# The role of geospatial intelligence and standards in financial reporting

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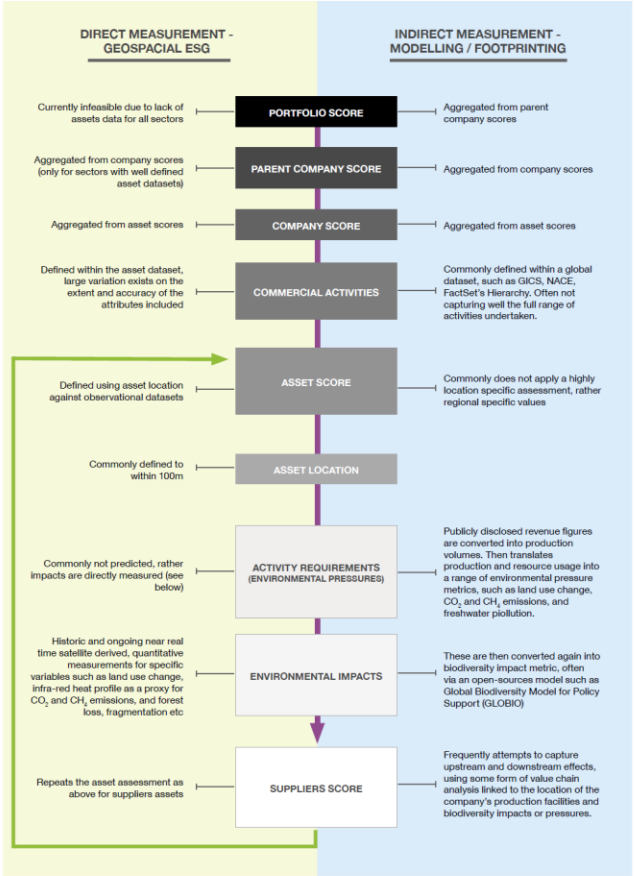
# Geospatial ESG

- Environmental, Social and Governance (ESG) schemes encourage investors to consider wider contextual factors when making asset allocation decisions and conducting risk assessments. For example:
  - *impact on habitats, monitoring land degradation, emissions, and mining expansion.*
- Geospatial ESG methods are scalable across both the number of assets and sectors.
- They could be more objective – following what the data shows




**WWF, 2022 - Geospatial ESG**, The Emerging Application Of Geospatial Data For Gaining 'Environmental' Insights On The Asset, Corporate And Sovereign Level

# Geospatial ESG: linking with Earth Observation

- Measuring environmental variables on the ground can be expensive, and with locations being remote, scaling up temporally and spatially can exponentially increase costs.
- So, this specific data can be supported by Earth Observation (EO), which:
  - Can provide environmental insights at different scales that are independent, consistent, and repeatable
  - Is becoming easier to access with cloud-native standards supporting access to datasets where the preparation stage has already occurred
- Then, AI models can be used to provide geospatial intelligence
- We can look backwards (historical data) and forecast fowards

# Kenyan IPP Discovery Project

**UK Space Agency Funded, Aim:** demonstrate the feasibility of using Earth Observation (EO) techniques as the basis of a sand management system (combination of EO and governance) together with the usability and acceptance of such a service.

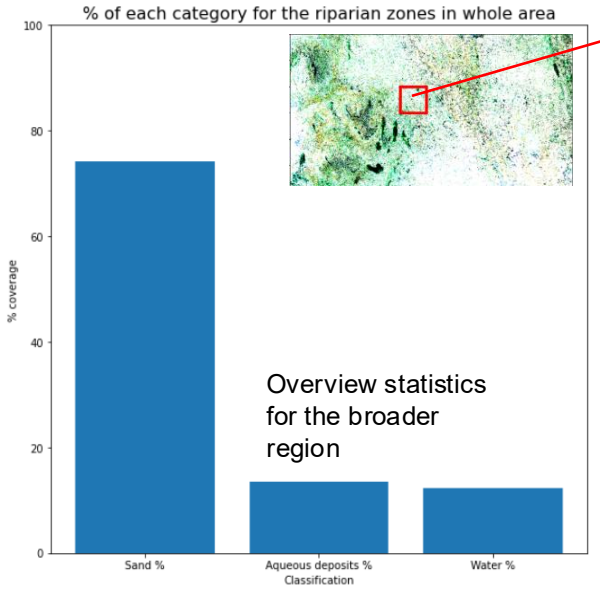
Resulted in (further details on www.eo4sas.com):

