Analytically ready Satellite data across decades to support delivery of Sustainable Development in Africa

Kenneth Mubea, PhD
Global Partnership for Sustainable Development DataCube @Data4SDGs
Emerging Trends

- Timely monitoring of SDGs
- Multi-sensor analysis of crop lands in Ghana
- University of Energy and Natural Resources – Sunyani (Ghana) – developing a data science focusing on Earth Observation and will use ARDC as one of the key resources
- Environmental Protection Agency (EPA) – illegal mines in Ghana
- ARDC role in Data Collaboratives: Ghana – ARDC is used in the agriculture data collaborative (NADMO, CERSGIS), environment; Zanzibar – environment sector
Timely monitoring of SDGs

- Need to identify, engage with stakeholders for timely monitoring of SDG, to drive better decisions and better lives.

  - Strengthened collaboration between government, CSOs.
  - Improved knowledge on practical and scalable methodologies.
  - Better data for SDGs monitoring
**Sustainable Development Goals**

**Earth Observations in Service of the Agenda 2030**

<table>
<thead>
<tr>
<th>Target</th>
<th>1.4</th>
<th>1.5</th>
<th>Goal</th>
<th>Indicator</th>
<th>Direct measure or Indirect support</th>
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<td>2.3</td>
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<td>5.a</td>
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**Timely monitoring of SDGs**

ARDC is currently working on SDGs
- 2.4.1 * - agriculture
- 6.3.2 – water quality*
- 6.6.1 – water extent
- 11.3.1 - urbanisation
- 15.1.1 – Forest area
- 15.3.1 – land degradation

**Strengthened collaboration between government, CSOs.**

**Improved knowledge on practical and scalable methodologies.**

**Better data for SDGs monitoring**
Monitoring crops in Tamale, Ghana

- ARDC is being used to monitor vegetation phenology in Tamale, Ghana. Data is from Landsat and Sentinel 1.

Landsat median monthly NDVI and Sentinel-1 median monthly VH backscatter intensity are plotted together (separate y-axes) for April 2015 to October 2018. This graph demonstrates the similarity of the optical and radar phenological cycles.
University of Energy and Natural Resources – Sunyani, Ghana

- Collaboration with University of Energy and Natural Resources (UENR) in developing use cases using ARDC e.g. mapping Bui reservoir (2002 – 2017)
EPA is using ARDC to monitor mines in Obuasi, Ghana.

Interoperable Landsat and Sentinel-1 datasets in the ARDC have the potential to support the detection of mining activities.

Landsat-8 cloud-filtered mosaic (RGB image) for May 2018 (left) and a Sentinel-1 RGB (VV, VH, VV/VH) image for May 2018 (right). The Landsat resolution is 30m per pixel and the Sentinel-1 resolution is 20m per pixel.
ARDC in Data Collaboratives

- ARDC role in Data Collaboratives: environment, agriculture

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<tr>
<th>Country</th>
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<tr>
<td>Sierra Leone</td>
<td>Environment</td>
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<td>Senegal</td>
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Contact: Kenneth Mubea, PhD
Email: kmubea@data4sdgs.org
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