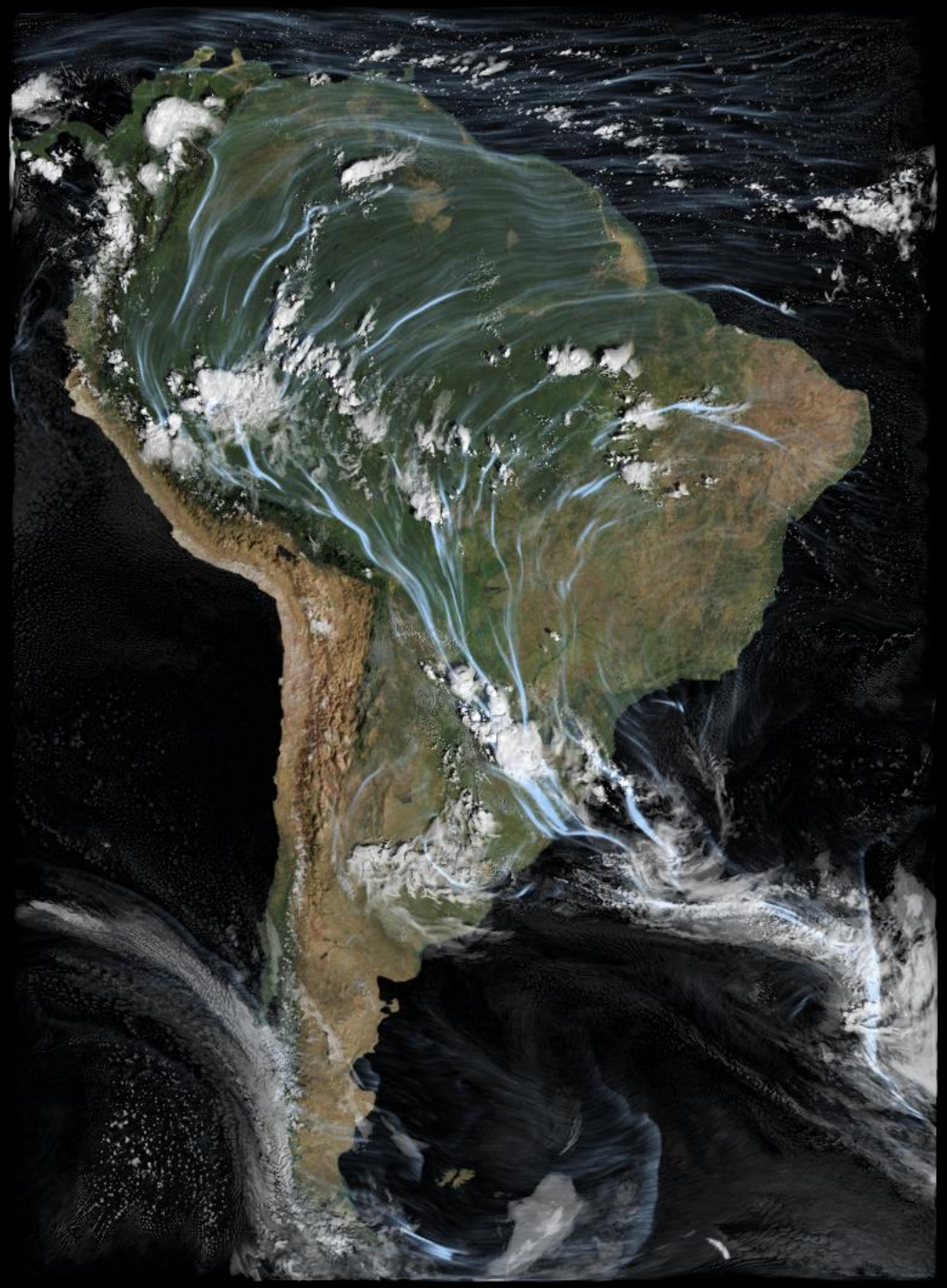

The Changing Climate of South America

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The climate of South America is changing.

