

Central and South America, June, July, August 2023: Intense Caribbean Precipitation Will Differ from All Past El Niño Events; Central America Likely to See Drought

Seasonal Expectations

Caribbean Islands

- Higher-than-normal rainfall

Central America and northern South America

- Similar precipitation conditions to the 2017/18 El Niño onset
- Rainy conditions in June will give way to high temperatures and intense dry conditions by August
- Likely increase in eastern Pacific hurricanes making landfall in Central America

Forecast Precipitation Anomaly

Potential Impacts

Caribbean Islands

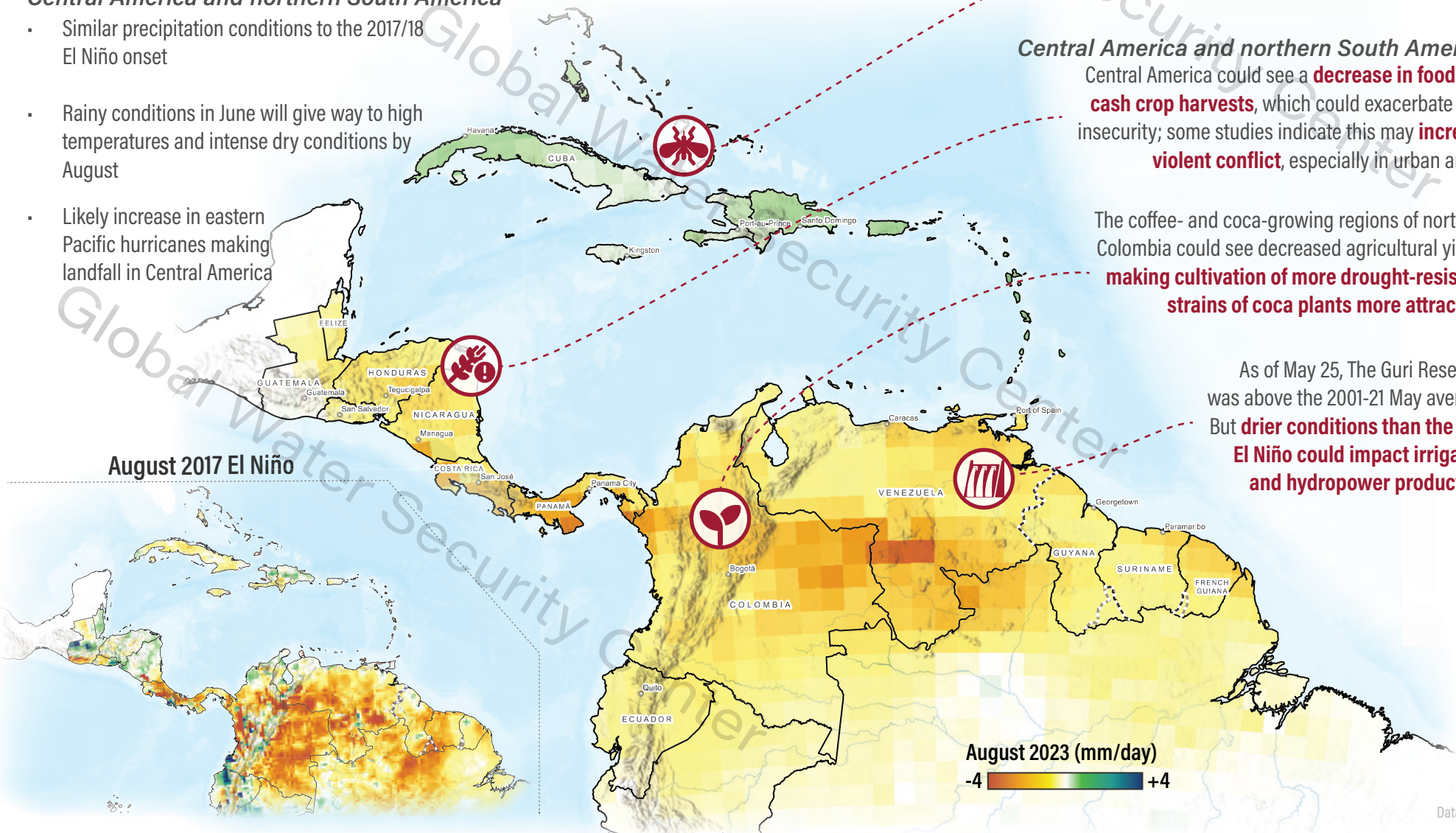
Caribbean Islands may see **flash flooding** and an increase in insect-borne disease.

