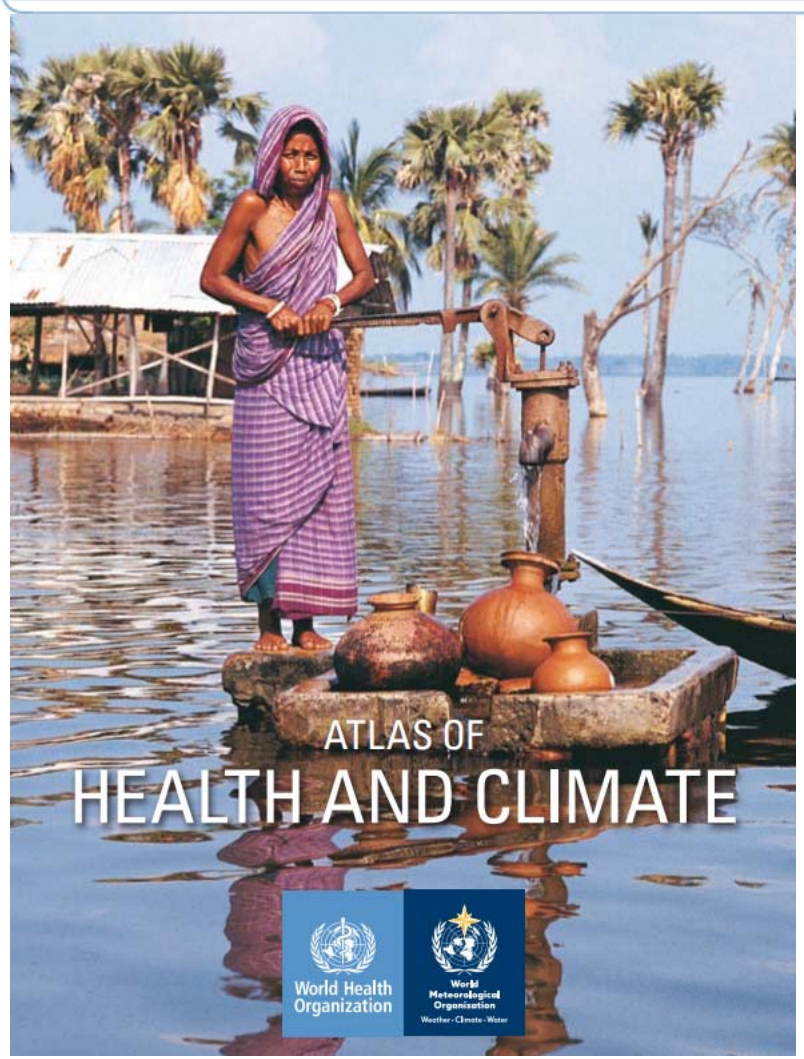
Earth observations in SDGs: perspectives from environmental health in addressing inequalities



Statistical geospatial integration for Advancing Health and Well-being and help leave no one behind

