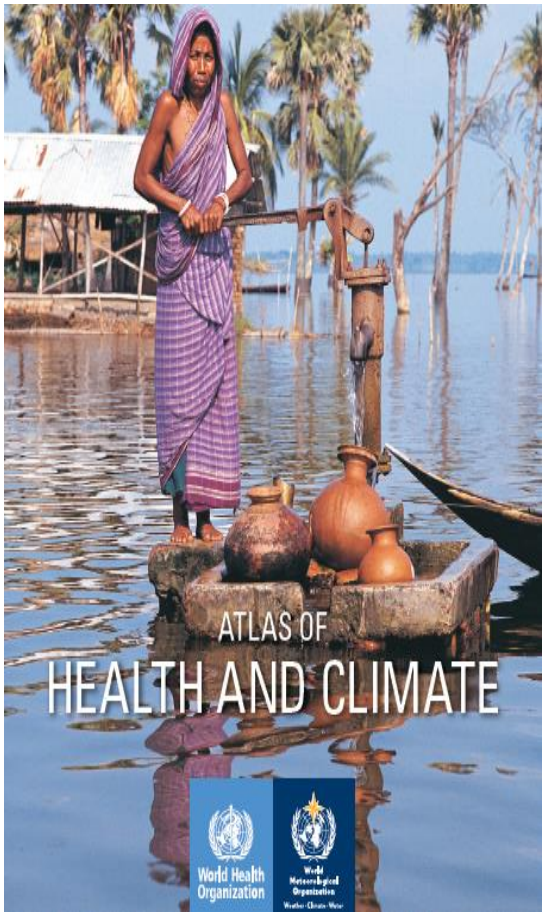
Earth Observations in next development agenda



