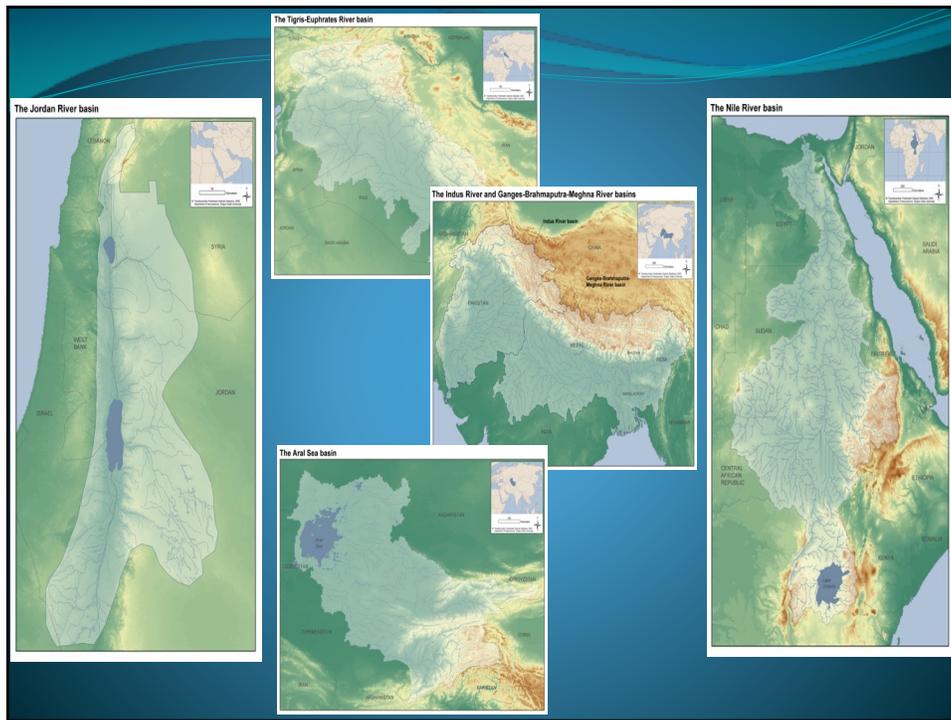


# Maintaining Flows Across International Boundaries: Processes and Politics

Aaron T Wolf, PhD  
Program in Water Conflict Management  
Oregon State University, USA

**FLOW 2018**  
Fort Collins, CO  
24-26 April 2018

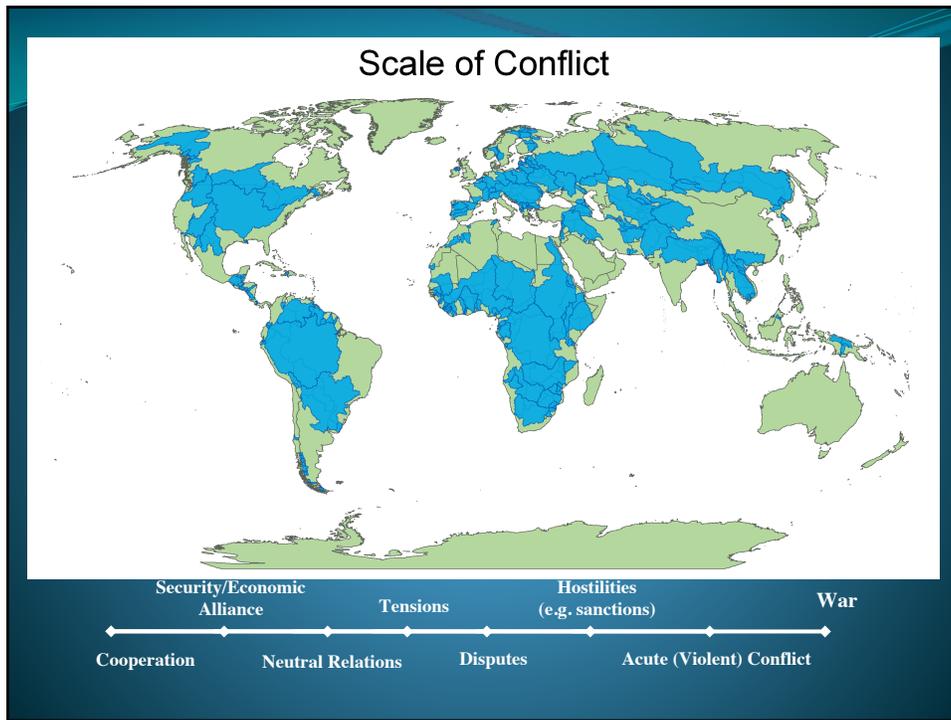
EMAIL: [WOLFA@GEO.ORST.EDU](mailto:WOLFA@GEO.ORST.EDU)  
[WWW.TRANSBOUNDARYWATERS.ORST.EDU](http://WWW.TRANSBOUNDARYWATERS.ORST.EDU)

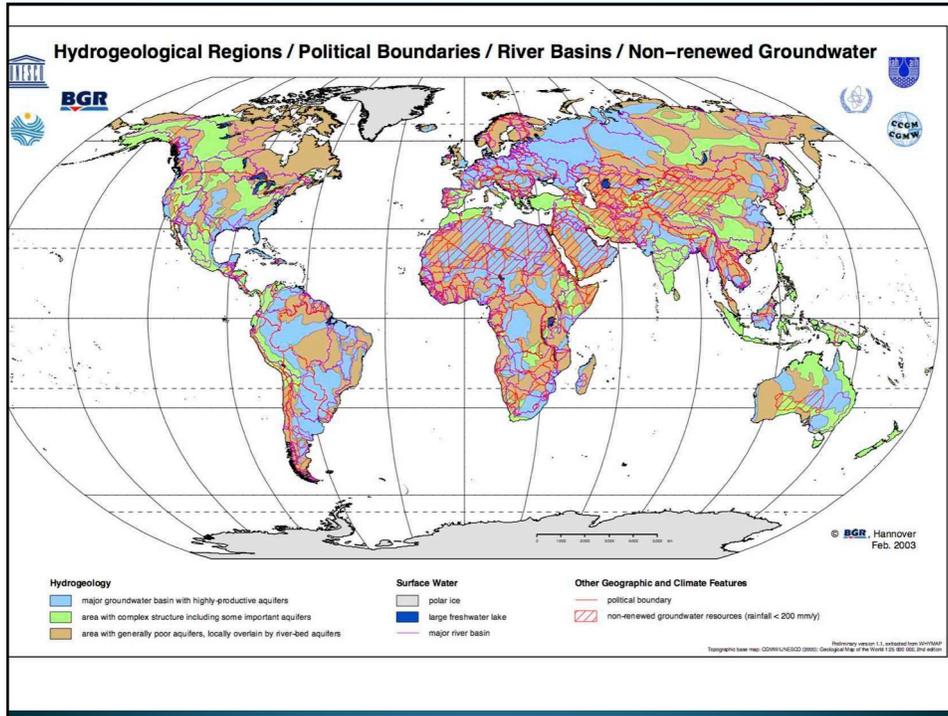


# Water and Conflict

“Fierce competition for fresh water may well become a source of conflict and wars in the future.”

