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Tropical Atlantic variability from Jason and ARAMIS data

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Long-term variability in the tropical Atlantic has been studied only recently due to the weakness of this signal and the dominant seasonal one. Any new reliable tool to get enlightenments on these topics is helpful. Such are TOPEX/Poséïdon and Jason continuous altimetric series since 1992. The ARAMIS program (Altimétrie sur un Rail Atlantique et Mesures In Situ) has been developed by the french IRD (Institut de Recherche pour le Développement) and CNES (Centre National d'Etudes Spatiales) organizations in order to get a long term survey of temperature, salinity and pCO2 structures in the tropical Atlantic along a merchant ship line during at least 5 years. The line crosses the major equatorial currents, the InterTropical Convergence Zone and the Atlantic regions of Maximum Salinity Water around 20˚S and 30˚N. The line is also interesting as it is superimposed to one of the JASON tracks. Twice a year, in March then October, when the tropical Atlantic oceanic circulation reaches its minimum/maximum intensity, eXpendable BathyThermograph and eXpendable Conductivity-Temperature-Depth are launched along the ship route between 20˚S and 30˚N every 30' of latitude, together with other on-route acquirements. The first 2 ARAMIS cruises, in July 2002 then March 2003 were dedicated to JASON validation in the tropical Atlantic Ocean. We will analyse the results of the 2002-2004 campaigns together with the altimetric Jason series in terms of surface layers dynamics.