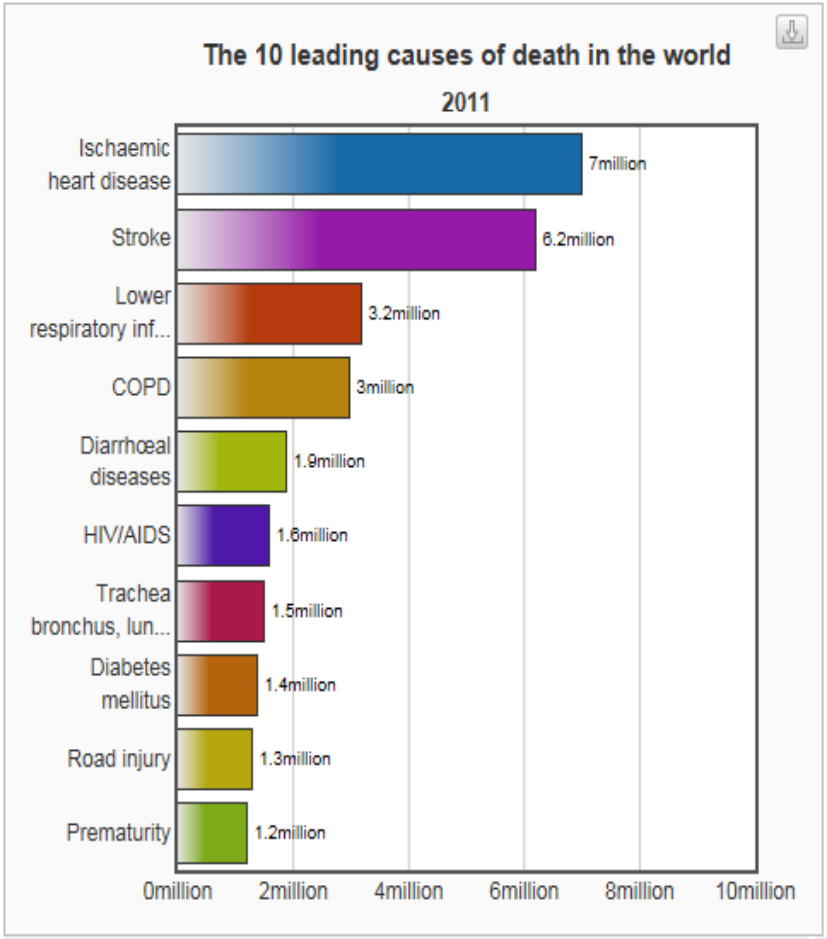
Water societal benefit area and beyond

7th GEOSS Asia Pacific Symposium
26-28 May 2014, Tokyo, Japan

Rifat Hossain
World Health organization
Geneva, Switzerland

Water related diseases, a leading cause

Nearly 700,000 deaths annually



- 750M without potable water
- Billions without safe water
- 2.5B without san
- 1.0B Open defecation
- Worse under CC/CV
- Waste water pollution?
- Water scarcity?

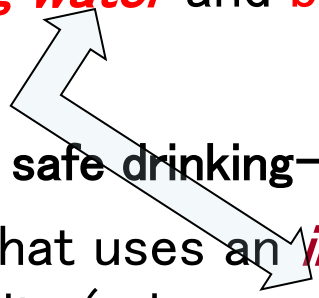
http://www.who.int/mediacentre/factsheets/fs310/en/index.html

MDG target + Indicators

Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

7.5 Proportion of total water resources used

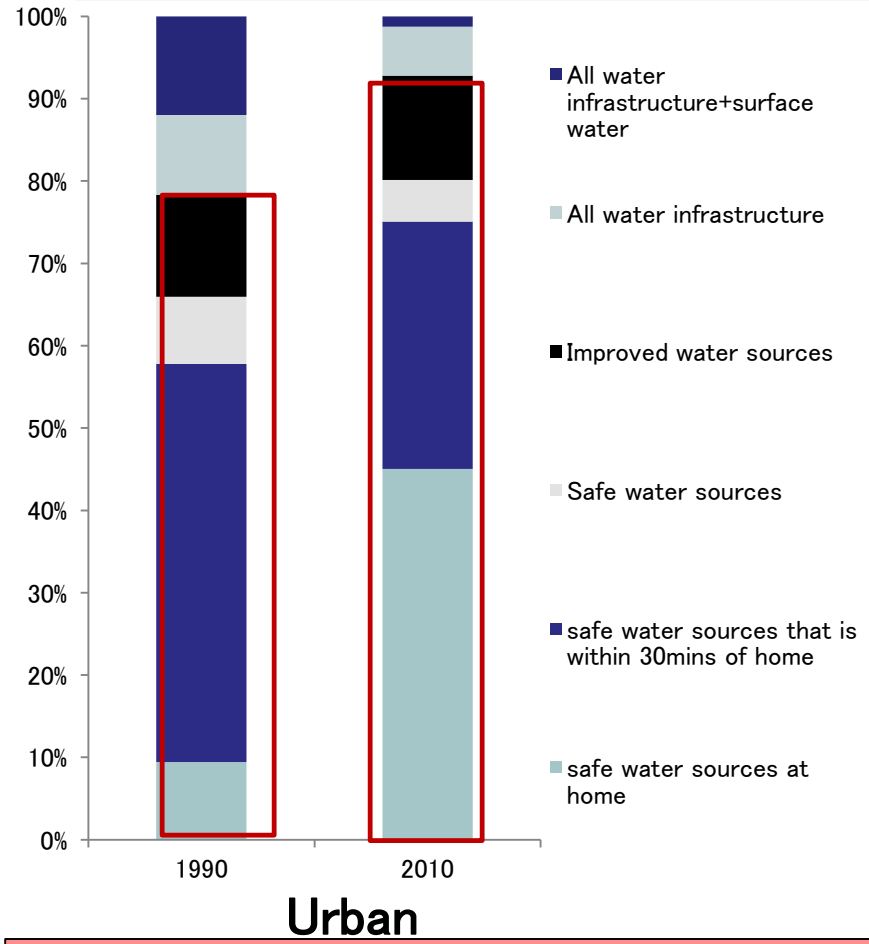
Target 7c: Halve, by 2015, the proportion of people without sustainable access to ***safe drinking water*** and basic sanitation



