Integrating traditional data with data from Earth observations for monitoring water SDGs

The Role of Earth Observations in Developing Indicators for the Post-2015 Development Agenda: Starting a Dialogue

New York, 27 February 2015

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Purposes of Global Monitoring

- Global advocacy
  - Measuring progress for the global community
- Informing global investments
- Informing investments at country level by governments and donors
- Supporting regional and country benchmarking and reporting

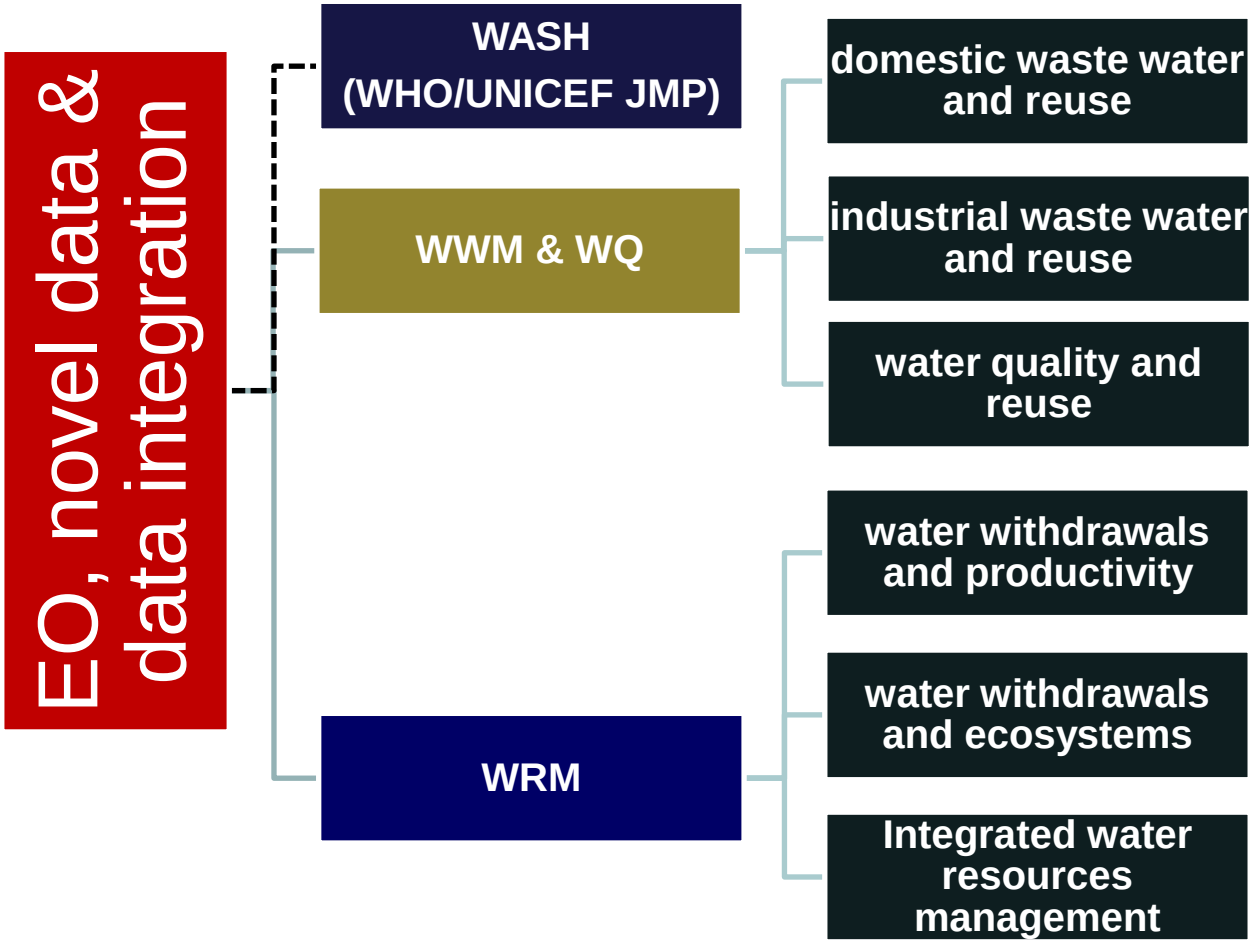
Lessons from MDG monitoring

- High focus on development: silent on sustainability etc.
- Household surveys
  - Cost effective
  - Limit different aspects and timely reporting
- Admin data…quality and fit for purpose issue?
- Earth observations:
  - Data available for cost effective monitoring
  - Huge investments in EO: developed countries contribution to monitoring next goals and targets?
- Data revolution: integrate EO, Big Data, traditional data

