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A CATALOG OF TSUNAMIS IN THE INDIAN OCEAN **128**

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TSUNAMI HAZARD IN NORTHERN VENEZUELA **144**

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**SEDIMENT CHARACTERISTICS OF THE M 9 TSUNAMI EVENT BETWEEN
RAMESWARAM AND THOOTHUKUDI, GULF OF MANNAR,
SOUTHEAST COAST OF INDIA** **160**

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S. Murugan, D. Bakkiaraj, A. John Peter
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**STRATEGIC GEOGRAPHIC POSITIONING OF SEA LEVEL GAUGES TO AID
IN EARLY DETECTION OF TSUNAMIS IN THE INTRA-AMERICAS SEA** **173**

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A CATALOG OF TSUNAMIS IN THE INDIAN OCEAN

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SUMMARY

A catalog of about ninety tsunamis in the Indian Ocean has been prepared from 326 BC to 2005 AD. In the nineteenth and twentieth centuries tsunamis have occurred once in three years or so. Sunda Arc is the most active region that has produced about seventy tsunamis. The source zones of the remaining tsunamis are Andaman-Nicobar islands, Burma-Bangladesh region in the eastern side, while Makran accretion zone and Kutch-Saurashtra region are in the west. These zones are subduction zones or zones of compression.

TSUNAMI HAZARD IN NORTHERN VENEZUELA

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ABSTRACT

Based on LANDSAT ETM and Digital Elevation Model (DEM) data derived by the Shuttle Radar Topography Mission (SRTM, 2000) of the coastal areas of Northern Venezuela were investigated in order to detect traces of earlier tsunami events. Digital image processing methods used to enhance LANDSAT ETM imageries and to produce morphometric maps (such as hillshade, slope, minimum and maximum curvature maps) based on the SRTM DEM data contribute to the detection of morphologic traces that might be related to catastrophic tsunami events. These maps combined with various geodata such as seismotectonic data in a GIS environment allow the delineation of coastal regions with potential tsunami risk. The LANDSAT ETM imageries merged with digitally processed and enhanced SRTM data clearly indicate areas that might be prone by flooding in case of catastrophic tsunami events.

**SEDIMENT CHARACTERISTICS OF THE M-9 TSUNAMI EVENT
BETWEEN RAMESWARAM AND THOOTHUKUDI, GULF OF
MANNAR, SOUTHEAST COAST OF INDIA**

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ABSTRACT

On 26th December, 2004, a massive earthquake occurred NW of Sumatra in the seismically active zone close to Sunda Trench at a water depth of about 1300m and with an epicenter located at a shallow depth of 10km below the ocean floor. This earthquake triggered tsunami waves in the Indian Ocean and hit most of the Tamilnadu coast, with wave height varying from 3 to 10m. In the study area dunes were breached. Erosional channels were created. Inundation in the study area ranges between 10 and 600m from the shoreline. The inundated sediment thickness varies from 1 to 30cm and was well preserved. Sediments thickness gets reduced landwards and occurs as set of layers. The sediments were fresh, grey to dark grey in color.

STRATEGIC GEOGRAPHIC POSITIONING OF SEA LEVEL GAUGES TO AID IN EARLY DETECTION OF TSUNAMIS IN THE INTRA-AMERICAS SEA

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ABSTRACT

The potential impact of past Caribbean tsunamis generated by earthquakes and/or massive submarine slides/slumps, as well as the tsunamigenic potential and population distribution within the Intra-Americas Sea (IAS) is examined to help define the optimal location for coastal sea level gauges intended to serve as elements of a regional tsunami warning system. The goal of this study is to identify the minimum number of sea level gauge locations to aid in tsunami detection and provide the most warning time to the largest number of people. We identified 12 initial, prioritized locations for coastal sea level gauge installation. Our study area approximately encompasses 7°N, 59°W to 36°N, 98° W. The results of this systematic approach to assess priority locations for coastal sea level gauges will assist in developing a tsunami warning system (TWS) for the IAS by the National Oceanic and Atmospheric Administration (NOAA) and the Regional Sub-Commission for the Caribbean and Adjacent Regions (IOCARIBE-GOOS).