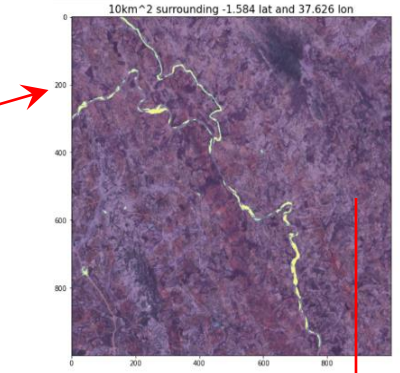
- Wire-frames & case studies as the first step to support implementation
- Promotional video (https://youtu.be/KTzDgg8k6lE)
- Open access white paper on the findings in Kenya (https://doi.org/10.6084/m9.figshare.14604456.v1)

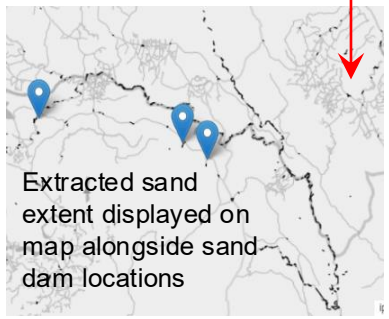
Construction sand is not the same as dessert sand

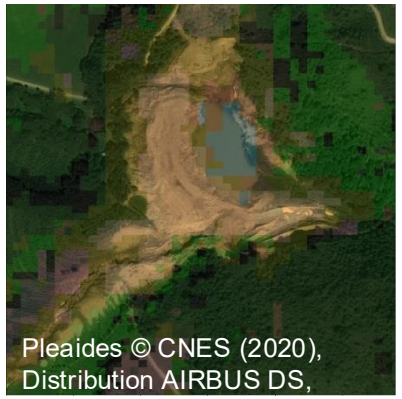
# Case Studies

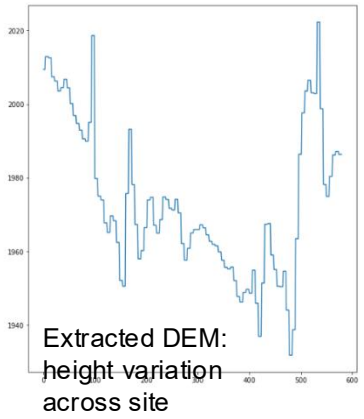
- Investigating areas around Sand Dams to understand Sand Occurrence and Vegetation Health
- Dredging and shoreline extraction in Lake Victoria and at the coast
- On-land mining of historical deposits
- **Future?** Alongside sand, environmental questions can be asked about drought impact, including sustainable agriculture, waste (including plastics) and water quality