SDG 17: Strengthen means of implementation …enhance global partnership for SD

- 17.16 enhance the global partnership…
- 17.17 encourage and promote effective public, public-private, and civil society partnerships…
- 17.18 by 2020, enhance capacity building support to developing countries…to increase significantly the availability of high-quality, timely and reliable data…
- 17.19 by 2030, build on existing initiatives to develop measurements of progress on sustainable development …and support statistical capacity building in developing countries

SDG monitoring for water…task teams



Task Team Contributors

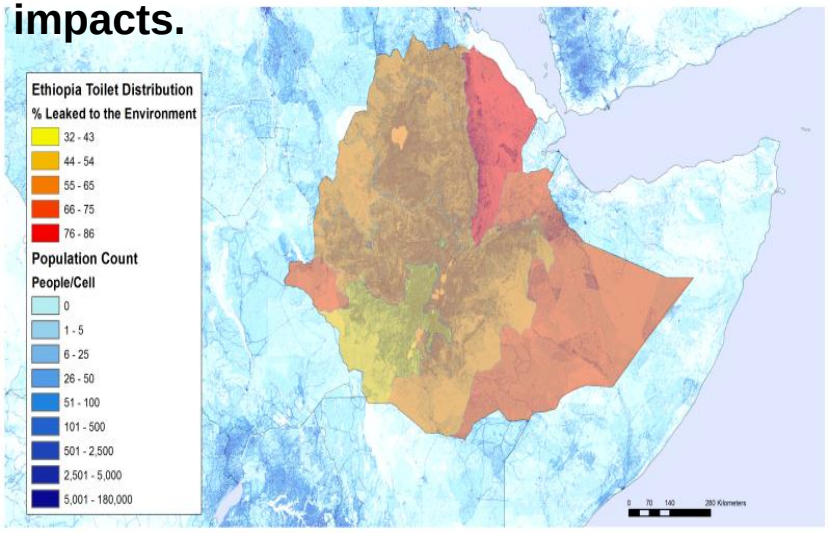
- International: WHO, GEO, WMO, UNU-FLORES, WCRP (GEWEX), WMO-CHY, CIESIN, World Bank, UN Global Pulse
- Countries: Australia (CSIRO), Bangladesh, China, Colombia, Japan (MEXT), Germany, Pakistan, USA (USEPA, USGS, NSF, USACE, US GEO),
- Space Agencies: ESA, JAXA, NASA, NOAA
- Academia and institutes: Chouaib Doukkali University (Morocco), U of Tokyo, Chinese Academy of Sciences, U of Bonn, Vrije Universiteit Amsterdam, University of Twente, CUNY, U of Texas, GMU, Delatres, Fraunhofer Institute of Optronics, WRI
- Two members from SG IEAG on data revolution for SD

OWG Target 6.3: waste water

A consolidated indicator of waste water production, treatment and reuse/recycling, pop density, landuse/landcover, etc…

EO support…

Population densities derived from Landscan data can be combined with census data to estimate waste water generation potential, releases and their impacts.



High resolution satellite images could document the location of treatment facilities.

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OWG Target 6.5: IWRM

Implementation of IWRM is very difficult and needs to be enabled by the support of agencies and countries with this vision. Could monitor…number of tools and data sets available to support IWRM.

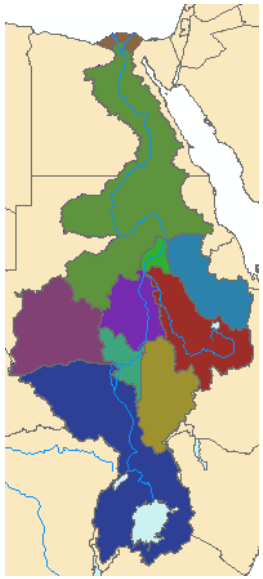
EO data…

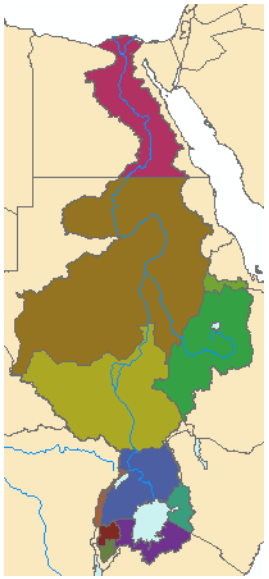
Is not restricted by national

boundaries or data policies.

