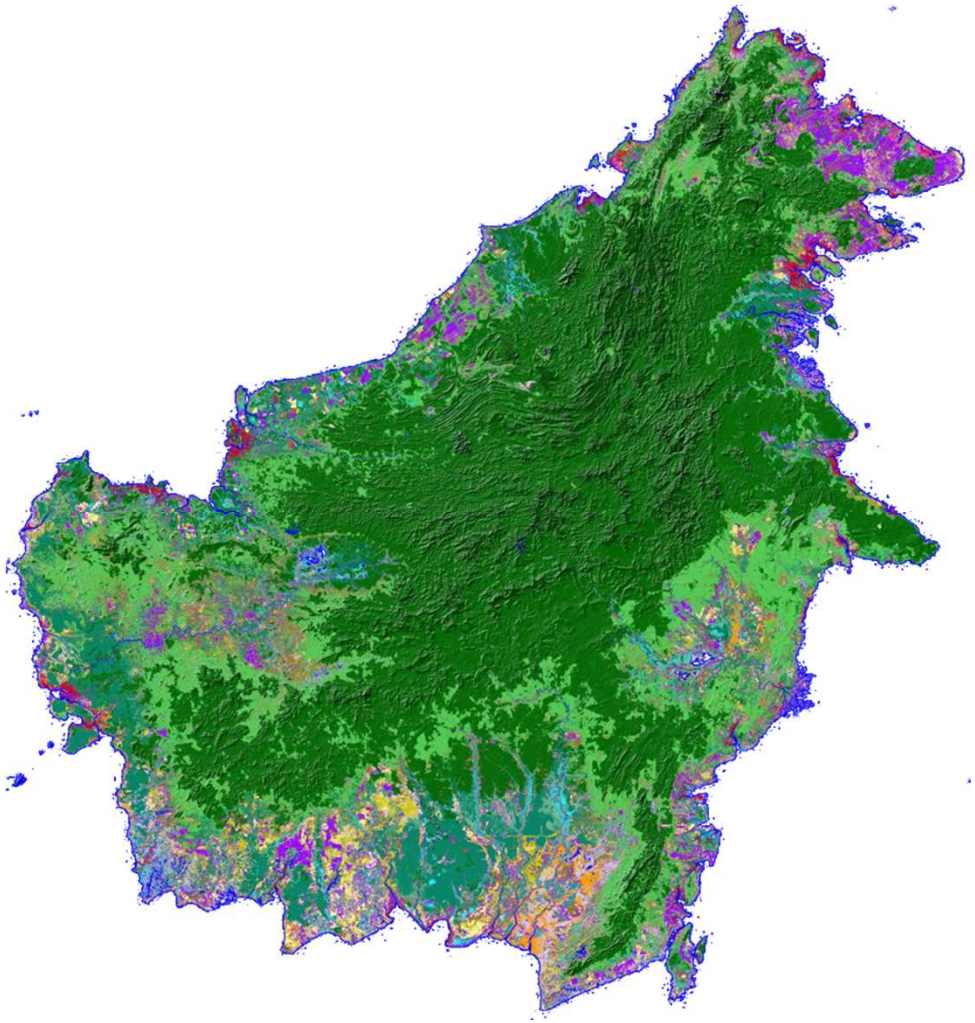
Malawi: Maize index insurance (EARS)



Example: Raw satellite data (L), derived daily evapotranspiration (M) and biomass production (R).

Gash: Example (eLeaf)

Kalimantan Land cover map (radar) (SarVision)



Thank you for your attention

More info: www.spaceoffice.nl/g4aw