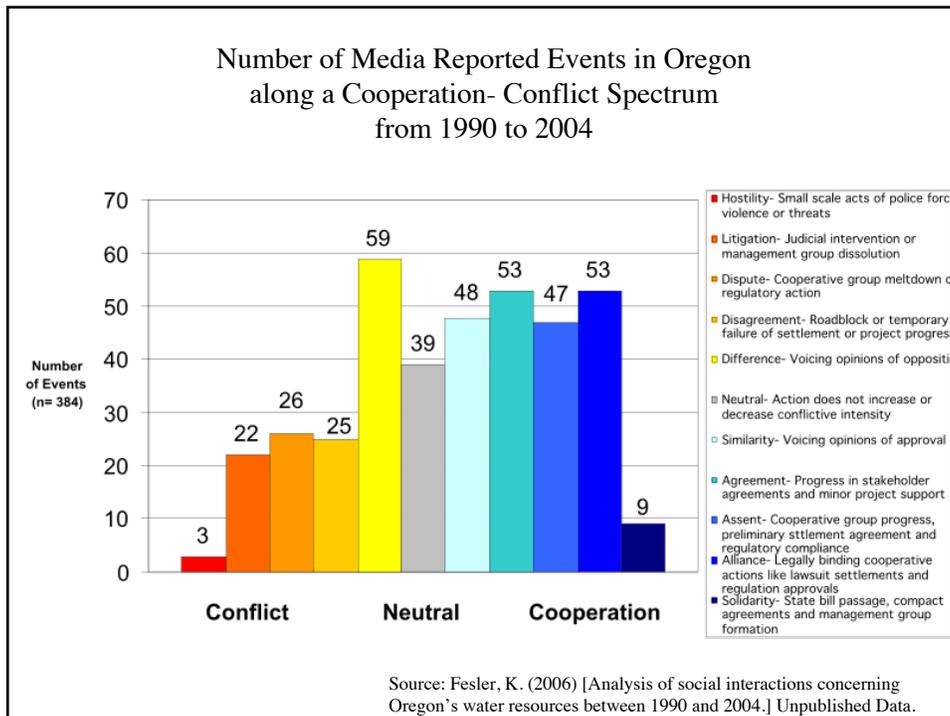
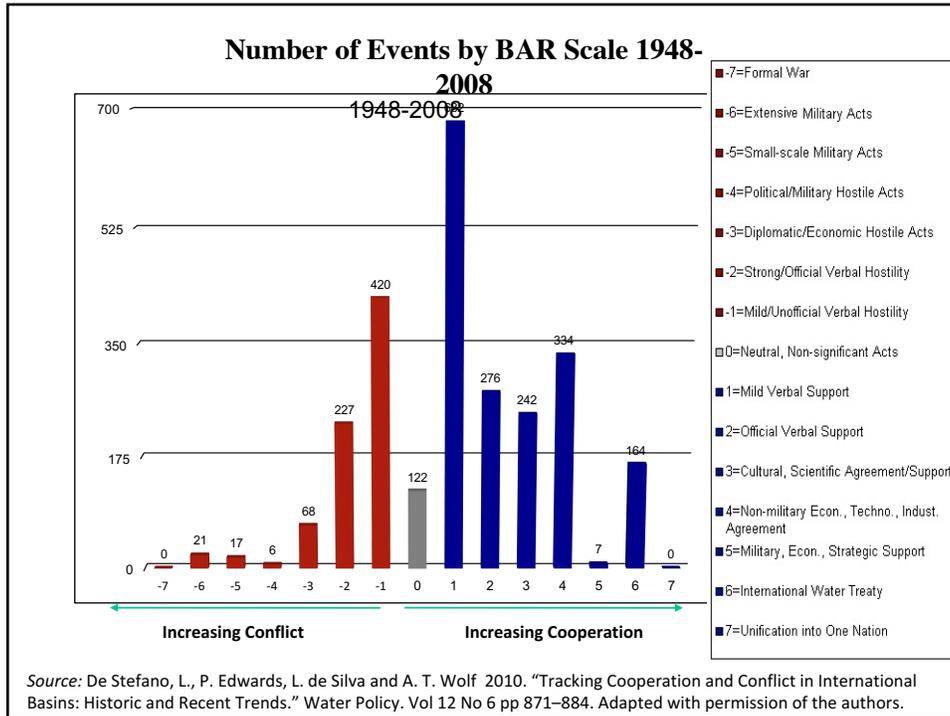
- Kofi Annan, March 2001





DATE	BASIN	COUNTRIES	BAR SCALE	EVENT SUMMARY	ISSUE TYPE
12/5/73	La Plata	Argentina--Paraguay	4	PRY AND ARG AGREE TO BUILD IB DAM, HYDROELECTRIC PROJECT	Infrastructure
1/1/76	Ganges	Bangladesh--India--United Nations	-2	Bangladesh lodges a formal protest against India with the United Nations, which adopts a consensus statement encouraging the parties to meet urgently, at the level of minister, to arrive at a settlement.	Quantity
7/3/78	Amazon	Bolivia--Brazil--Colombia--Ecuador--Guyana--Peru--Suriname--Venezuela	6	Treaty for Amazonian Cooperation	Economic Development
4/7/95	Jordan	Israel--Jordan	4	Pipeline from Israel storage at Beit Zera to Abdullah Canal (East Ghor Canal) begins delivering water stipulated in Treaty (20 MCM summer, 10 MCM winter). The 10 mcm replaces the 10 mcm of desalinated water stipulated Annex II, Article 2d until desalination plant completed	Quantity
6/1/99	Senegal	Mali--Mauritania	-3	13 people died in communal clashes in 6/99 along border between Maur. & Mali; conflict started when herdsmen in Missira-Samoura village in w. Mali, refused to allow Maur. horseman to use watering hole; horseman returned w/ some of his clansmen, attacking village on 6/20/99, causing 2 deaths; in retaliation that followed, 11 more died.	Quantity

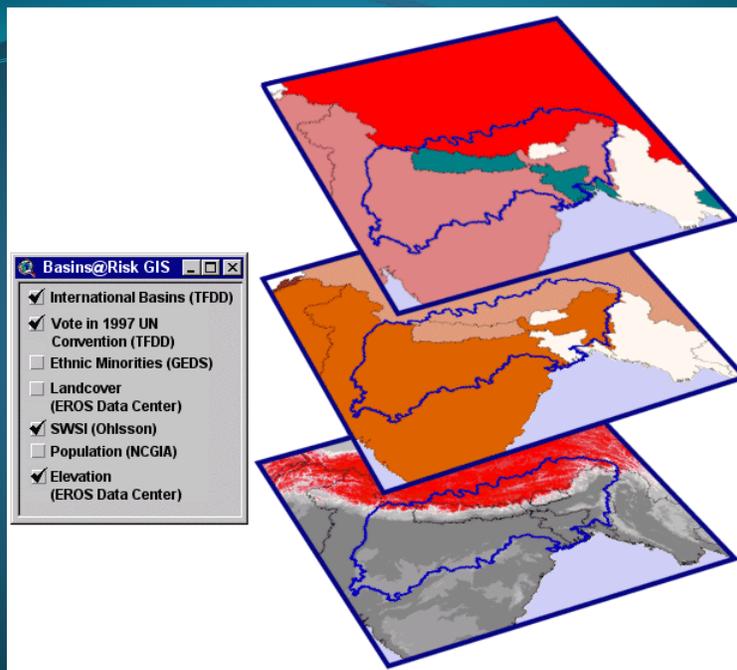
**Events Database, Example**

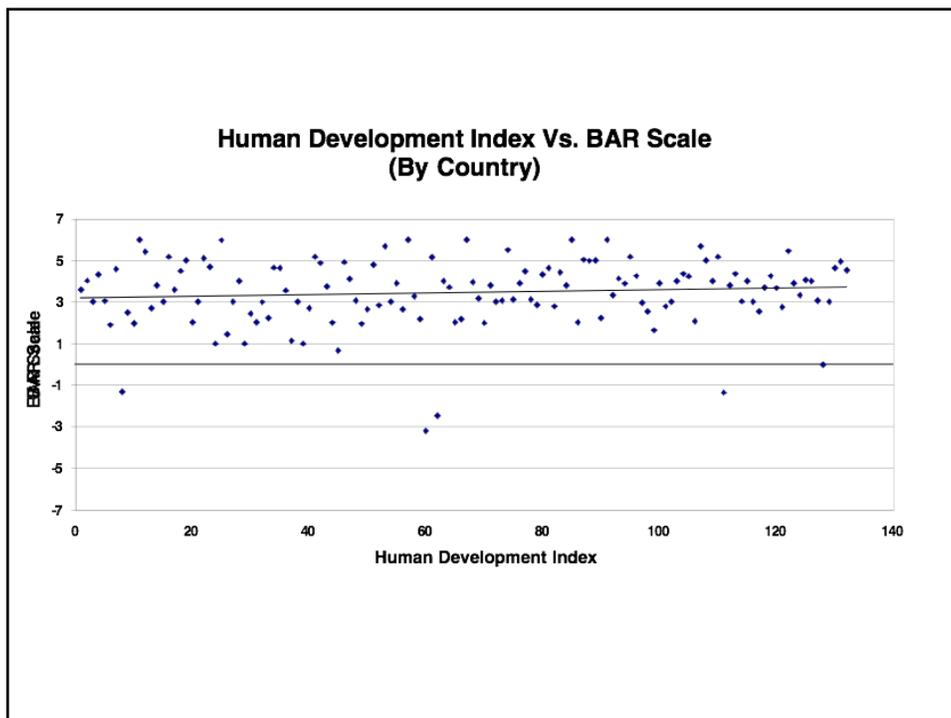
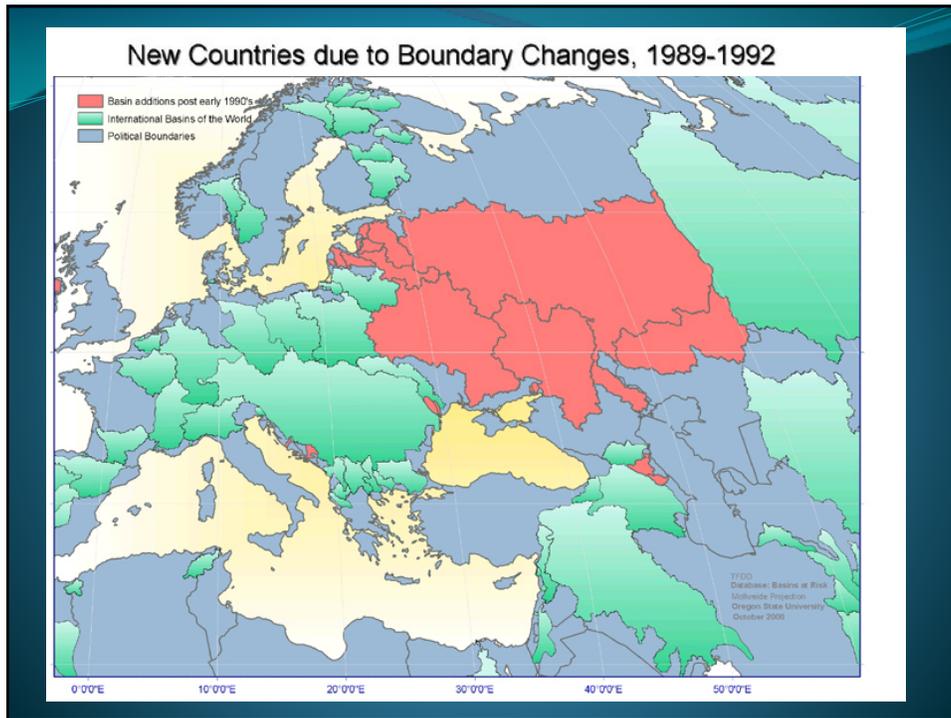