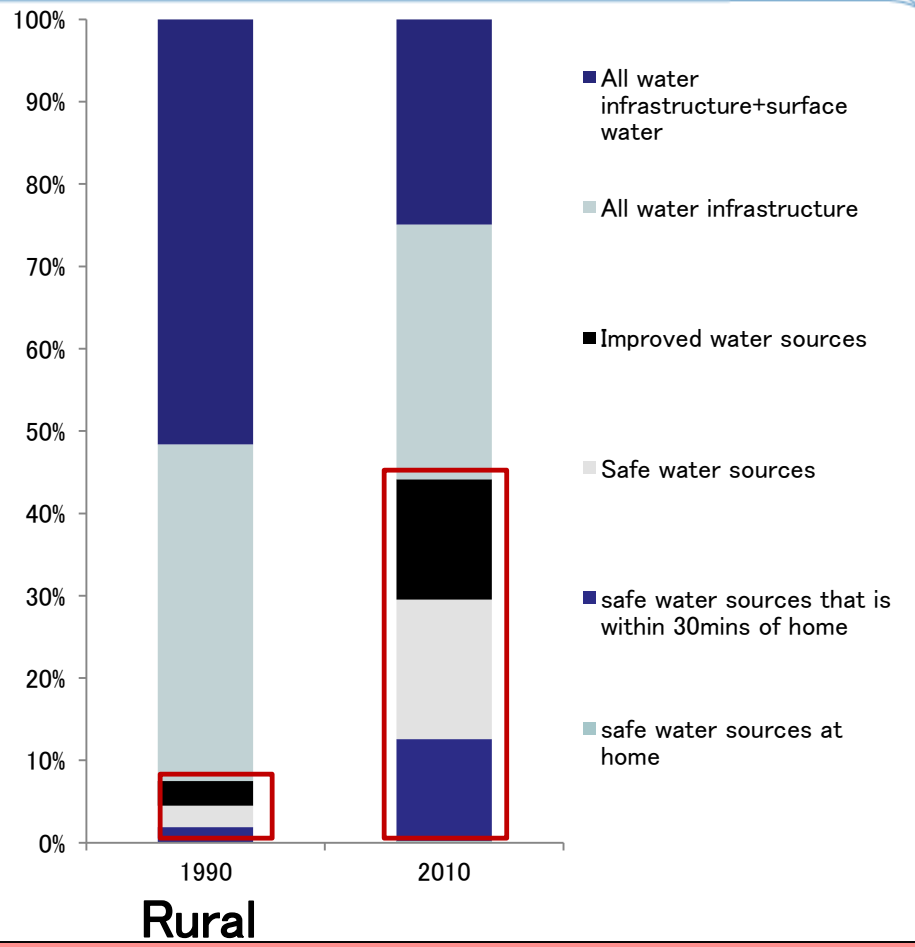
Indicator to monitor (proxy for access to safe drinking-water):

7.8/7.9 Proportion of the population that uses an ***improved*** drinking-water source/sanitation facility (urban + rural)

Improved versus safe…



Urban



Rural

Improved vs safe at home (2010) U: 93%-45%, R: 44% vs 0.2%

Developments towards post-2015 water sector

In 2010 UN adopted the Right to Drinking-Water and sanitation bringing additional criteria

- availability,
- quality/safety,
- acceptability,
- accessibility
- affordability,
- Sustainability
- non-discrimination,
- participation,
- accountability,
- impact sustainability.