Central America and northern South America

Central America could see a **decrease in food and cash crop harvests**, which could exacerbate food insecurity; some studies indicate this may **increase violent conflict**, especially in urban areas.

The coffee- and coca-growing regions of northern Colombia could see decreased agricultural yields, **making cultivation of more drought-resistant strains of coca plants more attractive.**

As of May 25, The Guri Reservoir was above the 2001-21 May average. But **drier conditions than the 2017 El Niño could impact irrigation and hydropower production.**



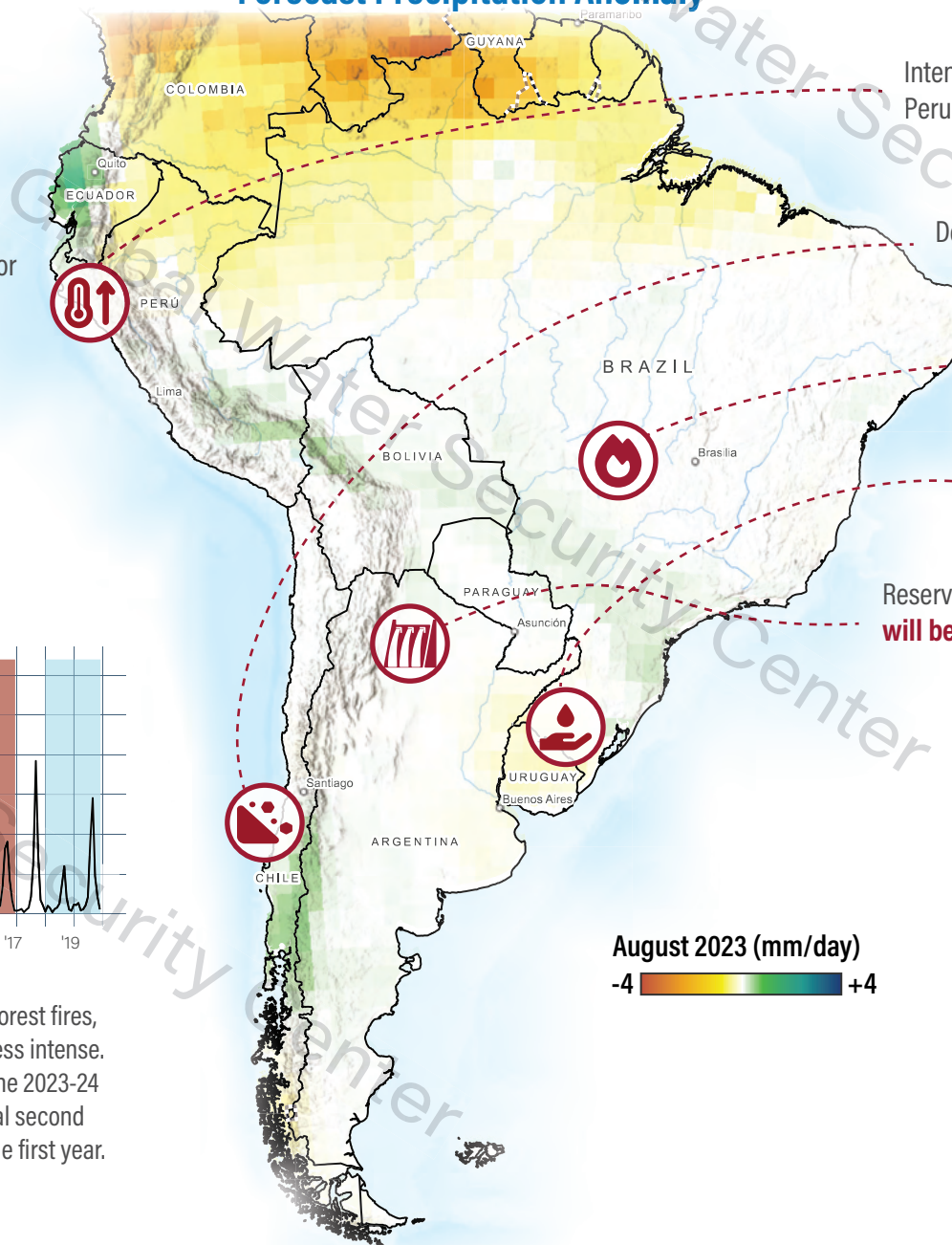
Central and South America, June, July, August 2023: Intense Heat and Dry Conditions Could Impact Wildfire Risk, Water Supply; No Drought Relief for Argentina, Uruguay, and Southern Brazil

Seasonal Expectations

- Temperatures in southern Brazil much hotter than the onset of the 2017 El Niño
- Hot, dry weather in central South America
- Mostly stable precipitation in Peru and Ecuador
- Heavy precipitation in south-central Chile will follow typical El Niño pattern

