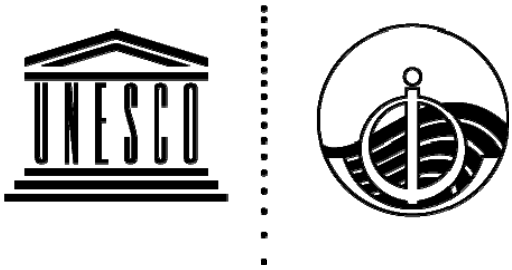
Intergovernmental Oceanographic Commission
Technical Series

88



EXERCISE INDIAN OCEAN WAVE 2009
An Indian Ocean-wide Tsunami Warning and Communication Exercise

14 October 2009

UNESCO

Intergovernmental Oceanographic Commission
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EXERCISE INDIAN OCEAN WAVE 2009
An Indian Ocean-wide Tsunami Warning and Communication Exercise

**Prepared by the IOWave09 Task Team
for the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System**

UNESCO 2009

For bibliographic purposes, this document should be cited as follows:

Indian Ocean Tsunami Warning and Mitigation System (IOTWS). Exercise Indian Ocean Wave 2009 (IOWave09) – An Indian Ocean-wide Tsunami Warning and Communication Exercise. ***IOC Technical Series No. 88. UNESCO 2009 (English)***
(IOC/2009/TS/88)

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1. BACKGROUND

The devastating impact of the 26 December 2004 Indonesia earthquake and Indian Ocean tsunami tragically demonstrated what can happen without an effective tsunami warning system. Tsunamis may not occur often but when they do they can affect coasts, sometimes across an entire ocean, within minutes to hours. With little warning, the 2004 tsunami caused damage and casualties across the entire Indian Ocean basin. Following that event, UNESCO's Intergovernmental Oceanographic Commission (IOC) formed the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS) to promote the exchange of seismic and sea level data for rapid tsunami detection and analysis, to provide warnings for such events and to coordinate mitigation efforts among its Member States. An efficient and effective warning system is needed that can react 24 hours a day to any potential tsunami threat and that can then act quickly from end-to-end to alert those at risk along coasts and motivate them take immediate and appropriate steps to save their lives.

At the Fifth Session of the ICG/IOTWS (8-10 April 2008 in Putrajaya, Malaysia), the Member States recommended that an Indian Ocean-wide tsunami exercise be carried out in 2009 with results compiled and a report prepared before the next meeting of the ICG in 2010. The ICG established an ad-hoc Task Team to consider and provide a detailed plan for the proposed Indian Ocean 2009 Exercise and to report back to the ICG. The ICG agreed that membership of the Task Team would be Australia, France (La Reunion), India, Indonesia, Kenya, Malaysia, Sri Lanka, Thailand and other interested Member States and decided that Indonesia would be Chair, with Australia, Kenya and Thailand as Vice-Chairs.

Exercise IOWave09 will be an effective tool for evaluating the readiness of the IOTWS and for identifying changes that can improve its efficiency. Ocean-wide tsunamis do not occur frequently in the Indian Ocean but the IOTWS must be prepared, and exercises of this kind will help to maintain the requisite level of preparedness.

1.1 Exercise Dates

Exercise IOWave09 will take place on 14th October 2009 to coincide with World Disaster Reduction Day. To ensure that the NTWCs in each country are fully prepared for the exercise, a tabletop exercise will be run on 14th September using the same scenario that will be used on 14th October. There will thus be 2 stages to Exercise IOWave09:

1. 14th September 2009 – Tabletop Exercise

Who should be involved?:	National Tsunami Warning Centres; National Disaster Management Organisations; Local Disaster Management Organisations, to the extent decided by each Member State.
Scenario:	North Sumatra earthquake of 26th December 2004
Start time:	0800hrs UTC
Timescale:	At NTWC's discretion

2. 14th October 2009 – Functional Exercise

Who should be involved?:	National Tsunami Warning Centres; National Disaster Management Organisations; local communities, to the extent decided by each Member State.
Scenario:	North Sumatra earthquake of 26th December 2004
Start time:	0100hrs UTC
Timescale:	Real-time

1.2 Further Information

Further information will be posted to the website www.ioc-unesco.org/iowave09 as it becomes available.

2. CONCEPT OF EXERCISE IOWave09

2.1 Purpose

The purpose of Exercise IOWave09 is to evaluate and improve the effectiveness of the IOTWS, its operational Regional Tsunami Watch Providers (RTWP), National Tsunami Warning Centres (NTWC), and National Disaster Management Organisations (NDMO), in responding to a potentially destructive tsunami. The exercise will provide an opportunity for Indian Ocean countries to test their operational lines of communications, review their tsunami warning and emergency response standard operating procedures, and to promote emergency preparedness. Regular exercises are important for maintaining staff readiness for the real event. This is especially true for tsunamis, which are infrequent but require rapid response when they occur. The pre-exercise planning and post-exercise evaluation process is as important as the actual exercise, because it brings together all stakeholders to closely coordinate their actions. Every Indian Ocean country is encouraged to participate.

2.2 Objectives

The following are the over-arching objectives for IOWave09:

1. Validate the international Tsunami Watch [or Advisory] Centres' dissemination process of issuing Tsunami Watch Bulletins to Indian Ocean countries.
    a. Interim Advisory Service (IAS) PTWC and JMA bulletins to IOTWS NTWCs
    b. RTWP bulletins to other RTWPs (NB, NTWCs will **NOT** receive these bulletins)
2. Validate the process of countries receiving and confirming Tsunami Bulletins through their designated Tsunami Watch Focal Points (TWFP).
3. Validate dissemination of warning messages to relevant agencies within a country.
4. Validate the organisational decision-making process for public warnings and evacuations.
5. Identify the methods that would be used to notify and instruct the public.
6. Assess the elapsed time for public notification and instruction.

Within the above framework, each country should develop its own specific objectives for the exercise.

2.3 Regional Tsunami Watch Provider (RTWP) Participation

Three RTWPs (Australia, India and Indonesia) will be participating in Exercise IOWave09 and will share experimental Service Level 2 (SL2) bulletins between themselves only. However the RTWPs will provide details of their SL2 bulletins 1 or 2 weeks before the main exercise on 14th October. These will be circulated to the NTWCs for information only and should not be used during Exercise IOWave09. The purpose of sharing this information is to provide NTWCs with examples of the types of products that are being developed by the RTWPs and to invite feedback and comments.

2.4 Types Of Exercise

Exercises stimulate the development, training, testing and evaluation of Disaster Plans and Standard Operating Procedures (SOP). Exercise participants may use their own past multi-hazard drills (e.g. flood, typhoon, earthquake, etc.) as a framework to conduct Exercise IOWave09.

Exercise IOWave09 should be conducted to a level of readiness that involves communication and decision making at Government level, without disrupting or alarming the general public. Individual countries may at their discretion elect to extend the exercise down to the level of public notification and community evacuation.

Exercises can be conducted at various scales of magnitude and sophistication. The following list provides on overview of the different types of exercises that can be conducted:

1. **An Orientation Exercise** lays the groundwork for a comprehensive exercise programme. It is a planned event, developed to bring together individuals and officials with a role or interest in multi-hazard response planning, problem solving, development of standard operational procedures (SOPs), and resource integration and coordination. An Orientation Exercise will have a specific goal and written objectives and result in an agreed upon Plan of Action.

2. **A Drill** is a planned activity that tests, develops, and/or maintains skills in a single or limited emergency response procedure. Drills generally involve operational response of single departments or agencies, organizations, or facilities, but may be a subset of full-scale exercises. Drills can involve internal notifications and/or field activities. Limited evacuation may or may not be conducted, such as within a school, pilot hotel, or village.

3. **A Tabletop Exercise** is a planned activity in which local officials, key staff, and organizations with disaster management responsibilities are presented with simulated emergency situations. It is usually informal, in a conference room environment, and is designed to elicit constructive discussion from the participants to assess plans, policies, and procedures. Individuals are encouraged to discuss decisions based on their organization's Standard Operating Procedures (SOPs) with emphasis on slow-paced problem solving, rather than rapid, real time decision-making. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative. See Appendix IV for a more detailed description of Tabletop Exercises.

4. **A Functional Exercise** is a planned activity designed to test and evaluate individual functions, multiple activities within a function, or interdependent groups of functions among various agencies. It is based on a simulation of a realistic emergency situation. The Functional Exercise gives the decision-makers a fully simulated experience of being in a major disaster event. It should take place at the appropriate coordination locations (eg. Warning centres and emergency operations centres) and activate all the appropriate members designated by the plan. Organisations should test their SOPs using real time simulation tsunami bulletins. Public evacuations may or may not be included. A Functional Exercise should have specific goals, objectives, and a scenario narrative.

5. **A Full-scale Exercise** is the culmination of a progressive exercise programme that has grown with the capacity of the community to conduct exercises. A Full-Scale exercise is a planned activity in a "challenging" environment that encompasses a majority of the tsunami warning and emergency management functions, and involves multiple layers of government (national, provincial, local). This type of exercise involves the actual mobilization and deployment of the appropriate personnel and resources needed to demonstrate operational capabilities. DMOs (Disaster Management Office) and other local command centres are required to be activated. It tests all aspects of emergency response, and should demonstrate inter-agency cooperation. A Full-scale exercise is the largest, costliest and most complex exercise type. It may or may not include public evacuations.

Example Time Frames for Different Exercise Types

Style	Planning Period	Duration	Comments
Orientation Exercise	2 weeks	1 day	Individual or mixed groups
Drill	2 days	1 day	Individual technical groups generally
Tabletop Exercise	2 weeks	1-3 days	Single or multiple agency
Functional Exercise	1-2 months	1-5 days	Multiple Agency participation
Full-scale Exercise	2-6 months	1 day/week	Multiple Agency (National and International)

For Exercise IOWave09, a tabletop exercise will be conducted on 14th September and its main purpose is to be a rehearsal for the main exercise on 14th October. Individual Member States should decide what type of exercise they are going to undertake on 14th October. A tabletop exercise should be conducted as a minimum. Many Member States will choose to conduct a functional exercise and some may decide to undertake a full-scale exercise. Each of these requires an increasing level of planning and preparation, particularly if any form of community evacuation is planned, and Member States are advised to conduct the exercise only to the level for which they are fully prepared.

3. SPECIFICS OF CONDUCTING EXERCISE IOWAVE09

3.1 Tabletop Exercise on 14th September

In preparation for the functional exercise on 14th October 2009, a tabletop exercise will be conducted on 14th September starting at 0800 UTC. The scenario will be exactly the same as for the functional exercise on 14th October, described below.

The aim of the exercise is to familiarise participants with the stakeholder responsibilities and individual actions planned for the main exercise to be held on 14th October 2009, and to provide an opportunity for participants to evaluate their SOPs for tsunami warnings prior to the functional exercise.

To start the exercise, a dummy bulletin will be issued by the IAS providers via email, fax and GTS to all NTWCs, as shown below:

PTWC Dummy Bulletin:

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 001...TEST NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
0815 UTC 14 SEP 2009

...EXERCISE INDIAN OCEAN WAVE 09...

TO - PARTICIPANTS OF THE INDIAN OCEAN WAVE 09 TSUNAMI EXERCISE.
ALL OTHERS PLEASE IGNORE.

SUBJECT: START OF INDIAN OCEAN WAVE 09 TABLETOP EXERCISE

THIS MESSAGE IS TO ANNOUNCE THE START OF IOWAVE 09 TABLETOP EXERCISE. THE EXERCISE IS TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE EVENT OF AN ACTUAL TSUNAMI.

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE INDIAN OCEAN WAVE 09 EXERCISE MANUAL FOR THE SEQUENTIAL PTWC BULLETINS.

THIS IS ONLY AN EXERCISE

JMA Dummy Bulletin:

TSUNAMI EXERCISE MESSAGE NUMBER 001
ISSUED BY JMA
ISSUED AT 0820Z 14 SEP 2009

TO: PARTICIPANTS OF INDIAN OCEAN WAVE 09 TABLETOP EXERCISE.
ALL OTHERS PLEASE IGNORE.

SUBJECT: START OF INDIAN OCEAN WAVE 09 TABLETOP EXERCISE

THIS MESSAGE IS TO ANNOUNCE THE START OF IOWAVE 09 TABLETOP EXERCISE. THE EXERCISE IS TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE EVENT OF AN ACTUAL TSUNAMI.

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE INDIAN OCEAN WAVE 09 EXERCISE MANUAL FOR THE SEQUENTIAL JMA BULLETINS.

THIS IS ONLY AN EXERCISE.

Following receipt of the initial bulletins, the NTWCs will refer to Appendix II (PTWC messages) and Appendix III (JMA messages) for sequential bulletins. Except for the dummy messages shown above, the tsunami bulletins will NOT be issued through email, fax or GTS. Member States should run the exercise to its conclusion at their own pace and the timing of bulletin injects can be compressed at the NTWCs' discretion.

Suggested procedures for implementing the tabletop exercise are outlined in Appendix IV. Member States may wish to extend or modify the exercise according to their needs.

Following the tabletop exercise, participants are encouraged to complete a self evaluation similar to that suggested in Appendix IV. Although there is no formal evaluation process planned following the tabletop exercise, Member States may wish to provide feedback to the ICG/IOTWS Secretariat at iotws@unesco.org.

3.2 Overview of Main Exercise on 14th October

Following the recommendation from ICG/IOTWS-VI, there will be a single exercise scenario played out in real time. The scenario will replicate the major earthquake off the northwest coast of Sumatra on 26 December 2004 that generated a destructive tele-tsunami affecting countries from Australia to South Africa over the course of about 17 hours.

The IAS providers will issue bulletins for this exercise to all IOTWS NTWCs. RTWPs will exchange bulletins between themselves only. The timeline for issuance of IAS bulletins on 14th October is given in Table 1. WMO GTS product identifiers for the bulletins are given in Table 2.

Participant countries may follow the exercise timeline precisely or elect to exercise on their own timeline in order to achieve their particular objectives. For example, a particular country's exercise controller may choose to inject the bulletins into the exercise at times of their own choosing, or alternatively put them in envelopes with the time they must be opened written on each, with each key participant agency having their own set of envelopes. All bulletins, provided in advance in Appendices I-IV, will facilitate this approach.

Coverage. All Member States are encouraged to participate. Estimated tsunami arrival times to all IOTWS countries are included in the IAS bulletins.

Messages. The initial bulletins to start the exercise will be issued by the IAS providers, although some countries close to the source may issue their own internal bulletins before this. To avoid any possible misinterpretation, bulletins issued by the IAS will be in a "dummy" exercise message format similar to the tabletop exercise message format shown above and as shown in Appendix I that will refer participants to a specific scenario bulletin number in this exercise manual (in Appendices II – III). Dummy messages will be issued for each simulated real message and will continue to be issued until the simulated tsunami has crossed the entire Indian Ocean and the exercise concludes.

3.3 Exercise Specifics

The Scenario. The simulated tsunami will be generated by a magnitude 9.2 earthquake off the northwest coast of Sumatra at 3.30ºN, 95.96ºE that occurs on October 14, 2009 at 0100UTC. An earthquake of this size would be likely to generate a tsunami with widespread destructive effects. Bulletins will be issued in real time for approximately 12 hours until the tsunami is simulated to have crossed the entire Indian Ocean.

3.4 Master Schedule and Timings (Exercise Script)

Table 1: Scenario Timeline

Tsunami from magnitude 9.2 earthquake with epicentre at 3.30ºN, 95.96ºE occurring on October 14, 2009 at 0100UTC.