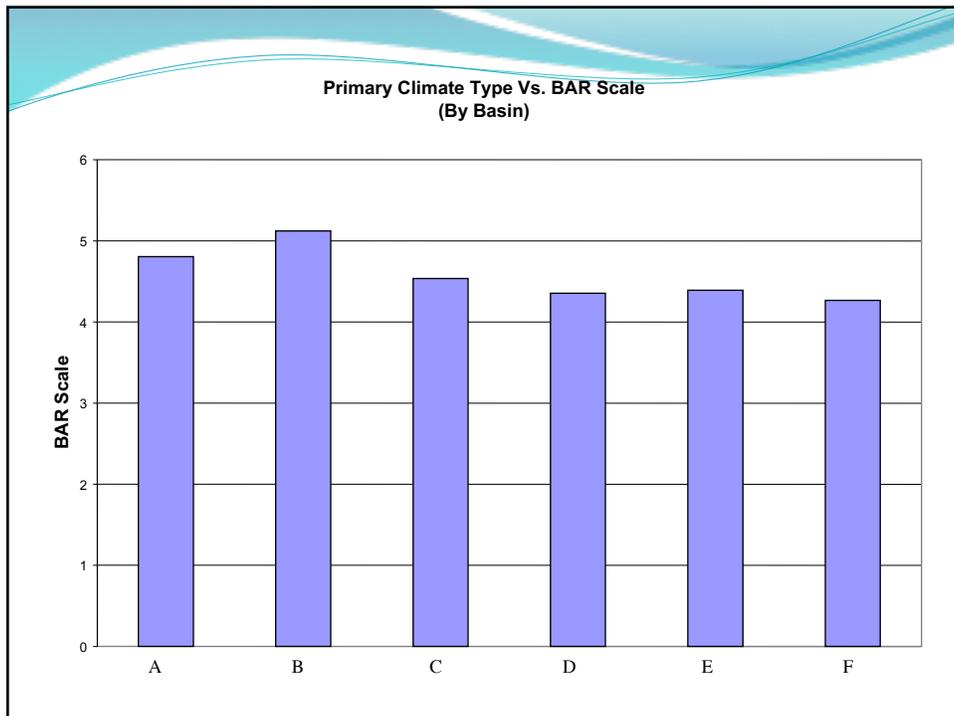
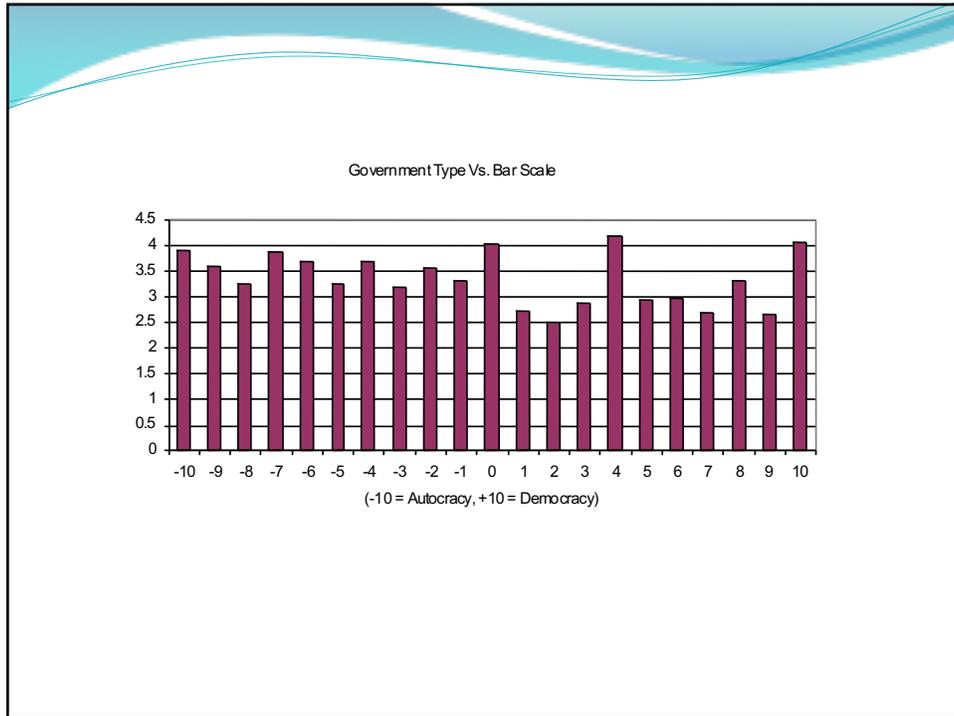
## Water Myths and Water Facts

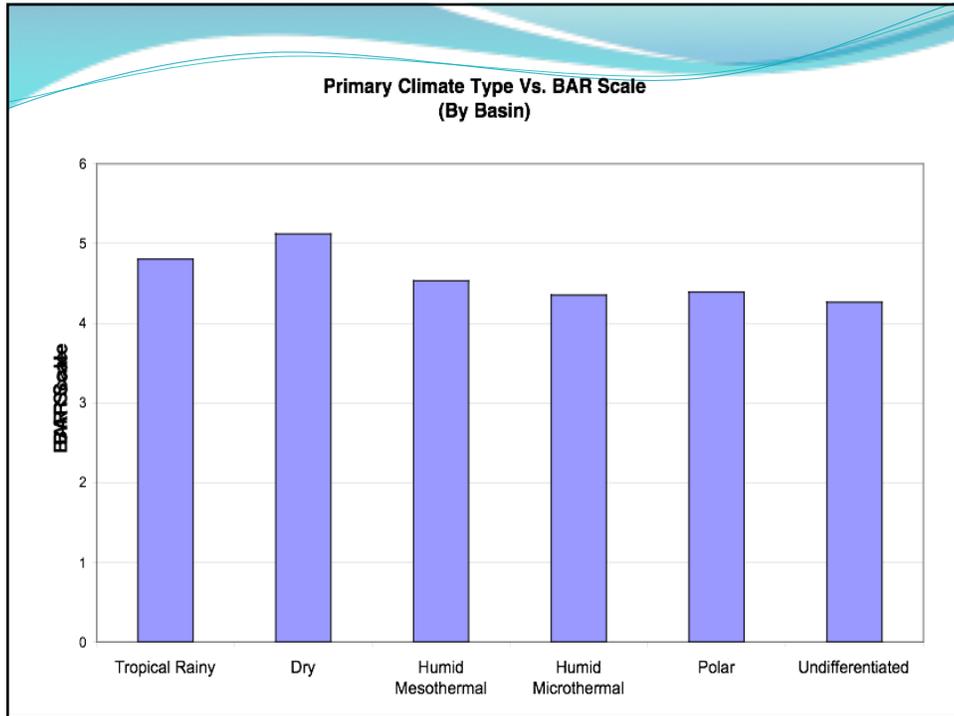
### Do the causes of conflict include:

- Climate
- Water stress
- Population
- Level of development
- Dependence on hydropower
- Dams or development *per se*
- “Creeping” changes:
  - general degradation of quality
  - climate change induced hydrologic variability









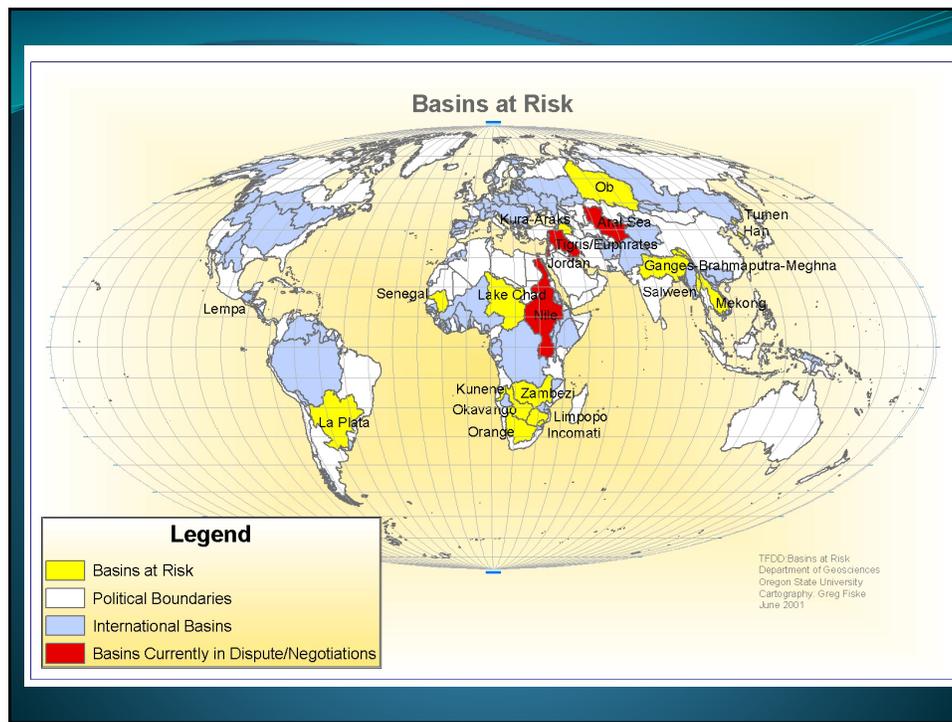
## BASINS AT RISK: Working Hypothesis

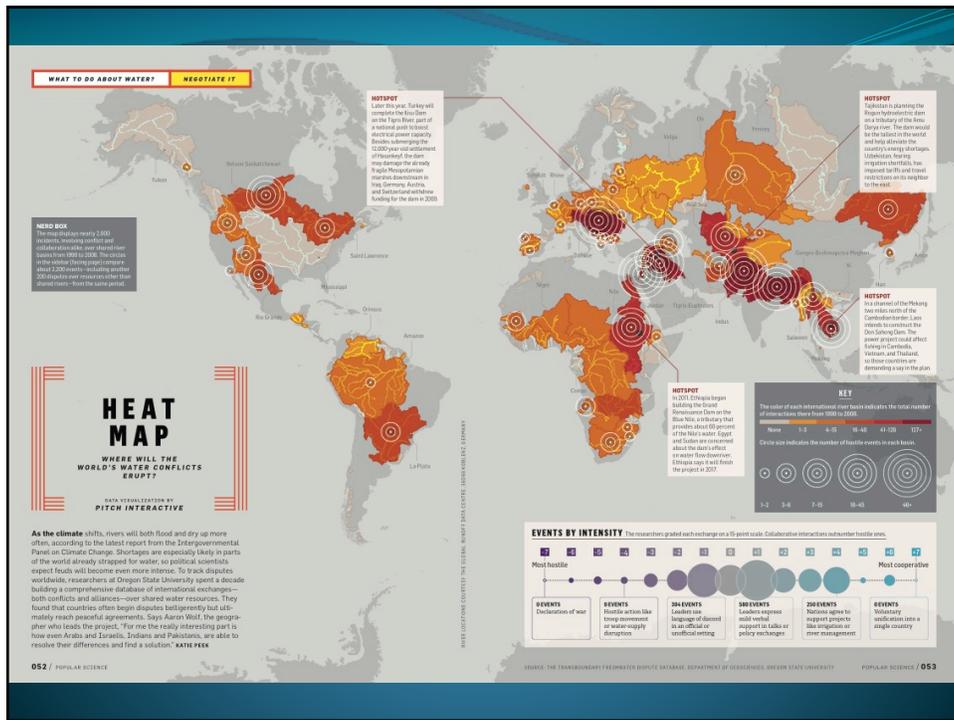
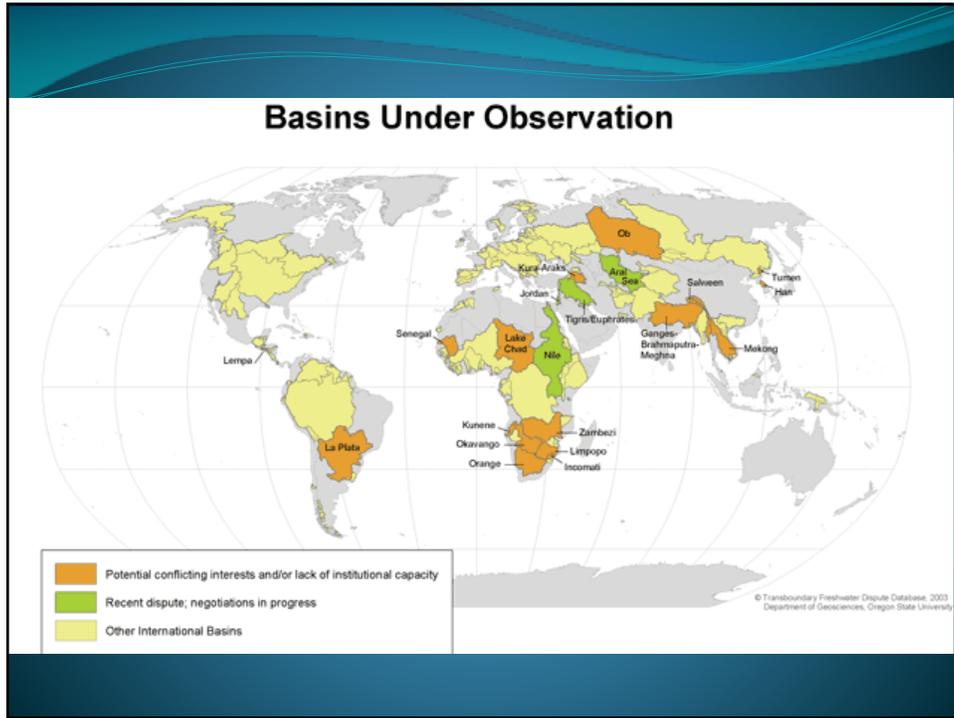
*“The likelihood of conflict rises as the rate of change within the basin exceeds the institutional capacity to absorb that change.”*

