Materials Methods and Supplementary Materials for

Bright and Blind Spots of Water Research in Latin America and the Caribbean

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Caption for Data S1

Other Supplementary Materials for this manuscript include the following:

Data S1

Table S1. Corpus collection details.

Language	Number of non-duplicate query returns	Number of documents automatically collected	Number of documents manually collected	Final Corpus Size
English	29,365	21,197 (72%)	0	21,197 (72%)
Spanish	1,411	122 (8.6%)	875	997 (71%)
Portuguese	777	300 (39%)	261	561 (72%)

Table S2. Socio-hydrologic attributes used to cluster countries in Latin America and the Caribbean.

Long name	**Short name**
Population density (inhab/km2)	pop_density
Long-term average annual precipitation in depth (mm/year)	annual_precip
National Rainfall Index (NRI) (mm/year)	NRI
Dependency ratio (%)	depend_ratio
Seasonal variability (WRI) (-)	variability
Total dam capacity (km3)	dam_cap
Dam capacity per capita (m3/inhab)	dam_cap_percap
Total water withdrawal (10^9 m3/year)	withdrawl
Agricultural water withdrawal as % of total water withdrawal (%)	ag_withdrawl
Industrial water withdrawal as % of total water withdrawal (%)	ind_withdrawl
Municipal water withdrawal as % of total withdrawal (%)	mun_withdrawl
Total water withdrawal per capita (m3/inhab/year)	withdrawl_percap
Environmental Flow Requirements (10^9 m3/year)	env_flow
Fresh surface water withdrawal (primary and secondary) (10^9 m3/year)	surface_withdrawl
Fresh groundwater withdrawal (primary and secondary) (10^9 m3/year)	ground_withdrawl
Total freshwater withdrawal (primary and secondary) (10^9 m3/year)	fresh_withdrawl
SDG 6.4.2. Water Stress (%)	water_stress
Area equipped for irrigation: total (1000 ha)	irrig_equip
% of the area equipped for irrigation actually irrigated (%)	irrig_actual
Total agricultural water managed area (1000 ha)	ag_area
Total harvested irrigated crop area (full control irrigation) (1000 ha)	harvest_total
Harvested irrigated temporary crop area: Total (1000 ha)	harvest_temp
Harvested irrigated permanent crop area: Total (1000 ha)	harvest_perm
Irrigated cropping intensity (%)	irrig_intensity
Flood occurrence (WRI) (-)	flood
Total population with access to safe drinking-water (JMP) (%)	drink_total
Rural population with access to safe drinking-water (JMP) (%)	drink_rural
Urban population with access to safe drinking-water (JMP) (%)	drink_urban
Social Progress Index (SPI) (2017)	SPI
SPI Basic Human Needs	SPI_basic_human

SPI Foundations of Wellbeing	SPI_found
SPI Opportunity	SPI_opp
LAC Risk Management	LAC
LAC Hazard & Exposure	LAC_hazard
LAC Vulnerability	LAC_vuln
LAC Lack of Coping Capacity	LAC_cope
Democracy index	democracy
Environmental Performance Index	EPI.current
Environmental Health	HLT.current
Ecosystem Vitality	ECO.current
GDP_2015	GDP_2015
total population_2015	population_2015

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Table S3. Survey questions.

Question	**Options**
Position	Graduate student, Post-doctoral researcher, Researcher, Assistant Professor, Associate Professor, Professor
Affiliation	University, Government agency, National lab, Non-governmental organization
Years of experience as a scientist	
Main research discipline	Computer & information sciences, Engineering, Humanities, Agricultural sciences/natural resources, Biological/biomedical sciences, Health sciences, Mathematics & statistics, Atmospheric science & meteorology, Chemistry, Geological & earth sciences, Ocean/marine sciences, Physics, Social sciences
Country where you currently live	
Country where you were born	
Countries where the majority of your research has been conducted (select top 3)	
Countries of researchers you have collaborated with most (select top 3)	
Total number of peer-reviewed research publications	
Type of journal where you have published the majority of your research	University, Conference proceedings, National research system database journals, International journals
Do you submit research to journals based on their recognition by the national research team?	
Main source of research funding	Government, Industry, Non-governmental organizations
Describe your interdisciplinary research experience	Level of interest, Current Level
Indicate how much do you agree with the following statement: There is sufficient distribution of resources between researchers in Latin American countries	
Indicate how much do you agree with the following statement: There is sufficient funding to study	

the impacts of climate change on water resources	
Do you wish to be contacted in the future as we develop and share the results from this research?	
Please share any additional comments you have on this topic.	

