



Transboundary Groundwaters

Issues in Mesoamerica

Rocío Córdoba
IUCN Mesoamérica



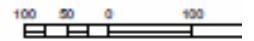
Central America & Transboundary watersheds

- Central America
 - Total Area 522000 sq Km
 - 40.000.000 inhabitants
 - 7 countries: Guatemala, Belize, Honduras, El Salvador, Nicaragua, Costa Rica, Panamá
 - 120 Shared watersheds, 23 between two or more countries
 - 40% of the Central American territory in shared watersheds (191449 sq Km)
- Some examples
 - Belice 65%
 - Guatemala 65% (most of them shared with Mexico)
 - El Salvador 62%
 - Nicaragua 35%



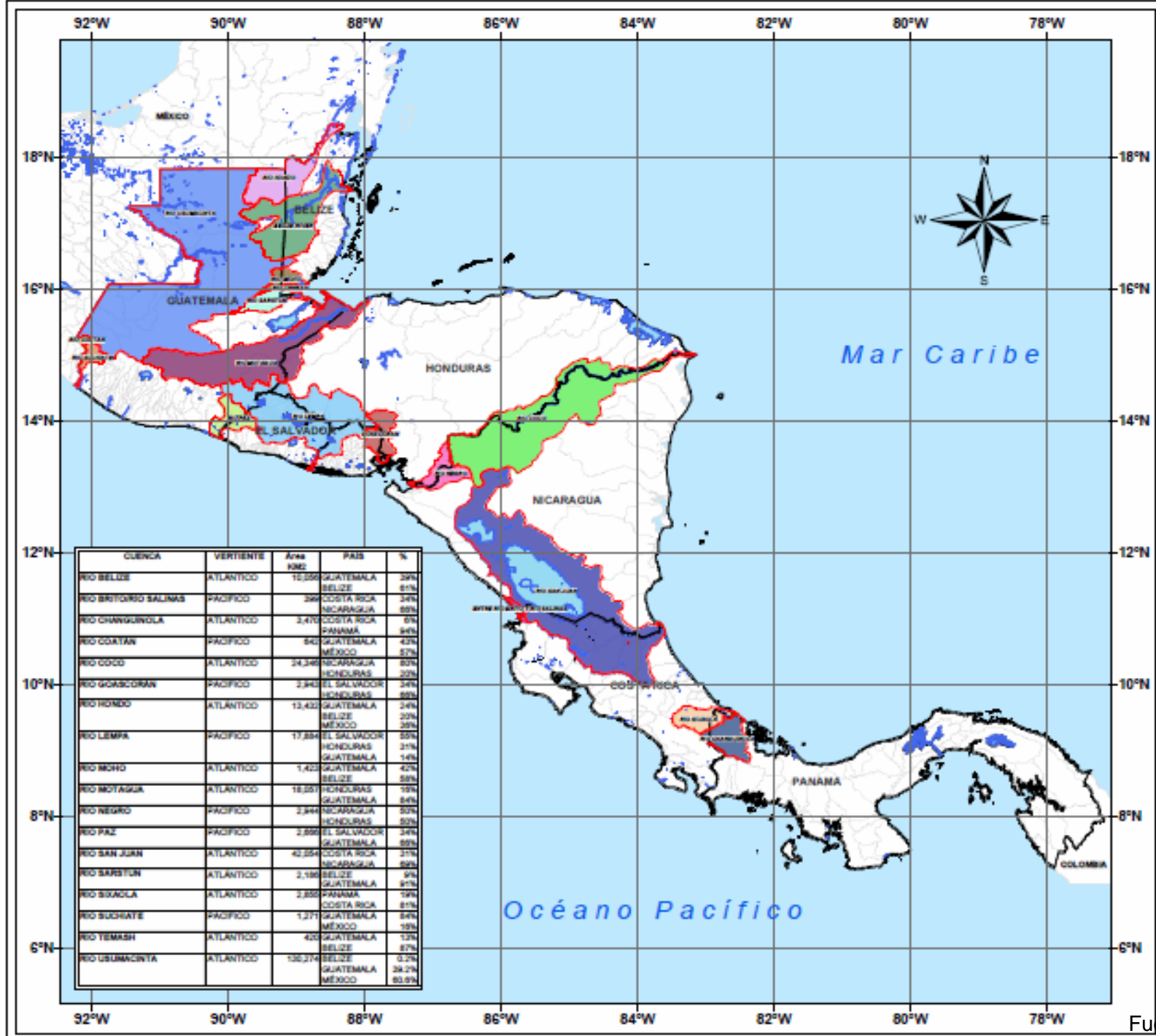
MAPA DE TRANSFERENCIA

ESCALA



SIMBOLOS

- Río Belize
- Entre Río Brito y Río Changuinola
- Río Changuinola
- Río Coatán
- Río Coco
- Río Goascorán
- Río Hondo
- Río Lempa
- Río Moho
- Río Motagua
- Río Negro
- Río Paz
- Río San Juan
- Río Sarstun
- Río Sixaola
- Río Suchiate
- Río Temash
- Río Usumacinta
- Límites de cuenca
- Límites de cuenca
- Cuerpos de agua
- Límites internacionales



