River Basin Assessment Partners

Center for International Earth Science Information Network
EARTH INSTITUTE | COLUMBIA UNIVERSITY

Oregon State University

The City University of New York

UNEP-DHI PARTNERSHIP
Centre on Water and Environment

SIWI

IUCN

GLOBAL IGBP CHANGE
International Geosphere-Biosphere Programme

CESR
Center for Environmental Systems Research

Delta Alliance
River Basin Assessment Approach

- Need to assess all 280+ transboundary basins
- Develop a simple, scalable methodology
- Use existing information and modelling
- Use of composite indicators
- 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
Relative Risk Categories

Raw indicator values -> Relative risk categories

- Global comparative assessment
- Comparability across indicators
- Scorecards for individual basins (Factsheets)
### Transboundary River Basin Indicators

<table>
<thead>
<tr>
<th>THEMATIC GROUP</th>
<th>INDICATOR</th>
<th>Projected Transboundary Stress (2030/2050)</th>
</tr>
</thead>
</table>
| Baseline Transboundary Status (2010) | 1. Environmental water stress  
2. Human water stress  
3. Agricultural water stress | 1. Environmental water stress  
2. Human water stress |
| Water Quantity | 4. Nutrient pollution  
5. Wastewater pollution | 3. Nutrient pollution |
| Water Quality | 6. Wetland disconnectivity  
7. Ecosystem impacts from dams  
8. Threat to fish  
9. Extinction risk | [Environmental water stress] |
| Ecosystems | 10. Legal framework  
11. Hydropolitical tension  
12. Enabling environment | 4. Exacerbating factors to hydropolitical tension |
| Governance | 13. Economic dependence on water resources  
14. Societal wellbeing  
15. Exposure to floods and droughts | 5. Change in population density |
| Socioeconomics | | |

### Water Systems Links

<table>
<thead>
<tr>
<th>Lakes</th>
<th>1. Lake influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal areas</td>
<td>2. Delta vulnerability (sea level rise, wetlands, population and governance)</td>
</tr>
</tbody>
</table>
Assessment Scope

286 Transboundary River Basins – 796 Basin Country Units (BCUs)
/+26 selected deltas/

Global proportions within transboundary river basins:

- Population: 42%
- Land area: 42%
- River flow: 56%
Basin & Basin Country Units (BCUs) results

**LEGAL FRAMEWORK**

BCU level results identify the varying levels of risk within basins, highlighting need for cooperation.

**Metric:** Principles of modern international water law reflected in basin agreements, ratification of global water conventions

**Categories:** Relative risk by transboundary river basin

- 3% very low
- 18% low
- 20% moderate
- 22% high
- 38% very high
- 0% no data

**KEY FINDING**

Basins in the highest risk categories have few or none of the key principles of international water law present in the legal framework. Ratification of global water conventions can decrease the basin risk category.
Example: Basin level

Exposure to Floods and Droughts

Relative Risk Category by Transboundary River Basin:
- Very Low
- Low
- Moderate
- High
- Very High
- No Data
- Country borders (GAUL)

Small Basin Clusters:

A
B
C
D
E
F

GEF-TWAP River Basins Assessment © 2015 http://wap-rivers.org
Example: BCU level

Exposure to Floods and Droughts

Relative Risk Category by Basin Country Unit (BCU)
- 1: Very Low
- 2: Low
- 3: Moderate
- 4: High
- 5: Very High
- No Data
- Basin boundaries

Small Basin Clusters

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Example: Projected change

Nutrient Pollution - Projected Risk Change (2050)

Change in Relative Risk Category by Transboundary River Basin (compared to baseline)
-2 or less
-1
No change
+1
+2
+3 or more
No data
Country borders (GAUL)

Small Basin Clusters

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Example: Deltas
Transboundary River Basins Website

TWAP RB Assessment Report: Status and Trends
The final technical report of the TWAP RB assessment (March 2016). Contains results and results maps for all assessment indicators, as well as integrated analysis across indicators. The technical report is accompanied by Summary for Policy Makers.

DOWNLOADS

TWAP RB Technical Assessment Report:

- Full Technical Report (high-res 205 MB)
- Full Technical Report (low-res 27.5 MB)
- Technical Report without Annexes (high-res 166 MB)
- Technical Report without Annexes (low-res 22.7 MB)
- Annexes (high-res 39.8 MB)
- Annexes (low-res 5.11 MB)

Summary for Policy Makers:

- Summary for Policy Makers (high-res 14 MB)
- Summary for Policy Makers (low-res 2.5 MB)

Chapter downloads:

Table of Contents (high-res 3.9MB) (low-res 1.1MB)
Interactive results & data portal

- On-demand assessment results maps: basin, BCU, deltas level
- Background layers (River basins map, deltas map, etc.)
- Results summaries
- User defined indices
- River basin factsheets
- Results files and metadata sheets
Thank you

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http://twap-rivers.org/