Land cover over time. Copernicus sentinel data 2015, ESA
Water observations over Australia based on the Australian Geoscience Data Cube
Land cover map for Colombia using 2011 ± 2 years of MODIS NDVI and surface reflectance MOD13A1 data, filtered for low-quality observations and adding elevation (TS-F-G2-E)

http://www.mdpi.com/2072-4292/7/12/15833/htm
GOAL 6
"Ensure availability and sustainable management of water and sanitation for all"

TARGET 6.6
"By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes."

INDICATOR 6.6.1
Percentage of change in the extent of water-related ecosystems over time

% of change in wetlands extent over time can be measured globally by earth observation based monitoring of wetlands looking at land-use, land-cover, vegetation cover, inundation frequency, biodiversity

Multi-temporal Wetland identification and Delineation products (Landsat 1975, 1990, and 2002) for exemplary sites between Izmir and Bodrum (upper part: region around Tahtali Dam; lower part: Bodrum airport area).

GeoGLAM Crop Monitoring.
EO in Service of the 2030 Agenda for Sustainable Development. Anderson et al. 2017
Combining EO and mobile phone data to obtain poverty estimates. Steele et al. 2017
Combining EO, Virtual Reality and drones
SDGs and EO data: satellite data used in a varied range of applications (GEO document)
UN Satellite Imagery and Geo-Spatial Task Team

Handbook

- Introduction to the use of earth observations data for official statistics
- Types of sources available
- Examples of using satellite imagery to measure the SDGs
- Methodologies for producing statistics from EO data
- Summaries of results of four pilot projects produced by the UN Task Team to investigate the feasibility of using satellite imagery data for official statistics
- Guidelines for National Statistical Offices when considering whether to implement EO data sources into their statistical production process
TT Handbook: Case Studies

1. Identify reliable and accurate statistical methods for estimating quantities of interest;
2. Suggest approaches for collecting representative training and validation data of sufficient quality;
3. Research, develop and implement assessment methods for the proposed models including measures of accuracy and goodness of fit;
4. Establish strategies to reuse and adapt algorithms across topics and to build implementations for large volumes of data.

- Australia
- Colombia
- Canada
- USA
- South Korea
- Others

Gao et al. 2017
Value Proposition for Official Statistics

Why?

- Timeliness
- Respondent burden
- Dissagregated Data
- New statistics
- New insights
- Cost

Why not?

- Currency
- Skills
- Storage
- Accuracy
- Cost
Addressing the “why not”

- Takeup
- Training
- Collaboration
- Trust
Academic & Research Community Support

**Takeup**
- How-to
- Innovation

**Training**
- Capability
- Students

**Collaboration**
- Networks
- Secondments

**Trust**
- Credibility
- Review

---

THE GLOBAL GOALS
For Sustainable Development

THE UNITED NATIONS GLOBAL WORKING GROUP ON BTG DATA
International Research Engagements

Australian Research Council Centre of Excellence
Mathematical & Statistical Frontiers:
Big Data, Big Models, New Insights
## Advisory Committee

### Applications

<table>
<thead>
<tr>
<th>Capabilities</th>
<th>EO</th>
<th>Phone</th>
<th>Scanner</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Users</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Advisory Committee

- Networks
- Capability Experts
- Application Experts
- Users (NSIs)
- Enablers (Technology Business)
- Networks
- Networks
- Networks
- Networks

Task Teams