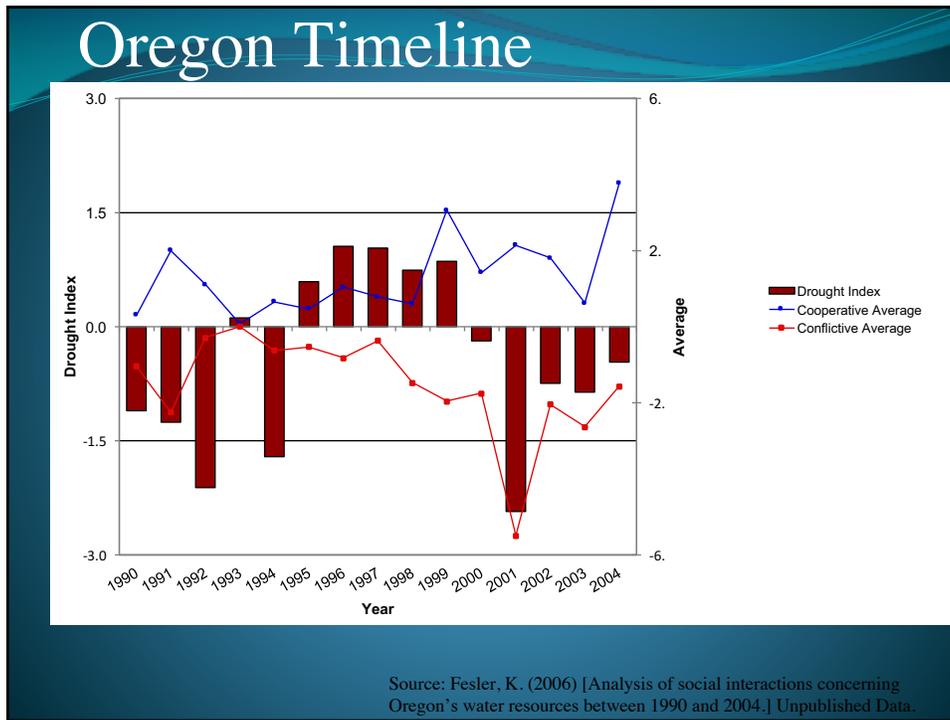
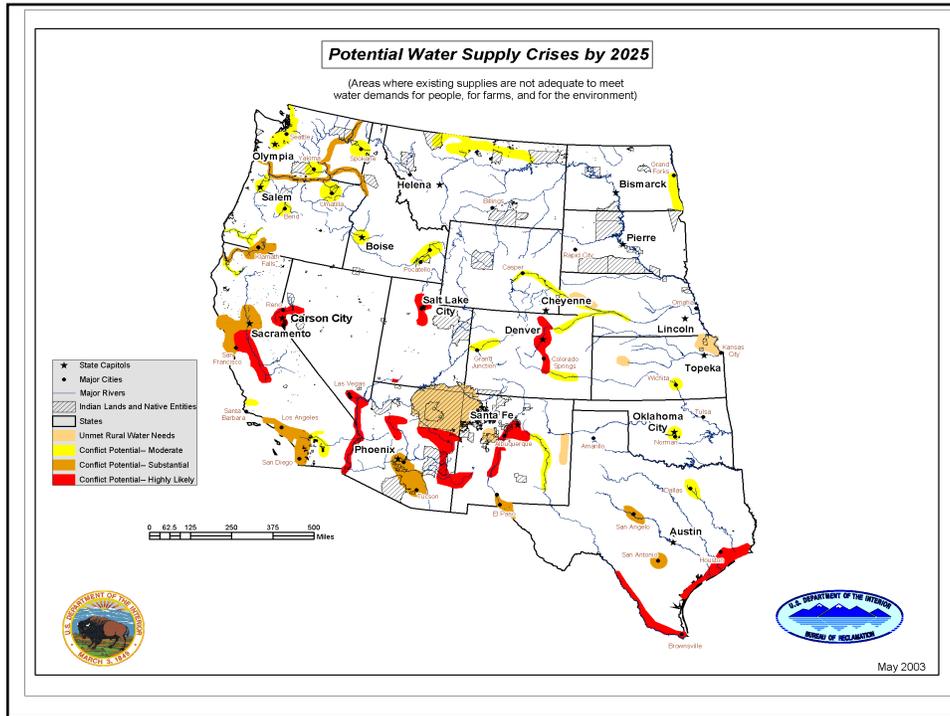
What *are* indicators?

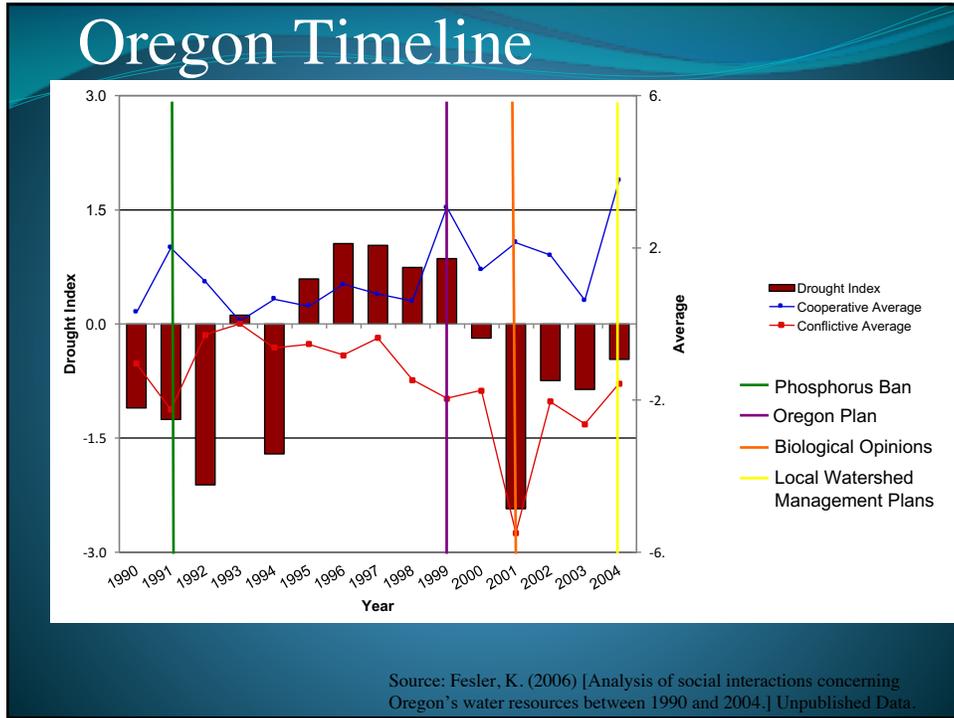
Sudden physical changes or lower institutional capacity are more conducive to disputes:

- 1) Uncoordinated development: a major project *in the absence* of a treaty or commission
- 2) “Internationalized basins”
- 3) General animosity









## CURRENT LAW: MOST BASIC RULES

*REFLECTED IN 1997 UN CONVENTION:*

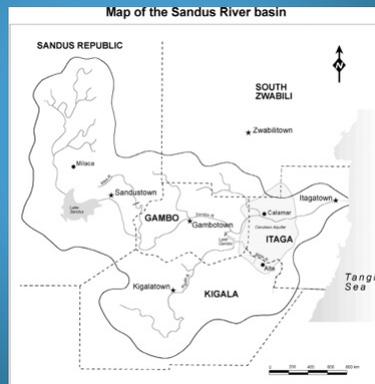
**Article 5: Equitable and reasonable utilization and participation**  
Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner.

**Article 7: Obligation not to cause significant harm**  
Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.

**Article 10: Relationship between different kinds of uses**  
In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses.  
In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to the principles and factors set out in articles 5 to 7, with special regard being given to the requirements of vital human needs.

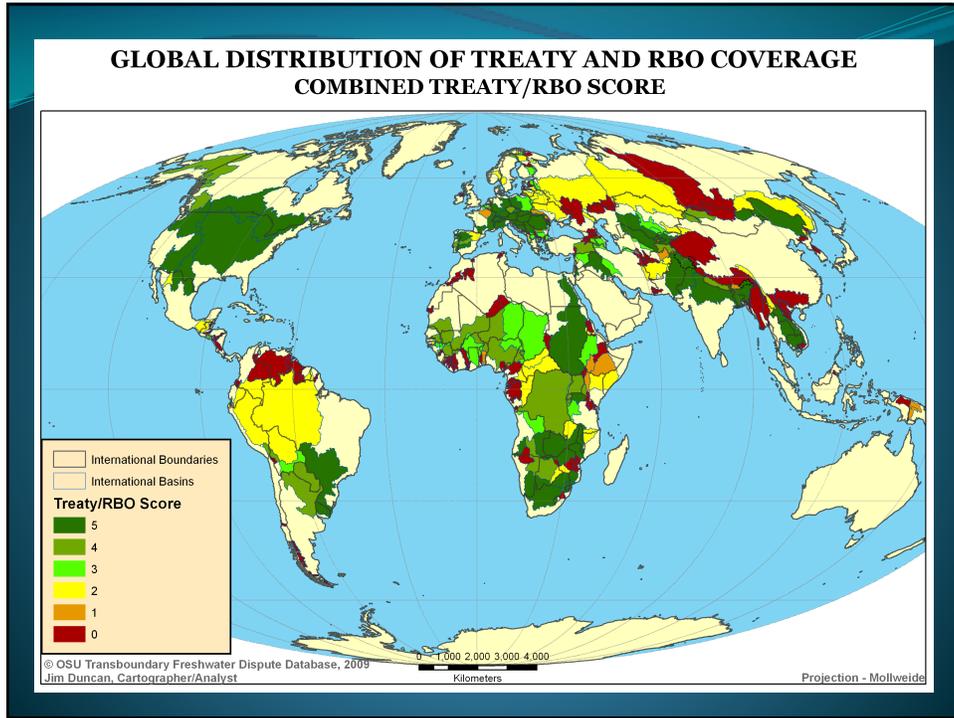
Three Aspects of Allocations:  
 “All” that needs to be decided on at the border