Chile's record-breaking drought makes climate change 'very easy' to see

By Esteban Medel

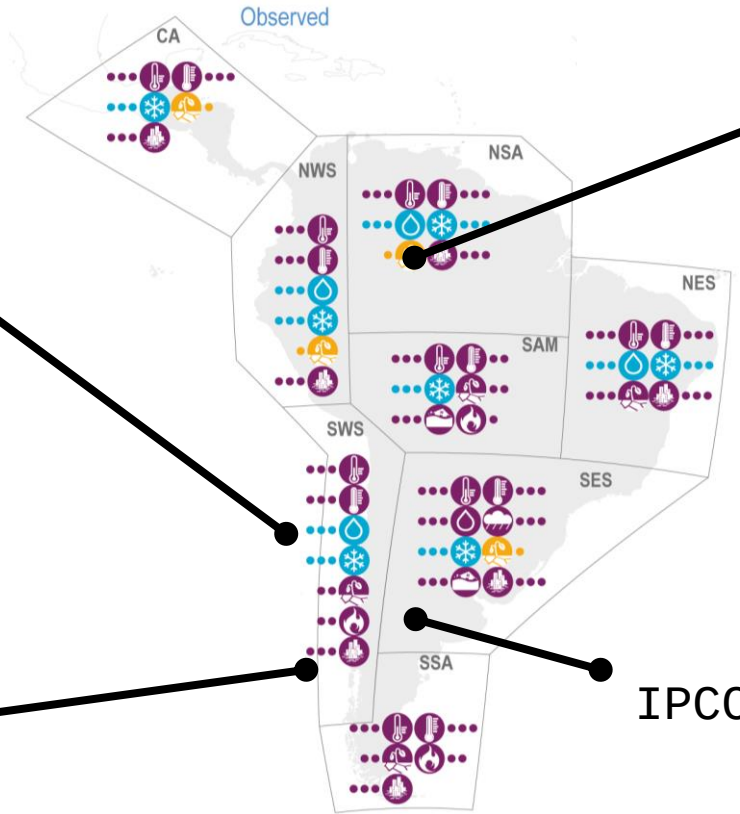
August 10, 2021 4:23 PM CDT · Updated 3 years ago

[1/5] A cow is seen on a land that used to be filled with water, at the Aculeo Lagoon in Paine, Chile January 9, 2019. REUTERS/Rodrigo Garrido Purchase Licensing Rights

https://www.reuters.com/ 2021

Reductions in rainfall and streamflow in the southern Amazon and Chile

https://www.nytimes.com/2023



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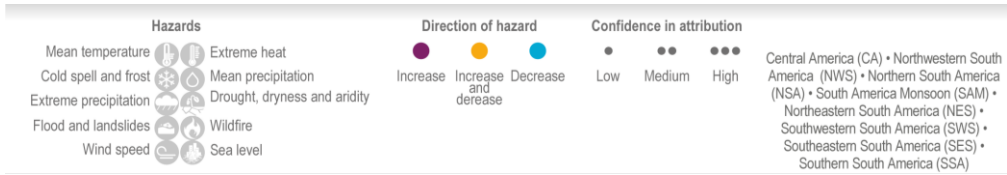


Melting Andean glaciers

Patagonia (Britannica)