Date	Time (UTC)	Provider	Bulletin #	Detail
14-Oct-09	0100			Earthquake occurs
14-Oct-09	0115	PTWC	1	Indian Ocean-wide tsunami watch
14-Oct-09	0120	JMA	1	Indian Ocean-wide tsunami watch
14-Oct-09	0145	PTWC	2	Indian Ocean-wide tsunami watch
14-Oct-09	0150	JMA	2	Indian Ocean-wide tsunami watch
14-Oct-09	0245	PTWC	3	Indian Ocean-wide tsunami watch
14-Oct-09	0300	JMA	3	Indian Ocean-wide tsunami watch
14-Oct-09	0345	PTWC	4	Indian Ocean-wide tsunami watch
14-Oct-09	0400	JMA	4	Indian Ocean-wide tsunami watch
14-Oct-09	0445	PTWC	5	Indian Ocean-wide tsunami watch
14-Oct-09	0500	JMA	5	Indian Ocean-wide tsunami watch
14-Oct-09	0545	PTWC	6	Indian Ocean-wide tsunami watch
14-Oct-09	0645	PTWC	7	Indian Ocean-wide tsunami watch
14-Oct-09	0700	JMA	6	Indian Ocean-wide tsunami watch
14-Oct-09	0745	PTWC	8	Indian Ocean-wide tsunami watch
14-Oct-09	0845	PTWC	9	Indian Ocean-wide tsunami watch
14-Oct-09	0900	JMA	7	Indian Ocean-wide tsunami watch
14-Oct-09	0945	PTWC	10	Indian Ocean-wide tsunami watch
14-Oct-09	1045	PTWC	11	Indian Ocean-wide tsunami watch
14-Oct-09	1100	JMA	8	Indian Ocean-wide tsunami watch
14-Oct-09	1100	PTWC	12	Cancellation of Indian Ocean-wide tsunami watch
14-Oct-09	1300	JMA	9	Indian Ocean-wide tsunami watch

Table 2: Product Types

Product types issued for Dummy bulletins

Centre	WMO GTS Identifier	Fax	Email
JMA	WEIO40 RJTD	Yes	Yes
PTWC	WEIO21 PHEB	Yes	Yes

3.5 Actions in case of a real event

All documentation and correspondence relating to this exercise is to be clearly identified as **Indian Ocean Wave 09 Exercise** and **For Exercise Purposes Only**. In the case of a real event occurring during the exercise, IAS and NTWCs/RTWPs will issue their normal message products for the event. Such messages will be given full priority and a decision will be made by each centre whether to continue or cease their participation in the exercise.

3.6 Resourcing

Although participating countries will have advance notice of the exercise and may elect to stand up a special dedicated shift to allow normal core business to continue uninterrupted, it is suggested that realistic resource levels be deployed in order to reflect some of the issues that are likely to be faced in a real event.

3.7 Media Arrangements

The UNESCO Bureau of Public Information will issue an international Media Advisory in late September or early October to alert the press of the 14 October "Indian Ocean Wave 2009 Exercise." About one week before the exercise, UNESCO will issue a second press release with more details on the exercise. Appendix V contains a sample press release that can be customized by Member States.

ICG/IOTWS Member States should consider issuing one or two exercise press releases to their respective country's media in conjunction with UNESCO releases. Member States press releases will give adequate alert to their country's population and give their local media time to conduct interviews and documentaries with participating exercise organizations in advance of the exercise.

A second Member State press release, one week before the exercise, would provide a more detailed description of exercise activities to take place within that country.

4. POST EVALUATION

4.1 Evaluation and Debriefing

All participating countries are requested to provide feedback on the exercise by 14 November 2009. This feedback will greatly assist in the evaluation of Indian Ocean Wave 09 Exercise and assist in the development of subsequent exercises.

The goal of exercise evaluation is to validate strengths and to identify opportunities for improvement within the participating organisations. This is to be accomplished by collating supporting data; analysing the data to compare effectiveness against requirements; and determining what changes need to be made by participating organizations as well as the IOTWS as a collective to support effective tsunami warning and decision making.

Evaluation of this exercise will focus on the adequacy of plans, policies, procedures, assessment capabilities, communication, resources and inter-agency/inter-jurisdictional relationships that support effective tsunami warning and decision-making at all levels of government. Participants that choose to include additional objectives, for example by exercising public warning and/or response plans, can expand the evaluation accordingly. The evaluation of such additional objectives will be for the use of the particular participant only and is not required for the integrated IOTWS report.

The evaluation aims to inform and facilitate individual participant country evaluations as well as the integrated IOWave09 Report. Official Exercise Evaluation Forms addressing the respective focus areas and objectives are included in Appendix VI. All participant countries are requested to complete the official Exercise Evaluation Forms and return only those forms back to the ICG/IOTWS Secretariat by **14 November 2009**.

A formal exercise debrief inclusive of all participants in the respective countries will facilitate a collective and official evaluation. The method applied to collect the data required for consideration in the debrief is to be decided upon by the individual participant countries. It is recommended that independent and objective exercise evaluators/observers be appointed at all exercise points to support the collection of such data. Evaluators/observers are to be guided by the exercise objectives and the information required in the Exercise Evaluation Forms.

In completing evaluation forms, participating organizations must have the ability to note areas for improvement and actions that they plan to take without concern that the information carries political or operational risks. Thus, all official Exercise Evaluation Forms are designated as “For Official Use Only” and will be restricted for use by the exercise Task Team for the sole purpose of compilation of the integrated IOWave09 Report. Some participant countries may however decide to share their individual evaluation outcomes with the public. While the IOWave09 Report will be submitted to the IOC, the decision to share the information contained in it with the public will be made by the ICG/IOTWS.

APPENDIX I. SAMPLE DUMMY EXERCISE MESSAGES

PTWC Sample Dummy Exercise Message

TEST...TSUNAMI EXERCISE MESSAGE NUMBER 00*...TEST NWS PACIFIC TSUNAMI WARNING CENTER EWA BEACH HI
**** UTC 14 OCT 2009

...EXERCISE INDIAN OCEAN WAVE 09...

TO - PARTICIPANTS OF THE INDIAN OCEAN WAVE 09 TSUNAMI EXERCISE.
ALL OTHERS PLEASE IGNORE.

SUBJECT - EXERCISE INDIAN OCEAN WAVE 09
REFER TO PTWC BULLETIN * IN EXERCISE MANUAL

THIS MESSAGE IS ONE OF A SERIES OF MESSAGES THAT ARE BEING ISSUED AS PART OF THE INDIAN OCEAN WAVE 09 TSUNAMI EXERCISE. THE EXERCISE IS TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE EVENT OF AN ACTUAL TSUNAMI.

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE INDIAN OCEAN WAVE 09 EXERCISE MANUAL FOR THE CORRESPONDING PTWC BULLETIN *.

THIS IS ONLY AN EXERCISE.

JMA Sample Dummy Exercise Message

TSUNAMI EXERCISE MESSAGE NUMBER 00*
ISSUED BY JMA
ISSUED AT ****Z 14 OCT 2009

TO: PARTICIPANTS OF INDIAN OCEAN WAVE 09 EXERCISE.
ALL OTHERS PLEASE IGNORE.

SUBJECT: EXERCISE INDIAN OCEAN WAVE 09
REFER TO JMA BULLETIN * IN EXERCISE MANUAL

THIS MESSAGE IS ONE OF A SERIES OF MESSAGES THAT ARE BEING ISSUED AS PART OF THE INDIAN OCEAN WAVE 09 TSUNAMI EXERCISE. THE EXERCISE IS TO TEST COMMUNICATIONS AND ACTIONS THAT WOULD BE NEEDED IN THE EVENT OF AN ACTUAL TSUNAMI.

PARTICIPANTS IN THE EXERCISE SHOULD REFER TO THE INDIAN OCEAN WAVE 09 EXERCISE MANUAL FOR THE CORRESPONDING JMA BULLETIN *

THIS IS ONLY AN EXERCISE.

APPENDIX II. PTWC REFERENCE MESSAGES

The following messages, created for the Indian Ocean Wave 09 tsunami exercise, are representative of what might be issued by the Indian Ocean Tsunami Warning Centre during an actual large tsunami event originating in the northwest Indian Ocean of Sumatra.

