

Liew, S. C. and J. He. 2007. Uplift of a coral island in the Andaman Sea due to the 2004 Sumatra earthquake measured using remote sensing reflectance of water. Geoscience and Remote Sensing Symposium, 2007. IGARSS 2007. IEEE International. 4683-4685.

Abstract:

The 2004 Sumatra earthquake, together with the tsunami that followed, caused massive destruction in many coastal areas of the Indian Ocean. Uplift and subsidence of land near to the epicenter of the earthquake in the Andaman Sea have been reported. In this paper, we report observations of the uplift in high resolution SPOT-5 satellite images in a coral island near to the Andaman Islands. The depth of the submerged reefs can be measured using water reflectance models commonly employed in the ocean color research community. The uplift magnitude is estimated by the difference in water depth measured in the pre- and post-earthquake images, taking into account the difference in tide levels. The uplift is found to be 1.6 m with an uncertainty of about 0.3 m.