

Impact of springtime cross-equatorial SST gradient on the Atlantic Niño/Niña

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A strong linkage between the Benguela Niño/Niña and Atlantic Niño/Niña events suggests that the same forcing may trigger the two phenomena in different seasons. On the other hand, several Atlantic Niño/Niña events have occurred without strong Benguela Niño/Niña events. When the Atlantic Niño (Niña) occurs following the Benguela Niño (Niña), springtime sea surface temperature (SST) anomalies in the tropical North Atlantic tend to be negative, acting to weaken the cross-equatorial SST gradient and southeasterly trade winds. On the other hand, when the Atlantic Niño (Niña) occurs without the Benguela Niño (Niña), SST anomalies in the tropical North Atlantic tend to be positive, consistent with non-canonical Atlantic Niño events suggested by previous studies. We will show a heat budget analysis for these Atlantic Niño/Niña events.

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