1. Quantity
2. Quality
3. Timing



## RESILIENT TRANSBOUNDARY WATER INSTITUTIONS

- Adaptable Management Structure
  - public input
  - changing basin priorities
  - new information/monitoring abilities
- Clear and Flexible Allocations
  - rights to needs to interests
  - hydrologic extremes
  - new knowledge
  - changing societal values
- Equitable Distribution of (Baskets of) Benefits, Not Water
- Detailed Conflict Resolution Mechanism
- Sustainable Institution and Financing



#### 73 Treaties that outline allocations

#	Method of allocation	%	#	Reasoning	%
20	Fixed quantities	27	23	No mention	32
15	Percentage	21	13	Irrigation only	18
8	Consultation or prior approval	11	11	Irrigation plus	15
6	Allocation of entire river	8	11	Hydropower production	15
5	Fixed quantities and percentages	7	9	Domestic plus	12
5	Percentage and consultation	7	5	Domestic only	7
4	Fixed quantities -vary according to availability	5	3	Benefits sharing	4
3	Fixed quantities recouped in following period	4	3	Environmental protection	4
2	Supply to specific groups	3	3	Flood control	4
2	Mix of several methods	3	3	Industry	4
1	Based on time periods	1			
1	Diversions equal return flows	1			
1	Prioritization of uses	1			

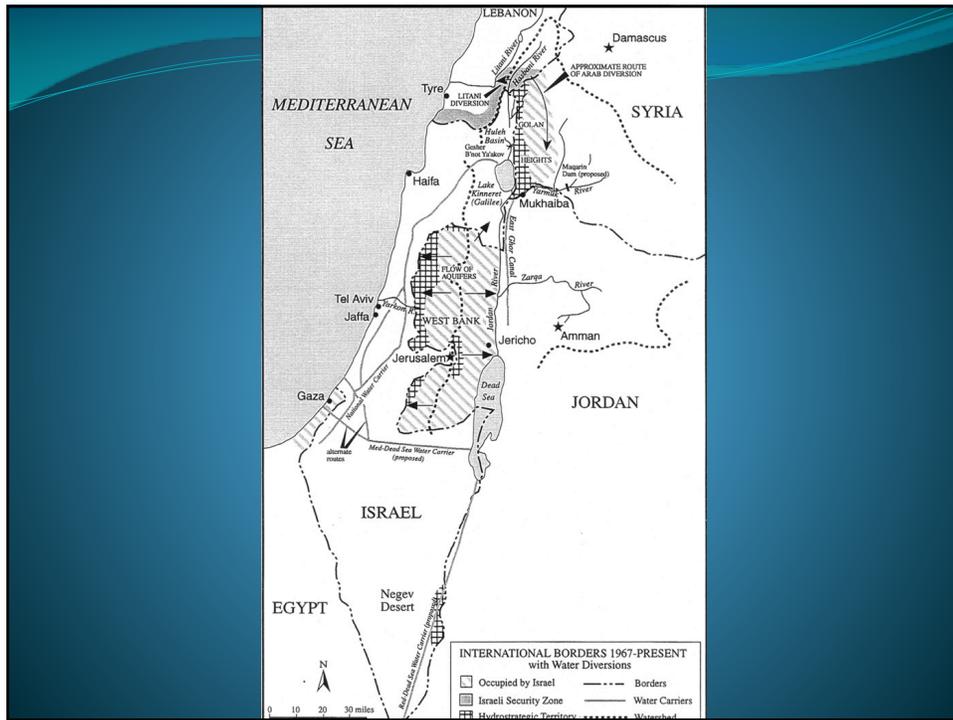
Table 1- Analysis of treaties within TFDD that allocate shared waters, the method of allocation and the reasoning given for allocation

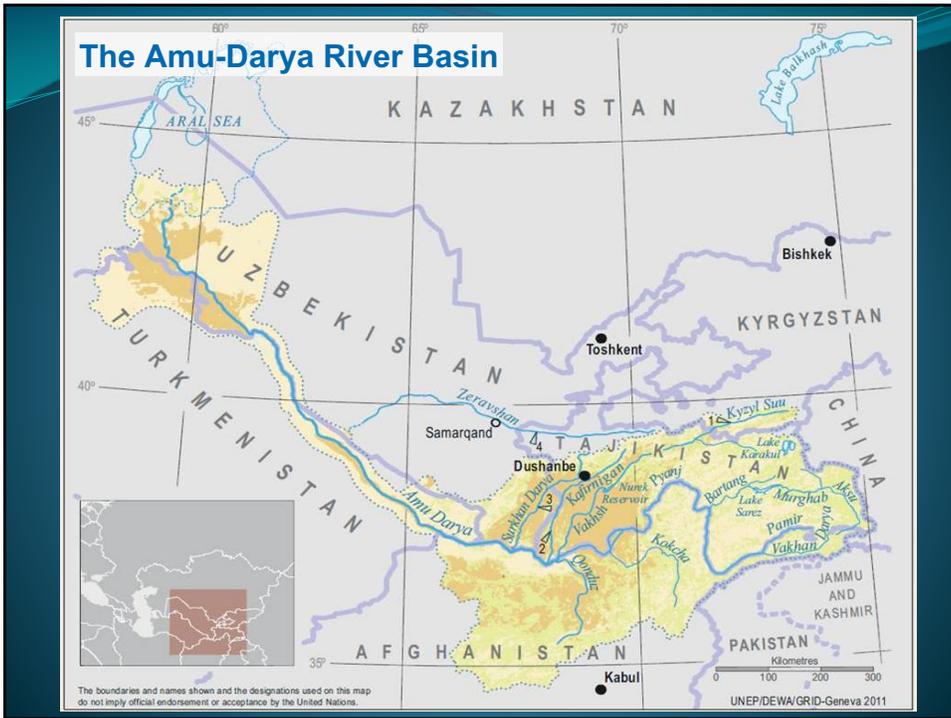
More recently:

- Instream flows & environmental services
- Spiritual values; eg. water for religious dips, rivers with human rights



Nuancing & Elevating the Issue:  
Incorporating the Human Dimension





# Four Worlds Framework: Four Needs and Four Claims

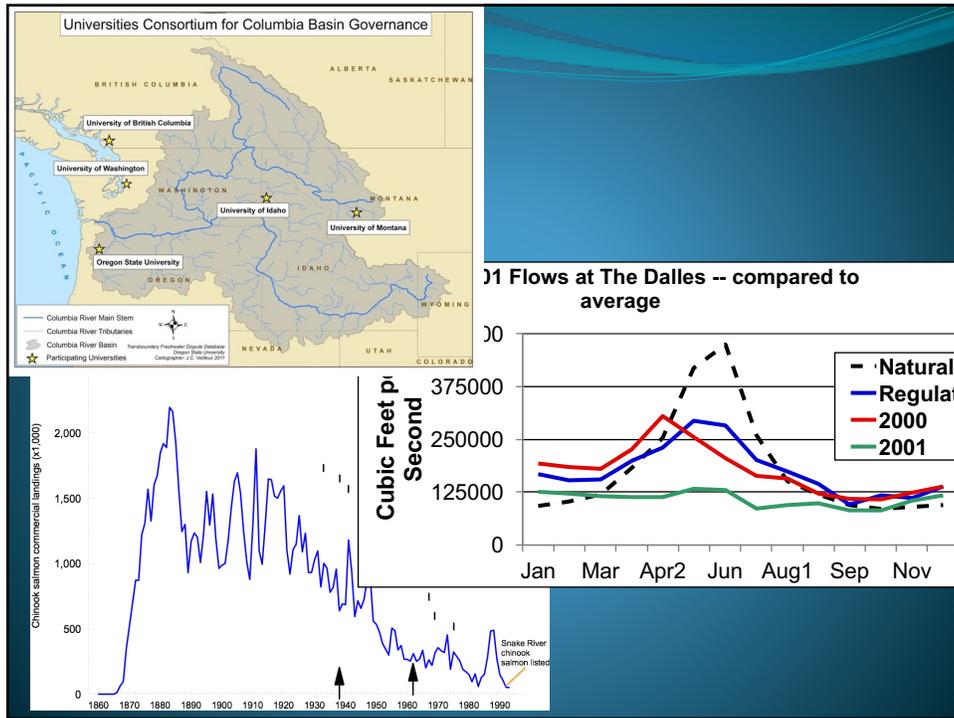
**NEEDS FOR:**

- Intrapersonal
- Interpersonal
- Groups
- Nations



<b>Physical</b>	<b>Positions</b>
<b>Emotional</b>	<b>Interests</b>
<b>Perceptual</b>	<b>Values</b>
<b>Spiritual</b>	<b>Harmony</b>