Forecast Precipitation Anomaly

Potential Impacts



Intense heat in coastal areas around Ecuador and Peru could **increase demand and competition for domestic and irrigation water.**

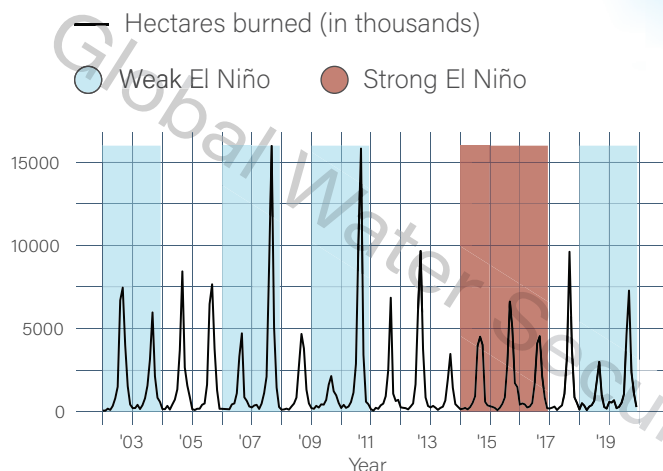
Despite lower risk of forest fires and drought, South-central Chile **could see landslides.**

Wildfire risk will intensify across central South America.

The forecast shows **no relief for Uruguay's water crisis through August.**

Reservoir levels in Argentina, Chile, and Uruguay **will be insufficient to mitigate the effects of this season's projected drought.**

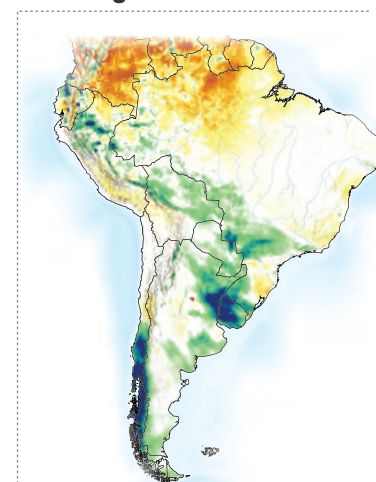
Forest Fires and El Niño in Brazil



Year 2 of an El Niño is typically worse for forest fires, and the strong El Niño of 2014–2016 was less intense. The weather forecast for the first year of the 2023-24 strong El Niño will likely resemble a typical second year, meaning more hectares burned in the first year.



August 2017 El Niño



Supplemental Data

Figure 1a: Forecast Precipitation Anomaly (mm/day)

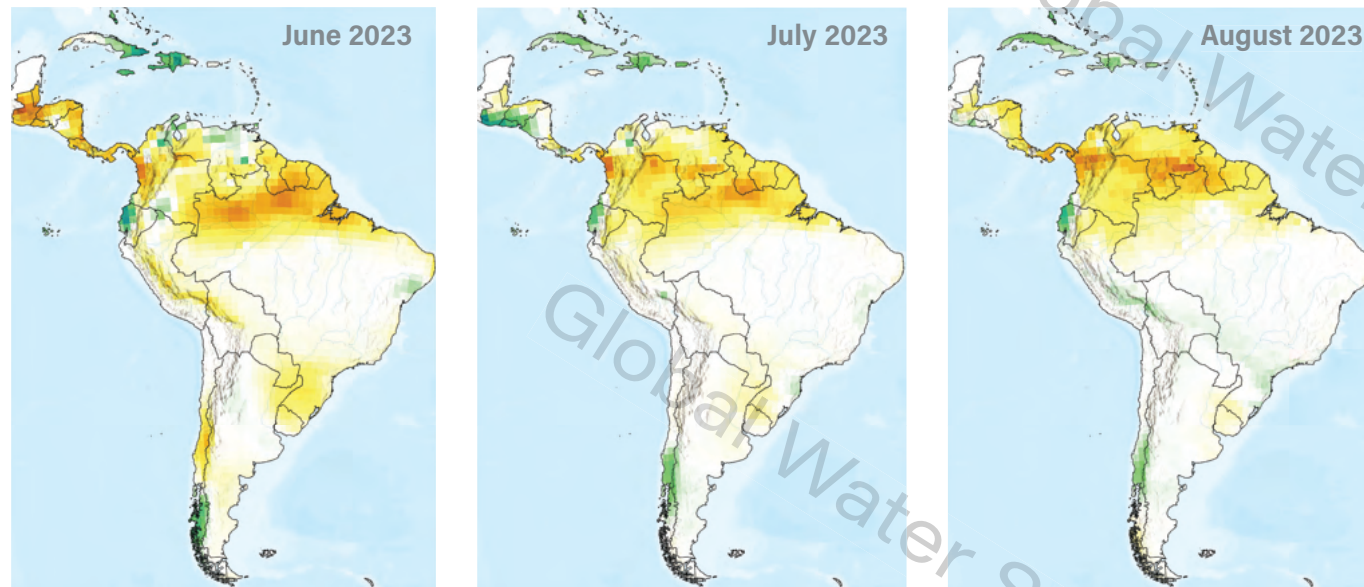


Figure 1b: Forecast Temperature Anomaly (°C)