PTWC BULLETIN 1.

```
TEST...TSUNAMI BULLETIN NUMBER 001 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0115Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES.  ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  8.2

EVALUATION

EARTHQUAKES OF THIS SIZE HAVE THE POTENTIAL TO GENERATE A
WIDESPREAD DESTRUCTIVE TSUNAMI THAT CAN AFFECT COASTLINES ACROSS
THE ENTIRE INDIAN OCEAN BASIN.

HOWEVER - IT IS NOT KNOWN THAT A TSUNAMI WAS GENERATED.  THIS
WATCH IS BASED ONLY ON THE EARTHQUAKE EVALUATION. AUTHORITIES IN
THE REGION SHOULD TAKE APPROPRIATE ACTION IN RESPONSE TO THE
POSSIBILITY OF A WIDESPREAD DESTRUCTIVE TSUNAMI.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL
ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION         FORECAST POINT     COORDINATES     ARRIVAL TIME
--------------------------------    ------------    ------------
INDONESIA        SIMEULUE            2.5N  96.0E    0132Z 14 OCT
                 BANDA ACEH          5.5N  95.1E    0145Z 14 OCT
                 SIBERUT             1.5S  98.7E    0209Z 14 OCT
                 PADANG              0.9S 100.1E    0244Z 14 OCT
                 BENGKULU            3.9S 102.0E    0302Z 14 OCT
                 BANDAR LAMPUNG      5.7S 105.3E    0411Z 14 OCT
                 CILACAP             7.8S 108.9E    0428Z 14 OCT
                 BELAWAN             3.8N  98.8E    0451Z 14 OCT
                 BALI                8.7S 115.3E    0455Z 14 OCT
                 KUPANG             10.0S 123.4E    0557Z 14 OCT
INDIA            GREAT NICOBAR       7.1N  93.6E    0209Z 14 OCT
                 LITTLE ANDAMAN     10.7N  92.3E    0258Z 14 OCT
                 PORT BLAIR         11.9N  92.7E    0323Z 14 OCT
                 NORTH ANDAMAN      13.3N  92.6E    0326Z 14 OCT
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	CHENNAI	13.4N	80.4E	0422Z 14 OCT
	KAKINADA	17.2N	82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N	76.9E	0456Z 14 OCT
	BALESHWAR	21.6N	87.3E	0536Z 14 OCT
	MANGALORE	13.3N	74.4E	0626Z 14 OCT
	BOMBAY	18.8N	72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N	68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N	98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N	98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N	99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S	96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S	105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S	113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S	113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S	122.6E	0644Z 14 OCT
	PERTH	32.0S	115.3E	0649Z 14 OCT
	AUGUSTA	34.3S	114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S	114.3E	0712Z 14 OCT
	ESPERANCE	34.0S	121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S	139.4E	1009Z 14 OCT
	DARWIN	12.1S	130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S	128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S	73.5E	1040Z 14 OCT
	HOBART	43.3S	147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N	80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N	81.3E	0342Z 14 OCT
	COLOMBO	6.9N	79.8E	0409Z 14 OCT
	JAFFNA	9.9N	80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N	94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N	93.4E	0423Z 14 OCT
	MERGUI	12.8N	98.4E	0446Z 14 OCT
	SITTWE	20.0N	92.9E	0457Z 14 OCT
	YANGON	16.5N	96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S	73.2E	0441Z 14 OCT
	MALE	4.2N	73.6E	0446Z 14 OCT
	MINICOV	8.3N	73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S	72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N	100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N	101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N	91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S	57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S	55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S	55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N	54.1E	0827Z 14 OCT
	DUQM	19.7N	57.8E	0830Z 14 OCT
	MUSCAT	23.9N	58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N	51.4E	0839Z 14 OCT
	HILALAYA	6.4N	49.1E	0844Z 14 OCT
	MOGADISHU	2.0N	45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S	41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 2.

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TEST...TSUNAMI BULLETIN NUMBER 002 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0145Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES.  ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS
... NOTE REVISED MAGNITUDE ...

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
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SABANG ID             5.8N 095.3E  0125Z   4.0M / 13.1FT   17MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS INDICATE A TSUNAMI WAS GENERATED. IT MAY
ALREADY HAVE BEEN DESTRUCTIVE ALONG SOME COASTS.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE
OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME
OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN
LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO
BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE
TO RAPID CURRENTS.  AS LOCAL CONDITIONS CAN CAUSE A WIDE
VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST
BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL
ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION         FORECAST POINT     COORDINATES     ARRIVAL TIME
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INDONESIA        SIMEULUE            2.5N  96.0E    0132Z 14 OCT
                 BANDA ACEH          5.5N  95.1E    0145Z 14 OCT
                 SIBERUT             1.5S  98.7E    0209Z 14 OCT
                 PADANG              0.9S 100.1E    0244Z 14 OCT
                 BENGKULU            3.9S 102.0E    0302Z 14 OCT
                 BANDAR LAMPUNG      5.7S 105.3E    0411Z 14 OCT
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	CILACAP	7.8S	108.9E	0428Z 14 OCT
	BELAWAN	3.8N	98.8E	0451Z 14 OCT
	BALI	8.7S	115.3E	0455Z 14 OCT
	KUPANG	10.0S	123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N	93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N	92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N	92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N	92.6E	0326Z 14 OCT
	CHENNAI	13.4N	80.4E	0422Z 14 OCT
	KAKINADA	17.2N	82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N	76.9E	0456Z 14 OCT
	BALESHWAR	21.6N	87.3E	0536Z 14 OCT
	MANGALORE	13.3N	74.4E	0626Z 14 OCT
	BOMBAY	18.8N	72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N	68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N	98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N	98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N	99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S	96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S	105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S	113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S	113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S	122.6E	0644Z 14 OCT
	PERTH	32.0S	115.3E	0649Z 14 OCT
	AUGUSTA	34.3S	114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S	114.3E	0712Z 14 OCT
	ESPERANCE	34.0S	121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S	139.4E	1009Z 14 OCT
	DARWIN	12.1S	130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S	128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S	73.5E	1040Z 14 OCT
	HOBART	43.3S	147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N	80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N	81.3E	0342Z 14 OCT
	COLOMBO	6.9N	79.8E	0409Z 14 OCT
	JAFFNA	9.9N	80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N	94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N	93.4E	0423Z 14 OCT
	MERGUI	12.8N	98.4E	0446Z 14 OCT
	SITTWE	20.0N	92.9E	0457Z 14 OCT
	YANGON	16.5N	96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S	73.2E	0441Z 14 OCT
	MALE	4.2N	73.6E	0446Z 14 OCT
	MINICOV	8.3N	73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S	72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N	100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N	101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N	91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S	57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S	55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S	55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N	54.1E	0827Z 14 OCT
	DUQM	19.7N	57.8E	0830Z 14 OCT
	MUSCAT	23.9N	58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N	51.4E	0839Z 14 OCT
	HILALAYA	6.4N	49.1E	0844Z 14 OCT
	MOGADISHU	2.0N	45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S	41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT

	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 3.

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TEST...TSUNAMI BULLETIN NUMBER 003 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0245Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

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NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
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 SABANG ID            5.8N 095.3E  0125Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS INDICATE A TSUNAMI WAS GENERATED. IT MAY
ALREADY HAVE BEEN DESTRUCTIVE ALONG SOME COASTS.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE
OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME
OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN
LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO
BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE
TO RAPID CURRENTS.  AS LOCAL CONDITIONS CAN CAUSE A WIDE
VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST
BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL
ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION         FORECAST POINT     COORDINATES     ARRIVAL TIME
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INDONESIA        SIMEULUE            2.5N  96.0E    0132Z 14 OCT
                 BANDA ACEH          5.5N  95.1E    0145Z 14 OCT
                 SIBERUT             1.5S  98.7E    0209Z 14 OCT
                 PADANG              0.9S 100.1E    0244Z 14 OCT
                 BENGKULU            3.9S 102.0E    0302Z 14 OCT
                 BANDAR LAMPUNG      5.7S 105.3E    0411Z 14 OCT
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	CILACAP	7.8S	108.9E	0428Z 14 OCT
	BELAWAN	3.8N	98.8E	0451Z 14 OCT
	BALI	8.7S	115.3E	0455Z 14 OCT
	KUPANG	10.0S	123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N	93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N	92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N	92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N	92.6E	0326Z 14 OCT
	CHENNAI	13.4N	80.4E	0422Z 14 OCT
	KAKINADA	17.2N	82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N	76.9E	0456Z 14 OCT
	BALESHWAR	21.6N	87.3E	0536Z 14 OCT
	MANGALORE	13.3N	74.4E	0626Z 14 OCT
	BOMBAY	18.8N	72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N	68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N	98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N	98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N	99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S	96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S	105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S	113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S	113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S	122.6E	0644Z 14 OCT
	PERTH	32.0S	115.3E	0649Z 14 OCT
	AUGUSTA	34.3S	114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S	114.3E	0712Z 14 OCT
	ESPERANCE	34.0S	121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S	139.4E	1009Z 14 OCT
	DARWIN	12.1S	130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S	128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S	73.5E	1040Z 14 OCT
	HOBART	43.3S	147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N	80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N	81.3E	0342Z 14 OCT
	COLOMBO	6.9N	79.8E	0409Z 14 OCT
	JAFFNA	9.9N	80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N	94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N	93.4E	0423Z 14 OCT
	MERGUI	12.8N	98.4E	0446Z 14 OCT
	SITTWE	20.0N	92.9E	0457Z 14 OCT
	YANGON	16.5N	96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S	73.2E	0441Z 14 OCT
	MALE	4.2N	73.6E	0446Z 14 OCT
	MINICOV	8.3N	73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S	72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N	100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N	101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N	91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S	57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S	55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S	55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N	54.1E	0827Z 14 OCT
	DUQM	19.7N	57.8E	0830Z 14 OCT
	MUSCAT	23.9N	58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N	51.4E	0839Z 14 OCT
	HILALAYA	6.4N	49.1E	0844Z 14 OCT
	MOGADISHU	2.0N	45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S	41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT

	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 4.

TEST...TSUNAMI BULLETIN NUMBER 004 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0345Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0100Z 14 OCT 2009
COORDINATES - 3.3 NORTH 95.9 EAST
LOCATION - OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
SABANG ID	5.8N	095.3E	0135Z	4.0M / 13.1FT	17MIN
TELUKDALAM, ID	0.6N	097.8E	0212Z	2.5M / 8.2FT	19MIN
PADANG, ID	1.0S	100.4E	0251Z	0.5M / 1.6FT	17MIN
KO TAPHAO NOI, TH	7.8N	098.4E	0327Z	5.1M / 16.7FT	18MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
GENERATED WITH WIDESPREAD DESTRUCTIVE POTENTIAL. RECOMMEND
URGENT ACTION BE TAKEN TO PROTECT LIVES AND PROPERTY.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE
OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME
OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN
LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO
BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE
TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE
VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST
BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL
ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE
LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN
SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT

	PADANG	0.9S	100.1E	0244Z 14 OCT
	BENGKULU	3.9S	102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S	105.3E	0411Z 14 OCT
	CILACAP	7.8S	108.9E	0428Z 14 OCT
	BELAWAN	3.8N	98.8E	0451Z 14 OCT
	BALI	8.7S	115.3E	0455Z 14 OCT
	KUPANG	10.0S	123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N	93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N	92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N	92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N	92.6E	0326Z 14 OCT
	CHENNAI	13.4N	80.4E	0422Z 14 OCT
	KAKINADA	17.2N	82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N	76.9E	0456Z 14 OCT
	BALESHWAR	21.6N	87.3E	0536Z 14 OCT
	MANGALORE	13.3N	74.4E	0626Z 14 OCT
	BOMBAY	18.8N	72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N	68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N	98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N	98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N	99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S	96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S	105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S	113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S	113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S	122.6E	0644Z 14 OCT
	PERTH	32.0S	115.3E	0649Z 14 OCT
	AUGUSTA	34.3S	114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S	114.3E	0712Z 14 OCT
	ESPERANCE	34.0S	121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S	139.4E	1009Z 14 OCT
	DARWIN	12.1S	130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S	128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S	73.5E	1040Z 14 OCT
	HOBART	43.3S	147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N	80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N	81.3E	0342Z 14 OCT
	COLOMBO	6.9N	79.8E	0409Z 14 OCT
	JAFFNA	9.9N	80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N	94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N	93.4E	0423Z 14 OCT
	MERGUI	12.8N	98.4E	0446Z 14 OCT
	SITTWE	20.0N	92.9E	0457Z 14 OCT
	YANGON	16.5N	96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S	73.2E	0441Z 14 OCT
	MALE	4.2N	73.6E	0446Z 14 OCT
	MINICOV	8.3N	73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S	72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N	100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N	101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N	91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S	57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S	55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S	55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N	54.1E	0827Z 14 OCT
	DUQM	19.7N	57.8E	0830Z 14 OCT
	MUSCAT	23.9N	58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N	51.4E	0839Z 14 OCT
	HILALAYA	6.4N	49.1E	0844Z 14 OCT
	MOGADISHU	2.0N	45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S	41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT

	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 5.

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TEST...TSUNAMI BULLETIN NUMBER 005 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0445Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

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ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
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 SABANG ID            5.8N 095.3E  0135Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN
 PADANG, ID           1.0S 100.4E  0251Z   0.5M /  1.6FT  17MIN