**CLAIMS:**  
Expressions of needs  
in negotiations





## River Festivals

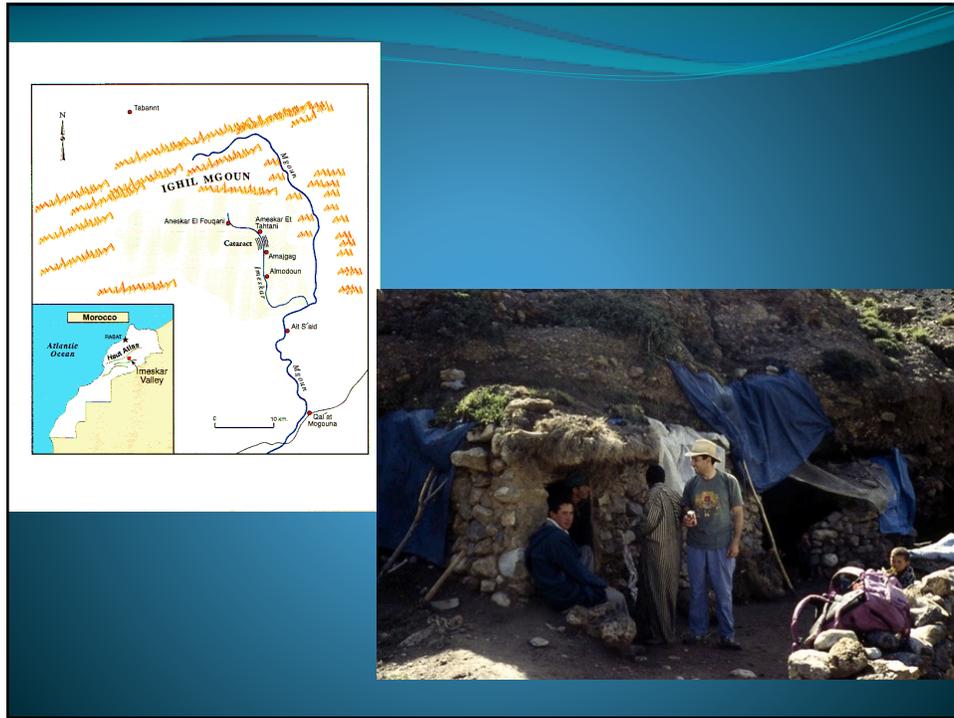
A collage of images related to river festivals and water conservation. The top-left photo shows a group of children gathered around a riverbank. The top-right photo shows a man in a hat standing by a river. The central graphic features the text "We drink it. They live in it. We all rely on it." and "#DefendWater" with a social media handle "alabamariversalliance". The bottom-left photo shows a person in a blue hoodie. The bottom-right photo shows a boat with "ALABAMA RIVERS ALLIANCE" branding and "BLACK ENGINEER" text.

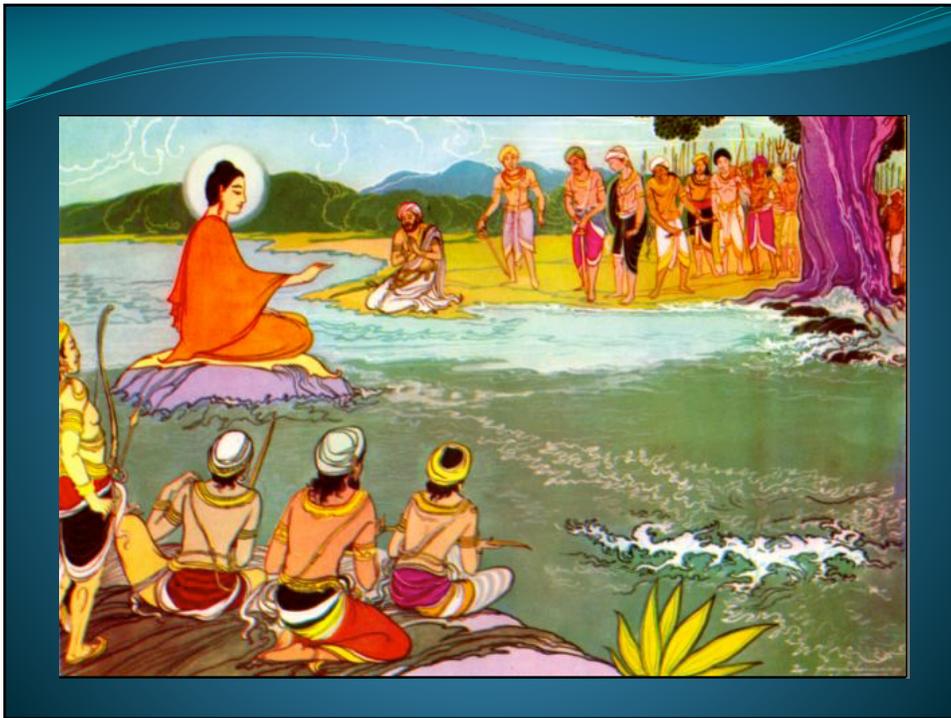
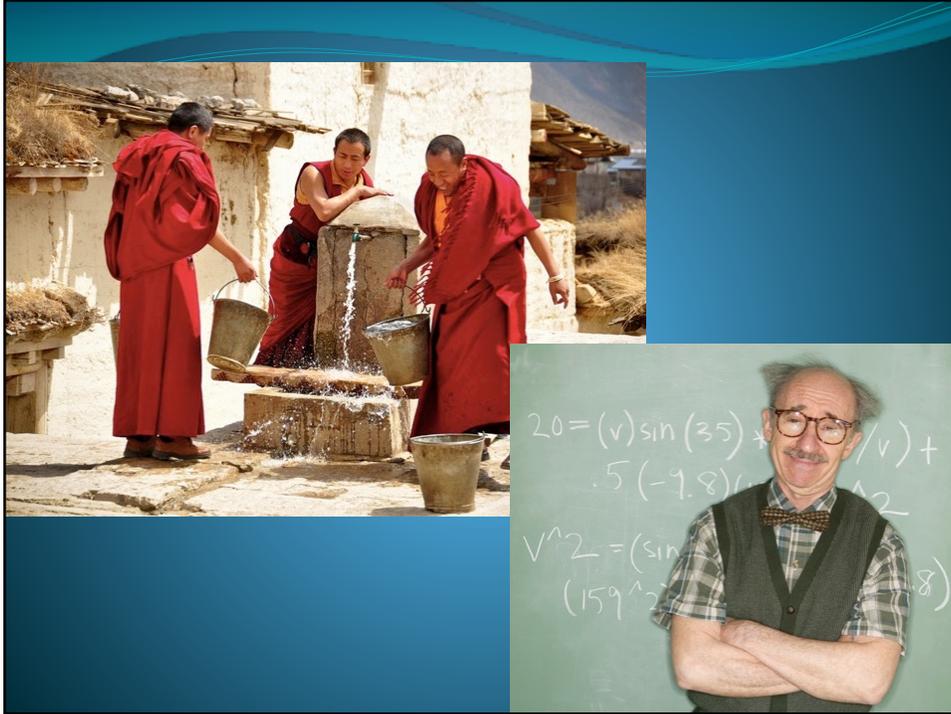
## River Festivals



## Water is sexy!!







Egyptian Coptic Church tapped to play the role of mediator in Nile River dispute - Al-Monitor: the Pulse of the Middle East 9/21/15, 8:36 P

### Egyptian Coptic Church tapped to play the role of mediator in Nile River dispute



Coptic Pope Tawadros II (R), head of the Coptic Orthodox Church, shakes hands with former army chief Abdel Fattah al-Sisi upon Sisi's arrival for a visit the night before Easter, in Cairo, April 19, 2014. Sisi was elected president a month later. (photo by REUTERS)