Post-2015 WASH: guiding principles

The World needs more ambitious targets and more specific indicators than the MDG period

- eliminate open defecation;
- achieve universal access to basic drinking water, sanitation and hygiene for households, schools and health facilities;
- halve the proportion of the population without access at home to safely managed drinking water and sanitation services; and
- progressively eliminate inequalities in access

Measuring HR to water: using EO

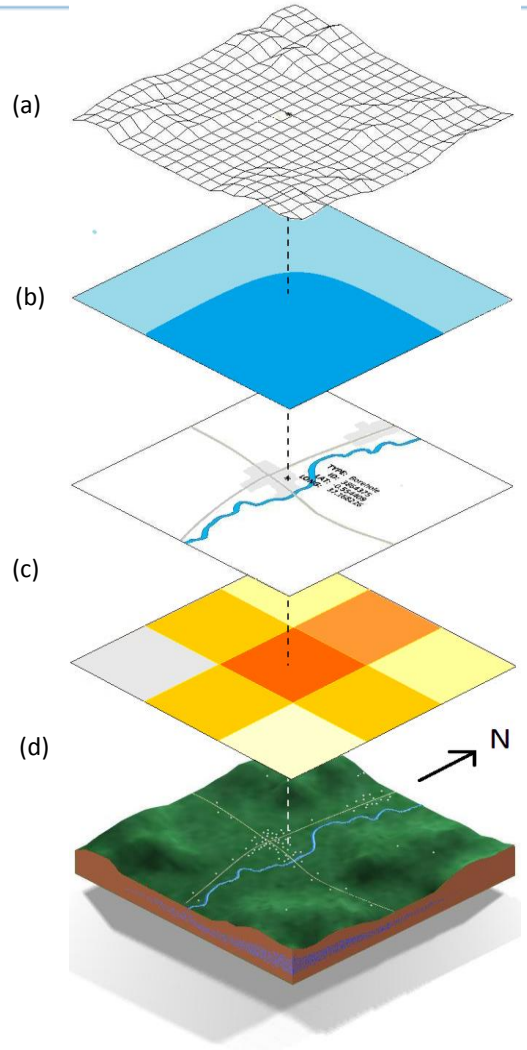
INPUT LAYERS:

(a) Digital Elevation Model (DEM): Worldwide coverage from NASA's ASTER mission with 30-meter resolution.

(b) Water Resource Map: Aquifer yield data from multiple sources.

(c) Improved water source location: Location of wells continually updated with new water projects via interactive Web 2.0 application.

(d) LandScan Population Database: commercially available 1-kilometer population database updated yearly (http://www.ornl.gov/sci/landscan/landscan_data_avail.shtml).



COMBINED OUTPUT LAYERS:

Water accessibility: (combination of layers 'a' and 'd') Access measured in amount of energy per capita (calories) needed to collect water, highlighting access limitations due to terrain. Also shows populations living on marginal land without water access.

Water resources per person: (combination of layers 'b' and 'd') Determines whether underlying water resources (aquifer yield) can meet demand of overlying population based on 50 liters per person per day .

Areas with improved water access: (combination of layers 'c' and 'd') Displays 1-km LandScan areas that have achieved water access per guidelines, i.e. at least one access point per 1-sq.km