 KO TAPHAO NOI, TH    7.8N 098.4E  0335Z   4.4M / 14.4FT  18MIN
 COCOS IS, AU        12.1S 096.9E  0330Z   2.0M /  6.6FT  15MIN
 CHRISTMAS IS, AU    10.4S 105.7E  0344Z   0.6M /  2.0FT  20MIN
 TRINCONMALEE, LK     8.6N  81.2E  0306Z   3.8M / 12.5FT  18MIN
 COLOMBO, LK          6.9N  79.9E  0350Z   2.2M /  7.2FT  21MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
GENERATED WITH WIDESPREAD DESTRUCTIVE POTENTIAL.  RECOMMEND
URGENT ACTION BE TAKEN TO PROTECT LIVES AND PROPERTY.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
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SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION         FORECAST POINT     COORDINATES     ARRIVAL TIME
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INDONESIA	SIMEULUE	2.5N	96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N	95.1E	0145Z 14 OCT
	SIBERUT	1.5S	98.7E	0209Z 14 OCT
	PADANG	0.9S	100.1E	0244Z 14 OCT
	BENGKULU	3.9S	102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S	105.3E	0411Z 14 OCT
	CILACAP	7.8S	108.9E	0428Z 14 OCT
	BELAWAN	3.8N	98.8E	0451Z 14 OCT
	BALI	8.7S	115.3E	0455Z 14 OCT
	KUPANG	10.0S	123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N	93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N	92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N	92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N	92.6E	0326Z 14 OCT
	CHENNAI	13.4N	80.4E	0422Z 14 OCT
	KAKINADA	17.2N	82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N	76.9E	0456Z 14 OCT
	BALESHWAR	21.6N	87.3E	0536Z 14 OCT
	MANGALORE	13.3N	74.4E	0626Z 14 OCT
	BOMBAY	18.8N	72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N	68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N	98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N	98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N	99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S	96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S	105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S	113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S	113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S	122.6E	0644Z 14 OCT
	PERTH	32.0S	115.3E	0649Z 14 OCT
	AUGUSTA	34.3S	114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S	114.3E	0712Z 14 OCT
	ESPERANCE	34.0S	121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S	139.4E	1009Z 14 OCT
	DARWIN	12.1S	130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S	128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S	73.5E	1040Z 14 OCT
	HOBART	43.3S	147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N	80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N	81.3E	0342Z 14 OCT
	COLOMBO	6.9N	79.8E	0409Z 14 OCT
	JAFFNA	9.9N	80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N	94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N	93.4E	0423Z 14 OCT
	MERGUI	12.8N	98.4E	0446Z 14 OCT
	SITTWE	20.0N	92.9E	0457Z 14 OCT
	YANGON	16.5N	96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S	73.2E	0441Z 14 OCT
	MALE	4.2N	73.6E	0446Z 14 OCT
	MINICOV	8.3N	73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S	72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N	100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N	101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N	91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S	57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S	55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S	55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N	54.1E	0827Z 14 OCT
	DUQM	19.7N	57.8E	0830Z 14 OCT
	MUSCAT	23.9N	58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N	51.4E	0839Z 14 OCT
	HILALAYA	6.4N	49.1E	0844Z 14 OCT
	MOGADISHU	2.0N	45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S	41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT

	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 6.

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TEST...TSUNAMI BULLETIN NUMBER 006 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0545Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

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AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
------------------  ----- ------  -----  ---------------  -----
 SABANG ID            5.8N 095.3E  0135Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN
 PADANG, ID           1.0S 100.4E  0251Z   0.5M /  1.6T   17MIN
 KO TAPHAO NOI, TH    7.8N 098.4E  0335Z   4.4M / 144FT   18MIN
 COCOS IS, AU        12.1S 096.9E  0330Z   2.0M / 6.6FT   15MIN
 CHRISTMAS IS, AU    10.4S 105.7E  0344Z   0.6M   2.0FT   20MIN
 TRINCONMALEE, LK     8.6N  81.2E  0306Z   3.8M / 12.5FT  18MIN
 COLOMBO, LK          6.9N  79.9E  0350Z   2.2M /  7.2FT  21MIN
 LANGKAWI, MY         6.9N  99.8E  0435Z   2.3M /  7.5FT  16MIN
 GAN, MV              0.7S  73.2E  0451Z   2.9M /  9.5FT  18MIN
 MALE, MV             4.2N  73.5E  0424Z   3.3M / 10.8FT  16MIN
 SITTWE, MM          20.2N  92.9E  0450Z   1.2M /  3.9FT  12MIN
 HANIMAADHOO, MV      6.8N  73.2E  0455Z   2.9M /  9.5FT  18MIN
 DIEGO GARCIA, UK     7.3S  72.4E  0457Z   1.7M /  5.6FT  18MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
GENERATED WITH WIDESPREAD DESTRUCTIVE POTENTIAL.  RECOMMEND
URGENT ACTION BE TAKEN TO PROTECT LIVES AND PROPERTY.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE
OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME
OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN
LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO
BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE
TO RAPID CURRENTS.  AS LOCAL CONDITIONS CAN CAUSE A WIDE
VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST
BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL
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ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT
	PADANG	0.9S 100.1E	0244Z 14 OCT
	BENGKULU	3.9S 102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S 105.3E	0411Z 14 OCT
	CILACAP	7.8S 108.9E	0428Z 14 OCT
	BELAWAN	3.8N 98.8E	0451Z 14 OCT
	BALI	8.7S 115.3E	0455Z 14 OCT
	KUPANG	10.0S 123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N 93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N 92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N 92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N 92.6E	0326Z 14 OCT
	CHENNAI	13.4N 80.4E	0422Z 14 OCT
	KAKINADA	17.2N 82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N 76.9E	0456Z 14 OCT
	BALESHWAR	21.6N 87.3E	0536Z 14 OCT
	MANGALORE	13.3N 74.4E	0626Z 14 OCT
	BOMBAY	18.8N 72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N 68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N 98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N 98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N 99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S 96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S 105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S 113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S 113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S 122.6E	0644Z 14 OCT
	PERTH	32.0S 115.3E	0649Z 14 OCT
	AUGUSTA	34.3S 114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S 114.3E	0712Z 14 OCT
	ESPERANCE	34.0S 121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S 139.4E	1009Z 14 OCT
	DARWIN	12.1S 130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S 128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S 73.5E	1040Z 14 OCT
	HOBART	43.3S 147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N 80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N 81.3E	0342Z 14 OCT
	COLOMBO	6.9N 79.8E	0409Z 14 OCT
	JAFFNA	9.9N 80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N 94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N 93.4E	0423Z 14 OCT
	MERGUI	12.8N 98.4E	0446Z 14 OCT
	SITTWE	20.0N 92.9E	0457Z 14 OCT
	YANGON	16.5N 96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S 73.2E	0441Z 14 OCT
	MALE	4.2N 73.6E	0446Z 14 OCT
	MINICOV	8.3N 73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S 72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N 100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N 101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N 91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S 57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S 55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S 55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N 54.1E	0827Z 14 OCT
	DUQM	19.7N 57.8E	0830Z 14 OCT
	MUSCAT	23.9N 58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N 51.4E	0839Z 14 OCT
	HILALAYA	6.4N 49.1E	0844Z 14 OCT
	MOGADISHU	2.0N 45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S 41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N 61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N 62.4E	0840Z 14 OCT
	KARACHI	24.7N 66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S 49.5E	0841Z 14 OCT
	TOAMASINA	17.8S 49.6E	0849Z 14 OCT
	MANAKARA	22.2S 48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S 46.2E	0941Z 14 OCT

	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 7.

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TEST...TSUNAMI BULLETIN NUMBER 007 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0645Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES.  ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
------------------  ----- ------  -----  --------------  -----
 SABANG ID            5.8N 095.3E  0135Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN
 PADANG, ID           1.0S 100.4E  0251Z   0.5M /  1.6FT  17MIN
 KO TAPHAO NOI, TH    7.8N 098.4E  0335Z   4.4M / 14.4FT  18MIN
 COCOS IS, AU        12.1S 096.9E  0330Z   2.0M /  6.6FT  15MIN
 CHRISTMAS IS, AU    10.4S 105.7E  0344Z   0.6M /  2.0FT  20MIN
 TRINCONMALEE, LK     8.6N  81.2E  0306Z   3.8M / 12.5FT  18MIN
 COLOMBO, LK          6.9N  79.9E  0350Z   2.2M /  7.2FT  21MIN
 LANGKAWI, MY         6.9N  99.8E  0435Z   2.3M /  7.5FT  16MIN
 GAN, MV              0.7S  73.2E  0451Z   2.9M /  9.5FT  18MIN
 MALE, MV             4.2N  73.5E  0424Z   3.3M / 10.8FT  16MIN
 SITTWE, MM          20.2N  92.9E  0450Z   1.2M /  3.9FT  12MIN
 HANIMAADHOO, MV      6.8N  73.2E  0455Z   2.9M /  9.5FT  18MIN
 DIEGO GARCIA, UK     7.3S  72.4E  0457Z   1.7M /  5.6FT  18MIN
 CHITTAGONG, BA      22.3N  91.8E  0630Z   1.0M /  3.3FT  19MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
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ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS
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LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT
	PADANG	0.9S 100.1E	0244Z 14 OCT
	BENGKULU	3.9S 102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S 105.3E	0411Z 14 OCT
	CILACAP	7.8S 108.9E	0428Z 14 OCT
	BELAWAN	3.8N 98.8E	0451Z 14 OCT
	BALI	8.7S 115.3E	0455Z 14 OCT
	KUPANG	10.0S 123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N 93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N 92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N 92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N 92.6E	0326Z 14 OCT
	CHENNAI	13.4N 80.4E	0422Z 14 OCT
	KAKINADA	17.2N 82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N 76.9E	0456Z 14 OCT
	BALESHWAR	21.6N 87.3E	0536Z 14 OCT
	MANGALORE	13.3N 74.4E	0626Z 14 OCT
	BOMBAY	18.8N 72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N 68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N 98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N 98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N 99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S 96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S 105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S 113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S 113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S 122.6E	0644Z 14 OCT
	PERTH	32.0S 115.3E	0649Z 14 OCT
	AUGUSTA	34.3S 114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S 114.3E	0712Z 14 OCT
	ESPERANCE	34.0S 121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S 139.4E	1009Z 14 OCT
	DARWIN	12.1S 130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S 128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S 73.5E	1040Z 14 OCT
	HOBART	43.3S 147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N 80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N 81.3E	0342Z 14 OCT
	COLOMBO	6.9N 79.8E	0409Z 14 OCT
	JAFFNA	9.9N 80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N 94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N 93.4E	0423Z 14 OCT
	MERGUI	12.8N 98.4E	0446Z 14 OCT
	SITTWE	20.0N 92.9E	0457Z 14 OCT
	YANGON	16.5N 96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S 73.2E	0441Z 14 OCT
	MALE	4.2N 73.6E	0446Z 14 OCT
	MINICOV	8.3N 73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S 72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N 100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N 101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N 91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S 57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S 55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S 55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N 54.1E	0827Z 14 OCT
	DUQM	19.7N 57.8E	0830Z 14 OCT
	MUSCAT	23.9N 58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N 51.4E	0839Z 14 OCT
	HILALAYA	6.4N 49.1E	0844Z 14 OCT
	MOGADISHU	2.0N 45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S 41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N 61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N 62.4E	0840Z 14 OCT
	KARACHI	24.7N 66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S 49.5E	0841Z 14 OCT
	TOAMASINA	17.8S 49.6E	0849Z 14 OCT
	MANAKARA	22.2S 48.2E	0906Z 14 OCT

	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
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PTWC BULLETIN 8.

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TEST...TSUNAMI BULLETIN NUMBER 008 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0745Z 14 OCT 2009

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... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

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AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
------------------  ----- ------  -----  ---------------  -----
 SABANG ID            5.8N 095.3E  0135Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN
 PADANG, ID           1.0S 100.4E  0251Z   0.5M /  1.6FT  17MIN
 KO TAPHAO NOI, TH    7.8N 098.4E  0335Z   4.4M / 14.4FT  18MIN
 COCOS IS, AU        12.1S 096.9E  0330Z   2.0M /  6.6FT  15MIN
 CHRISTMAS IS, AU    10.4S 105.7E  0344Z   0.6M /  2.0FT  20MIN
 TRINCONMALEE, LK     8.6N  81.2E  0306Z   3.8M / 12.5FT  18MIN
 COLOMBO, LK          6.9N  79.9E  0350Z   2.2M /  7.2FT  21MIN
 LANGKAWI, MY         6.9N  99.8E  0435Z   2.3M /  7.5FT  16MIN
 GAN, MV              0.7S  73.2E  0451Z   2.9M /  9.5FT  18MIN
 MALE, MV             4.2N  73.5E  0424Z   3.3M / 10.8FT  16MIN
 SITTWE, MM          20.2N  92.9E  0450Z   1.2M /  3.9FT  12MIN
 HANIMAADHOO, MV      6.8N  73.2E  0455Z   2.9M /  9.5FT  18MIN
 DIEGO GARCIA, UK     7.3S  72.4E  0457Z   1.7M /  5.6FT  18MIN
 CHITTAGONG, BA      22.3N  91.8E  0630Z   1.0M /  3.3FT  19MIN
 RODRIGUES, MU       19.7S  63.4E  0655Z   1.6M /  5.2FT  16MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
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LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT
	PADANG	0.9S 100.1E	0244Z 14 OCT
	BENGKULU	3.9S 102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S 105.3E	0411Z 14 OCT
	CILACAP	7.8S 108.9E	0428Z 14 OCT
	BELAWAN	3.8N 98.8E	0451Z 14 OCT
	BALI	8.7S 115.3E	0455Z 14 OCT
	KUPANG	10.0S 123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N 93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N 92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N 92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N 92.6E	0326Z 14 OCT
	CHENNAI	13.4N 80.4E	0422Z 14 OCT
	KAKINADA	17.2N 82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N 76.9E	0456Z 14 OCT
	BALESHWAR	21.6N 87.3E	0536Z 14 OCT
	MANGALORE	13.3N 74.4E	0626Z 14 OCT
	BOMBAY	18.8N 72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N 68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N 98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N 98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N 99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S 96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S 105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S 113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S 113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S 122.6E	0644Z 14 OCT
	PERTH	32.0S 115.3E	0649Z 14 OCT
	AUGUSTA	34.3S 114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S 114.3E	0712Z 14 OCT
	ESPERANCE	34.0S 121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S 139.4E	1009Z 14 OCT
	DARWIN	12.1S 130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S 128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S 73.5E	1040Z 14 OCT
	HOBART	43.3S 147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N 80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N 81.3E	0342Z 14 OCT
	COLOMBO	6.9N 79.8E	0409Z 14 OCT
	JAFFNA	9.9N 80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N 94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N 93.4E	0423Z 14 OCT
	MERGUI	12.8N 98.4E	0446Z 14 OCT
	SITTWE	20.0N 92.9E	0457Z 14 OCT
	YANGON	16.5N 96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S 73.2E	0441Z 14 OCT
	MALE	4.2N 73.6E	0446Z 14 OCT
	MINICOV	8.3N 73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S 72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N 100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N 101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N 91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S 57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S 55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S 55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N 54.1E	0827Z 14 OCT
