



Australian Government

Geoscience Australia

# Measuring the SDGs : Challenges in the environmental domain

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# What do we need from SDG indicators?

**Coverage:** Can the indicator be measured globally?

**Transparency:** Is the method clear and able to be repeated?

**Relevance:** Is it measuring important aspects of the SDG?

**Simplicity:** Do all countries have the capability and capacity to deliver?

**Cost:** Can all countries afford to monitor this indicator?

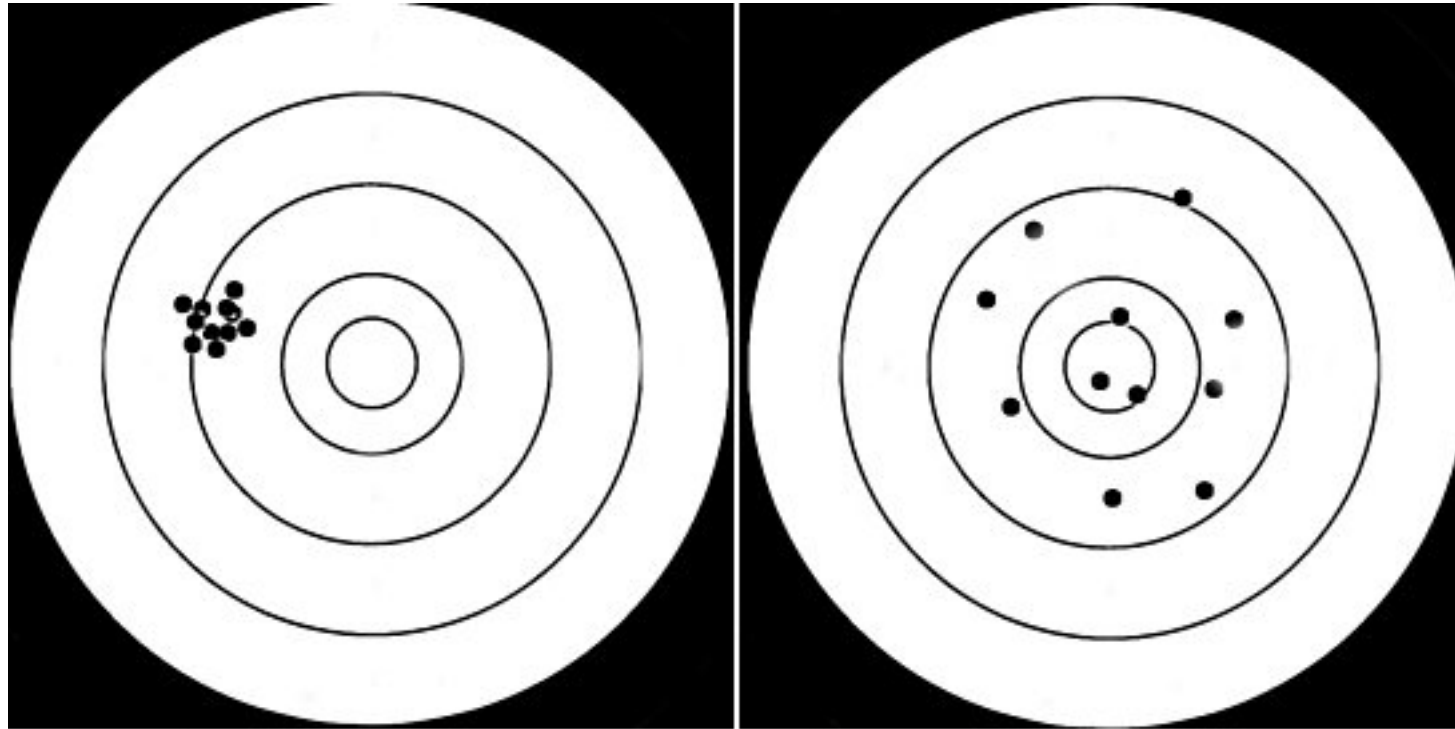
**Clarity:** Do people understand the measure and how it relates to the SDGs?