UNSG HLP: WASH, WWM and WRM

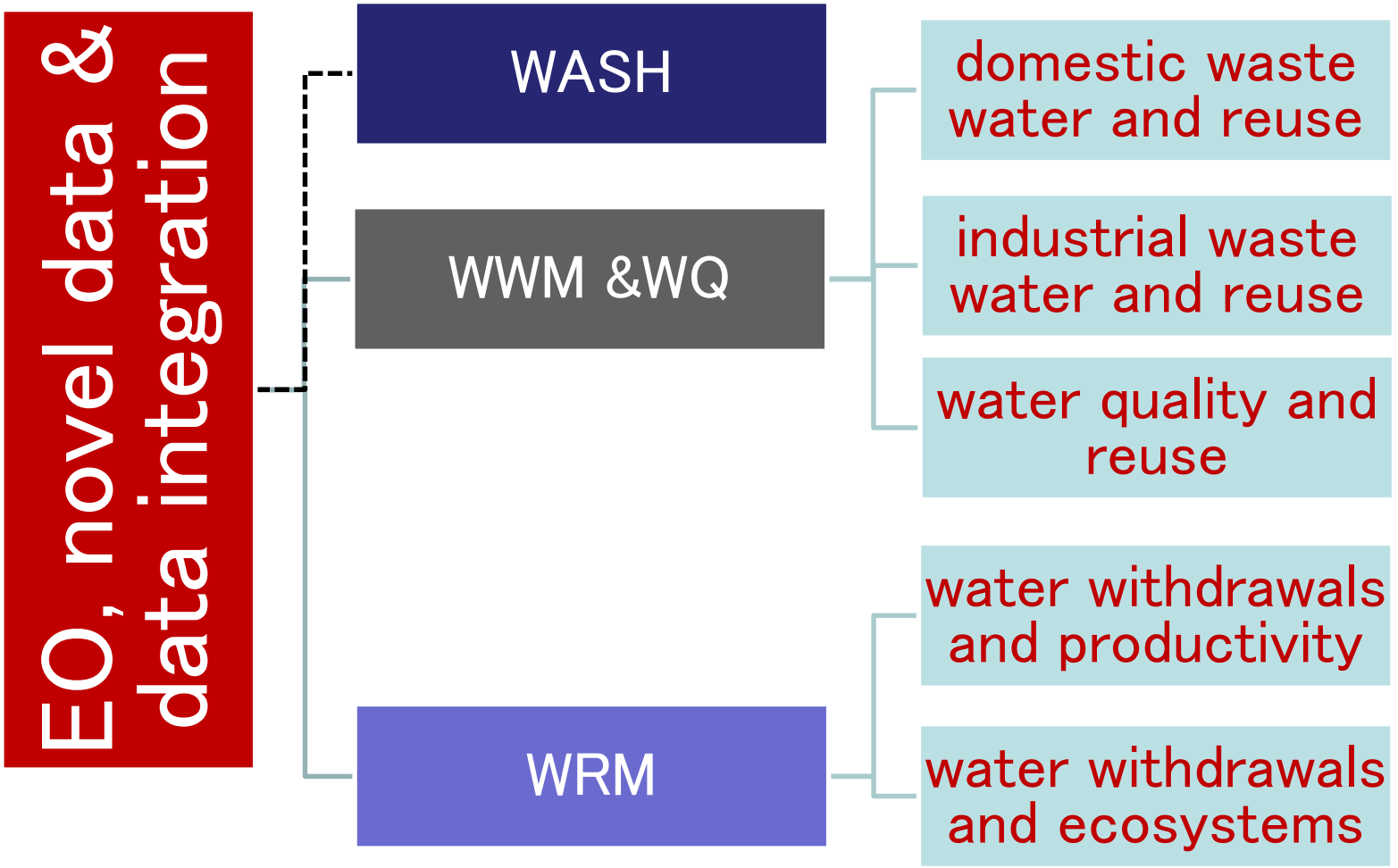
- Provide universal access to safe drinking water at home, and in schools, health centres, and refugee camps
- End open defecation and ensure universal access to sanitation at school and work, and increase access to sanitation at home by x%
- Bring freshwater withdrawals in line with supply and increase water efficiency in agriculture by x%, industry by y% and urban areas by z%
- Recycle or treat all municipal and industrial wastewater prior to discharge

UN proposal to OWG

UN WATER

- Achieve universal access to safe drinking water, sanitation and hygiene
- Improve by (x%) the sustainable use and development of water resources in all countries
- All countries strengthen equitable, participatory and accountable water governance
- Reduce untreated wastewater by X%, nutrient pollution by Y% and increase wastewater reuse by Z%
- Reduce mortality by (x%) and economic loss by (y%) from natural and human-induced water-related disasters

