



Tropical Atlantic Variability

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Message from the Guest Editors

Tropical Atlantic variability (TAV) can be viewed as yearly fluctuations of the seasonal cycle of trade winds, sea surface temperature (SST), and rainfall, including air–sea interactions and teleconnections. Its study involves the understanding of the processes and interactions that can alter the climatology of this region, including its potential forcings and impacts.

TAV exerts a strong influence on regional and global climate variability, altering the zonal and meridional atmospheric circulation cells and triggering global atmospheric teleconnections. Regionally, TAV can impact West African and South American monsoons, but also equatorial and coastal upwelling regions. Additionally, TAV can be altered by natural and anthropogenic forcings. In this way, global teleconnections associated with changes in the subtropical high-pressure systems are important in TAV. Additionally, multidecadal variability associated with natural variability oceanic modes (AMV and IPO) can also exert an influence on TAV. At longer timescales, tropical Atlantic variability is also influenced by the Atlantic meridional overturning circulation (AMOC).





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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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