
Large current systems affecting Internal Solitary Waves near the Amazon shelf as observed in SAR imagery

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Abstract

We present a first account of Internal Solitary Waves (ISWs) on and off the Brazilian Amazon shelf. SAR imagery reveals coherence crest lengths in excess of 200 km, which are first detected near the southern edge of the North Equatorial Counter Current (NECC) and intensify as they run along its main stream. A strong seasonal variability on the ISWs spatial structure and propagation directions is also discussed in light of the NECC, along with its influence in the usual disintegration process of the ITs. On-shelf regions just off the Amazon River mouth are prone to intense and continuous (i.e. not of tidal origin) ISW signatures in the SAR, which are believed to be associated with intricate bottom-topography and flow criticality.

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