TSUNAMI RISK ASSESSMENT FOR EARLY WARNING AND IMPACT MITIGATION

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Declaration

"I declare that this is my own work and this thesis/dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text."

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Abstract

An effective, accurate, reliable and rapid version for the Indian Ocean Tsunami Warning System (IOTWS) is stretches back over several years to integrate with the tsunami forecasting and early warning framework. A brief outline is presented to enhance the capacity to cope with an emergency situation in scientifically rigorous manner.

2005 March, 2007 September, 2012 April etc. false tsunami warnings recall the need for effective implementation of the IOTWS with operational robustness to initiate tsunami mitigation program and to be prepared for future potentially destructive tsunamis in the region. Use common and agreed formats for information exchange, address common service requirements, standard operating procedures and international commitment strive to satisfy the public safety in a tsunami emergency. Develop all elements in order to conduct a tsunami hazard assessment study for a city along the coastline of Sri Lanka, operating within the framework of template for coastal cells in deep water adopted by the RTSP.

All material available from the activities of the former Working Group on Modelling, in particular development of data bases along the fault line for tsunami forecasting and deep water modelling was reviewed to study the existing performance criteria of the tsunami warning system by communicating with RTSPs to clarify important issues.

Preparation of a Case Study for the port city of Galle will illustrate the capability that serves real time operational needs, hazard/risk assessment needs and research/development opportunities through the use of a standard tsunami forecast system that includes tsunami characterization, measurements and forecast models. This study will be the hazard assessment for the above study.

Unfortunately, many people living alone the shore facing climate change impact adversary. This incessant struggle between humans and nature need to be stabilized via short – and long – term approaches. This research provides an excellent cross reference and strong awareness of approaches adapted in IOTWS thus educating a wider stakeholder base on the said approach.

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Glossary of Terms

Abbreviation	Description
ADPC	Asian Disaster Preparedness Center
BAKOSURTANAL	Indonesian National Coordinating Agency for Survey and Mapping
BMKG	Indonesian Agency for Meteorology, Climatology and Geophysics
BoM	Australian Bureau of Meteorology
BPPT	Indonesian Agency for Assessment and Application of Technology
BPR	Bottom Pressure Records
CFL Condition	Courant Friedriches Leavy Condition
CFP	Coastal Forecast Points, used by RTSPs to define coastal zones under threat
CFZ	Coastal Forecast Zones, used by RTSPs to identify sections of coast under threat
CFZ	Coastal Forecast Zones
ComMIT	Community Model Interface for Tsunami
CRM	Coastal Resource Management
CTBTO	Comprehensive Nuclear Test Ban Treaty Organization
DART	Deep Ocean Assessment and Reporting of Tsunamies
DMC	Disaster Management Center
DRM	Disaster Risk Management
EWS	Early Warning Systems
FTP	File Transfer Protocol
GA	Geosciences Australia
GLOSS	Global Telecommunication System (IOC)
GLOSS	Global Sea Level Observing System
GSN	IRIS Global Seismographic Network
GTS	Global Telecommunication System (WMO)
IAS	Interim Advisory Service
IGC	Intergovernmental Coordination Group
InaTEWS	Indonesian Tsunami Early Warning System
INCOIS	Indian National Center for Ocean Information System

INTEWC	Indian Tsunami Early Warning Center
IOC	Intergovernmental Oceanographic Commission
IOTWS	Indian Ocean Tsunami Warning System
IOWave	Indian Ocean Wave
IPCC	Intergovernmental Panel on Climate Change
IRIS	Incorporated Research Institutions for Seismology
ITIC	International Tsunami Information Center
JATWC	Joint Australian Tsunami Warning Centre
JMA	Japanese Meteorological Agency
MOST	Method of Splitting Tsunami
MOST	Method of Splitting Tsunami
NCTR	NOAA Center for Tsunami Research
NDMO	National Disaster Management Organizations
NHMSs	National Meteorological and Hydro meteorological Services
NOAA	National Oceanic and Atmospheric Administration
NTWCs	National Tsunami Warning Centers
PTWC	Pacific Tsunami Warning Center
RTSP	Regional Tsunami Service Providers
SIFT	Short-term Inundation Forecast for Tsunami
SIM	Standby Inundation Models
SOPs	Standard Operating Procedures
TNC	Tsunami National Contact
TRATE	Tsunami Risk Assessment Tsunami Exercises in Indian Ocean Countries
TSU	IOC Tsunami Unit
TWFPs	Tsunami Warning Focal Points
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNESCO	United Nations Educational Social and Cultural Organization
UNISDR	United Nations International Strategy for Disaster Reduction
UNU-EHS	The United Nations University Institute for Environment and Human Security
UTC	Coordinated Universal Time
WG	Working Group
WMO	World Meteorological Organization
YSTWC	Yuzhno Sahhalin Tsunami Warning Center