TWAP – Transboundary Waters Assessment Programme

RIVER BASINS COMPONENT

Development of Assessment Methodology

Working Group

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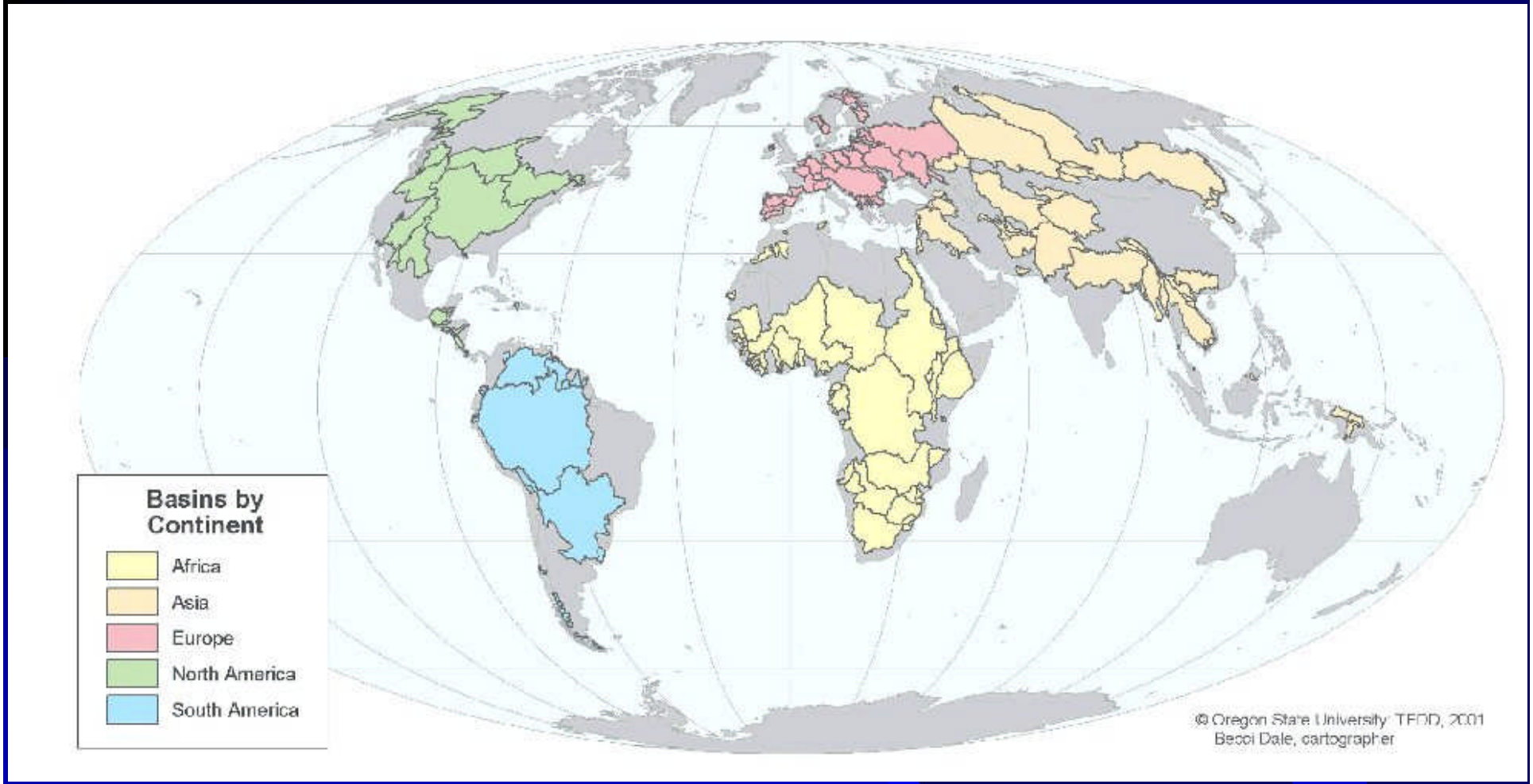
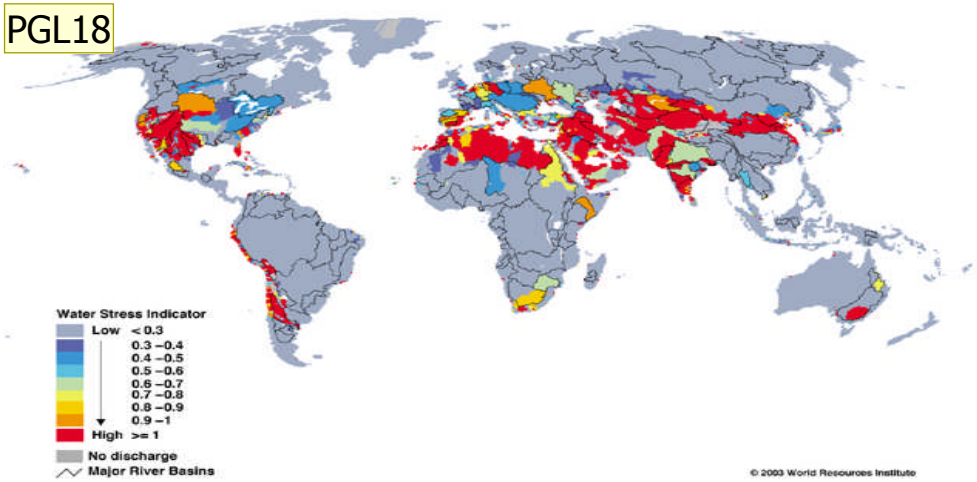
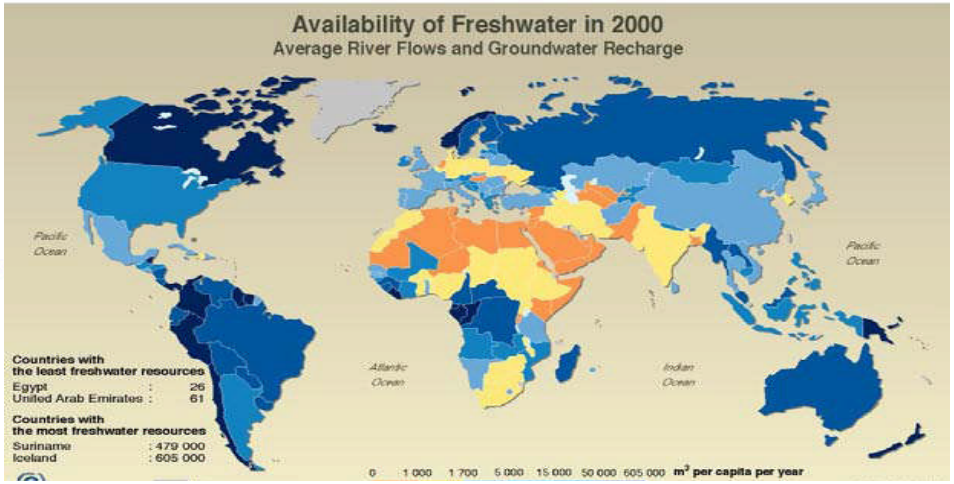
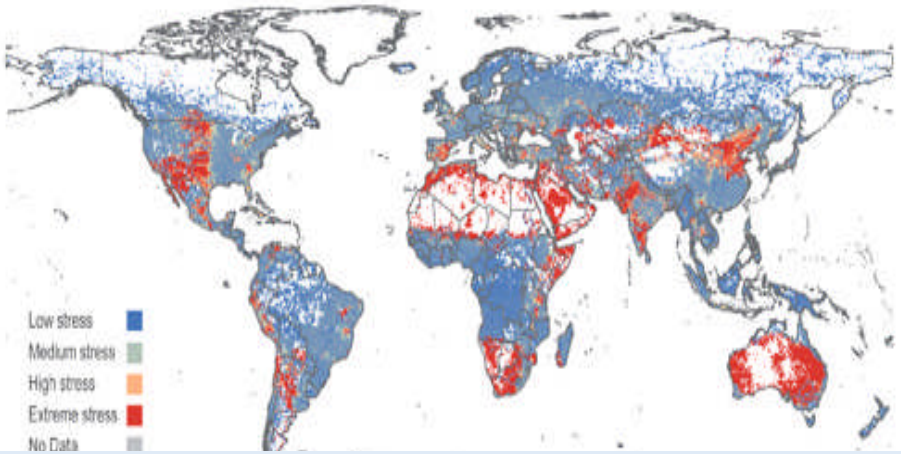
Transboundary river basins