CUENCA	VERTIENTE	Área KM ²	PAIS	%
RÍO BELIZE	ATLANTICO	10,250	GUATEMALA BELIZE	34% 61%
RÍO BRITONDO SALINAS	PACIFICO	260	COSTA RICA NICARAGUA	34% 66%
RÍO CHANGUINOLA	ATLANTICO	3,470	COSTA RICA PANAMA	6% 94%
RÍO COATÁN	PACIFICO	840	GUATEMALA MÉXICO	43% 57%
RÍO COCO	ATLANTICO	24,340	NICARAGUA HONDURAS	80% 20%
RÍO GOASCORÁN	PACIFICO	2,340	EL SALVADOR HONDURAS	34% 66%
RÍO HONDO	ATLANTICO	13,430	GUATEMALA BELIZE MÉXICO	24% 22% 54%
RÍO LEMPA	PACIFICO	17,884	EL SALVADOR HONDURAS GUATEMALA	59% 31% 14%
RÍO MOHO	ATLANTICO	1,420	GUATEMALA BELIZE	42% 58%
RÍO MOTAGUA	ATLANTICO	10,051	HONDURAS GUATEMALA	19% 84%
RÍO NEGRO	PACIFICO	2,344	NICARAGUA HONDURAS	52% 48%
RÍO PAZ	PACIFICO	2,800	EL SALVADOR GUATEMALA	34% 66%
RÍO SAN JUAN	ATLANTICO	42,554	COSTA RICA NICARAGUA	31% 69%
RÍO SARSTUN	ATLANTICO	2,190	BELIZE GUATEMALA	4% 91%
RÍO SIXAOCLA	ATLANTICO	2,300	PANAMA COSTA RICA	19% 81%
RÍO SUCHIATE	PACIFICO	1,271	GUATEMALA MÉXICO	34% 66%
RÍO TEMASH	ATLANTICO	400	GUATEMALA BELIZE	12% 87%
RÍO USUMACINTA	ATLANTICO	130,274	BELIZE GUATEMALA MÉXICO	0.2% 26.2% 73.6%

