



UNESCO-IOC

Strengthening Tsunami Warning and Emergency Responses: Training Workshop on the Development of End-to-End Tsunami Standard Operating Procedures (SOPs)

4-8 August 2008

PHIVOLCS Auditorium, UP Campus, Dillman
Quezon City, Philippines

Lecturers and IOC Tsunami Team:

Tony Elliott, Head, ICG/IOTWS Secretariat, IOC

Dr. Gerard Fryer, Senior Geophysicist, US NOAA Pacific Tsunami Warning Center

Sanny Jegillos, Regional Programme Coordinator, UNDP Regional Center in Bangkok

Dr. Laura Kong, Director, International Tsunami Information Centre (ITIC), IOC

Brian Yanagi, Disaster Management Specialist, ITIC, IOC

AGENDA

Session	Start Time	End Time		Topic	Lecturer
1-3				DAY 1: SESSIONS 1-3	
1				MORNING: PLENARY	
1.1	9:00	9:30		Opening Ceremonies	IOC, PHIVOLCS
1.2	9:30	9:40		Course Overview	Kong
1.3	9:40	9:45		Logistics and other administrative items	Elliott
2				Tsunami Warning and Emergency Response – Overview	
				Science, Hazards, and Warning Centres	
2.1	9:45	10:30		End-to-End Tsunami Warning and Emergency Response – Overview	Kong
	10:30	11:00		COFFEE / TEA BREAK	
2.2	11:00	12:00		Earthquake and Tsunami Science for tsunami warning	Fryer
2.3	12:00	12:45		End-to-end Tsunami Warning – Stakeholders, Roles and Responsibilities, Standard Operating Procedures, and their linkage	Yanagi
	12:45	13:45		LUNCH	
				AFTERNOON: PLENARY	
3				Philippines Tsunami Warning and Mitigation System	
3.1	13:45	14:15		Tsunami Risk Mitigation Program of the Philippines	Solidum, PHIVOLCS

3.2	14:15	15:00		NDCC's Emergency Operations Center	Lorenzo, Civil Defense Operations
3.3	15:00	15:45		Tide Monitoring Network of the Philippines	Ventires, NAMRIA
	15:45	16:15		COFFEE / TEA BREAK	
3.4	16:15	17:00		Philippine Coast Guard role in tsunami warning	Avila, Coast Guard
	17:30			Welcome Cocktail Reception	PHIVOLCS
				DAY 2: SESSION 4	
				MORNING: PLENARY	
4				Tsunami Warning and Emergency Response – Overview	
				Tsunami Warning	
4.1	8:30	9:30		Lessons Learned from past tsunami - 1993 Japan, 2006 Indonesia, 1998 Papua Guinea, 2007 Sumatra, 2006 Kurils Use of timelines for assessing information flow effectiveness	Fryer
4.2	9:30	10:00		Pacific Tsunami Advisory Service – Standard Operating Procedures	Fryer
	10:00	10:30		COFFEE / TEA BREAK	
4.3	10:30	11:00		National Tsunami Warning Centres – Overview on Standard Operating Procedures - Daily Operations, Flow Charts, Timelines	Kong
4.4	11:00	11:30		Discussion: TWC SOPs	All
				Emergency Response and Preparedness	
4.5	11:30	12:15		10 Steps to Enable a Successful Tsunami Emergency Response	Yanagi
	12:15	13:15		LUNCH	
				AFTERNOON: PLENARY	
4.6	13:15	14:15		Warning Dissemination and Public Alerting mechanisms and technologies – Message Scheduling and Message Content, Warnings through GTS, RANET, and other existing reliable methods	Kong
4.7	14:15	15:15		Warning Dissemination and Public Alerts – Roles of the Media – Japan and US examples	Kong, Yanagi
	15:15	15:45		COFFEE / TEA BREAK	
4.8	15:45	17:00		Breakout Groups: Information Flow SOPs - Media and Public Information	All (Jegillos, Kong)
				DAY 3: SESSIONS 4-5	
				MORNING: PLENARY	
4.9	8:30	9:30		Use of Exercises in Tsunami Preparedness: Exercise Development / Regional and National Exercises and Post-Exercise Evaluations, Exercise Pacific Wave 06 and Exercise Pacific Wave 08	Yanagi
4.10	9:30	10:30		Tsunami Preparedness - Education and Awareness	Jegillos
	10:30	11:00		COFFEE / TEA BREAK	
4.11	11:00	12:00		Tsunami Warning Decision Support Tools: Earthquake Monitoring, PTWC SMS Alerts, Historical Databases	Kong
	12:00	13:00		LUNCH	
				DAYS 3 - 4: TWC and TER (DMO) MEET SEPARATELY FOR SPECIFIC TOPICAL & TECHNICAL DISCUSSIONS	