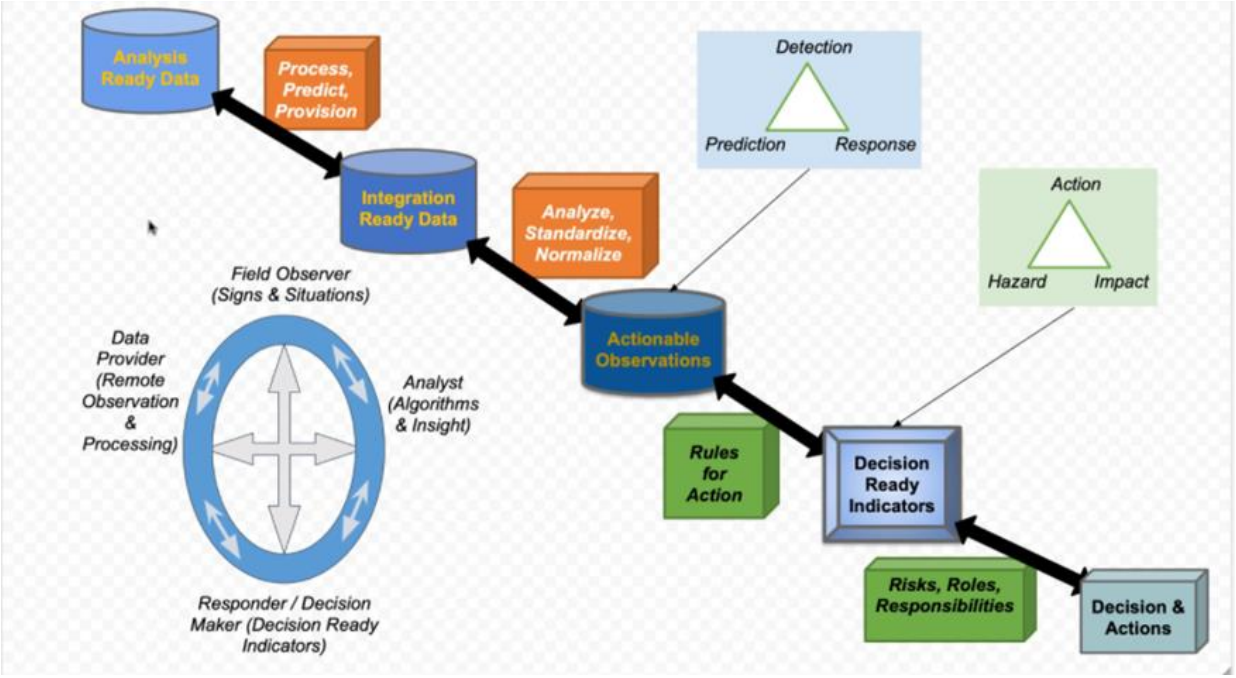



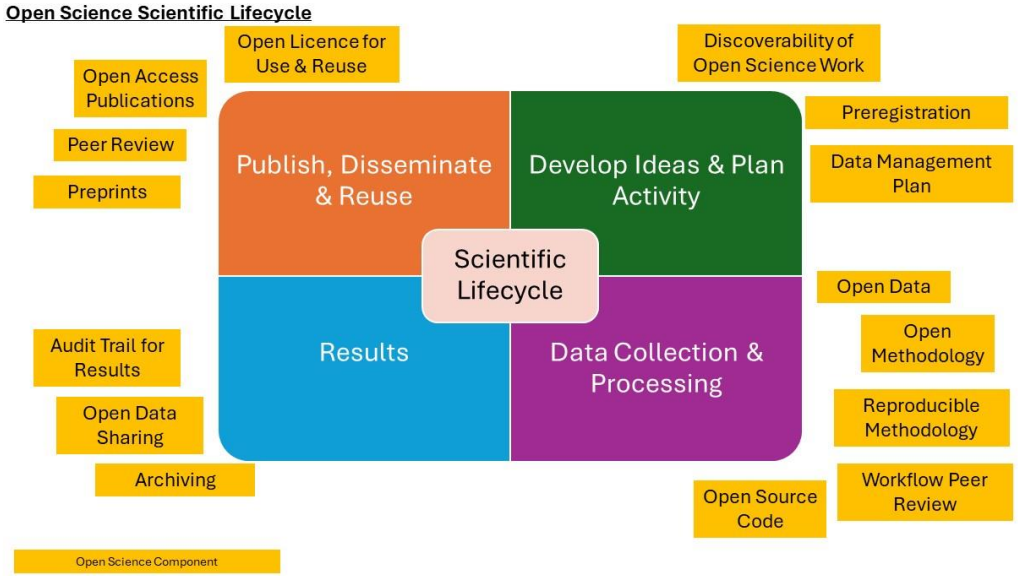



# Geospatial ESG: the role of standards

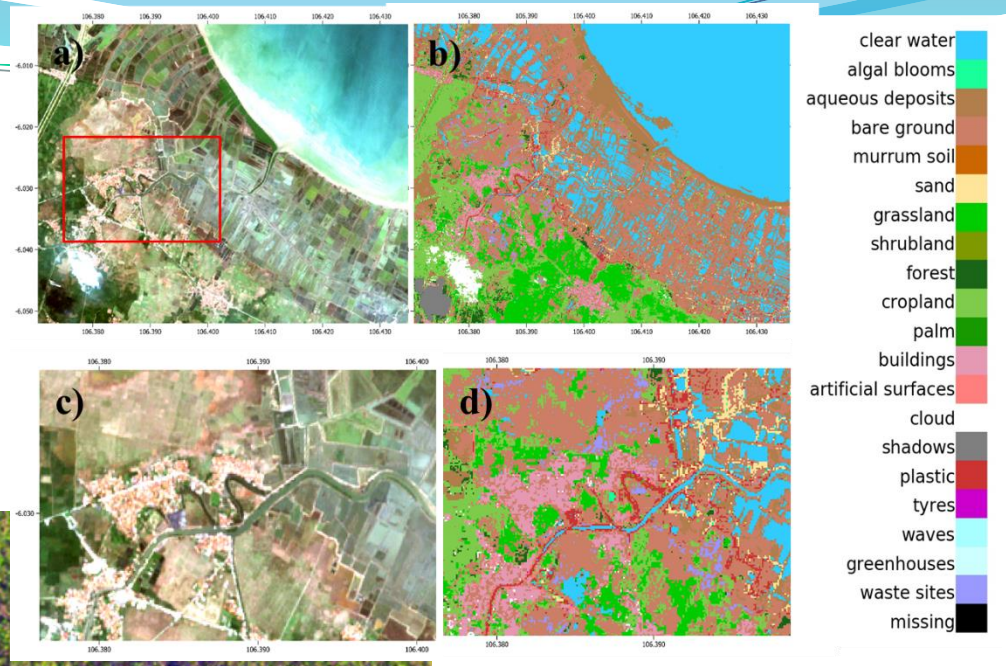
- Standards, such as those being developed by OGC, aim to cover the whole data processing chain

