Tales of data processing from the frontline – SDG 15.3.1

(and global & national examples of open data projects)

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Unexpected data challenges

• Data analyst team deriving global default data
  • Proportion of degraded land (15.3.1)
  • 2000-2015 baseline period
  • Built on Land Degradation Neutrality data experiences 2016/2017

• Compiled UNCCD analysis & reporting globally (Jan, 2019)
• Compiled SDG 15.3.1 reporting globally (mid 2019)
Unexpected data challenges – default data

• Did you know?
  • There are no fully ‘agreed’ boundaries of the world
  • Nor agreed country/region names (4! lists so far...)
  • Data projection for area calculations ...

• Territory is not as settled as you think
  • Some countries claim sea/water territory as land territory MUST be in accounts
  • Some countries ‘forgot’ some of their territories
  • Some counties ‘exaggerate’ their territories
  • Some countries claim the same territory
Unexpected data challenges – why I hate commas

• Then we got the data back ... And had to do the global analysis
• Entry of data was not consistent, collection systems were sub-optimal

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Unexpected data challenges – integrating country data

• Some countries only partially reported
  • Certain landcover classes, one sub-indicator
  • % degraded that was not based on data (political statement)

• Most countries wanted to use their own data
  • Trends.Earth QGIS was a great help here!
  • Lowered the barrier to spatial account creation (little GIS required)
  • National tailoring is encouraged

• Very important that baseline could be changed
  • Accounts not set in stone
What could SEEA do?

• Help national agencies collaborate/collate data internally
• Consistent data standards
• Handle verification/validation questions
• DECIDE what is degradation/not degradation
  • Need local contextual knowledge

• Please be interoperable in terms of classification
• Don’t be afraid on indexes (they’re really just factors)

Perfection prevents progress
Unexpected data challenges – many SEEA countries missed reporting?
Global data examples

- **OpenGeoHub.org**
  - OpenGeoHub is a non-profit foundation
    - publishing and sharing of Open Geographical and Geoscientific Data
    - using and developing of Open Source Software
    - championing transparency & reproducibility

- **LandGIS**
  - OpenGeoHub initiative to publish global open source datasets
  - Full versioning
  - Full user accessibility
  - Collaborative data development
  - No restrictions (except attribution to authors)
  - Demo

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[Logo: OpenGeoHub]
Australia's land ecosystem observatory

TERN's ecosystem observing sites
- ecosystem surveillance monitoring plots
- ecosystem processes monitoring
- Super Sites and eddy covariance towers
- landscape scale monitoring calibration and validation sites
TERN’s national infrastructure includes on-ground, airborne and satellite data collection with data integration and delivery infrastructure that is designed to deliver information, knowledge and tools that are meaningful at local, regional, continental and global scales.

DATA INTEGRATION, ANALYSIS, AND DELIVERY

- more than 600 ecosystem observing sites
- more than 2500 open datasets
- more than 50 national and international partners
- more than 90 year continuity for datasets
- more than 1000 peer-reviewed papers using TERN data
### Temporal data streams contributing to achieving SDGs

| Target | Indicator | Goal | SDG
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**AUSTRALIA'S MANGROVE OBSERVING SYSTEM**

by TERN Australia

Australia’s Environmental Explorer – Ausenv.online

• There is a lot of spatial environmental data out there.
• Working with those large data sets is not easy.
• You often need specialists to summarise or interpret the data for you,
• ..but that can take years, and the information will have become less relevant.

• Our objective: automated, systematic, annual, and nation-wide environmental analysis and summary reporting.

Van Dijk et al. (2014) Science of the Total Environment 473: 338-349
Themes and Indicators

- 6 Themes
- 13 Indicators
- pragmatic selection of biophysical and vegetation indicators
- scope for additional indicators
- limited by spatial observation and estimation methods

Land cover change
Bushfire
Water availability
Rivers and wetlands
Landscape condition
Carbon storage