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Table S4. Each topic in the English topic model was labeled at five levels.

Topic ID	Topic name	Theme	NSF specific	NSF general	Description
66	agricultural economics	agricultural economics	agricultural economics	life sciences	
17	soil amendments	agriculture	agronomy & crop science	life sciences	
34	crop yield	agriculture	agronomy & crop science	life sciences	
46	agricultural field management	agriculture	agronomy & crop science	life sciences	
1	air quality	air quality	atmospheric science/meteorology	physical sciences	
88	amazon floods	amazon floods	hydrology & water resources	physical sciences	
97	analytical chemistry	methods	NA	NA	methods
102	atmospheric carbon	atmosphere	atmospheric chemistry & climatology	physical sciences	
63	cloud formation and atmospheric science	atmosphere	atmospheric science/meteorology	physical sciences	water budget
72	basin	basin	NA	NA	spatial scale
7	life cycle	biology	biology	life sciences	
61	canopy interception	canopy interception	hydrology & water resources	physical sciences	water budget
5	organic chemistry	chemistry	organic chemistry	physical sciences	
31	geochemistry	chemistry	geochemistry	physical sciences	
55	isotopes	methods	analytical chemistry	physical sciences	methods
104	chemical compounds	chemistry	chemistry	physical sciences	
105	adsorption	chemistry	chemistry	physical sciences	
95	climate change impacts	climate change impacts	geological & earth sciences	physical sciences	
24	mangrove ecology	coastal ecology	ecology	life sciences	

58	coral reef	coastal ecology	marine biology & biological oceanography	physical sciences	
65	coastal	coastal ecology	NA	NA	
91	coastal water bodies	coastal ecology	NA	NA	
32	community studies	methods	sociology	social sciences	methods
84	signal processing	methods	NA	NA	methods
41	desalination	desalination	civil engineering	engineering	
90	ecosystem management	ecosystem management	environmental science	life sciences	
36	population genetics	evolutionary ecology	genetics/genomics, human & animal	life sciences	
96	population ecology	evolutionary ecology	ecology	life sciences	
86	experimental design	methods	NA	NA	
76	animal anatomy	fauna	biology	life sciences	
81	wildlife biology	fauna	wildlife biology	life sciences	
4	zootechnics	fauna	animal science	life sciences	
6	fish ecology	fish	animal science	life sciences	
79	food science	food science	food science	life sciences	
89	forests	forests	forest science & biology	life sciences	
48	oil	fuel	petroleum engineering	engineering	
56	biofuel	fuel	industrial & manufacturing engineering	engineering	
83	offshore drilling	fuel	petroleum engineering	engineering	
9	mineralogy	geology	mineralogy/petrology	physical sciences	
45	sedimentary geology	geology	geology	physical sciences	
80	hydrothermal	geology	geophysics & seismology	physical sciences	
25	volcanology	geology	geophysics & seismology	physical sciences	

52	sediment processes	geomorphology	geomorphology & glacial geology	physical sciences	
103	stream morphology	geomorphology	geomorphology	physical sciences	
20	landscape units	geomorphology	geomorphology	physical sciences	spatial scale
69	glaciers	glaciers	hydrology & water resources	physical sciences	water budget
18	groundwater flow	groundwater	hydrology & water resources	physical sciences	water budget
70	groundwater	groundwater	hydrology & water resources	physical sciences	water budget
23	invasive aquatic species	invasive aquatic species	fishing & fisheries sciences/management	life sciences	
50	irrigation	irrigation	engineering	engineering	water budget
53	islands and extreme weather events	island and extreme weather	atmospheric science/meteorology	physical sciences	
62	lakes	lakes	NA	NA	water budget
60	land use and cover change	land use and cover change	geography	social sciences	
33	marine science	marine science	ocean/marine science	physical sciences	
8	pathogen	microbiology	environmental health	life sciences	
54	plankton	microbiology	microbiology	life sciences	
68	algae	microbiology	biology	life sciences	
94	microbiology	microbiology	microbiology	life sciences	
22	mining	mining	engineering	engineering	
11	statistical modeling	methods	statistics	mathematics & statistics	methods
78	simulation modeling	methods	NA	NA	methods
15	oceanography	oceans	oceanography, chemical and physical	physical sciences	water budget
100	paleoclimatology	paleoclimate	atmospheric chemistry & climatology	physical sciences	
3	seed development	plants	botany/plant biology	life sciences	