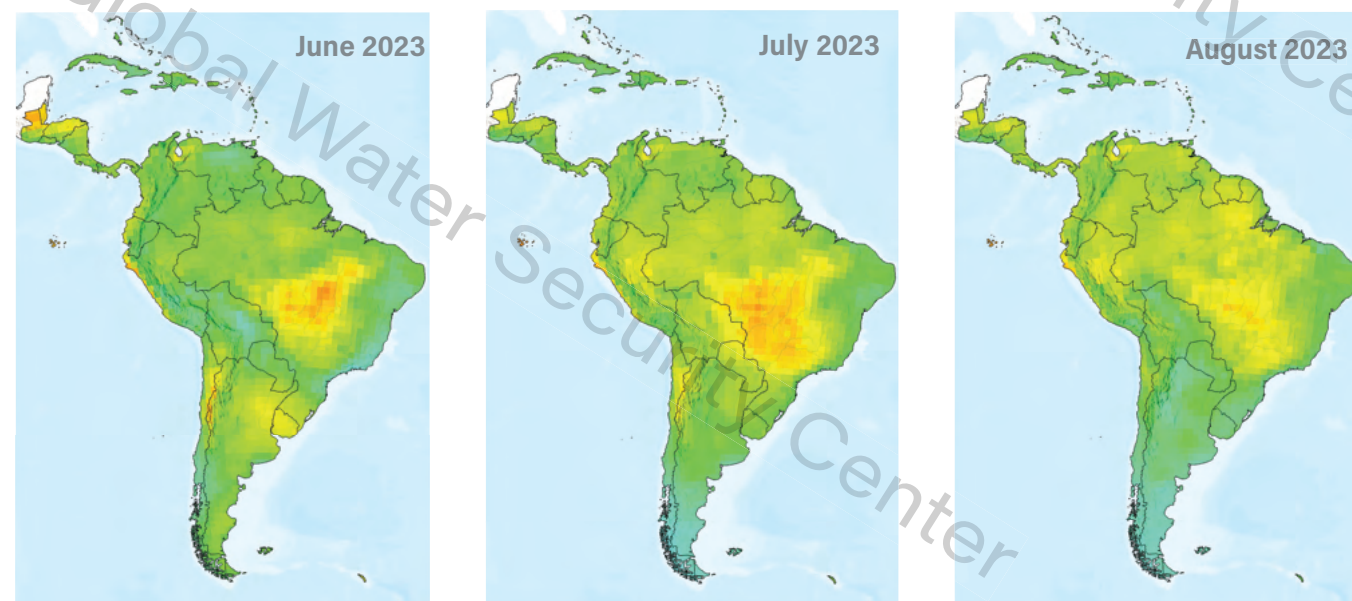


Table 1: A comparison of the number of large reservoirs above and below normal in May of El Niño years 2017 and 2023 by country. Data current to May 25, 2023. Countries shaded in red may face adverse impacts from low reservoirs and drought conditions.

Country	2017		2023	
	Above	Below	Above	Below
Argentina	44	21	30	35
Bolivia	2	1	0	3
Brazil	106	163	153	116
Chile	16	6	6	16
Colombia	16	12	18	10
Dominican Rep.	5	3	2	6
Ecuador	8	2	3	7
French Guiana	0	1	1	0
Haiti	1	0	1	0
Panama	1	2	2	1
Paraguay	2	2	3	1
Peru	10	6	6	10
Suriname	1	0	1	0
Trin. & Tobago	0	1	1	0
Uruguay	4	3	1	6
Venezuela	19	23	27	15

Figures 1a and 1b: Forecast data for June, July, and August 2023 is the ensemble mean of the NMME seasonal forecast.

Sources:

Maps and Figures Data:

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Basemap Source:

Esri, USGS, NOAA. Scale Not Given. "World Terrain Base". May, 27, 2020. https://server.arcgisonline.com/ArcGIS/rest/services/World_Terrain_Base/MapServer. (May, 15, 2023).

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