New York
5 March 2018

Rifat Hossain
World Health Organization
Geneva, Switzerland

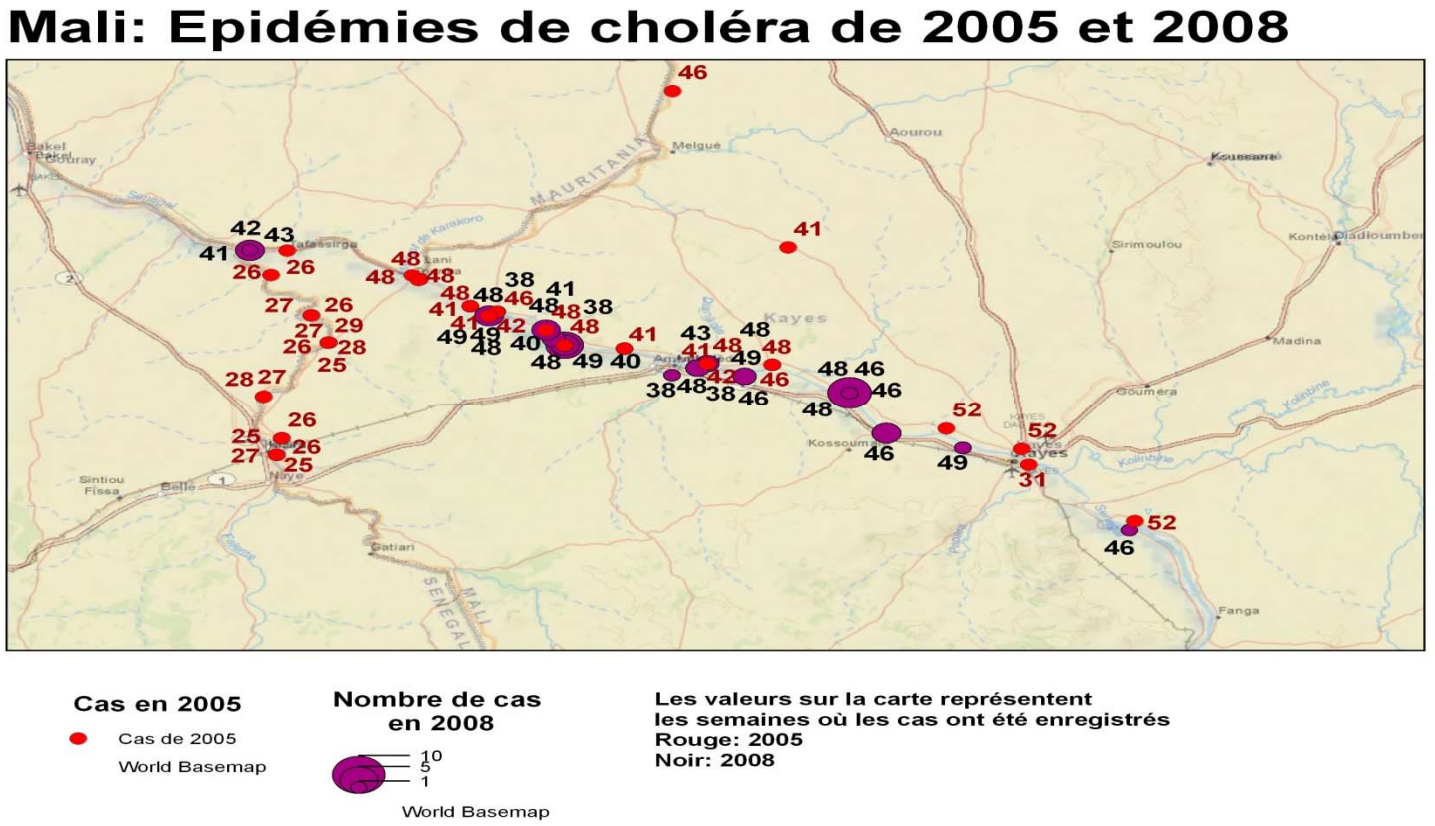
Sustainable Development Goals…

- Tools of global governance
  - Measuring progress for the global community
  - Informing global investments
- Objective: mobilize political support for neglected priorities
- MDG experience: mobilized support for direct human development, focused on poverty
- SDG calls for: sustainability (economic, social and environmental) in development under good governance
  - Huge opportunities
  - Tremendous challenges, including on monitoring
  - Do we have enough resources?

Lessons from MDG monitoring

- High focus on development: silent on sustainability etc.
- Piggy backing on household surveys
  - Cost effective
  - Limit different aspects and timely reporting
    - Info on access to water sources, but not its quality
- 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