21	plant physiology	plants	plant physiology	life sciences	
101	precipitation	precipitation	hydrology & water resources	physical sciences	water budget
10	quantitative methods	methods	mathematics/statistics, general	mathematics & statistics	methods
12	statistics	methods	statistics	mathematics & statistics	methods
74	remote sensing	methods	NA	NA	methods
43	reservoirs	reservoirs	civil engineering	engineering	water budget
82	risk assessment	methods	engineering	engineering	methods
87	rivers	rivers	hydrology & water resources	physical sciences	water budget
37	salt water	salt water	environmental science	life sciences	water budget
2	seasonal variability	seasonal variability	atmospheric science/meteorology	physical sciences	
39	soil	soil	soil sciences, other	life sciences	water budget
28	solar radiation	solar radiation	atmospheric science/meteorology	physical sciences	water budget
35	spatial methods	methods	NA	NA	methods
92	stream ecology	stream ecology	ecology	life sciences	
67	surface water management	surface water management	civil engineering	engineering	
73	temporal analysis	methods	NA	NA	methods
27	toxicology	toxicology	toxicology	life sciences	
30	metal contamination	toxicology	environmental toxicology	life sciences	
38	contamination	toxicology	environmental toxicology	life sciences	
64	wastewater	waste water	civil engineering	engineering	water budget
51	water governance	water governance	political science & governance	social sciences	
77	water policy	water policy	NA	NA	
19	drinking water quality	water quality	environmental health	life sciences	

98	water quality assessment	water quality	hydrology & water resources	physical sciences	
44	solid waste	water quality	NA	NA	
14	urban water management	water resources management	civil engineering	engineering	
40	water supply services	water resources management	civil engineering	engineering	
49	water supply	water resources management	hydrology & water resources	physical sciences	
75	water resources management	water resources management	hydrology & water resources	physical sciences	
26	water sampling	methods	NA	NA	methods
13	watershed	watershed	hydrology & water resources	physical sciences	spatial scale
29	watershed hydrological processes	watershed	hydrology & water resources	physical sciences	water budget
93	wetlands	wetlands	hydrology & water resources	physical sciences	water budget
16	NA	NA	NA	NA	
42	NA	NA	NA	NA	
47	NA	NA	NA	NA	
57	NA	NA	NA	NA	
59	NA	NA	NA	NA	
71	NA	NA	NA	NA	
85	NA	NA	NA	NA	
99	NA	NA	NA	NA	

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Table S5. Labels from the English topic model were grouped into four topic categories: general, specific, methods and water budget.

General	Specific	Budget	Methods
engineering	agricultural economics	canopy interception	analytical chemistry
life sciences	agronomy & crop science	cloud formation and atmospheric science	community studies
mathematics & statistics	analytical chemistry	glaciers	isotopes
physical sciences	animal science	groundwater	quantitative methods
social sciences	atmospheric chemistry & climatology	groundwater flow	remote sensing
	atmospheric science/meteorology	irrigation	risk assessment
	biology	lakes	signal processing
	botany/plant biology	oceanography	simulation modeling
	chemistry	precipitation	spatial methods
	civil engineering	reservoirs	statistical modeling
	ecology	rivers	statistics
	engineering	salt water	temporal analysis
	environmental health	soil	water sampling
	environmental science	solar radiation	
	environmental toxicology	wastewater	
	fishing & fisheries sciences/management	watershed hydrological processes	
	food science	wetlands	
	forest science & biology		
	genetics/genomics, human & animal		
	geochemistry		
	geography		
	geological & earth sciences		

	geology		
	geomorphology		
	geomorphology & glacial geology		
	geophysics & seismology		
	hydrology & water resources		
	industrial & manufacturing engineering		
	marine biology & biological oceanography		
	mathematics/statistics, general		
	microbiology		
	mineralogy/petrology		
	ocean/marine science		
	oceanography, chemical and physical		
	organic chemistry		
	petroleum engineering		
	plant physiology		
	political science & governance		
	sociology		
	soil sciences, other		
	statistics		
	toxicology		
	wildlife biology		

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Table S6. Correspondence between topic models in Spanish and Portuguese with respect to the English topic model.

Criteria	**Spanish topic model**	**Portuguese topic model**
Relevant topics	51	44
Topics shared with the English corpus	33	19
Methods	3	6
Location-specific topics	8	6
Water budget topics	3	4

Table S7. Survey comments were coded for content and analyzed in Atlast.ti.

Comment content	Number of comments
Funding difficulties	78
Perceived lack of collaboration	31
Importance of interdisciplinary research	15
Emphasized international support (financial)	13
Importance of international collaborations	13
Politics as an obstacle	12
Importance of climate change research	12
Lack of value/recognition granted to water research	10
Total	391

Data S1. (separate file) Socio-hydrologic attributes.