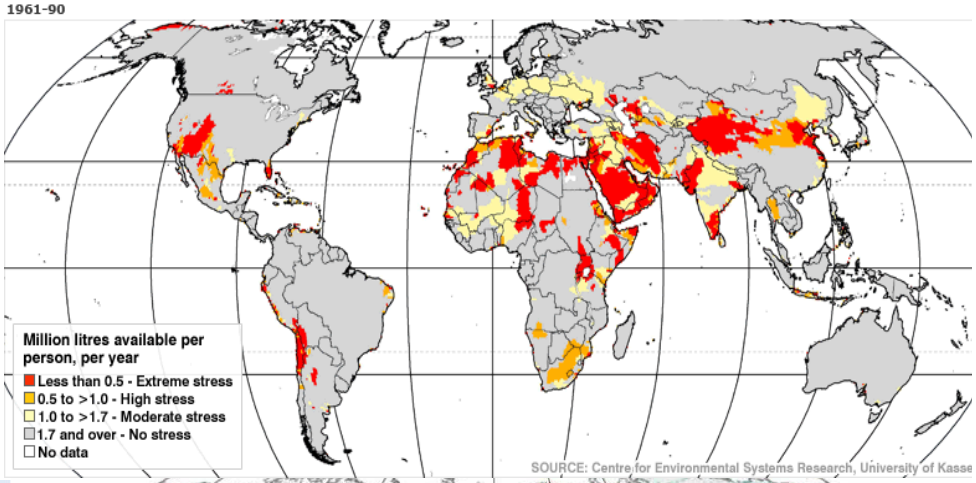


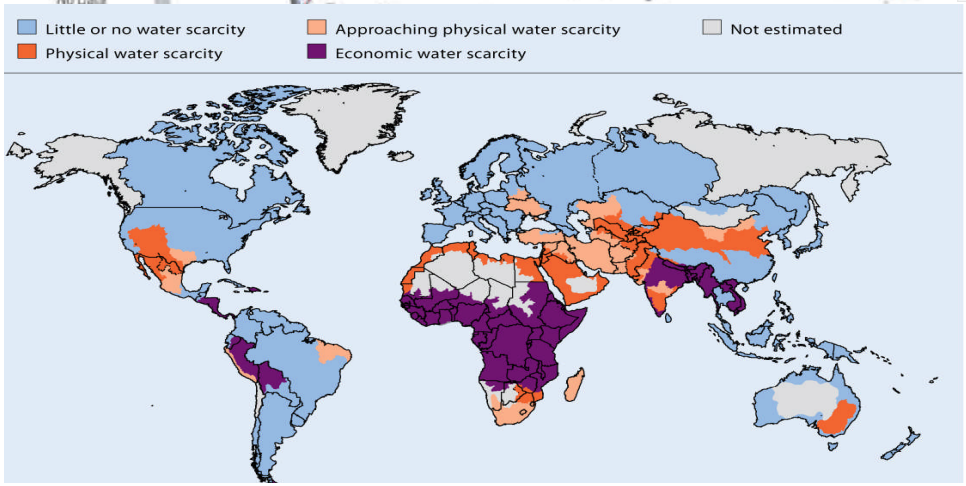
PGL18

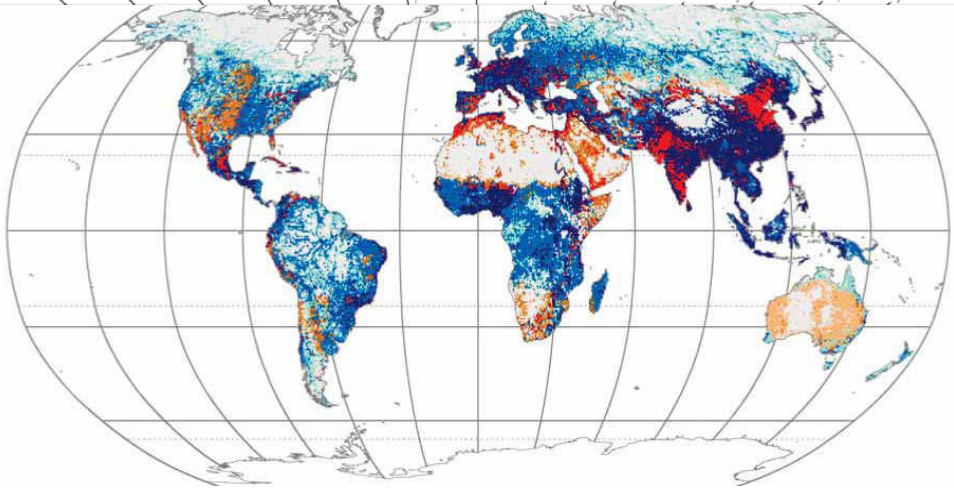

Water Stress Indicator
Low < 0.3
0.3 – 0.4
0.4 – 0.5
0.5 – 0.6
0.6 – 0.7
0.7 – 0.8
0.8 – 0.9
0.9 – 1
High >= 1
No discharge
Major River Basins
© 2003 World Resources Institute


Availability of Freshwater in 2000
Average River Flows and Groundwater Recharge
Pacific Ocean
Pacific Ocean
Atlantic Ocean
Indian Ocean
Countries with the least freshwater resources
Egypt : 26
United Arab Emirates : 61
Countries with the most freshwater resources
Suriname : 479 000
Iceland : 605 000
0 1 000 1 700 5 000 15 000 50 000 605 000 m³ per capita per year


Low stress
Medium stress
High stress
Extreme stress
No Data


1961-90
Million litres available per person, per year
Less than 0.5 - Extreme stress
0.5 to >1.0 - High stress
1.0 to >1.7 - Moderate stress
1.7 and over - No stress
No data
SOURCE: Centre for Environmental Systems Research, University of Kasse


Little or no water scarcity
Approaching physical water scarcity
Not estimated
Physical water scarcity
Economic water scarcity



Slide 3

PGL18 The details of this slide are not important, but these are 6 different water scarcity maps produced by 6 different reputable institutions, all showing different pictures.
There is no 'best' picture, but this illustrates the difficulty when trying to prioritize basins.
The TWAP will bring many of the key partners together to try to reduce some of the confusion and develop some more definitive maps.
Paul Glennie; 18/08/2011

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RIVER BASINS WG APROACH

- Develop a simple, inexpensive methodology
  - robust against data deficiencies
  - uses available information through existing institutions and frameworks where possible
  - based on an ecosystem system approach,
  - takes into consideration human vulnerability and governance issues
- Indicators that allow both baseline survey and ongoing assessments to monitor trends

General Approach of RIVERS WG

- Using a modified *Driving force*, *Pressure*, *State*, *Impact*, *Response (DPSIR)* framework and its further development in the Millennium Ecosystem Assessment
- An *issue* based approach – based on identification of current global issues in transboundary basins
- Indicators describing these issues have been identified, based on the availability of data sets with global coverage, available mostly in the public domain at present
- Scalable approach: Aggregation from national or regional to basin level