**Precision vs Accuracy:** Which is more important?

**Robustness:** Is the measure resistant to manipulation?

**Power/Sensitivity:** Will you be able to detect a change in the SDG?

# Precision vs Accuracy



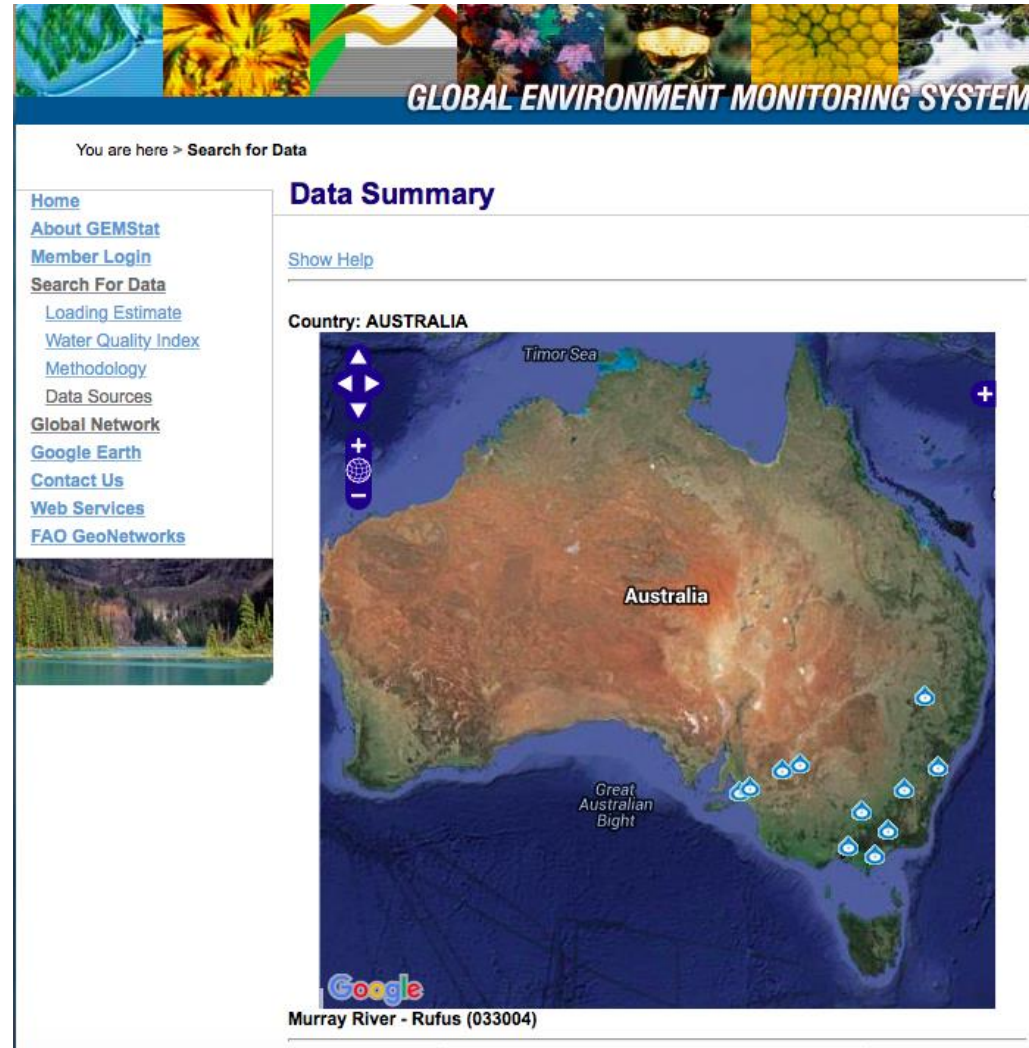
Precise and Inaccurate

Accurate and Imprecise

# Robustness: Can it be manipulated?

- **6.3.2 Proportion of bodies of water with good ambient water quality**

- Proposes using UN GEMS
- 11 sites for all of Australia!
- Monthly (at best)
- Australia well resourced to report up through UN process .....
- Developing countries?
  
- Example: 6 good, 5 bad 54%:46%
- Add 4 good sites: 66%:34%
- 20% improvement in Australian WQ..!



## **Power/Sensitivity: Will you be able to detect a change in the SDG?**

How long would you need to monitor to detect a 66% change in monthly monitoring of Ambient WQ at a normal Water Quality monitoring site?

- a) 2 months      b) 6 months      c) 2 years      d) 10 years

If you can't detect a change of 66% at a single monitoring site, how sensitive do you think a summary of change at 11 representative sites will be to changes in water quality across a continent?

