Anne Hale Miglarese, CEO
Big Data for the SDGs
January 18, 2018 – Hyderabad, India
Open geospatial data for positive global impact

To connect people worldwide to Earth imagery, geospatial data, tools, and knowledge to meet the world’s most critical challenges.
Global Health

Humanitarian Response

Conservation, Forestry & Environment

Transparency & Journalism

Food Security & Agriculture

Poverty Reduction

Property Rights

Water

Climate Change

MISSION CRITICAL SUPPORT
Dramatic increase in imagery supply

Satellite
Aircraft
Drone

Cloud Computing
Machine Learning

Rapid Innovation

New Solutions

Earth Observation Satellites (>50kg)

2005-2014: 179
2015-2024: 427

CHALLENGE
OPPORTUNITY
SOLUTIONS
Earth Observations potential contribution to the SDG Targets and Indicators

SDGs with most opportunities for EO data
Analysis performed by the GEO EO4SDGs initiative

EO IMPORTANCE FOR THE SDGs
Sanitation Facility Monitoring in Dakar, Senegal

Problem Statement
• Estimating fecal sludge volume at a treatment facility.
• Developing a ML algorithm to use multi-spectral and SAR data from Sentinel satellites.
• Case Study: Three sites in Dakar, Senegal

Status
• POC under development.
• Weekly data provided by the operating company.
• Investigation of Sentinel-2 data shows potential value, but Sentinel-1 SAR data can be used to monitor the dry sludge as well.
• DG has agreed to provide sample data for POC.
Malaria Risk Mapping

Team: BMGF, Clinton Health & Radiant.Earth
• Jonathan Cox (BMGF), Io Blair-Freese (BMGF), Arnaud Le Menach

Problem Statement
• Monitoring vector habitat in tropical regions
  o Forests in South East Asia
  o Agricultural water sources in Central America
• Monitoring development of new settlements
• Both cases require use of Sentinel-1 SAR data due to cloudiness

Status:
• Pipeline for using SAR to estimate forest area is under development.
• Greater Mekong region (Cambodia) is selected as a case study.
• Ground truth data will be provided by Clinton Health team.

Yu and Saatchi, 2016
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