

Online meeting 14 June 2024 14:00 UTC

Participants: Nils, Ariane, Fabio, Caio, Barbara, Ramon, Linus, Thomas, Estibaliz, Ivan, Cynthia, Hellen, Marcos, Natalia, Santiago, Soledad, Lucía, Federico and others

Linus presentation

- Overview on the Rainfall in Brazil April 2024
 - Case archived on the ECMWF Severe Event Catalog:
<https://confluence.ecmwf.int/display/FCST/202404+-+Rainfall+-+Brazil>
 - The main period of heavy rain (3-day rainfall 30 April – 2 May) IFS forecasts indicated a shift to west compared with observation data; AIFS was better in terms of location
 - Caio and Linus discussed the good agreement between seasonal and subseasonal forecasts at CPTEC and ECMWF, as both timescales indicated a train waveguide from the Pacific reaching South America, associated with the blocking pattern over Southeastern Brazil, which was responsible for blocking the cold front in the South. This blocking can divert the jet streams and create high-pressure patterns that block the normal movement of cold fronts, which would typically bring cooler and more humid air to Southeast Brazil. As a result, the Southern region may experience prolonged periods of rainy weather.
- Heatwave in Argentina January 2024
- Cold wave in Argentine May 2024

Ariane/Fabio presentation

- Overview on the Rainfall in Brazil April 2024
- Both CPTEC regional and global models forecasted more heavy rain shifted to west compared with observations
- Ariane suggests soil moisture as an important parameter and should be better analyzed; studies indicate the region is found to be the main hot spot of soil moisture-evapotranspiration coupling of South America
- Ariane also pointed out that the wave train was responsible for the blocking configuration in the Southeastern region and rainy weather in the South
- Investigate shift due to climate change ?
- EW4All, perhaps focus on synoptic situations with continuous feed of moisture due to the specific (bipolar) structure / pattern of the synoptic situation, with slow moving rainfall system, and precursors from climate-change preconditioning of the land-surface etc.

Lucia

- Heat wave in Patagonia 23-29 January 2024; model 5 degrees lower than observed ?

Other points raised:

- Capturing (well known?) intraseasonal variability in south america; SIS - index, common dipole warm / cold (southern brazil)
- (<https://link.springer.com/article/10.1007/s00382-013-1872-z>;
<https://www.mdpi.com/2073-4433/8/12/232>)
- Latent heat analysis over South America ? (CMIP overestimates)
- Zonda cases postponed to next meeting (Esti)

- Brief mention of progress on WMO regions (Thomas):
 - 2 domains of South America proposed, from 20 degrees south to patagonia
 - Submission to WMO Council possibly in 2025