Basin-scale EO data relate to:

- **Changes in water availability**
- **Water stress**
- **Storage capacity or CC impacts**





Basins **Countries**

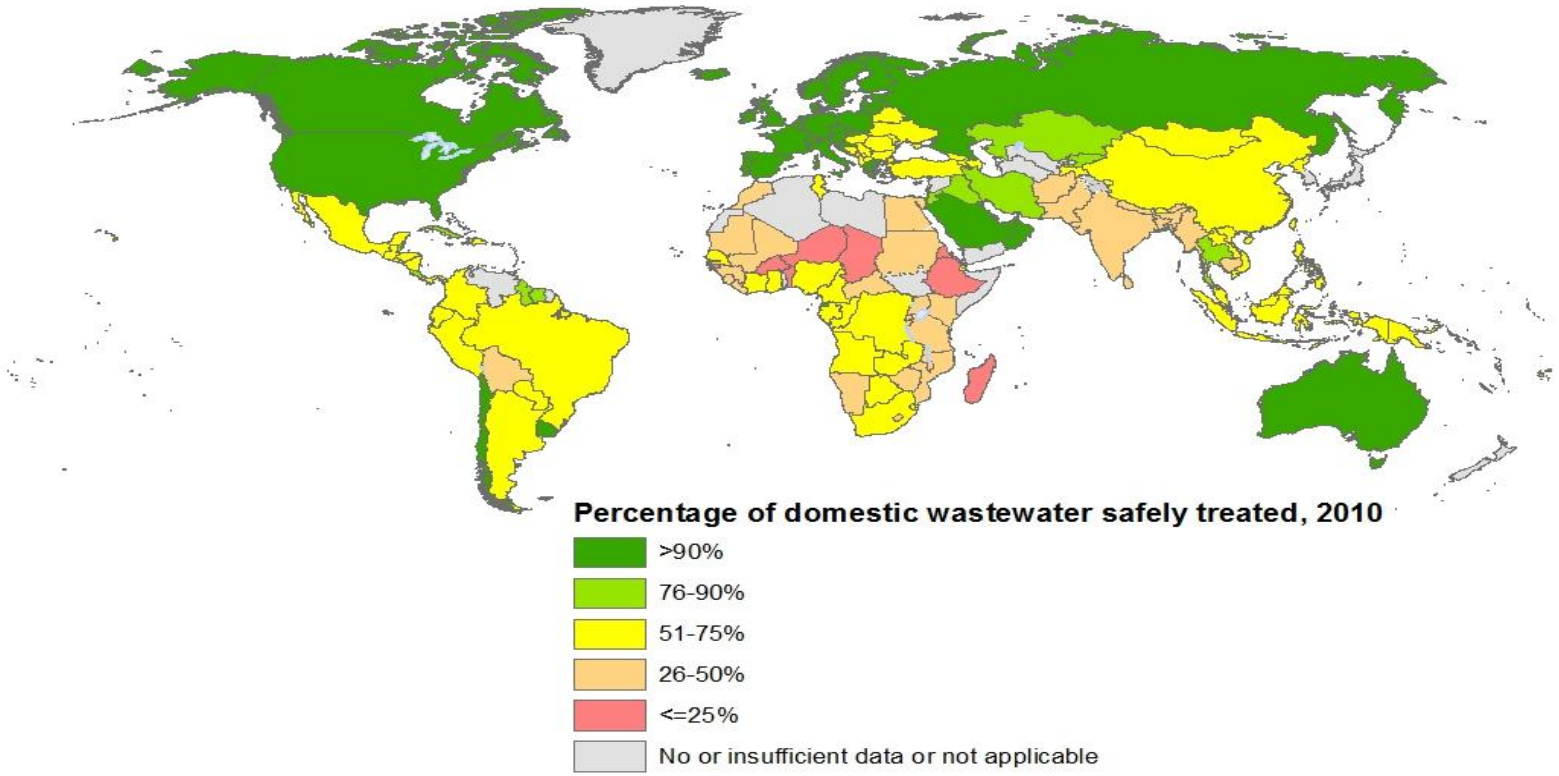
Lack of data sharing across borders

MDG to SDG: no one left behind…

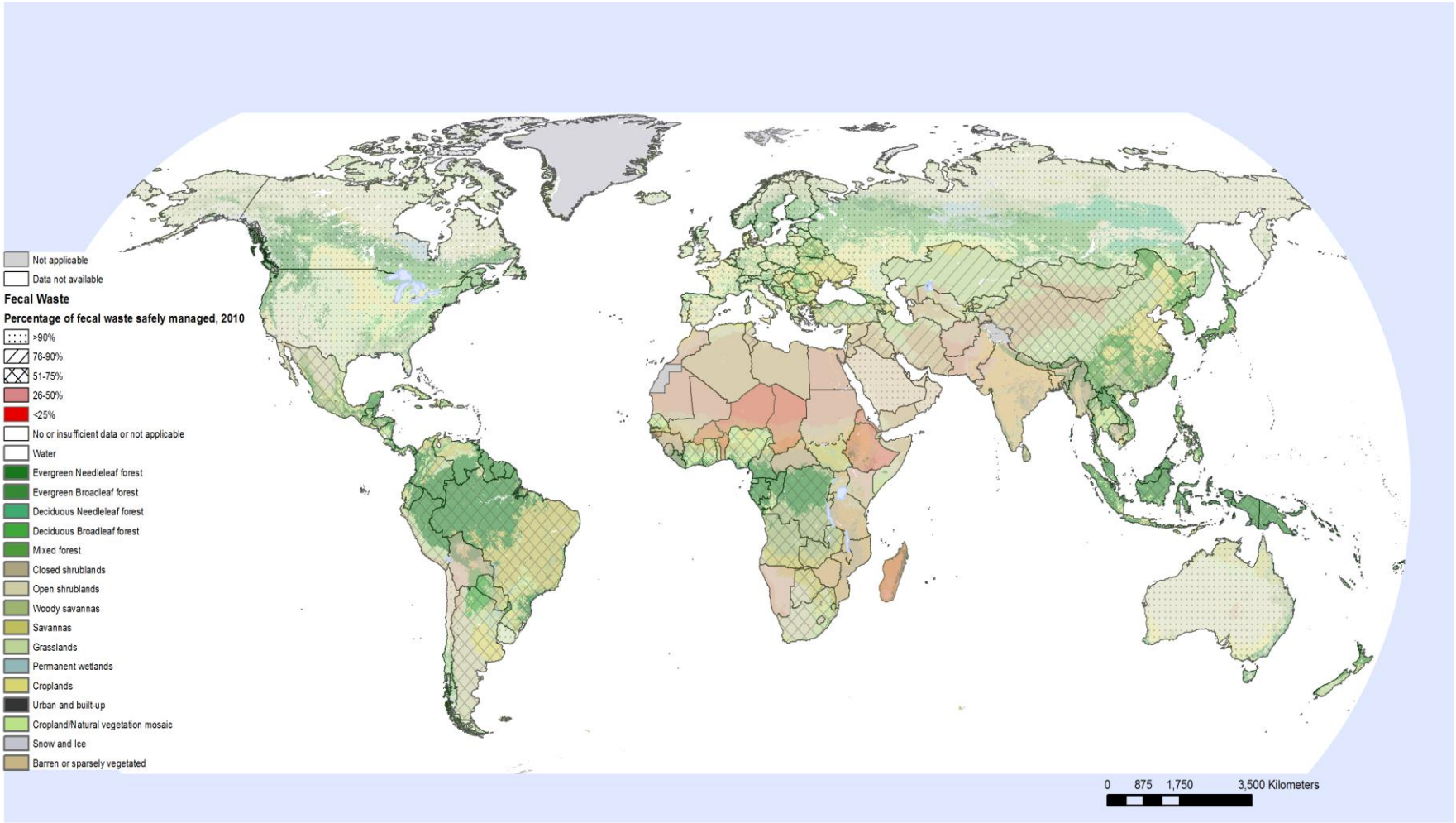
MDG/SDG	Service ladder	Progressive realization		Monitoring ladder
SDG 6.3	Safely treated wastewater (domestic)	Pollution control including improving water quality	Developed	Most developed countries and some developing countries can report immediately
SDG6.2	Safely managed sanitation	Going beyond hygienic separation of excreta from human contact		All developed countries, and some developing countries
MDG 7.9/ JMP ladder	Basic sanitation	Private basic sanitation	Developing	Most developing and some developed countries report
	Shared sanitation	Improved sanitation		Most developing and some developed countries report
	Unimproved sanitation	Fixed point defecation		All countries report (applies to developing countries)
	Open defecation	No services		All countries report (applies to some countries)