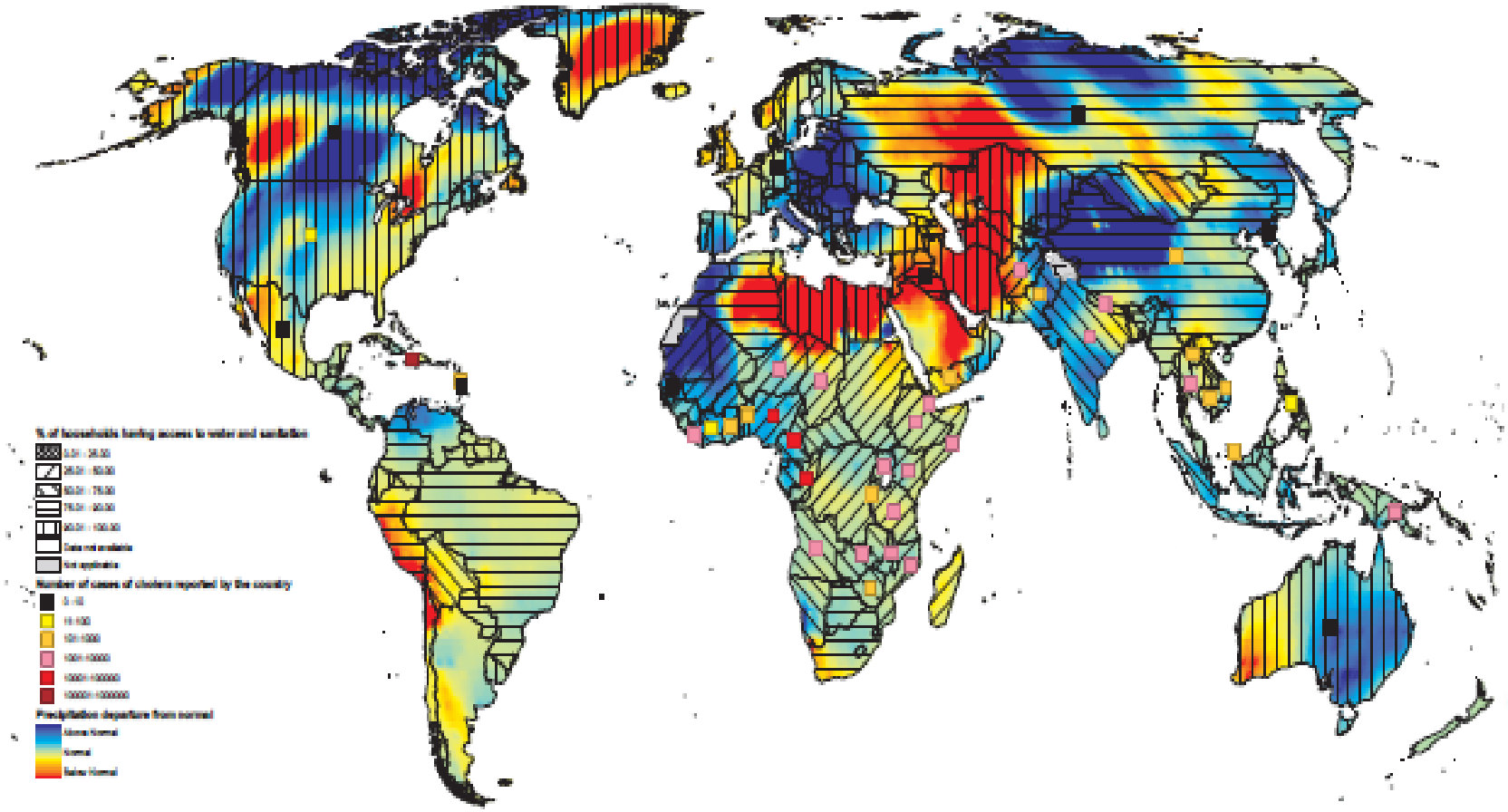
Geospatial data in cholera mapping (2010)



Cholera outbreaks in Mali along the main river: combining geospatial DHS data and cholera data

Linking water with climate and health (2012)

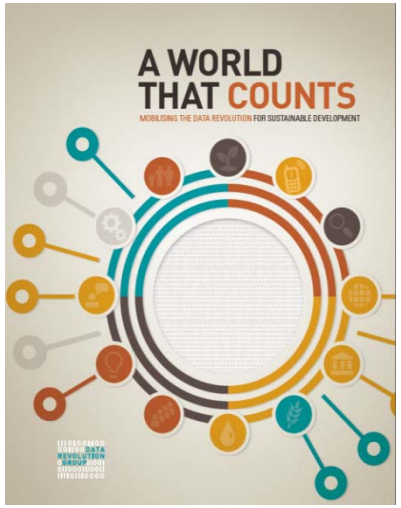
http://www.who.int/globalchange/publications/atlas/report/en/index.html