# Water quality monitoring: Lake Burley Griffin

1987

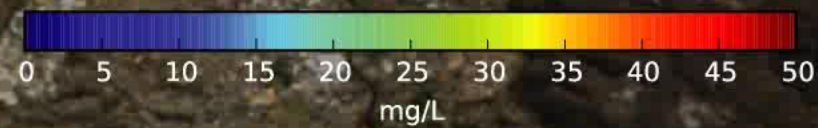
2001

2013



325

0

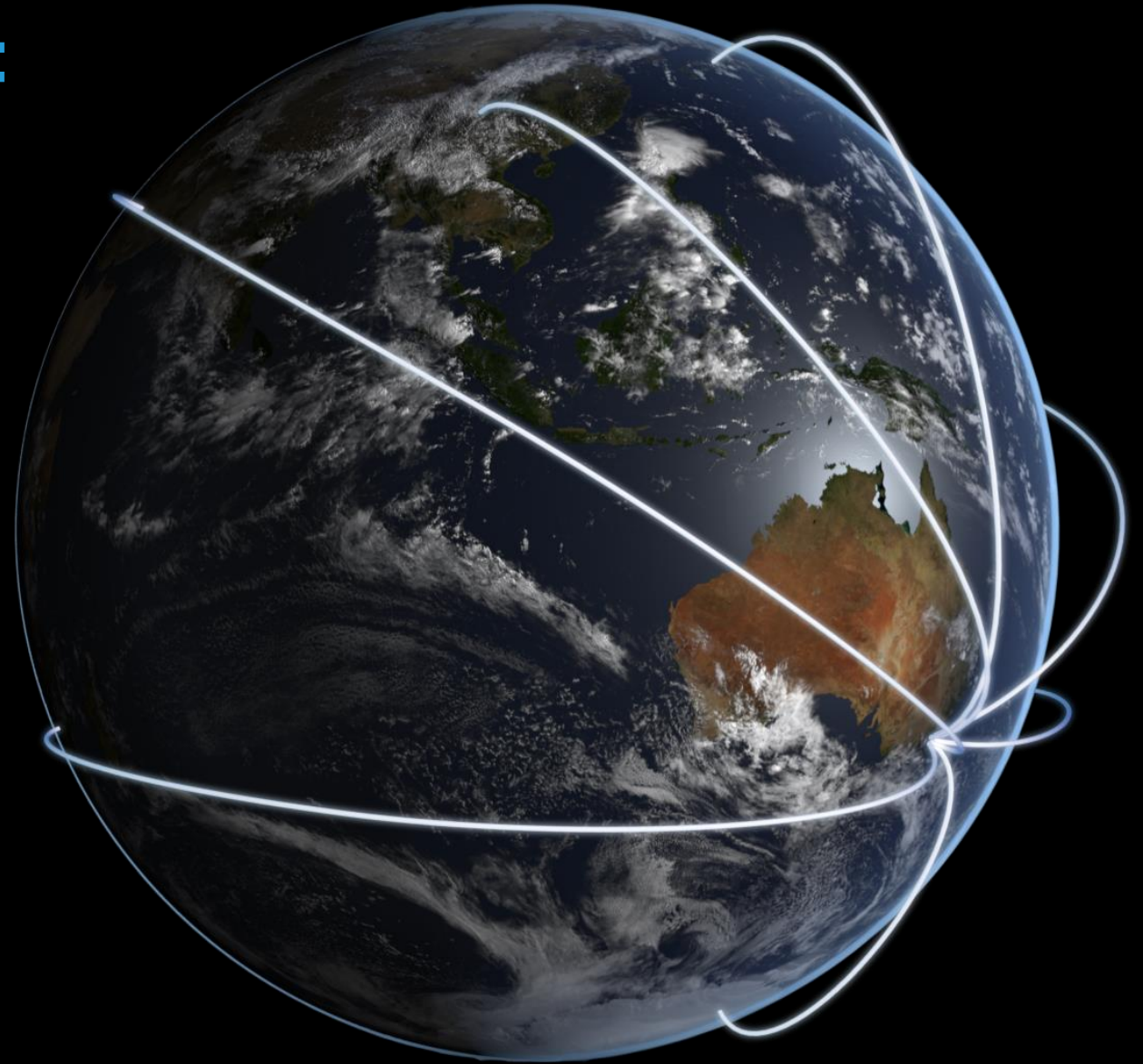




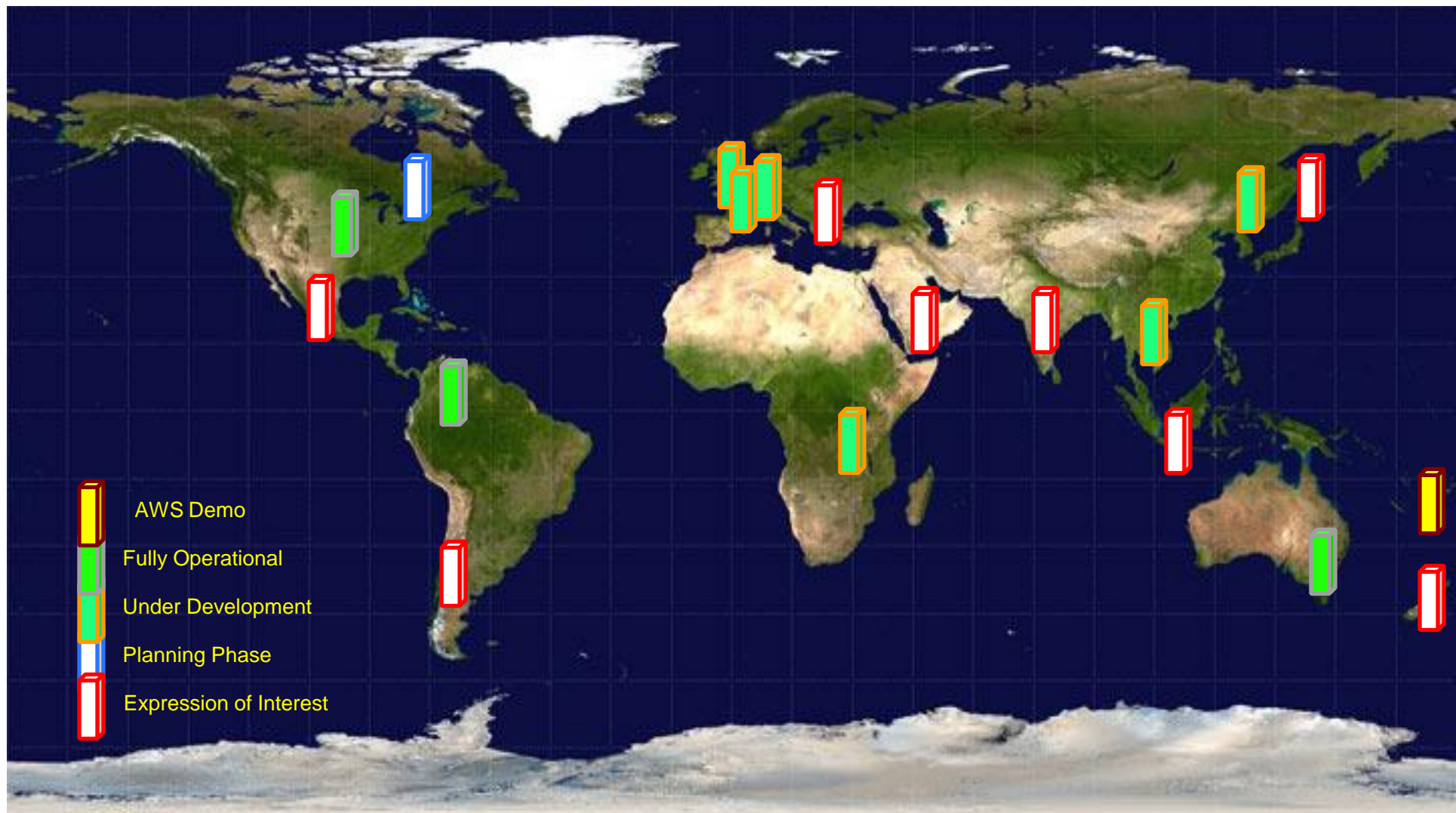
# Big Data for a Big Planet: a global network of regional data cubes using free and open EO data for measuring SDGs?

## Data Cubes for:

Africa, Antarctica, China, India,  
Europe, North America, ...



# Growing a Network of Compatible Open DataCubes







**Thankyou**

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