Integration…surveys with admin data

Globally 38% of domestic wastewater is not safely treated
Most of it is in sub-Saharan Africa or South Asia



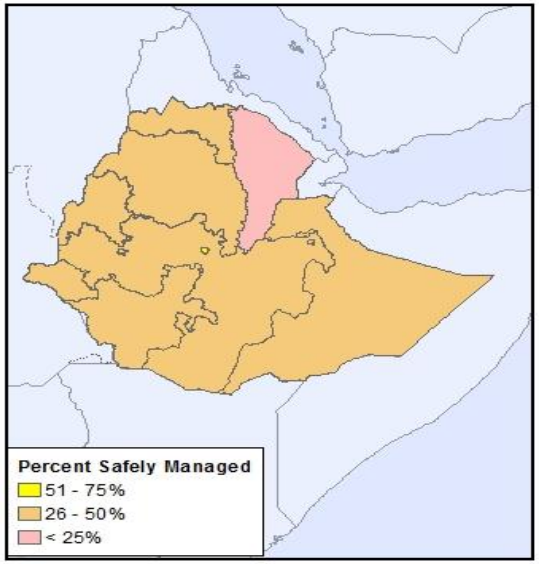
Integrate with EO data…landcover



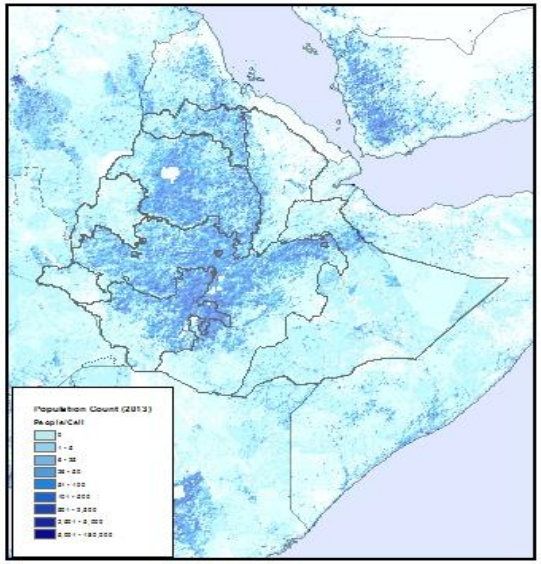
Integrate survey, admin, EO data…subnational

Subnational Toilet Leakiness for Ethiopia (2011)

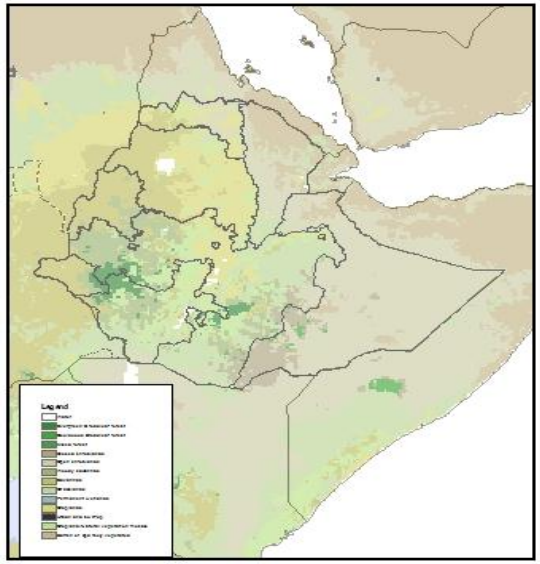
Percent Safely Managed



Population



Land Cover



0 70140 280 420 560
Kilometers

Data Source: World Health Organization
Map Production: Health Statistics and Information Systems (HSI)
World Health Organization

World Health Organization

THANK YOU!

There are plenty of data…

We must consider these before we turn to new data collection efforts

Use of vast amount of existing data is the true Data Revolution!