Cholera outbreaks in areas with poor WASH coverage and greater precipitation anomalies

Independent Expert Advisory Group on Data revolution for SDGs (2014)

- Recognizes use of various data, including novel, geospatial and Big Data, in an integrated manner
- Data revolution is a joint responsibility of Governments, international and regional organizations, the private sector and civil society.
- Underscores importance of CRVS: denominator issue (knowing pop/density crucial for all pop based indicators)



EO and data integration for SDG6 (2014)

- **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**

Application of EO in wastewater monitoring

SDG indicator: Proportion of wastewater safely treated

EO support for the indicators (pop density, landuse, landcover, etc.) integrated with other geospatial, survey and admin data

1)

EO integrated with other geospatial data to estimate waste water generation potential, releases and their impacts.

2)

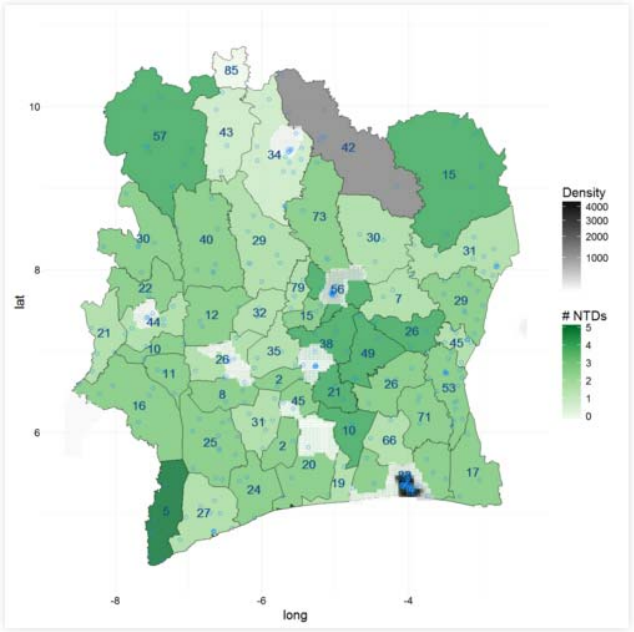
High resolution satellite images can document the location of treatment facilities.

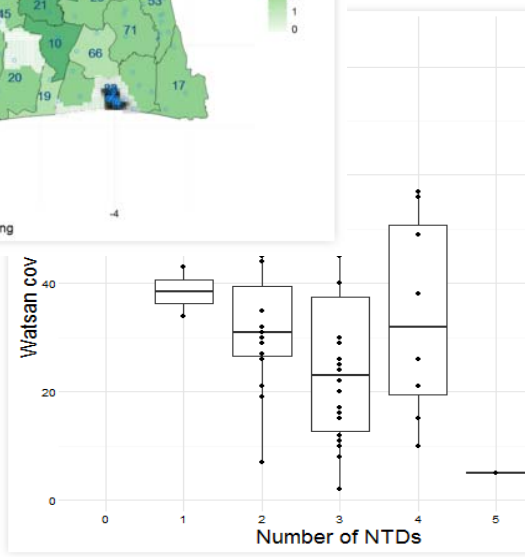
EO applicability for SDG water monitoring