5				DAY 3: TSUNAMI WARNING CENTRE SESSION	
				AFTERNOON	
5.1.1	13:00	13:45		Fundamental TWC SOPs for a Timely Tsunami Warning: TWC Operations - Tsunami Event Activity Timelines: Cases 1 and 2 – Centres with real-time seismic processing	Kong
5.1.2	13:45	14:45		TWC Operations – Active seismic monitoring and real-time earthquake source characterization	Fryer
	14:45	15:15		COFFEE / TEA BREAK	
5.1.3	15:15	16:15		TWC Operations - Sea level monitoring, tsunami confirmation and wave forecast	Fryer
5.1.4	16:15	17:00		Tsunami Warning Decision Support Tools: Sea Level Monitoring	Kong
5-6				DAY 4: TSUNAMI WARNING CENTRE SESSION	
5.1.5	8:30	9:15		SOP Guidance - How to Guidance, including Analysis Processes, Flow Charts and Checklists in SOP	Kong
5.1.6	9:15	10:00		Tsunami Event Case Studies – Successes and Continuing Challenges and DMO interactions: Hawaii example between PTWC, TWC, Tsunami Advisor Scientists, Emergency Management for distant and local threat cases	Fryer
	10:00	10:30		COFFEE / TEA BREAK	
5.1.7	10:30	12:30		Breakout Groups: Using Templates to Create TWC SOPs (Roles & Responsibilities, Routine Operations, Ensuring Data Quality Control and Telecommunications Reliability, and other requirements)	Small Groups
	12:00	13:00		LUNCH	
5.1.8	13:00	13:30		Creating SOPs: Timeline-driven SOPs	Fryer
5.1.9	13:30	15:00		Break out Groups: Using Templates to Develop Timeline of Processes and Actions as SOPs (Messages, Checklists, Information Dissemination)	Small Groups
	15:00	15:30		COFFEE / TEA BREAK	
5.1.10	15:30	16:00		Break out Groups: Using Templates to Develop Timeline of Processes and Actions as SOPs (Messages, Checklists, Information Dissemination)	Small Groups
5.1.11	16:00	16:30		Presentation of Break out Group SOPs	Breakout Group Chairs
6.1	16:30	17:00		Table Top Exercise – Background and Scenarios for Day 5	Exercise Controller
5				DAY 3: TSUNAMI EMERGENCY RESPONSE SESSION	
				AFTERNOON	
5.2.1	13:00	13:45		Understanding and acting on TWC Messages, DMO Actions and Use of Timelines in Emergency Response	Yanagi
5.2.2	13:45	14:45		Evacuations: Alerting and Moving People, Inundation maps, Evacuation Routes and Signage, Safe return	Yanagi
	14:45	15:15		COFFEE / TEA BREAK	
5.2.3	15:15	16:00		Community-level preparedness and response	Jegillos
5.2.4	16:00	17:00		Case Studies on experiences in developing and using SOPs - Wakayama, Japan; Indonesia	Yanagi, Jegillos

5-6					DAY 4: TSUNAMI EMERGENCY RESPONSE SESSION	
					MORNING	
5.2.5	8:30	9:30			Tsunami Emergency Response – Distant and Local Tsunami Threat – Case Studies on present operations - Hawaii, New Zealand, Japan	Yanagi
	9:30	10:00			COFFEE / TEA BREAK	
5.2.6	10:00	10:30			SOP Guidance Manual – Explanation of Templates, Distant and Local Threats	Yanagi
5.2.7	10:30	11:00			Creating SOPs - How to Guidance, including Response Processes, Flow Charts and Checklists in SOPs	Yanagi
5.2.8	11:00	11:30			Breakout Groups: Using Templates to Create General Roles and Responsibilities for SOPs	Small Groups
	11:30	12:30			LUNCH	
5.2.9	12:30	13:00			Breakout Groups: Using Templates to Create General Roles and Responsibilities for SOPs	Small Groups
5.2.10	13:00	14:00			Breakout Groups: Using Templates to Create Evacuation Checklists for SOPs	Small Groups
5.2.11	14:00	14:30			Creating SOPs: Timeline-driven SOPs	Yanagi
	14:30	15:00			COFFEE / TEA BREAK	
5.2.12	15:00	16:00			Break out Groups: Using Templates to Develop Timeline of Processes and Actions as SOPs	Small Groups
5.2.13	16:00	17:00			Presentation of Break out Group SOPs	Breakout Group Chairs
6.1	17:00	17:30			Table Top Exercise – Background and Scenarios for Day 5	Exercise Controller
6-7					DAY 5: SESSIONS 6 and 7, PLENARY	
6					Table Top Exercise and Summary	
6.2	8:30	9:00			Table Top Exercise Set-up according to Stakeholder Warning and Response Groups	Exercise Controller
6.3	9:00	10:00			Table Top Exercise – EPW06 source, TWC (Local, Regional (South China Sea), Regional (Pacific)) and DMO (Local, 1 or 2 Regional) groups	Small Groups
	10:00	10:30			COFFEE / TEA BREAK	
6.3	10:30	11:00			Table Top Exercise – EPW06 source, TWC (Local, Regional (South China Sea), Regional (Pacific)) and DMO (Local, 1 or 2 Regional) groups	Small Groups
6.4	11:00	12:00			Table Top Exercise – EPW06 source, TWC (Local, Regional (South China Sea), Regional (Pacific)) and DMO (Local, 1 or 2 Regional) groups	Small Groups
	12:00	13:00			LUNCH	
6.4	13:00	14:00			Table Top Exercise – Evaluation	Breakout Group Chair, Exercise Controller
	14:00	14:30			COFFEE / TEA BREAK	
6.5	14:30	15:00			Table Top Exercise – Summary and Next Steps	Exercise Controller and Observers
6.6	15:00	15:30			Workshop Summary Discussion	All
7					CLOSING CEREMONIES	
	15:30	15:45			Presentation of Certificates	All
	15:45	16:00			Closing	IOC, PHIVOLCS