	DUQM	19.7N 57.8E	0830Z 14 OCT
	MUSCAT	23.9N 58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N 51.4E	0839Z 14 OCT
	HILALAYA	6.4N 49.1E	0844Z 14 OCT
	MOGADISHU	2.0N 45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S 41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N 61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N 62.4E	0840Z 14 OCT
	KARACHI	24.7N 66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S 49.5E	0841Z 14 OCT
	TOAMASINA	17.8S 49.6E	0849Z 14 OCT

	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 9.

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TEST...TSUNAMI BULLETIN NUMBER 009 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0845Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES.  ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
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 SABANG ID            5.8N 095.3E  0135Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN
 PADANG, ID           1.0S 100.4E  0251Z   0.5M /  1.6FT  17MIN
 KO TAPHAO NOI, TH    7.8N 098.4E  0335Z   4.4M / 14.4FT  18MIN
 COCOS IS, AU        12.1S 096.9E  0330Z   2.0M /  6.6FT  15MIN
 CHRISTMAS IS, AU    10.4S 105.7E  0344Z   0.6M /  2.0FT  20MIN
 TRINCONMALEE, LK     8.6N  81.2E  0306Z   3.8M / 12.5FT  18MIN
 COLOMBO, LK          6.9N  79.9E  0350Z   2.2M /  7.2FT  21MIN
 LANGKAWI, MY         6.9N  99.8E  0435Z   2.3M /  7.5FT  16MIN
 GAN, MV              0.7S  73.2E  0451Z   2.9M /  9.5FT  18MIN
 MALE, MV             4.2N  73.5E  0424Z   3.3M / 10.8FT  16MIN
 SITTWE, MM          20.2N  92.9E  0450Z   1.2M /  3.9FT  12MIN
 HANIMAADHOO, MV      6.8N  73.2E  0455Z   2.9M /  9.5FT  18MIN
 DIEGO GARCIA, UK     7.3S  72.4E  0457Z   1.7M /  5.6FT  18MIN
 CHITTAGONG, BA      22.3N  91.8E  0630Z   1.0M /  3.3FT  19MIN
 RODRIGUES, MU       19.7S  63.4E  0655Z   1.6M /  5.2FT  16MIN
 PORT LOUIS, MU      20.2S  57.5E  0828Z   1.0M /  3.3FT  15MIN
 SALALAH, OM         16.9N  54.0E  0809Z   0.5M /  1.6FT  19MIN
 MASIRAH, OM         20.7N  58.9E  0825Z   0.4M /  1.3FT  19MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
GENERATED WITH WIDESPREAD DESTRUCTIVE POTENTIAL.  RECOMMEND
URGENT ACTION BE TAKEN TO PROTECT LIVES AND PROPERTY.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE
OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME
OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN
LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO
BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE
TO RAPID CURRENTS.  AS LOCAL CONDITIONS CAN CAUSE A WIDE
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VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT
	PADANG	0.9S 100.1E	0244Z 14 OCT
	BENGKULU	3.9S 102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S 105.3E	0411Z 14 OCT
	CILACAP	7.8S 108.9E	0428Z 14 OCT
	BELAWAN	3.8N 98.8E	0451Z 14 OCT
	BALI	8.7S 115.3E	0455Z 14 OCT
	KUPANG	10.0S 123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N 93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N 92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N 92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N 92.6E	0326Z 14 OCT
	CHENNAI	13.4N 80.4E	0422Z 14 OCT
	KAKINADA	17.2N 82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N 76.9E	0456Z 14 OCT
	BALESHWAR	21.6N 87.3E	0536Z 14 OCT
	MANGALORE	13.3N 74.4E	0626Z 14 OCT
	BOMBAY	18.8N 72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N 68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N 98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N 98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N 99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S 96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S 105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S 113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S 113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S 122.6E	0644Z 14 OCT
	PERTH	32.0S 115.3E	0649Z 14 OCT
	AUGUSTA	34.3S 114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S 114.3E	0712Z 14 OCT
	ESPERANCE	34.0S 121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S 139.4E	1009Z 14 OCT
	DARWIN	12.1S 130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S 128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S 73.5E	1040Z 14 OCT
	HOBART	43.3S 147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N 80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N 81.3E	0342Z 14 OCT
	COLOMBO	6.9N 79.8E	0409Z 14 OCT
	JAFFNA	9.9N 80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N 94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N 93.4E	0423Z 14 OCT
	MERGUI	12.8N 98.4E	0446Z 14 OCT
	SITTWE	20.0N 92.9E	0457Z 14 OCT
	YANGON	16.5N 96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S 73.2E	0441Z 14 OCT
	MALE	4.2N 73.6E	0446Z 14 OCT
	MINICOV	8.3N 73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S 72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N 100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N 101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N 91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S 57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S 55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S 55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N 54.1E	0827Z 14 OCT
	DUQM	19.7N 57.8E	0830Z 14 OCT
	MUSCAT	23.9N 58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N 51.4E	0839Z 14 OCT
	HILALAYA	6.4N 49.1E	0844Z 14 OCT
	MOGADISHU	2.0N 45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S 41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N 61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N 62.4E	0840Z 14 OCT

	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 10.

TEST...TSUNAMI BULLETIN NUMBER 010 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0945Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

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NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0100Z 14 OCT 2009
COORDINATES - 3.3 NORTH 95.9 EAST
LOCATION - OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
SABANG ID	5.8N	095.3E	0135Z	4.0M / 13.1FT	17MIN
TELUKDALAM, ID	0.6N	097.8E	0212Z	2.5M / 8.2FT	19MIN
PADANG, ID	1.0S	100.4E	0251Z	0.5M / 1.6FT	17MIN
KO TAPHAO NOI, TH	7.8N	098.4E	0335Z	4.4M / 14.4FT	18MIN
COCOS IS, AU	12.1S	096.9E	0330Z	2.0M / 6.6FT	15MIN
CHRISTMAS IS, AU	10.4S	105.7E	0344Z	0.6M / 2.0FT	20MIN
TRINCONMALEE, LK	8.6N	81.2E	0306Z	3.8M / 12.5FT	18MIN
COLOMBO, LK	6.9N	79.9E	0350Z	2.2M / 7.2FT	21MIN
LANGKAWI, MY	6.9N	99.8E	0435Z	2.3M / 7.5FT	16MIN
GAN, MV	0.7S	73.2E	0451Z	2.9M / 9.5FT	18MIN
MALE, MV	4.2N	73.5E	0424Z	3.3M / 10.8FT	16MIN
SITTWE, MM	20.2N	92.9E	0450Z	1.2M / 3.9FT	12MIN
HANIMAADHOO, MV	6.8N	73.2E	0455Z	2.9M / 9.5FT	18MIN
DIEGO GARCIA, UK	7.3S	72.4E	0457Z	1.7M / 5.6FT	18MIN
CHITTAGONG, BA	22.3N	91.8E	0630Z	1.0M / 3.3FT	19MIN
RODRIGUES, MU	19.7S	63.4E	0655Z	1.6M / 5.2FT	16MIN
PORT LOUIS, MU	20.2S	57.5E	0828Z	1.0M / 3.3FT	15MIN
SALALAH, OM	16.9N	54.0E	0809Z	0.5M / 1.6FT	19MIN
MASIRAH, OM	20.7N	58.9E	0825Z	0.4M / 1.3FT	19MIN
CHABAHAR, IR	25.3N	60.6E	0853Z	0.9M / 3.0FT	17MIN
HILLARYS, AU	31.8S	115.7E	0730Z	0.5M / 1.6FT	18MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
GENERATED WITH WIDESPREAD DESTRUCTIVE POTENTIAL. RECOMMEND
URGENT ACTION BE TAKEN TO PROTECT LIVES AND PROPERTY.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE
OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME
OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN
LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO

BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT
	PADANG	0.9S 100.1E	0244Z 14 OCT
	BENGKULU	3.9S 102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S 105.3E	0411Z 14 OCT
	CILACAP	7.8S 108.9E	0428Z 14 OCT
	BELAWAN	3.8N 98.8E	0451Z 14 OCT
	BALI	8.7S 115.3E	0455Z 14 OCT
	KUPANG	10.0S 123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N 93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N 92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N 92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N 92.6E	0326Z 14 OCT
	CHENNAI	13.4N 80.4E	0422Z 14 OCT
	KAKINADA	17.2N 82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N 76.9E	0456Z 14 OCT
	BALESHWAR	21.6N 87.3E	0536Z 14 OCT
	MANGALORE	13.3N 74.4E	0626Z 14 OCT
	BOMBAY	18.8N 72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N 68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N 98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N 98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N 99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S 96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S 105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S 113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S 113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S 122.6E	0644Z 14 OCT
	PERTH	32.0S 115.3E	0649Z 14 OCT
	AUGUSTA	34.3S 114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S 114.3E	0712Z 14 OCT
	ESPERANCE	34.0S 121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S 139.4E	1009Z 14 OCT
	DARWIN	12.1S 130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S 128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S 73.5E	1040Z 14 OCT
	HOBART	43.3S 147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N 80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N 81.3E	0342Z 14 OCT
	COLOMBO	6.9N 79.8E	0409Z 14 OCT
	JAFFNA	9.9N 80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N 94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N 93.4E	0423Z 14 OCT
	MERGUI	12.8N 98.4E	0446Z 14 OCT
	SITTWE	20.0N 92.9E	0457Z 14 OCT
	YANGON	16.5N 96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S 73.2E	0441Z 14 OCT
	MALE	4.2N 73.6E	0446Z 14 OCT
	MINICOV	8.3N 73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S 72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N 100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N 101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N 91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S 57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S 55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S 55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N 54.1E	0827Z 14 OCT
	DUQM	19.7N 57.8E	0830Z 14 OCT
	MUSCAT	23.9N 58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N 51.4E	0839Z 14 OCT
	HILALAYA	6.4N 49.1E	0844Z 14 OCT
	MOGADISHU	2.0N 45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S 41.9E	0923Z 14 OCT

IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 11.

TEST...TSUNAMI BULLETIN NUMBER 011 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1045Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

A TSUNAMI WATCH IS IN EFFECT FOR

INDONESIA / INDIA / THAILAND / AUSTRALIA / SRI LANKA / MYANMAR /
MALDIVES / UNITED KINGDOM / MALAYSIA / BANGLADESH / MAURITIUS /
REUNION / SEYCHELLES / OMAN / SOMALIA / IRAN / PAKISTAN /
MADAGASCAR / YEMEN / COMORES / MOZAMBIQUE / KENYA / TANZANIA /
CROZET ISLANDS / KERGUELEN ISLANDS / SOUTH AFRICA / SINGAPORE

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0100Z 14 OCT 2009
COORDINATES - 3.3 NORTH 95.9 EAST
LOCATION - OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE - 9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
SABANG ID	5.8N	095.3E	0135Z	4.0M / 13.1FT	17MIN
TELUKDALAM, ID	0.6N	097.8E	0212Z	2.5M / 8.2FT	19MIN
PADANG, ID	1.0S	100.4E	0251Z	0.5M / 1.6FT	17MIN
KO TAPHAO NOI, TH	7.8N	098.4E	0335Z	4.4M / 14.4FT	18MIN
COCOS IS, AU	12.1S	096.9E	0330Z	2.0M / 6.6FT	15MIN
CHRISTMAS IS, AU	10.4S	105.7E	0344Z	0.6M / 2.0FT	20MIN
TRINCONMALEE, LK	8.6N	81.2E	0306Z	3.8M / 12.5FT	18MIN
COLOMBO, LK	6.9N	79.9E	0350Z	2.2M / 7.2FT	21MIN
LANGKAWI, MY	6.9N	99.8E	0435Z	2.3M / 7.5FT	16MIN
GAN, MV	0.7S	73.2E	0451Z	2.9M / 9.5FT	18MIN
MALE, MV	4.2N	73.5E	0424Z	3.3M / 10.8FT	16MIN
SITTWE, MM	20.2N	92.9E	0450Z	1.2M / 3.9FT	12MIN
HANIMAADHOO, MV	6.8N	73.2E	0455Z	2.9M / 9.5FT	18MIN
DIEGO GARCIA, UK	7.3S	72.4E	0457Z	1.7M / 5.6FT	18MIN
CHITTAGONG, BA	22.3N	91.8E	0630Z	1.0M / 3.3FT	19MIN
RODRIGUES, MU	19.7S	63.4E	0655Z	1.6M / 5.2FT	16MIN
PORT LOUIS, MU	20.2S	57.5E	0828Z	1.0M / 3.3FT	15MIN
SALALAH, OM	16.9N	54.0E	0809Z	0.5M / 1.6FT	19MIN
MASIRAH, OM	20.7N	58.9E	0825Z	0.4M / 1.3FT	19MIN
CHABAHAR, IR	25.3N	60.6E	0853Z	0.9M / 3.0FT	17MIN
HILLARYS, AU	31.8S	115.7E	0730Z	0.5M / 1.6FT	18MIN
LAMU, KE	2.3S	40.9E	1022Z	1.5M / 4.9FT	17MIN
MOMBASA, KE	4.1S	39.6E	1026Z	2.3M / 7.5FT	15MIN
ZANZIBAR, TZ	6.2S	39.2E	1033Z	2.2M / 7.2FT	16MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)
LON - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A SIGNIFICANT TSUNAMI HAS BEEN
GENERATED WITH WIDESPREAD DESTRUCTIVE POTENTIAL. RECOMMEND
URGENT ACTION BE TAKEN TO PROTECT LIVES AND PROPERTY.

BASED ON THESE DATA THE THREAT CONTINUES FOR ALL COASTAL AREAS OF
THE INDIAN OCEAN. FOR THOSE AREAS - WHEN NO MAJOR WAVES HAVE

OCCURRED FOR AT LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION	FORECAST POINT	COORDINATES	ARRIVAL TIME
INDONESIA	SIMEULUE	2.5N 96.0E	0132Z 14 OCT
	BANDA ACEH	5.5N 95.1E	0145Z 14 OCT
	SIBERUT	1.5S 98.7E	0209Z 14 OCT
	PADANG	0.9S 100.1E	0244Z 14 OCT
	BENGKULU	3.9S 102.0E	0302Z 14 OCT
	BANDAR LAMPUNG	5.7S 105.3E	0411Z 14 OCT
	CILACAP	7.8S 108.9E	0428Z 14 OCT
	BELAWAN	3.8N 98.8E	0451Z 14 OCT
	BALI	8.7S 115.3E	0455Z 14 OCT
	KUPANG	10.0S 123.4E	0557Z 14 OCT
INDIA	GREAT NICOBAR	7.1N 93.6E	0209Z 14 OCT
	LITTLE ANDAMAN	10.7N 92.3E	0258Z 14 OCT
	PORT BLAIR	11.9N 92.7E	0323Z 14 OCT
	NORTH ANDAMAN	13.3N 92.6E	0326Z 14 OCT
	CHENNAI	13.4N 80.4E	0422Z 14 OCT
	KAKINADA	17.2N 82.7E	0440Z 14 OCT
	TRIVANDRUM	8.3N 76.9E	0456Z 14 OCT
	BALESHWAR	21.6N 87.3E	0536Z 14 OCT
	MANGALORE	13.3N 74.4E	0626Z 14 OCT
	BOMBAY	18.8N 72.6E	0856Z 14 OCT
	GULF OF KUTCH	22.7N 68.9E	0926Z 14 OCT
THAILAND	PHUKET	8.0N 98.2E	0321Z 14 OCT
	KO PHRA THONG	9.1N 98.2E	0405Z 14 OCT
	KO TARUTAO	6.6N 99.6E	0432Z 14 OCT
AUSTRALIA	COCOS ISLAND	12.1S 96.7E	0324Z 14 OCT
	CHRISTMAS IS	10.4S 105.4E	0329Z 14 OCT
	NORTH WEST CAPE	21.5S 113.9E	0537Z 14 OCT
	CAPE INSPIRATIO	25.9S 113.0E	0637Z 14 OCT
	CAPE LEVEQUE	16.1S 122.6E	0644Z 14 OCT
	PERTH	32.0S 115.3E	0649Z 14 OCT
	AUGUSTA	34.3S 114.7E	0706Z 14 OCT
	GERALDTOWN	28.6S 114.3E	0712Z 14 OCT
	ESPERANCE	34.0S 121.8E	0832Z 14 OCT
	KINGSTON SOUTH	37.0S 139.4E	1009Z 14 OCT
	DARWIN	12.1S 130.7E	1034Z 14 OCT
	EUCLA MOTEL	31.8S 128.9E	1038Z 14 OCT
	HEARD ISLAND	54.0S 73.5E	1040Z 14 OCT
	HOBART	43.3S 147.6E	1117Z 14 OCT
SRI LANKA	DONDRA HEAD	5.9N 80.6E	0341Z 14 OCT
	TRINCOMALEE	8.7N 81.3E	0342Z 14 OCT
	COLOMBO	6.9N 79.8E	0409Z 14 OCT
	JAFFNA	9.9N 80.0E	0502Z 14 OCT
MYANMAR	PYINKAYAING	15.9N 94.3E	0411Z 14 OCT
	CHEDUBA ISLAND	18.9N 93.4E	0423Z 14 OCT
	MERGUI	12.8N 98.4E	0446Z 14 OCT
	SITTWE	20.0N 92.9E	0457Z 14 OCT
	YANGON	16.5N 96.4E	0541Z 14 OCT
MALDIVES	GAN	0.6S 73.2E	0441Z 14 OCT
	MALE	4.2N 73.6E	0446Z 14 OCT
	MINICOV	8.3N 73.0E	0510Z 14 OCT
UNITED KINGDOM	DIEGO GARCIA	7.3S 72.4E	0501Z 14 OCT
MALAYSIA	GEORGETOWN	5.4N 100.1E	0506Z 14 OCT
	PORT DICKSON	2.5N 101.7E	0838Z 14 OCT
BANGLADESH	CHITTAGONG	22.7N 91.2E	0701Z 14 OCT
MAURITIUS	PORT LOUIS	20.0S 57.3E	0751Z 14 OCT
REUNION	ST DENIS	20.8S 55.2E	0805Z 14 OCT
SEYCHELLES	VICTORIA	4.5S 55.6E	0807Z 14 OCT
OMAN	SALALAH	16.9N 54.1E	0827Z 14 OCT
	DUQM	19.7N 57.8E	0830Z 14 OCT
	MUSCAT	23.9N 58.6E	0837Z 14 OCT
SOMALIA	CAPE GUARO	11.9N 51.4E	0839Z 14 OCT

	HILALAYA	6.4N	49.1E	0844Z 14 OCT
	MOGADISHU	2.0N	45.5E	0855Z 14 OCT
	KAAMBOONI	1.5S	41.9E	0923Z 14 OCT
IRAN	GAVATER	25.0N	61.3E	0840Z 14 OCT
PAKISTAN	GWADAR	25.1N	62.4E	0840Z 14 OCT
	KARACHI	24.7N	66.9E	0923Z 14 OCT
MADAGASCAR	ANTSIRANANA	12.1S	49.5E	0841Z 14 OCT
	TOAMASINA	17.8S	49.6E	0849Z 14 OCT
	MANAKARA	22.2S	48.2E	0906Z 14 OCT
	MAHAJANGA	15.4S	46.2E	0941Z 14 OCT
	CAP STE MARIE	25.8S	45.2E	1001Z 14 OCT
	TOLIARA	23.4S	43.6E	1026Z 14 OCT
YEMEN	AL MUKALLA	14.5N	49.2E	0904Z 14 OCT
	ADEN	13.0N	45.2E	1004Z 14 OCT
COMORES	MORONI	11.6S	43.3E	0939Z 14 OCT
MOZAMBIQUE	CABO DELGADO	10.7S	40.7E	0959Z 14 OCT
	ANGOCHE	15.5S	40.6E	1022Z 14 OCT
	QUELIMANE	18.0S	37.1E	1138Z 14 OCT
	MAPUTO	25.9S	32.8E	1207Z 14 OCT
	BEIRA	19.9S	35.1E	1233Z 14 OCT
KENYA	MOMBASA	4.0S	39.7E	0959Z 14 OCT
TANZANIA	LINDI	9.8S	39.9E	1000Z 14 OCT
	DAR ES SALAAM	6.7S	39.4E	1001Z 14 OCT
CROZET ISLANDS	CROZET ISLANDS	46.4S	51.8E	1021Z 14 OCT
KERGUELEN ISLAN	PORT AUX FRANCA	49.0S	69.1E	1125Z 14 OCT
SOUTH AFRICA	PRINCE EDWARD I	46.6S	37.6E	1152Z 14 OCT
	DURBAN	29.8S	31.2E	1155Z 14 OCT
	PORT ELIZABETH	33.9S	25.8E	1300Z 14 OCT
	CAPE TOWN	34.1S	18.0E	1354Z 14 OCT
SINGAPORE	SINGAPORE	1.2N	103.8E	1216Z 14 OCT

ADDITIONAL BULLETINS WILL BE ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT AS MORE INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

PTWC BULLETIN 12.

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TEST...TSUNAMI BULLETIN NUMBER 012 ...TEST
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 1100Z 14 OCT 2009

THIS BULLETIN IS FOR ALL AREAS OF THE INDIAN OCEAN.

... THE TSUNAMI WATCH IS CANCELLED ...

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES.  ONLY
NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE
DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND
ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME -  0100Z 14 OCT 2009
COORDINATES -   3.3 NORTH   95.9 EAST
LOCATION    -  OFF W COAST OF NORTHERN SUMATRA
MAGNITUDE   -  9.2

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION        LAT   LON    TIME        AMPL          PER
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 SABANG ID            5.8N 095.3E  0135Z   4.0M / 13.1FT  17MIN
 TELUKDALAM, ID       0.6N 097.8E  0212Z   2.5M /  8.2FT  19MIN
 PADANG, ID           1.0S 100.4E  0251Z   0.5M /  1.6FT  17MIN
 KO TAPHAO NOI, TH    7.8N 098.4E  0335Z   4.4M / 14.4FT  18MIN
 COCOS IS, AU        12.1S 096.9E  0330Z   2.0M /  6.6FT  15MIN
 CHRISTMAS IS, AU    10.4S 105.7E  0344Z   0.6M /  2.0FT  20MIN