WHO–HABITAT–UNEP: GEO a strategic partner



UN initiative: SDG on water

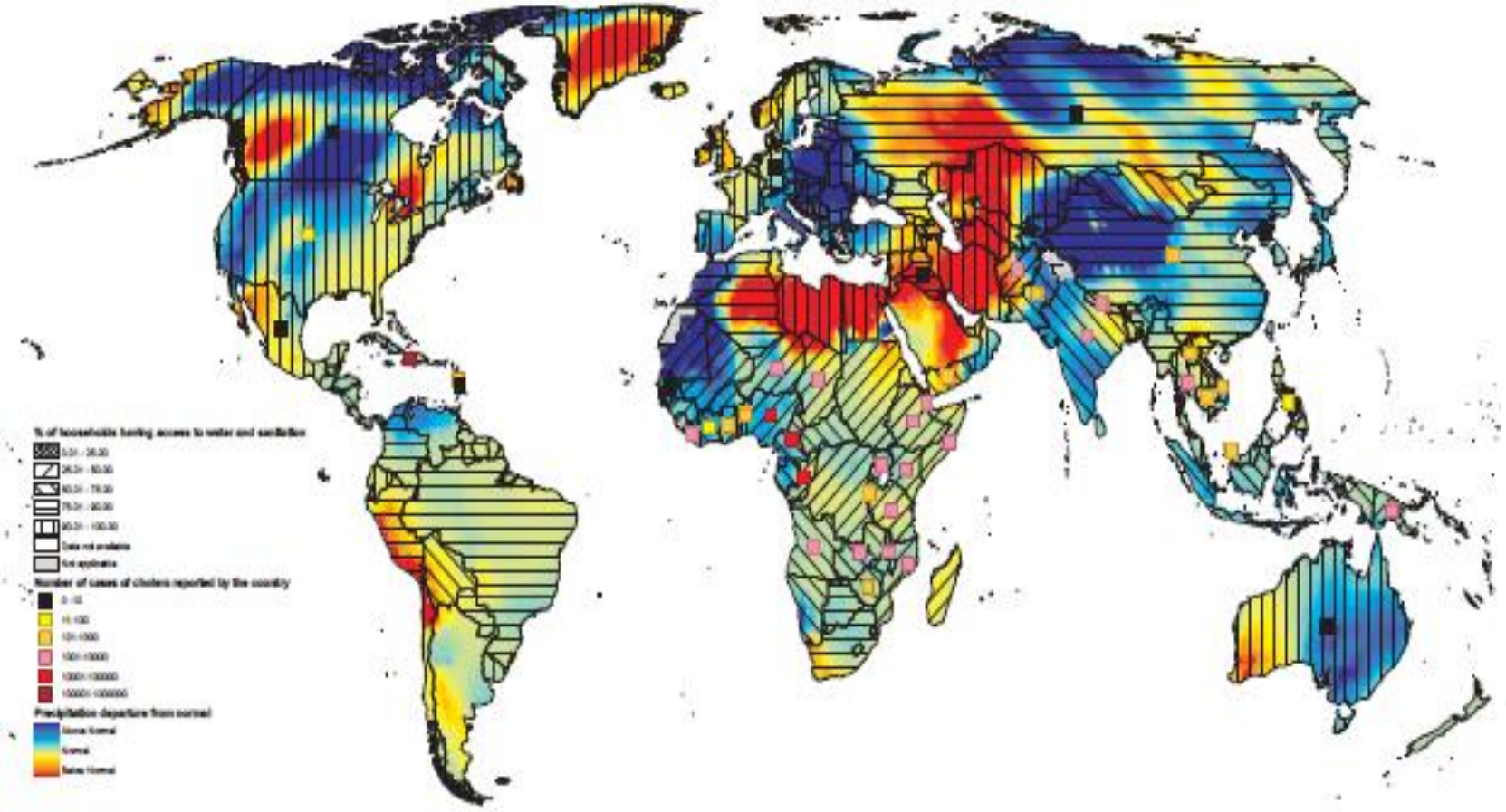
- A global monitoring project$30-50M
  - $18M from SDC
- Initial phase of 10 years
- 3 phases
  - Frame development: 2014
  - Testing/pilot: 2015
  - Full project phase: 2016-2023
  - Baseline setting and first global report: 2017
- Possible merger with JMP 2018 onwards.

SDG on water

WWWQ & WRM

Linking water with climate and health

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



Cholera outbreaks in areas where WASH coverage is poor, and more likely with higher precipitation anomalies

THANK YOU

For more info

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