https://www.nytimes.com/2023

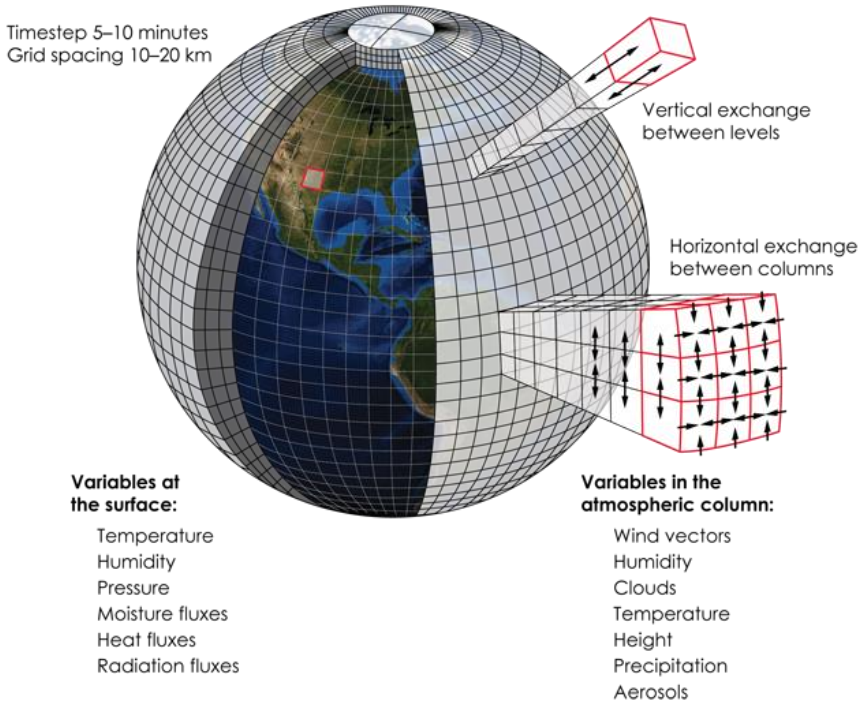
Flooding in Argentina

Global warming and land-use change are posing significant threats to ecosystem health, exacerbating hydrological extremes, and jeopardizing water and food security for millions across the continent.

Coal-fired power station in Niederaussem, Germany. (AP Photo/Michael Probst, File)

Land being burned for cattle grazing in the Amazon rainforest near Porto Velho. Source:NYTIMES

Projections of future climate rely on GCMs. However, these models are still relatively coarse, with horizontal grid spacing on the order of tens of kilometers.



NCAR

GCMs fail to correctly represent processes in mountainous regions such as orographic precipitation, snowfall, mountain snowpack and glaciers. GCMs also fail to realistically represent organized convective

The core of the South America Affinity Group effort are two 22-year WRF model simulations with an unprecedented high resolution of 4km grid spacing, representing historical and future climates over the conti

BAMS
In Box

Advancing South American Water and Climate Science through Multidecadal Convection-Permitting Modeling

Francina Dominguez, Roy Rasmussen, Changhai Liu, Kyoko Ikeda, Andreas Prein, Adam Varble, Paola A. Arias, Julio Bacmeister, Maria Laura Bettolli, Patrick Callaghan, Leila M. V. Carvalho, Christopher L. Castro, Fei Chen, Divyansh Chug, Kwok Pan (Sun) Chun, Aiguo Dai, Luminita Danaila, Rosmeri Porfírio da Rocha, Ernani de Lima Nascimento, Erin Dougherty, Jimy Dudhia, Trude Eidhammer, Zhe Feng, Lluís Fita, Rong Fu, Julian Giles, Harriet Gilmour, Kate Halladay, Yongjie Huang, Angela Maylee Iza Wong, Miguel Ángel Lagos-Zúñiga, Charles Jones, Jorge Llamocca, Marta Llopart, J. Alejandro Martinez, J. Carlos Martinez, Justin R. Minder, Monica Morrison, Zachary L. Moon, Ye Mu, Richard B. Neale, Kelly M. Núñez Ocasio, Sujan Pal, Erin Potter, German Poveda, Franciano Puhales, Kristen L. Rasmussen, Amanda Rehbein, Rosimar Rios-Berrios, Christoforus Bayu Risanto, Alan Rosales, Lucia Scaff, Anton Seimon, Marcelo Somos-Valenzuela, Yang Tian, Peter Van Oevelen, Daniel Veloso-Aguila, Lulin Xue, and Timothy Schneider

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