 TRINCONMALEE, LK     8.6N  81.2E  0306Z   3.8M / 12.5FT  18MIN
 COLOMBO, LK          6.9N  79.9E  0350Z   2.2M /  7.2FT  21MIN
 LANGKAWI, MY         6.9N  99.8E  0435Z   2.3M /  7.5FT  16MIN
 GAN, MV              0.7S  73.2E  0451Z   2.9M /  9.5FT  18MIN
 MALE, MV             4.2N  73.5E  0424Z   3.3M / 10.8FT  16MIN
 SITTWE, MM          20.2N  92.9E  0450Z   1.2M /  3.9FT  12MIN
 HANIMAADHOO, MV      6.8N  73.2E  0455Z   2.9M /  9.5FT  18MIN
 DIEGO GARCIA, UK     7.3S  72.4E  0457Z   1.7M /  5.6FT  18MIN
 CHITTAGONG, BA      22.3N  91.8E  0630Z   1.0M /  3.3FT  19MIN
 RODRIGUES, MU       19.7S  63.4E  0655Z   1.6M /  5.2FT  16MIN
 PORT LOUIS, MU      20.2S  57.5E  0828Z   1.0M /  3.3FT  15MIN
 SALALAH, OM         16.9N  54.0E  0809Z   0.5M /  1.6FT  19MIN
 MASIRAH, OM         20.7N  58.9E  0825Z   0.4M /  1.3FT  19MIN
 CHABAHAR, IR        25.3N  60.6E  0853Z   0.9M /  3.0FT  17MIN
 HILLARYS, AU        31.8S 115.7E  0730Z   0.5M /  1.6FT  18MIN
 LAMU, KE             2.3S  40.9E  1022Z   1.5M /  4.9FT  17MIN
 MOMBASA, KE          4.1S  39.6E  1026Z   2.3M /  7.5FT  15MIN
 ZANZIBAR, TZ         6.2S  39.2E  1033Z   2.2M /  7.2FT  16MIN

LAT  - LATITUDE (N-NORTH, S-SOUTH)
LON  - LONGITUDE (E-EAST, W-WEST)
TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME)
AMPL - TSUNAMI AMPLITUDE MEASURED RELATIVE TO NORMAL SEA LEVEL.
       IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.
       VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).
PER  - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

A SIGNIFICANT TSUNAMI WAS GENERATED BY THIS EARTHQUAKE.
HOWEVER...SEA LEVEL READINGS NOW INDICATE THAT THE THREAT HAS
DIMINISHED OR IS OVER FOR MOST AREAS.  THEREFORE THE TSUNAMI
WATCH ISSUED BY THIS CENTER IS NOW CANCELLED.

FOR ANY AFFECTED AREAS - WHEN NO MAJOR WAVES HAVE OCCURRED FOR AT
LEAST TWO HOURS AFTER THE ESTIMATED ARRIVAL TIME OR DAMAGING WAVES
HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES
CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL
STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS.
AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE
ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL
AUTHORITIES.
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THIS WILL BE THE FINAL BULLETIN ISSUED BY THE PACIFIC TSUNAMI
WARNING CENTER FOR THIS EVENT UNLESS ADDITIONAL INFORMATION
BECOMES AVAILABLE.

THE JAPAN METEOROLOGICAL AGENCY MAY ISSUE ADDITIONAL INFORMATION
FOR THIS EVENT. IN THE CASE OF CONFLICTING INFORMATION...THE
MORE CONSERVATIVE INFORMATION SHOULD BE USED FOR SAFETY.

APPENDIX III. JMA REFERENCE MESSAGES

The following messages, created for the Indian Ocean Wave 09 tsunami exercise, are representative of what might be issued by the Indian Ocean Tsunami Warning Centre during an actual large tsunami event originating in the northwest Indian Ocean of Sumatra.

JMA BULLETIN 1.

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TSUNAMI BULLETIN NUMBER 001
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0120 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 8.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  SRI LANKA:
    ALL COASTS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  INDIA:
    ARABIAN SEA COAST
  MALDIVES:
    ALL COASTS
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
    AMSTERDAM ISLAND AND ST-PAUL
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  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MAURITIUS:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
 ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
 REPORTS ON TSUNAMI OBSERVATIONS.


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JMA BULLETIN 2.

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 TSUNAMI BULLETIN NUMBER 002
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0150 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
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    ALL COASTS
  TANZANIA:
    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE
 LOCATION                  COORDINATES    ARRIVAL TIME  AMPL
 ----------------          ------------   ------------  ----
 SABANG                    05.8N 095.3E   0125Z 14 OCT  4.0M

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
 ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
 REPORTS ON TSUNAMI OBSERVATIONS.


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JMA BULLETIN 3.

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TSUNAMI BULLETIN NUMBER 003
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0300 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
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    ALL COASTS
  TANZANIA:
    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE
 LOCATION                 COORDINATES    ARRIVAL TIME  AMPL
 ----------------         ------------   ------------  ----
 SITTWE                   20.2N 092.9E   0248Z 14 OCT  1.0M
 MOULMEIN                 16.5N 097.6E   0254Z 14 OCT  2.5M
 KO MIANG                 08.6N 097.6E   0230Z 14 OCT  4.0M
 SABANG                   05.8N 095.3E   0125Z 14 OCT  4.0M
 SIBOLGA                  01.7N 098.8E   0255Z 14 OCT  0.4M
 PADANG                   01.0S 100.4E   0255Z 14 OCT  0.6M
 TRINCONMALEE             08.6N 081.2E   0254Z 14 OCT  4.0M
AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
 ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
 REPORTS ON TSUNAMI OBSERVATIONS.
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JMA BULLETIN 4.

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TSUNAMI BULLETIN NUMBER 004
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0400 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
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    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE
 LOCATION                COORDINATES    ARRIVAL TIME  AMPL
 ----------------        ------------   ------------  ----
 CHITTAGONG              22.3N 091.6E   0342Z 14 OCT  0.9M
 SITTWE                  20.2N 092.9E   0248Z 14 OCT  1.0M
 MOULMEIN                16.5N 097.6E   0254Z 14 OCT  2.5M
 KO MIANG                08.6N 097.6E   0230Z 14 OCT  4.0M
 KO TAPHAO NOI           07.8N 098.4E   0304Z 14 OCT  4.0M
 SABANG                  05.8N 095.3E   0125Z 14 OCT  4.0M
 SIBOLGA                 01.7N 098.8E   0255Z 14 OCT  0.4M
 PADANG                  01.0S 100.4E   0255Z 14 OCT  0.6M
 CHRISTMAS IS.           10.4S 105.7E   0349Z 14 OCT  0.7M
 TRINCONMALEE            08.6N 081.2E   0254Z 14 OCT  4.0M
 COLOMBO                 07.0N 079.9E   0347Z 14 OCT  2.2M
AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
 ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
 REPORTS ON TSUNAMI OBSERVATIONS.
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JMA BULLETIN 5.

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TSUNAMI BULLETIN NUMBER 005
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0500 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
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    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE
 LOCATION                COORDINATES    ARRIVAL TIME  AMPL
 ----------------        ------------   ------------  ----
 CHITTAGONG              22.3N 091.6E   0342Z 14 OCT  0.9M
 SITTWE                  20.2N 092.9E   0438Z 14 OCT  1.3M
 MOULMEIN                16.5N 097.6E   0254Z 14 OCT  2.5M
 KO MIANG                08.6N 097.6E   0230Z 14 OCT  4.0M
 KO TAPHAO NOI           07.8N 098.4E   0304Z 14 OCT  4.0M
 LANGKAWI                06.4N 099.9E   0435Z 14 OCT  2.3M
 SABANG                  05.8N 095.3E   0125Z 14 OCT  4.0M
 SIBOLGA                 01.7N 098.8E   0255Z 14 OCT  0.4M
 PADANG                  01.0S 100.4E   0424Z 14 OCT  1.2M
 CILACAP                 07.8S 109.0E   0451Z 14 OCT  0.8M
 PRIGI                   08.3S 111.7E   0455Z 14 OCT  0.7M
 COCOS                   12.1S 096.9E   0450Z 14 OCT  2.0M
 CHRISTMAS IS.           10.4S 105.7E   0349Z 14 OCT  0.7M
 TRINCONMALEE            08.6N 081.2E   0254Z 14 OCT  4.0M
 COLOMBO                 07.0N 079.9E   0347Z 14 OCT  2.2M
 HANIMAADHOO             06.8N 073.2E   0435Z 14 OCT  2.9M
 MALE                    04.2N 073.5E   0424Z 14 OCT  3.3M
 GAN                     00.7S 073.2E   0429Z 14 OCT  3.0M
 DIEGO GARCIA            07.2S 072.4E   0452Z 14 OCT  1.8M
AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
 ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
 REPORTS ON TSUNAMI OBSERVATIONS.


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JMA BULLETIN 6.

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TSUNAMI BULLETIN NUMBER 006
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0700 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
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    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE
 LOCATION                 COORDINATES    ARRIVAL TIME  AMPL
 ----------------         ------------   ------------  ----
 CHITTAGONG               22.3N 091.6E   0526Z 14 OCT  1.3M
 SITTWE                   20.2N 092.9E   0626Z 14 OCT  2.5M
 MOULMEIN                 16.5N 097.6E   0254Z 14 OCT  2.5M
 KO MIANG                 08.6N 097.6E   0230Z 14 OCT  4.0M
 KO TAPHAO NOI            07.8N 098.4E   0304Z 14 OCT  4.0M
 LANGKAWI                 06.4N 099.9E   0435Z 14 OCT  2.3M
 SABANG                   05.8N 095.3E   0125Z 14 OCT  4.0M
 SIBOLGA                  01.7N 098.8E   0653Z 14 OCT  1.6M
 PADANG                   01.0S 100.4E   0424Z 14 OCT  1.2M
 CILACAP                  07.8S 109.0E   0658Z 14 OCT  1.2M
 PRIGI                    08.3S 111.7E   0455Z 14 OCT  0.7M
 BENOA                    08.8S 115.2E   0541Z 14 OCT  0.4M
 COCOS                    12.1S 096.9E   0450Z 14 OCT  2.0M
 CHRISTMAS IS.            10.4S 105.7E   0349Z 14 OCT  0.7M
 TRINCONMALEE             08.6N 081.2E   0254Z 14 OCT  4.0M
 COLOMBO                  07.0N 079.9E   0347Z 14 OCT  2.2M
 HANIMAADHOO              06.8N 073.2E   0435Z 14 OCT  2.9M
 MALE                     04.2N 073.5E   0424Z 14 OCT  3.3M
 GAN                      00.7S 073.2E   0429Z 14 OCT  3.0M
 DIEGO GARCIA             07.2S 072.4E   0452Z 14 OCT  1.8M
 RODRIGUES                19.7S 063.4E   0655Z 14 OCT  1.6M
AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
 ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
 REPORTS ON TSUNAMI OBSERVATIONS.


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JMA BULLETIN 7.

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TSUNAMI BULLETIN NUMBER 007
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 0900 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
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ALL COASTS
KENYA:
ALL COASTS
SOMALI:
INDIAN OCEAN COAST
GULF COAST
YEMEN:
GULF COAST
OMAN:
ARABIAN SEA COAST
GULF COAST
UAE:
GULF COAST
IRAN:
GULF COAST
PAKISTAN:
ARABIAN SEA COAST
AUSTRALIA:
COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
NINE HOURS TO TWELVE HOURS
SOUTH AFRICA:
INDIAN OCEAN COAST
FRANCE:
KERGUELEN
DJIBOUTI:
GULF COAST
TWELVE HOURS OR MORE
SINGAPORE:
MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
CHITTAGONG	22.3N 091.6E	0526Z 14 OCT	1.3M
SITTWE	20.2N 092.9E	0626Z 14 OCT	2.5M
MOULMEIN	16.5N 097.6E	0801Z 14 OCT	2.7M
KO MIANG	08.6N 097.6E	0230Z 14 OCT	4.0M
KO TAPHAO NOI	07.8N 098.4E	0304Z 14 OCT	4.0M
LANGKAWI	06.4N 099.9E	0739Z 14 OCT	2.8M
SABANG	05.8N 095.3E	0125Z 14 OCT	4.0M
SIBOLGA	01.7N 098.8E	0653Z 14 OCT	1.6M
PADANG	01.0S 100.4E	0424Z 14 OCT	1.2M
CILACAP	07.8S 109.0E	0658Z 14 OCT	1.2M
PRIGI	08.3S 111.7E	0719Z 14 OCT	1.0M
BENOA	08.8S 115.2E	0541Z 14 OCT	0.4M
COCOS	12.1S 096.9E	0450Z 14 OCT	2.0M
CHRISTMAS IS.	10.4S 105.7E	0832Z 14 OCT	0.9M
BROOME	18.0S 122.2E	0835Z 14 OCT	0.7M
HILLARYS BOAT HARBOUR	31.8S 115.7E	0730Z 14 OCT	0.5M
TRINCONMALEE	08.6N 081.2E	0254Z 14 OCT	4.0M
COLOMBO	07.0N 079.9E	0748Z 14 OCT	4.0M
HANIMAADHOO	06.8N 073.2E	0435Z 14 OCT	2.9M
MALE	04.2N 073.5E	0424Z 14 OCT	3.3M
GAN	00.7S 073.2E	0429Z 14 OCT	3.0M
DIEGO GARCIA	07.2S 072.4E	0452Z 14 OCT	1.8M
PORT LA RUE	04.7S 055.5E	0855Z 14 OCT	3.4M
RODRIGUES	19.7S 063.4E	0818Z 14 OCT	4.0M
PORT LOUIS	20.2S 057.5E	0828Z 14 OCT	1.0M
KARACHI	24.9N 067.0E	0850Z 14 OCT	0.6M
CHABAHAR	25.3N 060.6E	0855Z 14 OCT	0.9M
MASIRAH	20.7N 058.9E	0822Z 14 OCT	0.5M
SALALAH	16.9N 054.0E	0809Z 14 OCT	0.5M

AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

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ARRIVAL TIME.

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TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
REPORTS ON TSUNAMI OBSERVATIONS.

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JMA BULLETIN 8.

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TSUNAMI BULLETIN NUMBER 008
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 1100 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
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ALL COASTS
KENYA:
ALL COASTS
SOMALI:
INDIAN OCEAN COAST
GULF COAST
YEMEN:
GULF COAST
OMAN:
ARABIAN SEA COAST
GULF COAST
UAE:
GULF COAST
IRAN:
GULF COAST
PAKISTAN:
ARABIAN SEA COAST
AUSTRALIA:
COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
NINE HOURS TO TWELVE HOURS
SOUTH AFRICA:
INDIAN OCEAN COAST
FRANCE:
KERGUELEN
DJIBOUTI:
GULF COAST
TWELVE HOURS OR MORE
SINGAPORE:
MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE

LOCATION	COORDINATES	ARRIVAL TIME	AMPL
CHITTAGONG	22.3N 091.6E	1028Z 14 OCT	1.7M
SITTWE	20.2N 092.9E	0908Z 14 OCT	3.0M
MOULMEIN	16.5N 097.6E	0801Z 14 OCT	2.7M
KO MIANG	08.6N 097.6E	0230Z 14 OCT	4.0M
KO TAPHAO NOI	07.8N 098.4E	0304Z 14 OCT	4.0M
LANGKAWI	06.4N 099.9E	0739Z 14 OCT	2.8M
SABANG	05.8N 095.3E	0125Z 14 OCT	4.0M
SIBOLGA	01.7N 098.8E	1055Z 14 OCT	1.9M
PADANG	01.0S 100.4E	0919Z 14 OCT	1.3M
CILACAP	07.8S 109.0E	0658Z 14 OCT	1.2M
PRIGI	08.3S 111.7E	0719Z 14 OCT	1.0M
BENOA	08.8S 115.2E	1025Z 14 OCT	1.0M
COCOS	12.1S 096.9E	0957Z 14 OCT	2.2M
CHRISTMAS IS.	10.4S 105.7E	0832Z 14 OCT	0.9M
BROOME	18.0S 122.2E	0835Z 14 OCT	0.7M
HILLARYS BOAT HARBOUR	31.8S 115.7E	1025Z 14 OCT	0.7M
TRINCONMALEE	08.6N 081.2E	0254Z 14 OCT	4.0M
COLOMBO	07.0N 079.9E	0748Z 14 OCT	4.0M
HANIMAADHOO	06.8N 073.2E	0435Z 14 OCT	2.9M
MALE	04.2N 073.5E	0424Z 14 OCT	3.3M
GAN	00.7S 073.2E	0429Z 14 OCT	3.0M
DIEGO GARCIA	07.2S 072.4E	0452Z 14 OCT	1.8M
PORT LA RUE	04.7S 055.5E	1054Z 14 OCT	3.6M
RODRIGUES	19.7S 063.4E	0818Z 14 OCT	4.0M
PORT LOUIS	20.2S 057.5E	0828Z 14 OCT	1.0M
LAMU	02.3S 040.9E	1025Z 14 OCT	1.6M
MOMBASA	04.1S 039.4E	1027Z 14 OCT	2.5M
ZANZIBAR	06.2S 039.2E	1035Z 14 OCT	2.2M
PEMBA	13.0S 040.6E	1051Z 14 OCT	1.5M
KARACHI	24.9N 067.0E	0928Z 14 OCT	0.9M
CHABAHAR	25.3N 060.6E	0855Z 14 OCT	0.9M
MASIRAH	20.7N 058.9E	0940Z 14 OCT	0.7M
SALALAH	16.9N 054.0E	1017Z 14 OCT	1.0M
ADEN	12.8N 045.0E	1030Z 14 OCT	1.0M

AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

*TSUNAMI TRAVEL TIME IS ESTIMATED ONLY FROM EARTHQUAKE DATA
AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
ABOUT THE POTENTIAL OF TSUNAMI GENERATION AND ESTIMATED TSUNAMI
TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
REPORTS ON TSUNAMI OBSERVATIONS.

JMA BULLETIN 9.

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TSUNAMI BULLETIN NUMBER 009
 ISSUED BY THE JAPAN METEOROLOGICAL AGENCY (JMA)
 ISSUED AT 1300 14 OCT 2009 (UTC)

 ... AN INDIAN-OCEAN-WIDE TSUNAMI WATCH IS IN EFFECT ...

1.EARTHQUAKE INFORMATION
 ORIGIN TIME : 0100 14 OCT 2009 (UTC)
 COORDINATES : 3.3 NORTH 95.9 EAST
 LOCATION    : OFF WEST COAST OF NORTHERN SUMATRA, INDONESIA
 MAGNITUDE   : 9.2

2.EVALUATION
 THERE IS A POSSIBILITY OF A DESTRUCTIVE OCEAN-WIDE
 TSUNAMI IN THE INDIAN OCEAN.

3.ESTIMATED TSUNAMI TRAVEL TIME
 ONE HOUR OR LESS
  INDIA:
    ALL COASTS OF ANDAMAN AND NICOBAR ISLANDS
  THAILAND:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF SUMATRA
    MALACCA COAST OF SUMATRA
 ONE HOUR TO THREE HOURS
  INDIA:
    BENGAL BAY COAST
  MALDIVES:
    ALL COASTS
  SRI LANKA:
    ALL COASTS
  MALAYSIA:
    MALACCA COAST
  INDONESIA:
    INDIAN OCEAN COAST OF JAWA
  AUSTRALIA:
    COCOS ISLANDS
 THREE HOURS TO SIX HOURS
  FRANCE:
    AMSTERDAM ISLAND AND ST-PAUL
  MAURITIUS:
    ALL COASTS
  INDIA:
    ARABIAN SEA COAST
  BANGLADESH:
    BENGAL BAY COAST
  MYANMAR:
    BENGAL BAY COAST
    ANDAMAN SEA COAST
  INDONESIA:
    SOUTH COASTS OF LESSER SUNDA ISLANDS
    ARAFURA SEA COAST FROM LETI ISLANDS TO IRIAN JAYA
  EAST TIMOR:
    TIMOR SEA COAST
  AUSTRALIA:
    NORTHWEST COAST AND WEST COAST
  UNITED KINGDOM:
    CHAGOS ARCHIPELAGO
 SIX HOURS TO NINE HOURS
  COMOROS:
    ALL COASTS
  FRANCE:
    MAYOTTE ISLAND
    REUNION ISLAND
    CROZET ISLANDS
  MADAGASCAR:
    ALL COASTS
  SEYCHELLES:
    ALL COASTS
  MOZAMBIQUE:
    ALL COASTS
  TANZANIA:
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    ALL COASTS
  KENYA:
    ALL COASTS
  SOMALI:
    INDIAN OCEAN COAST
    GULF COAST
  YEMEN:
    GULF COAST
  OMAN:
    ARABIAN SEA COAST
    GULF COAST
  UAE:
    GULF COAST
  IRAN:
    GULF COAST
  PAKISTAN:
    ARABIAN SEA COAST
  AUSTRALIA:
    COASTS FROM THE GULF OF CARPENTARIA TO THE ARAFURA SEA
 NINE HOURS TO TWELVE HOURS
  SOUTH AFRICA:
    INDIAN OCEAN COAST
  FRANCE:
    KERGUELEN
  DJIBOUTI:
    GULF COAST
 TWELVE HOURS OR MORE
  SINGAPORE:
    MALACCA COAST

4.OBSERVATIONS ON MAXIMUM TSUNAMI WAVE
 LOCATION                 COORDINATES    ARRIVAL TIME  AMPL
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 CHITTAGONG               22.3N 091.6E   1123Z 14 OCT  3.3M
 SITTWE                   20.2N 092.9E   0908Z 14 OCT  3.0M
 MOULMEIN                 16.5N 097.6E   1138Z 14 OCT  2.9M
 KO MIANG                 08.6N 097.6E   0230Z 14 OCT  4.0M
 KO TAPHAO NOI            07.8N 098.4E   0304Z 14 OCT  4.0M
 LANGKAWI                 06.4N 099.9E   0739Z 14 OCT  2.8M
 SABANG                   05.8N 095.3E   0125Z 14 OCT  4.0M
 SIBOLGA                  01.7N 098.8E   1055Z 14 OCT  1.9M
 PADANG                   01.0S 100.4E   1130Z 14 OCT  1.4M
 CILACAP                  07.8S 109.0E   0658Z 14 OCT  1.2M
