



## **The Indonesian Earthquake and Tsunami (December 26, 2004) Studied by Satellite SAR**

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On December 26, 2004, at 00:58 GMT a Mw 9.0 earthquake took place in the Indian Ocean, offshore the W coast of Sumatra, at a depth of about 30 km.

This earthquake is one of the largest events of the last 100 years, comparable only to the Chile 1960 and Alaska 1964. The earthquake originates in the subduction zone of the Indian and Burma plates, moving at a relative velocity of 6 cm/year. The after-shocks were distributed along a plate boundary about 1000 Km long, between Sumatra and the Andaman islands.

A destructive tsunami followed and hit, up to some hours after the earthquake, the coastlines of the surrounding regions, causing widespread destruction in Indonesia, India, Thailand, and Sri Lanka.

We attempt to use satellite data to estimate the co-seismic effects occurred on the human environment and on the landscape, as well as the effects of the tsunamis. Various SAR remote sensing and interferometry (InSAR) techniques can be used to evaluate surface modifications patterns in the extremely wide affected area.