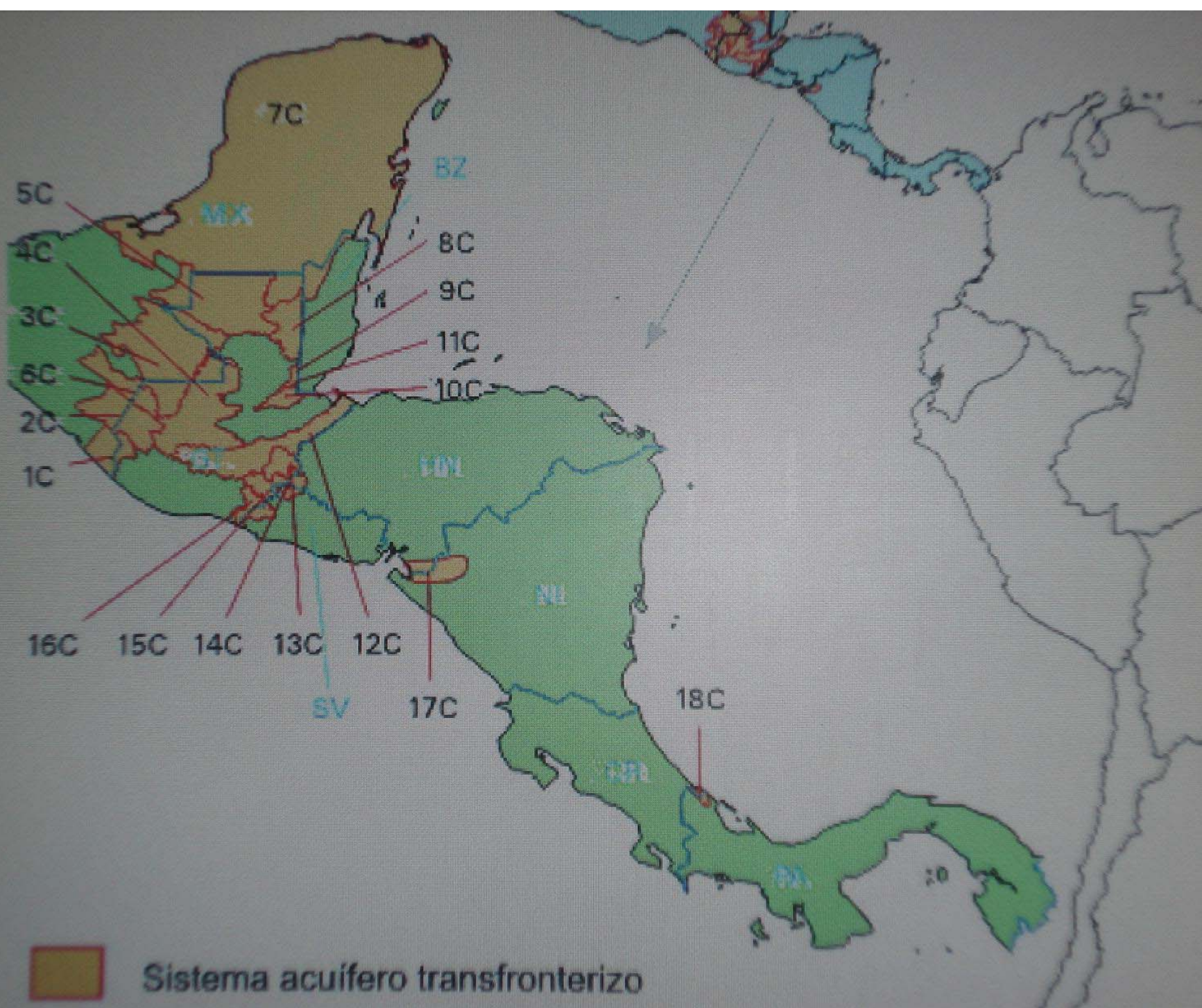
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Central America & Transboundary Aquifers

According to the Internationally Shared Aquifers Resources Management (ISARM) report (UNESCO IHP, OAS)

- 18 transboundary aquifers
- 16 shared aquifers for Guatemala
 - 7 with Mexico
- Main use: water supply for human consumption
- Other: agroindustry, irrigation
- Vulnerability to:
 - Overexploitation
 - Pollution
- Legal framework:
 - Trifinio Program (Guatemala, Honduras, El Salvador)
 - Water and Boundaries Commissions (CILA): Mexico-Guatemala, Belize, Honduras, El Salvador
 - Recent water laws in Nicaragua, Honduras
 - Some shared plans (no treaties) in other countries





Constraints

- Incomplete information
- Illegal extraction
- Institutional overlapping in some countries
- Pollution water recharge areas

Opportunities

- Awareness of the importance of these ecosystems
- ISARM UNESCO OAS initiative
- Central America Integration System (SICA)
- Regional organizations working in integrated watershed resources management



Challenges

- Data base and monitoring: climate change variability and groundwaters vulnerability-resilience capacities
- Reduction of pollution
- Improving negotiation “skills”between countries
- Consensus building
- Recognition of benefits of groundwater systems in the corresponding countries
- Good governance based on local participation
- Consensus building