 PRIGI                    08.3S 111.7E   1223Z 14 OCT  1.2M
 BENOA                    08.8S 115.2E   1025Z 14 OCT  1.0M
 COCOS                    12.1S 096.9E   0957Z 14 OCT  2.2M
 CHRISTMAS IS.            10.4S 105.7E   1117Z 14 OCT  1.2M
 BROOME                   18.0S 122.2E   1134Z 14 OCT  0.8M
 HILLARYS BOAT HARBOUR    31.8S 115.7E   1226Z 14 OCT  1.0M
 SPRING BAY               42.5S 147.9E   1110Z 14 OCT  0.3M
 TRINCONMALEE             08.6N 081.2E   0254Z 14 OCT  4.0M
 COLOMBO                  07.0N 079.9E   0748Z 14 OCT  4.0M
 HANIMAADHOO              06.8N 073.2E   0435Z 14 OCT  2.9M
 MALE                     04.2N 073.5E   0424Z 14 OCT  3.3M
 GAN                      00.7S 073.2E   0429Z 14 OCT  3.0M
 DIEGO GARCIA             07.2S 072.4E   0452Z 14 OCT  1.8M
 PORT LA RUE              04.7S 055.5E   1054Z 14 OCT  3.6M
 RODRIGUES                19.7S 063.4E   0818Z 14 OCT  4.0M
 PORT LOUIS               20.2S 057.5E   0828Z 14 OCT  1.0M
 LAMU                     02.3S 040.9E   1221Z 14 OCT  3.3M
 MOMBASA                  04.1S 039.4E   1234Z 14 OCT  3.3M
 ZANZIBAR                 06.2S 039.2E   1102Z 14 OCT  2.9M
 PEMBA                    13.0S 040.6E   1240Z 14 OCT  3.0M
 DURBAN                   29.9S 031.0E   1238Z 14 OCT  1.0M
 PORT ELIZABETH           34.0S 025.6E   1240Z 14 OCT  0.5M
 SIMON'S TOWN             34.2S 018.4E   1255Z 14 OCT  0.4M
 MARION IS.               46.9S 037.9E   1140Z 14 OCT  0.4M
 KARACHI                  24.9N 067.0E   1243Z 14 OCT  1.0M
 CHABAHAR                 25.3N 060.6E   1119Z 14 OCT  1.0M
 MASIRAH                  20.7N 058.9E   1226Z 14 OCT  1.3M
 SALALAH                  16.9N 054.0E   1155Z 14 OCT  1.3M
 ADEN                     12.8N 045.0E   1030Z 14 OCT  1.0M
 DJIBOUTI                 11.6N 043.2E   1116Z 14 OCT  1.0M
AMPL -- AMPLITUDE IN METERS OF HALF OF THE CREST TO TROUGH

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 AND INDICATES THE TIME LAPSE BETWEEN ORIGIN TIME AND TSUNAMI
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 ARRIVAL TIME.

*THIS WILL BE THE FINAL INFORMATION UNLESS THERE ARE CHANGES
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 TRAVEL TIME BY RE-EVALUATION OF THE EARTHQUAKE OR THERE ARE
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APPENDIX IV. SAMPLE GUIDANCE FOR TABLETOP EXERCISES

Tabletop Exercise Development Steps

Source: US California Office of Emergency Services, with modifications from Indonesian Institute of Earth Sciences (LIPI) and RISTEK

A Tabletop Exercise is a planned activity in which local officials, key staff, and organizations with disaster management responsibilities are presented with simulated emergency situations. It is usually informal and slow paced, in a conference room environment, and is designed to elicit constructive discussion from the participants to assess plans, policies, and procedures.

Participants will examine and attempt to resolve problems, based on existing plans and procedures. Individuals are encouraged to discuss decisions in depth based on their organization's Standard Operating Procedures (SOPs), with emphasis on slow-paced problem solving, rather than rapid, real time decision-making.

An Exercise Controller (moderator) introduces a simulated tsunami scenario to participants via written message, simulated telephone or radio call, or by other means. Exercise problems and activities (injects) are further introduced. Participants conduct group discussions, and resolution is generally agreed upon, and then summarized by a group leader. A Tabletop Exercise should have specific goals, objectives, and a scenario narrative.

The following provides a Tabletop Exercise structure with sample text and example.

1. **Vulnerability Analysis: Problem Statement**

An example for a tsunami might be:
Due to the recent tsunami that occurred in the Northwest region of Nanggroe Aceh Darussalam, an awareness of the threat risk involved in these disasters has become more apparent, therefore the need for an effective evacuation system is vital. The province of Nanggroe Aceh Darussalam continues its ongoing tasks of planning, preparing, and training for Tsunami preparedness.

2. Purpose (Mission): Intent, what you plan to accomplish (Policy Statement)

An example for a tsunami might be:
The province of Nanggroe Aceh Darussalam has recognised the need for a more efficient and effective evacuation system, and is responding with this Comprehensive Exercise Plan. These events will include seminars, workshops, tabletop exercise, functional and full-scale exercises within a 18 month time frame.

3. Scope: Exercise Activities
Agencies Involved
Hazard Type
Geographic Impact Area

An example might be:
Emergency Services coordinators at local levels of government will identify representative jurisdictions to participate in a series of disaster preparedness exercises. They will develop a progressive series of exercises. The process will begin with a vulnerability analysis for each jurisdiction and continue through a progression of exercise activities including; orientation seminars, workshops, tabletop and functional exercises. The

eventual objective of these activities will be to reduce disaster impacts to their populations and city infrastructure

Steps for corrective actions will be made a part of the after action process and report. Surrounding jurisdictions in the mutual aid area will act as exercise design team members, exercise evaluators, or exercise observers for the purpose of information transfer to increase their operational readiness.

4. Goals and Objectives:
Criteria for good objectives: Think SMART

- **S**imple (concise)
- **M**easurable
- **A**chievable (can this be done during the exercise?)
- **R**ealistic (and challenging)
- **T**ask Oriented (oriented to functions)

An example might be:
Comprehensive Exercise Program (CEP) Objectives
• To improve operational readiness
• To improve multi-agency coordination and response capabilities for effective disaster response
• To identify communication pathways and problem areas pre-event between local jurisdictions and operational area, regional and state emergency operations centres
• To establish uniform methods for resource ordering, tracking and supply for agencies involved at all levels of government.

5. Narrative:
The Narrative should describe the following:
- Triggering emergency/disaster event
- Describe the environment at the time the exercise begins
- Provides necessary background information
- Prepares participants for the exercise
- Discovery, report: how do you find out?
- Advance notice?
- Time, location, extent or level of damage

6. Evaluation:
The Evaluation should describe the following:
- Objectives Based
- Train Evaluation Teams
- Develop Evaluation Forms

7. After Action Report (AAR): The AAR should be compiled using the evaluation reports

8. Improvement Plan (IP): The IP should reduce vulnerabilities.

Tabletop Exercise Example

Risk Reduction Strategies to Improve Tsunami Response Planning - A Tabletop Exercise (modified from an example presented by the Pacific Disaster Centre, May 2005)

A recent Tsunami scenario will be presented to generate discussion of direct and indirect impacts upon coastal communities. Participants will be encouraged to share challenges, successes, and lessons learned in responding to tsunamis, and to explore short- and long term actions to improve warning processes. Facilitated discussions and group activities will focus on meeting informational needs and communicating disaster risk through the use of available tools, applications, and information resources, and how these may contribute to the development of effective early warning-risk management strategies.

Exercise Objectives

1. Increase understanding of the tsunami hazard and its impacts on coastal environment.
2. Exercise existing procedures and processes related to Early Tsunami Warnings
3. Identify critical decision points, resources, and informational needs, as well as Gaps.
4. Review of communicate protocol for warning.
5. Review procedures and protocols for issuing “All Clear”.

Exercise Outline

Exercise Introduction
Divide into groups
Introduction – Earthquake to Tsunami Generation to Tsunami Impacts

Exercise Phase 1
An earthquake of magnitude 9.2 has occurred 75 miles (120 kilometres) off the coast of Sumatra.
People in high rise buildings in Jakarta are reporting buildings shaking, (additional information)
Groups work on actions to be taken, report out.

Exercise Phase 2 - Tsunami Watch Issued
The Interim Advisory Service (IAS) has issued a Tsunami Watch for coastal areas within 3 - 6 hours arrival time of the Tsunami.
Groups work on action to be taken (government agencies, media and public), report out.

Exercise Phase 3 - Tsunami Warning Issued
IAS has issued a Tsunami Watch for coastal areas within 3 hours arrival time of the Tsunami.
Groups work on action to be taken (government agencies, media and public), report out.

Exercise Phase 4 - Tsunami impact and Situation Assessment
Resources for damage assessment
Deployment of disaster relief
Managing the information requests and requirements (government agencies, media, and public)
Monitoring Aftershocks for potential tsunami generation
Group work, report out.

Concluding Discussion
What are the gaps - critical decision points, information and resource needs?
How do you communicate to impacted areas?

Who issues the "All Clear" and how is it communicated?
Outline strategies for filling the gaps

Materials:
Maps (Hazard, Base, and Tsunami Time)
Large post-it paper
Felt pens
Laptop, projector, screen

APPENDIX V. SAMPLE PRESS RELEASE

TEMPLATE FOR NEWS RELEASE
USE AGENCY LETTERHEAD

Contact: *(insert name)* **FOR IMMEDIATE RELEASE**
(insert phone number) (insert date)
(insert email address)

INDIAN OCEAN-WIDE TSUNAMI DRILL SET FOR OCTOBER

(insert country name) will join over *(insert number)* other countries around the Indian Ocean Rim as a participant in a mock tsunami scenario during 14th October 2009. The purpose of this Indian Ocean-wide exercise is to increase preparedness, evaluate response capabilities in each country and improve coordination throughout the region.

"The 2004 Indian Ocean tsunami brought to the attention of the world the urgent need to be more prepared for such events," said *(insert name of appropriate official)*. "This important exercise will test the current procedures of the Indian Ocean Tsunami Warning System and help identify operational strengths and weaknesses in each country."

The exercise, titled Exercise Indian Ocean Wave 2009 (IOWAVE09), will simulate Indian Ocean countries being put into a Tsunami Warning situation requiring government decision-making. It is the first such exercise of its kind in the Indian Ocean *and builds on prior national tsunami warning drill carried out in (dates) (delete if not applicable)*.

The exercise can be divided into two stages. In the first stage, a destructive tsunami crossing the Indian Ocean from an earthquake source near Aceh-Sumatra will be simulated by international notifications from the Interim Advisory Service providers, Japan Meteorology Agency (JMA) and Pacific Tsunami Warning Center (PTWC). Bulletins will be transmitted by JMA and PTWC to designated Tsunami Warning Focal Points in each country who are responsible for national tsunami response.

In the second stage, conducted simultaneously in response to receipt of the international messages and any national tsunami detection, analysis, and forecasting capabilities, government officials will simulate decision-making and alerting procedures down to the last step before public notification. *Notification of emergency management and response authorities for a single coastal community will be used as a measure of the end-to end process for purposes of this exercise. Due care will be taken to ensure the public is not inadvertently alarmed. (delete if not applicable)*

Insert paragraph tailored for specific country. Could identify participating agencies and specific plans. Could describe current early warning programme, past evacuation drills (if any), ongoing mitigation and public education programmes, etc. Could describe tsunami threat, history of tsunami hazards, if any.

Should any actual tsunami threat occur during the time period of the exercise, 14 October 2008, the drill will be terminated.

Following the exercise, a review and evaluation will be conducted by all participants.

"We see this exercise as an essential element in the routine maintenance of the Indian Ocean Tsunami Warning and Mitigation System," said *(insert name of appropriate official)*.

"Our goal is to ensure the timely and effective early warning of tsunamis, to educate communities at risk about safety preparedness, and to improve our overall coordination. We will evaluate what works well, where improvements are needed, make necessary changes, and continue to practice."

The exercise is in the Work Plan of the Intergovernmental Coordination Group of the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWS). ICG/IOTWS is a body of UNESCO's Intergovernmental Oceanographic Commission.

IOWAVE09 Information:http://www.ioc-unesco.org/iowave09.

APPENDIX VI. POST EXERCISE EVALUATION

EXERCISE OBJECTIVES

There are six core objectives of the exercise:

1. Validate the Interim Advisory Services' dissemination process of issuing Tsunami Watch and Warning Bulletins to Indian Ocean countries.
2. Validate the standard operating procedures for countries to receive and confirm Tsunami Bulletins.
3. Validate dissemination standard operating procedures of warning messages to relevant Agencies within a country, provinces and local jurisdictions.
4. Validate the organizational decision making process about public warnings and evacuations.
5. Identify the modes that would be employed to notify and instruct the public.
6. Assess the elapsed time until public would be notified and instructed.

EXERCISE SUCCESS CRITERIA

The exercise will be a success when:

- The core objectives above were exercised, performance evaluated and reported upon.
- The dynamics between the National Tsunami Warning Centres, Tsunami Warning Focal Points and information dissemination points within countries at the onset of a local, regional or distant source tsunami event are illustrated and understood. Local / regional / distant tsunamis are generated within 100 / 1000 / beyond 1000 kilometres respectively of an earthquake source. The nature of a local, regional, or distant source tsunami event and related information available (warning stage) are illustrated and understood.
- Areas where aspects of warnings for a local, regional, or distant source tsunami event can be improved are identified, both for tsunami warning centres and individual countries.
- It supports the establishment or review of planning for response to tsunamis at national and regional/local levels.

EVALUATING PARTICIPANT PERFORMANCE

Evaluation is based on:

(a) Reporting on each of the core objectives described above.

(b) Specific measurable sub-objectives for some of the core objectives.

Participants must fill in all reports and score each sub-objective, fill in detail where requested and make any comments in the spaces provided on the attached forms.

Separate forms are designed and marked for:

- Interim Advisory Service (JMA and PTWC) (only Objective 1).
- National decision making/dissemination points within countries (Objectives 1-6).
- Individual response agencies and/or provinces/local jurisdictions within countries. These are the recipients of warnings disseminated from the national decision making/dissemination points (Objectives 3-6).
- All participants within countries (Objectives 3-6).

Fill in only those forms that are relevant to your particular circumstances.

The score rating for sub-objectives is as follows:

Rating	Definition
1	Did not meet the objectives (state why not)
2	Met some of the objectives (state what part was not met)
3	Met the objectives
4	Exceeded the objectives (state how)

EVALUATION FORMS

The following pages contain the exercise evaluation forms to be filled out by the appropriate organisations after IOWave09 and returned by 14 November 2009 to the ICG/IOTWS Secretariat (Email: iotws@unesco.org, Fax: +61 89226 0599)

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making Points and National Focal Points

Participant Country:_____

Participant Agency/Authority:_____

Exercise Planning and Conduct

The exercise planning, conduct, format, and style were satisfactory.

Circle/Highlight score: 1 2 3 4

Notes for (1/2/4):

Remarks/suggestions

IOWAVE 09 EXERCISE EVALUATION FORM
Interim Advisory Service (PTWC, JMA)

Tsunami Warning Centre:_____

Objective 1: Validate the Tsunami Warning Centres' dissemination process of issuing Tsunami Watch and Warning Bulletins.

Tsunami Warning Centre Report

First Bulletin Issued

1. **Time that first bulletin was issued to national focal points (use 24hr clock and UTC, e.g. 01:00 UTC):**
2. **Method(s) of delivery to national focal points (e.g. fax, email, SMS, other systems- specify):**
3. **Number of failed deliveries (as shown by delivery systems):**
4. **Reasons for failed deliveries:**
5. **Alternate action taken to reach national focal points where failures occurred:**
6. **Time that the process of confirmations of receipt of message was completed (use 24hr clock and UTC, e.g. 01:00 UTC):**
7. **Number of non-confirmations:**

Indian Ocean Wide Watch Issued

1. **Time that Indian Ocean wide watch was passed to national focal points (use 24hr clock and UTC, e.g. 01:00 UTC):**
2. **Method(s) of delivery to national focal points (e.g. fax, email, SMS, other systems- specify):**
3. **Number of failed deliveries (as shown by delivery systems):**
4. **Reasons for failed deliveries:**
