# Auto-Change Detection

Nigel Clifford, CEO

*Ordnance Survey*

# WHAT IS CHANGE DETECTION?

*"the use of remote sensed data to facilitate the automatic (or semi-automatic) identification of areas of the landscape which have undergone physical change between two or more defined time periods."*

Ordnance Survey

# CHANGE DETECTION AT OS
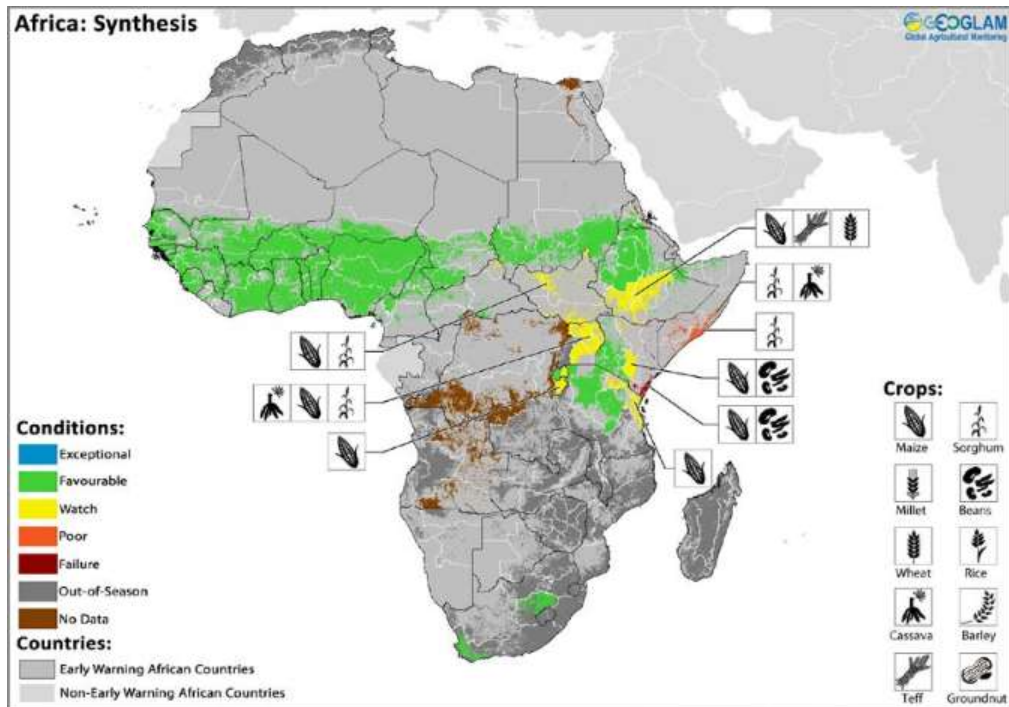
# CHANGE DETECTION FOR MONITORING UN SDG'S



http://www.un.org/sustainabledevelopment/sustainable-development-goals/

# UN SDG 2 – ZERO HUNGER

www.geoglam-crop-monitor.org

# UN SDG 11 – SUSTAINABLE CITIES

1975    1990    2010

0  5  10    20 Kilometers
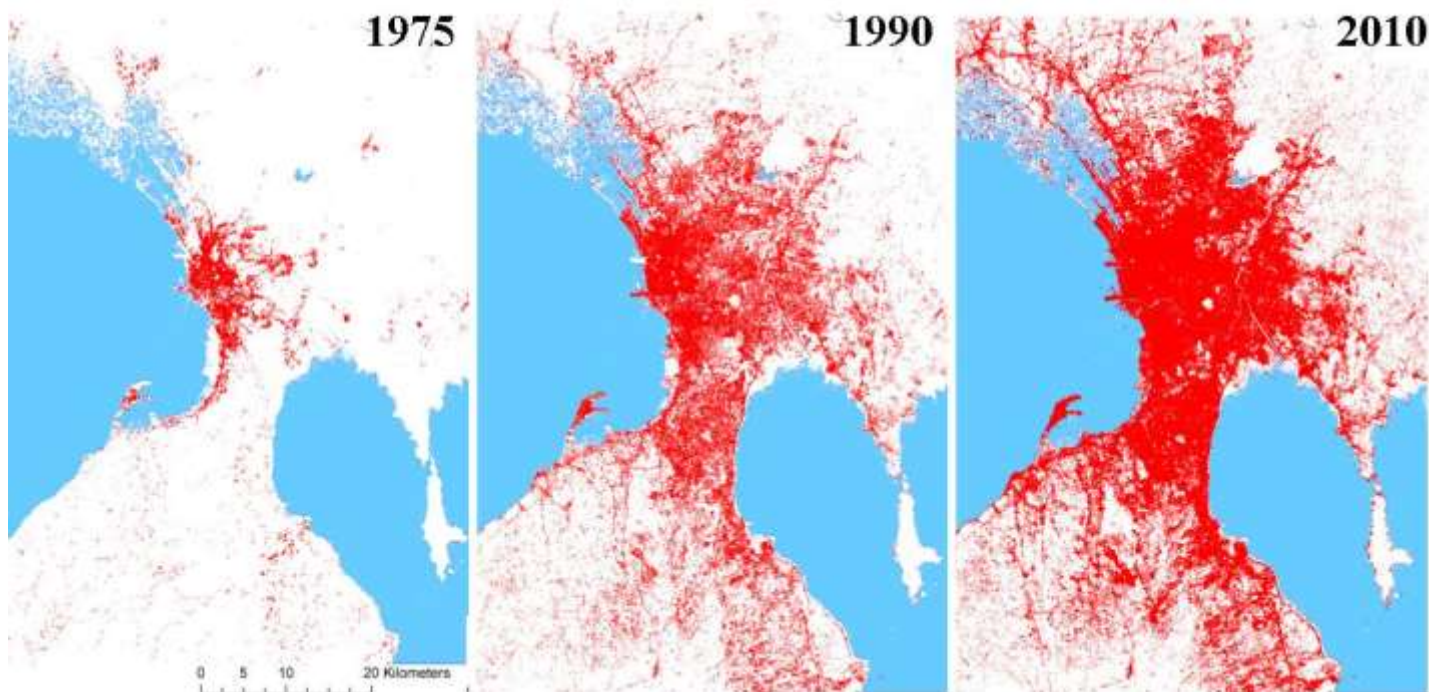
Source: DLR-DFD

# UN SDG 15 – LIFE ON LAND
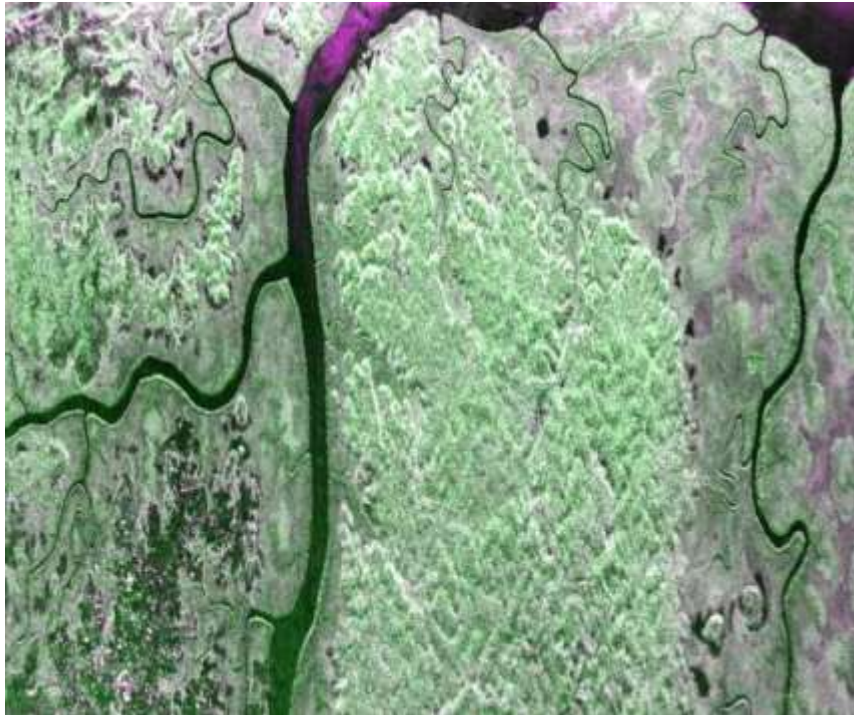


Source: ESA / ONERA

# CHALLENGES

- EO data needs be "analysis ready"
- Increasing spatial & temporal resolution = increased data volumes
- Co-locating data with scalable processing power and tools
- Transferability of CD solutions
- Capability gap (especially for Deep Learning approaches)

- Information does not always equal action!

Ordnance Survey

# WHAT NEXT…?

- Using data from in situ sensor-networks, UAV's and crowdsourcing to validate and compliment EO approaches
- Reduction in elapsed time between EO data acquisition and CD product being available for use
- From change detection to change prediction (re-active to pro-active)
- Use of EO is only part of the solution

Ordnance Survey

# Thank you

Nigel Clifford
Ordnance Survey, CEO

*Continue the discussion:*
*nigel.clifford@os.uk*

@osintl
www.os.uk/international