Key points on indicators

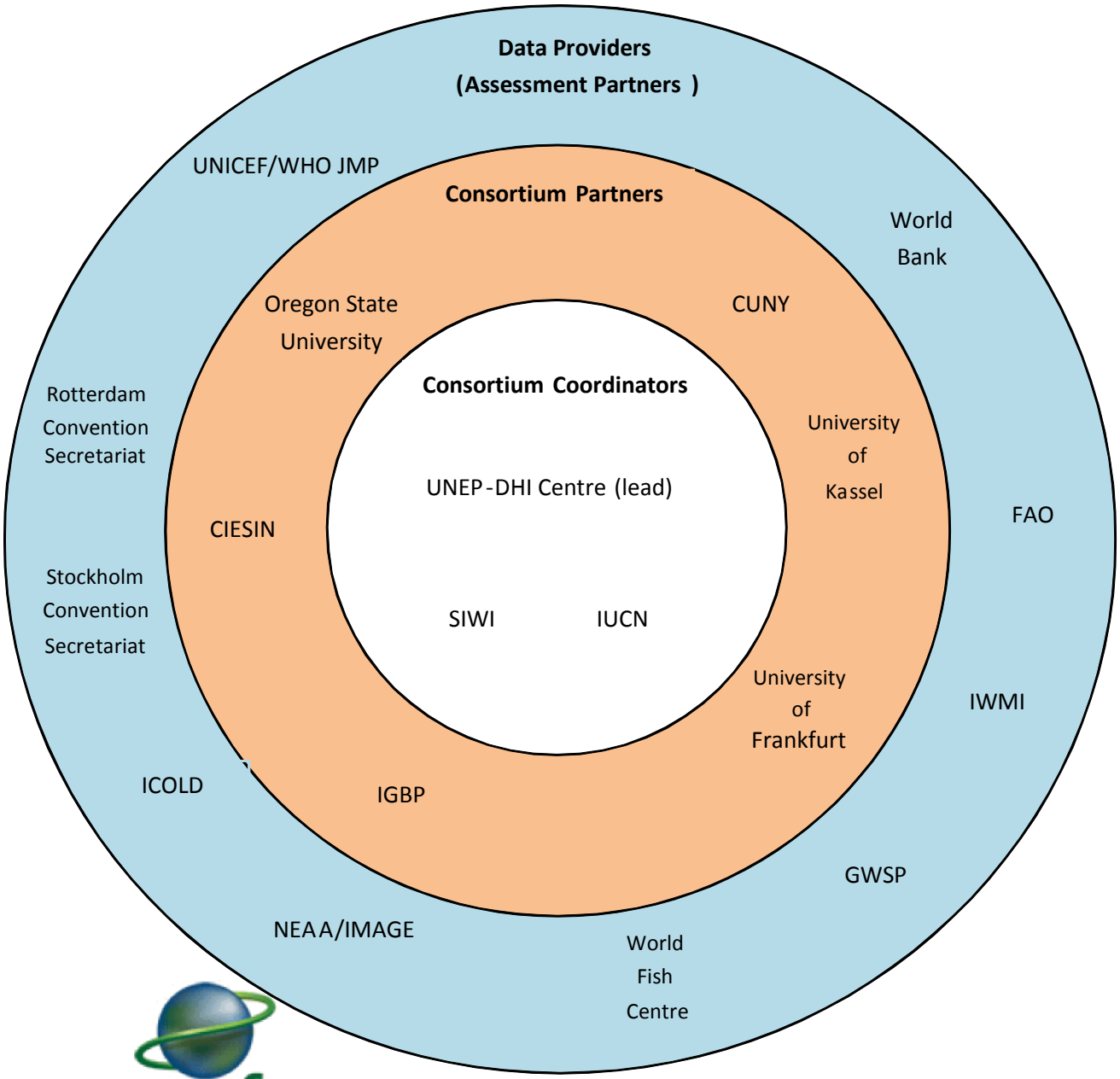
- Need to assess all 260+ transboundary basins ⇨Develop simple, inexpensive indicators which are robust against data deficiencies
- Some indicators are composite indicators composed of several basic indicators, combined into one single value
- Use of modelling where possible
- **Short-listing criteria:**

  - availability (i.e. cost efficiency in acquisition)
  - acceptability (i.e. ownership to information among stakeholders)
  - applicability (i.e. relevance to transboundary issues)
  - aggregation at river basin level and comparability between basins

The RIVER BASINS indicators

Current status		Projected stress (2030 / 2050)
Cluster	**Indicator**	
Water Quantity	1. Environmental water stress 2. Human water stress 3. Agricultural water stress	1. Environmental water stress 2. Human water stress 3. Nutrient pollution 4. Population density 5. River basin resilience
Water Quality	4. Nutrient pollution 5. Urban water pollution	
Ecosystems	6. Biodiversity and habitat loss 7. Ecosystem degradation 8. Fish threat	
Governance	9. Governance architecture 10. River basin resilience 11. Water legislation	
Socio-economic	12. Economic dependence 13. Societal wellbeing 14. Vulnerability	

Methodology for each indicator: Definition, units, metrics, data sources, computation, scoring, alternatives



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