5. **Alternate action taken to reach national focal points where failures occurred:**
6. **Time that the process of confirmations of receipt of message was completed (use 24hr clock and UTC, e.g. 01:00 UTC):**
7. **Number of non-confirmations:**

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 1: Validate the Interim Advisory Service's dissemination process of issuing Tsunami Watch and Warning Bulletins to Indian Ocean Countries.

Objective 1 (a): Judged against the nature of this event, information issued by the relevant Tsunami Warning Centre(s) was timely:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 1: Validate the Interim Advisory Service's dissemination process of issuing Tsunami Watch and Warning Bulletins to Pacific basin Countries.

Objective 1 (b): The method(s) used by the Tsunami Warning Centre(s) to send bulletins to us were appropriate.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 2: Validate the process for countries to receive and confirm Tsunami Bulletins.

National Report: Receipt of Warning from the Interim Advisory Services

National Focal Point

1. Time of receipt of Warning by our national focal point from: (use 24hr clock and UTC, e.g. 01:00 UTC)

PTWC:
JMA:

2. Method of receipt by national focal point (e.g. fax, email, SMS, phone):

Confirmation

1. Time of confirmation of receipt of warning back to Tsunami Warning Centre(s): (use 24hr clock and UTC, e.g. 01:00 UTC)

2. Method of confirmation (phone/fax/email):

National Decision-making & Dissemination Point (if different to the National Focal Point)

1. Time of passing the information to the national decision-making & dissemination point (use 24hr clock and UTC, e.g. 01:00 UTC):

2. Method of passing the information to the national decision-making & dissemination point e.g. fax, email, SMS, radio, phone:

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 3: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

National Report: Dissemination of Warning

Dissemination Points

1. The warning was disseminated to: (tick as appropriate)

Emergency Services	
Other national government agencies	
Science agencies/universities for assessment	
Local government: provincial/regional level	
Local government: city/district level	

Delivery

1. Time of sending of warning to the above (use 24hr clock and UTC, e.g. 01:00 UTC):

2. Method(s) of delivery to our agencies/provinces/local jurisdictions (e.g. fax, email, SMS, radio, group voice message by phone, individual phone calls):

3. Number of failed deliveries (as shown by delivery systems):

4. Reasons for failed deliveries:

5. Alternate action taken to reach recipients where failures occurred:

Confirmations

1. Method(s) of confirming receipt of message by our agencies/provinces/local jurisdictions (e.g. fax, email, SMS, radio, phone, automated):

2. Time that the process of confirmations of receipt of message was completed (use 24hr clock and UTC, e.g. 01:00 UTC):

3. Number of non-confirmations:

4. Reasons for non-confirmation:

IOWAVE 09 EXERCISE EVALUATION FORM
Individual Response Agencies and Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 3: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

Objective 3 (a): Judged against the nature of this event, information issued by our national decision-making and dissemination point was timely:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

IOWAVE 09 EXERCISE EVALUATION FORM
Individual Response Agencies and Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 3: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

Objective 3 (b): The method of communication from our national decision-making and dissemination point to us was sufficient to support decision-making.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

IOWAVE 09EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate dissemination of the warning message to relevant agencies within a country, provinces and local jurisdictions.

Objective 4 (a): The method of communication between our national decision-making and dissemination point and individual response agencies and provinces/local jurisdictions was sufficient to support our national information requirements.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

IOWAVE 09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (b): Arrangements to assemble our management group relevant to decision-making on tsunami warning and response were in place before the exercise.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (c): Our management group relevant to decision-making on tsunami warning & response was assembled within ____ minutes (fill in) after receiving the first warning. This was timely to facilitate good decision-making.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
Individual Response Agencies and Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (d): The quality of the information issued by our national decision-making and dissemination point was sufficient to support local level decision-making:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (e): The quality of the information received back from our response agencies and local level government were sufficient to support national level decision-making:

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
National Decision Making & Dissemination Points

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (f): Sufficient national information was available to support national level decision-making (Interim Advisory Service information, country-generated scientific assessments, national considerations etc).

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
Provinces/Local Jurisdictions

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (g): Sufficient local information was available to support our assessment and decision-making (local hazard assessments, inundation areas identified, evacuation plans etc).

Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (h): We were able to make decisions about appropriate warnings and response

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (i): Decision-making was based on pre-existing plans for an event of this nature.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 4: Validate the organizational decision making process about public warnings and evacuations

Objective 4 (j): The exercise contributed to the improvement or the development of planning related to public warnings and other response activities required for an event of this nature.

Circle/Highlight score: 1 2 3 4

Notes (for 1/2/4):

Remarks/suggestions:

IOWAVE 09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 5: Identify the modes that would be employed to notify and instruct the public.

Report

As part of our decision-making during this exercise we have determined to use the following means of public notification and instruction in a real event of this kind:

Method	Yes/No	Arrangements Exist (yes/no)
Public radio broadcasts		
TV announcements/teletext		
Public announcement systems		
Cell broadcast		
SMS (cell)		
Public call centre		
Website		
Telephone		
Sirens		
Door to door announcements		
Other (specify)		

IOWAVE 09 EXERCISE EVALUATION FORM
All Participants within Countries

Participant Country:_____

Participant Agency/Authority:_____

Objective 6: Assess the elapsed time until the public would be notified and instructed.

Report

The following times applied to us:

Activity	Elapsed Time (e.g. 1hr 15mins)
Making a decision on public warning (From time of receipt of warning)	
Formulation/compilation of public notification (From time of decision)	
Activation of public notification systems (From time of notification formulated)	
Total Time	

IOC Technical Series

No.	Title	Languages
1	Manual on International Oceanographic Data Exchange. 1965	(out of stock)
2	Intergovernmental Oceanographic Commission (Five years of work). 1966	(out of stock)
3	Radio Communication Requirements of Oceanography. 1967	(out of stock)
4	Manual on International Oceanographic Data Exchange - Second revised edition. 1967	(out of stock)
5	Legal Problems Associated with Ocean Data Acquisition Systems (ODAS). 1969	(out of stock)
6	Perspectives in Oceanography, 1968	(out of stock)
7	Comprehensive Outline of the Scope of the Long-term and Expanded Programme of Oceanic Exploration and Research. 1970	(out of stock)
8	IGOSS (Integrated Global Ocean Station System) - General Plan Implementation Programme for Phase I. 1971	(out of stock)
9	Manual on International Oceanographic Data Exchange - Third Revised Edition. 1973	(out of stock)
10	Bruun Memorial Lectures, 1971	E, F, S, R
11	Bruun Memorial Lectures, 1973	(out of stock)
12	Oceanographic Products and Methods of Analysis and Prediction. 1977	E only
13	International Decade of Ocean Exploration (IDOE), 1971-1980. 1974	(out of stock)
14	A Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment and Baseline Study Guidelines. 1976	E, F, S, R
15	Bruun Memorial Lectures, 1975 - Co-operative Study of the Kuroshio and Adjacent Regions. 1976	(out of stock)
16	Integrated Ocean Global Station System (IGOSS) General Plan and Implementation Programme 1977-1982. 1977	E, F, S, R
17	Oceanographic Components of the Global Atmospheric Research Programme (GARP) . 1977	(out of stock)
18	Global Ocean Pollution: An Overview. 1977	(out of stock)
19	Bruun Memorial Lectures - The Importance and Application of Satellite and Remotely Sensed Data to Oceanography. 1977	(out of stock)
20	A Focus for Ocean Research: The Intergovernmental Oceanographic Commission - History, Functions, Achievements. 1979	(out of stock)
21	Bruun Memorial Lectures, 1979: Marine Environment and Ocean Resources. 1986	E, F, S, R
22	Scientific Report of the Interealibration Exercise of the IOC-WMO-UNEP Pilot Project on Monitoring Background Levels of Selected Pollutants in Open Ocean Waters. 1982	(out of stock)
23	Operational Sea-Level Stations. 1983	E, F, S, R
24	Time-Series of Ocean Measurements. Vol.1. 1983	E, F, S, R
25	A Framework for the Implementation of the Comprehensive Plan for the Global Investigation of Pollution in the Marine Environment. 1984	(out of stock)
26	The Determination of Polychlorinated Biphenyls in Open-ocean Waters. 1984	E only
27	Ocean Observing System Development Programme. 1984	E, F, S, R
28	Bruun Memorial Lectures, 1982: Ocean Science for the Year 2000. 1984	E, F, S, R
29	Catalogue of Tide Gauges in the Pacific. 1985	E only
30	Time-Series of Ocean Measurements. Vol. 2. 1984	E only
31	Time-Series of Ocean Measurements. Vol. 3. 1986	E only
32	Summary of Radiometric Ages from the Pacific. 1987	E only
33	Time-Series of Ocean Measurements. Vol. 4. 1988	E only
34	Bruun Memorial Lectures, 1987: Recent Advances in Selected Areas of Ocean Sciences in the Regions of the Caribbean, Indian Ocean and the Western Pacific. 1988	Composite E, F, S

(continued)

No.	Title	Languages
35	Global Sea-Level Observing System (GLOSS) Implementation Plan. 1990	E only
36	Bruun Memorial Lectures 1989: Impact of New Technology on Marine Scientific Research. 1991	Composite E, F, S
37	Tsunami Glossary - A Glossary of Terms and Acronyms Used in the Tsunami Literature. 1991	E only
38	The Oceans and Climate: A Guide to Present Needs. 1991	E only
39	Bruun Memorial Lectures, 1991: Modelling and Prediction in Marine Science. 1992	E only
40	Oceanic Interdecadal Climate Variability. 1992	E only
41	Marine Debris: Solid Waste Management Action for the Wider Caribbean. 1994	E only
42	Calculation of New Depth Equations for Expendable Bathymerographs Using a Temperature-Error-Free Method (Application to Sippican/TSK T-7, T-6 and T-4 XBTS. 1994	E only
43	IGOSS Plan and Implementation Programme 1996-2003. 1996	E, F, S, R
44	Design and Implementation of some Harmful Algal Monitoring Systems. 1996	E only
45	Use of Standards and Reference Materials in the Measurement of Chlorinated Hydrocarbon Residues. 1996	E only
46	Equatorial Segment of the Mid-Atlantic Ridge. 1996	E only
47	Peace in the Oceans: Ocean Governance and the Agenda for Peace; the Proceedings of *Pacem in Maribus* XXIII, Costa Rica, 1995. 1997	E only
48	Neotectonics and fluid flow through seafloor sediments in the Eastern Mediterranean and Black Seas - Parts I and II. 1997	E only
49	Global Temperature Salinity Profile Programme: Overview and Future. 1998	E only
50	Global Sea-Level Observing System (GLOSS) Implementation Plan-1997. 1997	E only
51	L'état actuel de 1'exploitation des pêcheries maritimes au Cameroun et leur gestion intégrée dans la sous-région du Golfe de Guinée *(cancelled)*	F only
52	Cold water carbonate mounds and sediment transport on the Northeast Atlantic Margin. 1998	E only
53	The Baltic Floating University: Training Through Research in the Baltic, Barents and White Seas - 1997. 1998	E only
54	Geological Processes on the Northeast Atlantic Margin (8^{th} training-through-research cruise, June-August 1998). 1999	E only
55	Bruun Memorial Lectures, 1999: Ocean Predictability. 2000	E only
56	Multidisciplinary Study of Geological Processes on the North East Atlantic and Western Mediterranean Margins (9^{th} training-through-research cruise, June-July 1999). 2000	E only
57	Ad hoc Benthic Indicator Group - Results of Initial Planning Meeting, Paris, France, 6-9 December 1999. 2000	E only
58	Bruun Memorial Lectures, 2001: Operational Oceanography – a perspective from the private sector. 2001	E only
59	Monitoring and Management Strategies for Harmful Algal Blooms in Coastal Waters. 2001	E only
60	Interdisciplinary Approaches to Geoscience on the North East Atlantic Margin and Mid-Atlantic Ridge (10^{th} training-through-research cruise, July-August 2000). 2001	E only
61	Forecasting Ocean Science? Pros and Cons, Potsdam Lecture, 1999. 2002	E only
62	Geological Processes in the Mediterranean and Black Seas and North East Atlantic (11^{th} training-through-research cruise, July- September 2001). 2002	E only
63	Improved Global Bathymetry – Final Report of SCOR Working Group 107. 2002	E only
64	R. Revelle Memorial Lecture, 2006: Global Sea Levels, Past, Present and Future. 2007	E only

(continued)

No.	Title	Languages
65	Bruun Memorial Lectures, 2003: Gas Hydrates – a potential source of energy from the oceans. 2003	E only
66	Bruun Memorial Lectures, 2003: Energy from the Sea: the potential and realities of Ocean Thermal Energy Conversion (OTEC). 2003	E only
67	Interdisciplinary Geoscience Research on the North East Atlantic Margin, Mediterranean Sea and Mid-Atlantic Ridge (12th training-through-research cruise, June-August 2002). 2003	E only
68	Interdisciplinary Studies of North Atlantic and Labrador Sea Margin Architecture and Sedimentary Processes (13th training-through-research cruise, July-September 2003). 2004	E only
69	Biodiversity and Distribution of the Megafauna / Biodiversité et distribution de la mégafaune. 2006 Vol.1 The polymetallic nodule ecosystem of the Eastern Equatorial Pacific Ocean / Ecosystème de nodules polymétalliques de l'océan Pacifique Est équatorial Vol.2 Annotated photographic Atlas of the echinoderms of the Clarion-Clipperton fracture zone / Atlas photographique annoté des échinodermes de la zone de fractures de Clarion et de Clipperton	E F
70	Interdisciplinary geoscience studies of the Gulf of Cadiz and Western Mediterranean Basin (14th training-through-research cruise, July-September 2004). 2006	E only
71	Indian Ocean Tsunami Warning and Mitigation System, IOTWS. Implementation Plan, July-August 2006. 2006	E only
72	Deep-water Cold Seeps, Sedimentary Environments and Ecosystems of the Black and Tyrrhenian Seas and the Gulf of Cadiz (15th training-through-research cruise, June–August 2005). 2007	E only
73	Implementation Plan for the Tsunami Early Warning and Mitigation System in the North-Eastern Atlantic, the Mediterranean and Connected Seas (NEAMTWS), 2007–2011. 2007 *(electronic only)*	E only
74	Bruun Memorial Lectures, 2005: The Ecology and Oceanography of Harmful Algal Blooms – Multidisciplinary approaches to research and management. 2007	E only
75	National Ocean Policy. The Basic Texts from: Australia, Brazil, Canada, China, Colombia, Japan, Norway, Portugal, Russian Federation, United States of America. (Also Law of Sea Dossier 1). 2008	E only
76	Deep-water Depositional Systems and Cold Seeps of the Western Mediterranean, Gulf of Cadiz and Norwegian Continental margins (16th training-through-research cruise, May–July 2006). 2008	E only
77	Indian Ocean Tsunami Warning and Mitigation System (IOTWS) – 12 September 2007 Indian Ocean Tsunami Event. Post-Event Assessment of IOTWS Performance. 2008	E only
78	Tsunami and Other Coastal Hazards Warning System for the Caribbean and Adjacent Regions (CARIBE EWS) – Implementation Plan 2008. 2008	E only
79	Filling Gaps in Large Marine Ecosystem Nitrogen Loadings Forecast for 64 LMEs – GEF/LME global project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems. 2008	E only
80	Models of the World's Large Marine Ecosystems. GEF/LME Global Project Promoting Ecosystem-based Approaches to Fisheries Conservation and Large Marine Ecosystems. 2008	E only
81	Indian Ocean Tsunami Warning and Mitigation System (IOTWS) – Implementation Plan for Regional Tsunami Watch Providers (RTWP). 2008	E only
82	Exercise Pacific Wave 08 – A Pacific-wide Tsunami Warning and Communication Exercise, 28–30 October 2008. 2008	E only
83.	*Under preparation*	

(continued)

No.	Title	Languages
84.	Global Open Oceans and Deep Seabed (GOODS) Bio-geographic Classification. 2009	E only
85.	Tsunami Glossary	E, F, S
86	Pacific Tsunami Warning System (PTWS) Implementation Plan *(under preparation)*	
87.	Operational Users Guide for the Pacific Tsunami Warning and Mitigation System (PTWS) – January 2009. 2009	E only
88.	Exercise Indian Ocean Wave 2009 (IOWave09) – An Indian Ocean-wide Tsunami Warning and Communication Exercise – 14 October 2009. 2009	E only