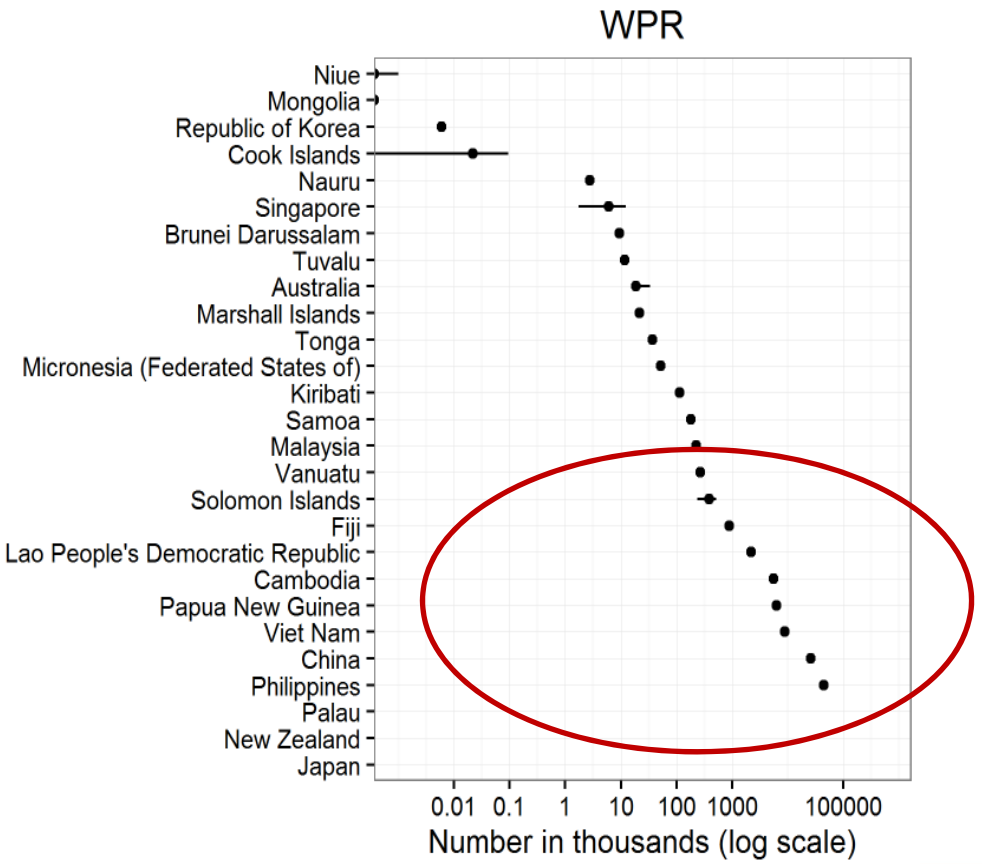
Indicator/EO applicability	EO + EO-Based Data and Model Relevance	Other Socio-Economic, and Census/Statistical Data Relevance	Direct Measurability	Analytical Soundness	Limitations
6.1+6.2 WASH					Computed as a residual product using EO
6.3 Wastewater and Water Quality					For Nitrates, Phosphates and Algae, Phytoplankton Blooms and Sediment
6.4 Water Efficiency					Accurate Quantification of Water Use and Type Required
6.5 Water Resource Management					Associated “management” inputs combined with EO on Water availability/change variables
6.6 water ecosystems					Resolution and accuracy is dependent on type of parameter, data availability and application

Neglected Tropical Diseases: WASH inequality (2016)

NTD endemicity higher in clusters of lower WASH access: serious issue in many PIC







Challenges…opportunities

- MDG to SDG transition: a much expanded framework: huge challenges for countries
  - EO support to countries: timely and cost effective
  - Need to focus on areas with highest need
- Health sector is beyond SDG3:
  - Health sector buy in for other SDGs…EO opportunities are greater in many other SDGs
- Many mechanisms in place: WGGI (IAEG-SDGs), EO4SDGs (GEO), UNOOSA EG (?), etc.
  - Better coordination to avoid duplication
  - Coordination at the national level

Food for thought…

- Inclusion of EO/GI in SDGs is a great (important) opportunity:
  - Are we delivering as per expectation?
- Statistical-geospatial as official statistics?
- EO for use not just for constructing indicators, but also for greater data disaggregation
  - Work by IAEG in coordination with High-level Group for Partnership, Coordination and Capacity-Building for statistics for the 2030 Agenda for Sustainable Development

THANK YOU

SDGs have been truly transformational…

Need to use all available data to make data revolution a real success and help achieve the SDG aspirations ?

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