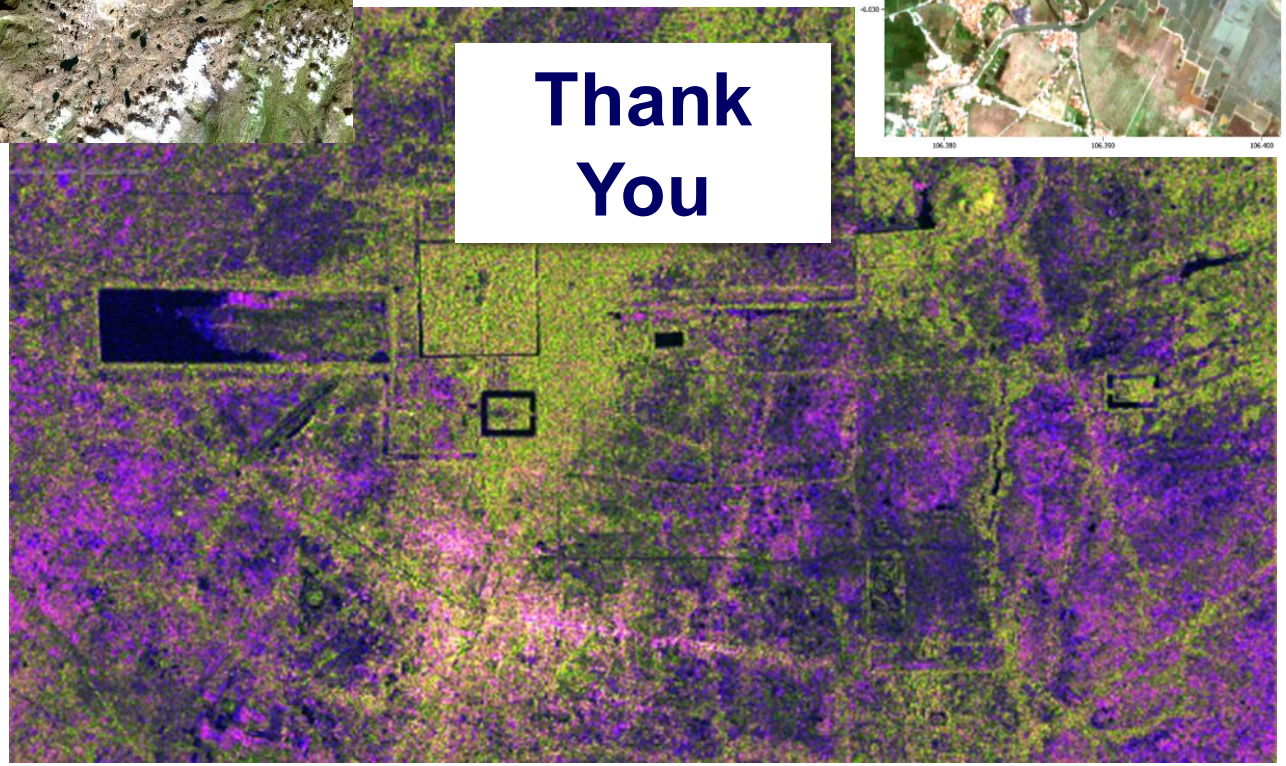



**Relationship between Analysis Ready Data (ARD) to Decision Ready Information and indicators (DRI), courtesy of Josh Lieberman**, OGC Disaster Pilot 2021 - Provider Readiness Guide




**Open Science Persistent Demonstrator (OSPD)**, 2024 Training Materials


a)
b)
c)
d)
clear water
algal blooms
aqueous deposits
bare ground
murrum soil
sand
grassland
shrubland
forest
cropland
palm
buildings
artificial surfaces
cloud
shadows
plastic
tyres
waves
greenhouses
waste sites
missing



# Thank You