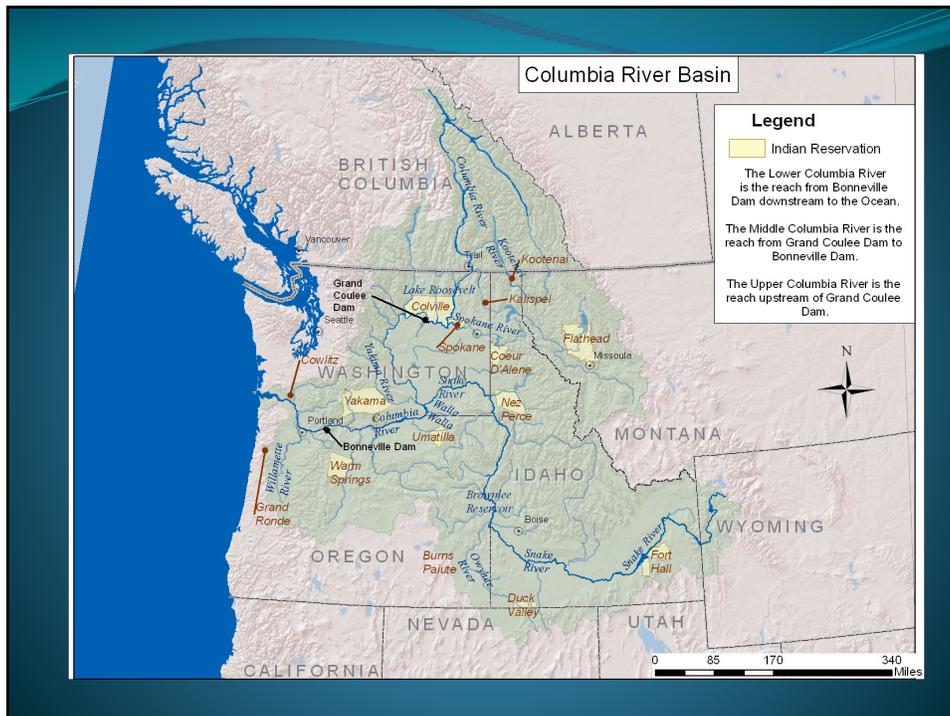
# Maximizing “Benefits”

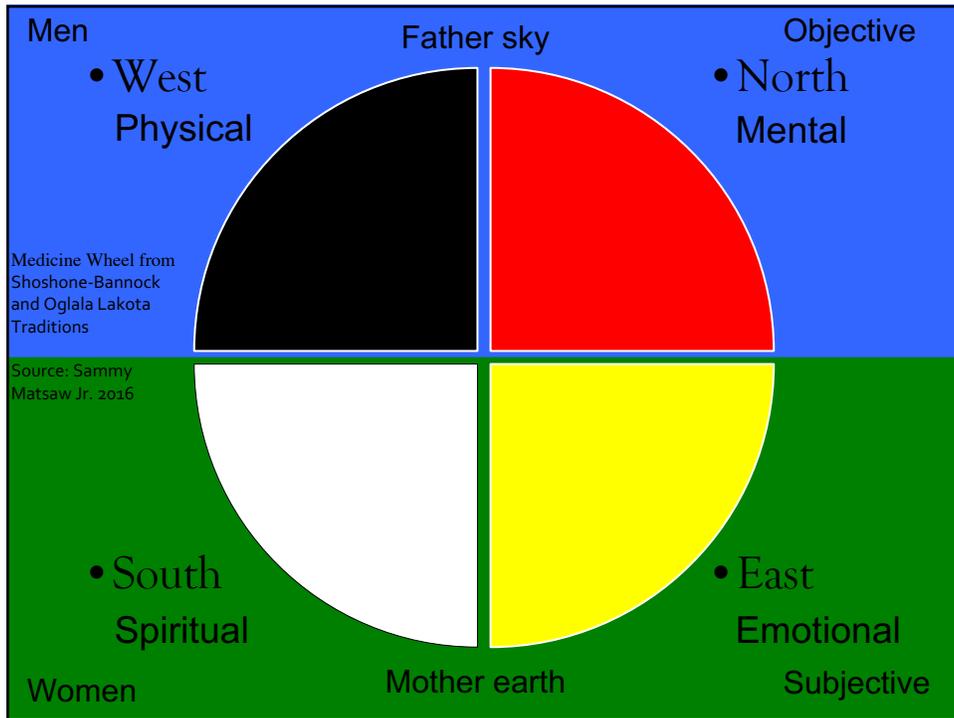
- The Pacific Northwest recognizes the value of the Columbia River Treaty in facilitating shared water resource management in the Basin to *maximize benefits* to both the United States and Canada.

U.S. Entity Regional Recommendation – December 2013

- The primary objective of the Treaty should be to *maximize benefits* to both countries through the coordination of planning and operations.

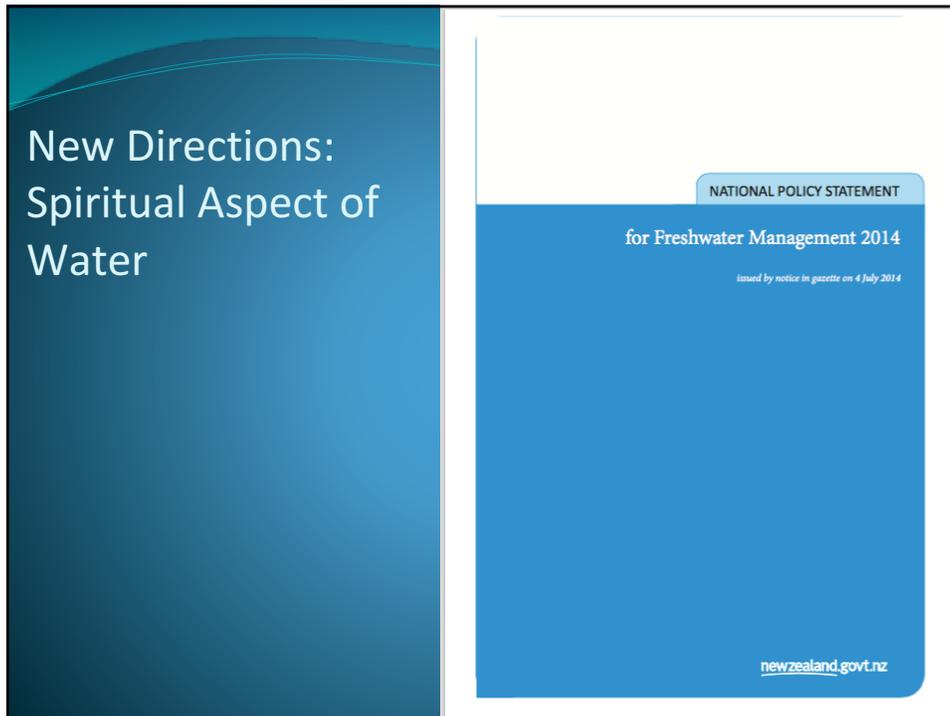
Columbia River Treaty Review B.C. Decision – October 2013





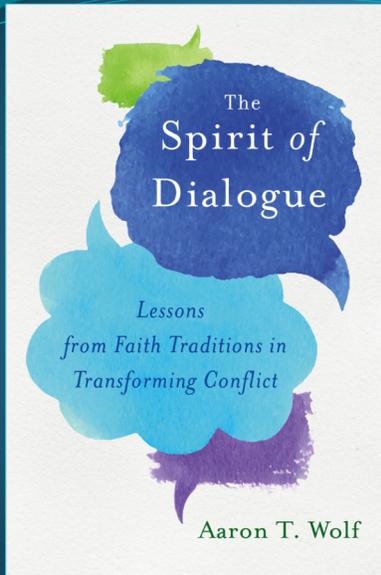
### New Directions: Spiritual Aspect of Water

- River has legal personhood in NZ; settlement gives standing
  - 2 guardians -- one from the trust and one from the crown
- 2 rivers in India also received personhood, but no guardians
- Implications for allocations?



NEW ZEALAND NATIONAL POLICY STATEMENT  
for Freshwater Management 2014

- “Addressing tāngata whenua values and interests across all of the well-beings, and including the involvement of iwi and hapū in the overall management of fresh water, are key to meeting obligations under the Treaty of Waitangi (1840).”
- All things in the natural world have mauri (life force) and wairua (a spiritual dimension). Respect for the spiritual integrity of the environment and the atua (God) that created it will ensure that the taonga (treasure) can be protected and passed on to succeeding generations.



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Thank you!

