



ANNEX-3-2 05 Raape Dss HMI


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für Bildung
und Forschung

DSS Human Machine Interface


Preliminary

Japanese German Coordination Meeting on IOTEWS
March 12-13, 2007


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Outline




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- Officer on Duty (OOD)

- Purpose and Scope
 - Visualization
 - Aggregation
 - Interaction

- Setup

- Perspectives
 - Current Situation Perspective
 - Incidents
 - Events Perspective
 - Decision Perspective



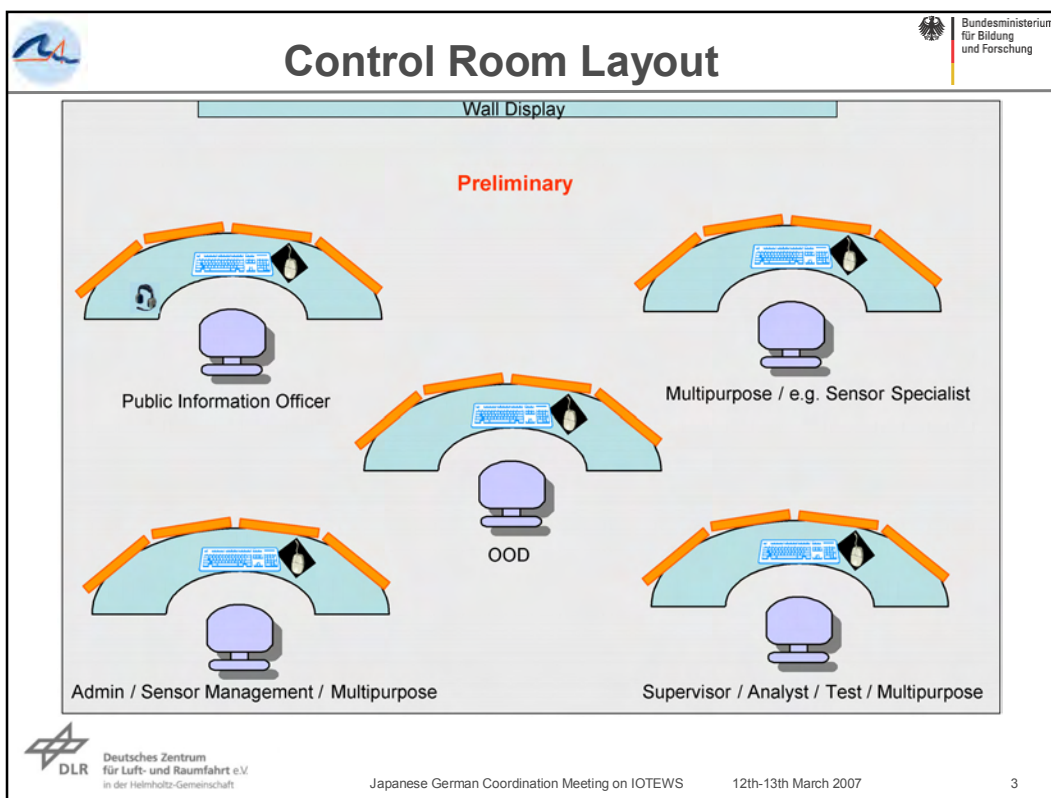
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-
- Officer on Duty (OOD)**
- Disaster management decision maker
 - monitor and assess the situation
 - initiate and supervise the situation awareness process
 - decide autonomously or with support from the EWMS when and how to trigger what actions (e.g. issue a warning)
 - with regard to tsunami threats within the area of responsibility
 - Not included:
 - in-depth evaluation and analysis of incoming sensor information (this is covered by the sensor system expert roles)
 - But:
 - OOD is free to visualize incoming sensor information if the OOD assumes this to be helpful to improve situation awareness (e.g. sea level diagrams)
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Purpose and Scope




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- **Communication & interaction** of OOD with DSS
- **Visualization of**
 - Incidents and events
 - Decision proposals and reasoning
 - Crisis and risk products (e.g. warning bulletins)
 - Spatio-temporal analysis
 - Geo data
 - Sensor data
 - Sensor system status and DSS status

Container of all events and processes related to a single (potential) Tsunami

⇒ to **support** the decision making process

i (term „Incident“ will be also specified later;
for further term definitions please refer to the Glossary Handout)




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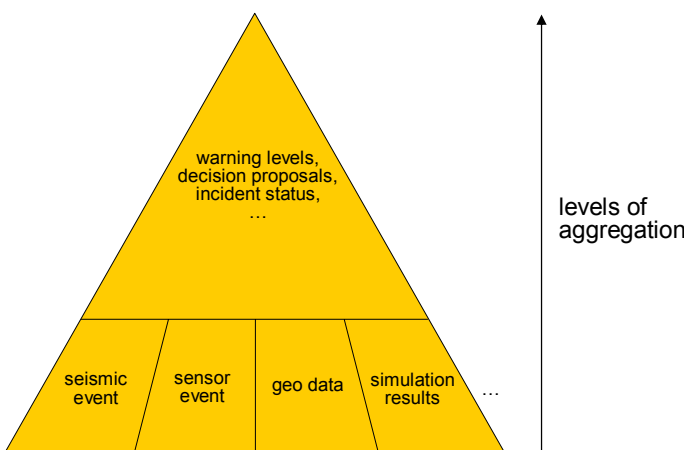



Purpose and Scope



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- support the OOD and other users in stress situations by **filtering, reducing and aggregating information**






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Interaction




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- Interaction concepts:
 - Ability to filter displayed information
 - e.g. by Incident, priority, severity etc.
 - Change temporal and spatial scale
 - e.g. within the Map View, Timeline View etc.
 - Linked views feature and brushing
 - e.g. selecting
 - Perspectives

window within a GUI screen
e.g. Map view

Thematic set of views

- **Principle:** OOD is **always free to interact** with the system (e.g. to get data visualized, to trigger actions) even if DSS analysis processes are ongoing




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Setup



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- Desktop application for multiple screens
- Fixed Layout
 - Fullscreen
 - Fixed view positioning
 - No overlapping views
 - ⇒ Consistency
 - ⇒ Minimizes confusion

- Open and extensible platform
 - ⇒ Allows for internationalization and configurability




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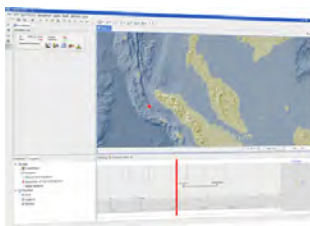
Perspectives



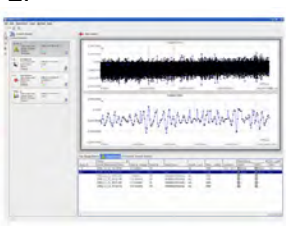
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- Perspective concept:
 - Aggregation of information
 - A Perspective consists of multiple views (e.g. Map View, Timeline View)
- Multiple Perspectives:
 - Current Situation Perspective
 - Events Perspective
 - Decision Perspective

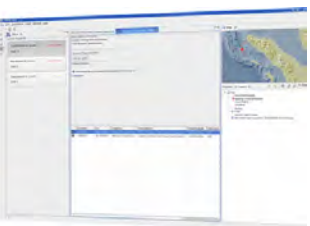
1.




2.



3.



Preliminary demonstrator version




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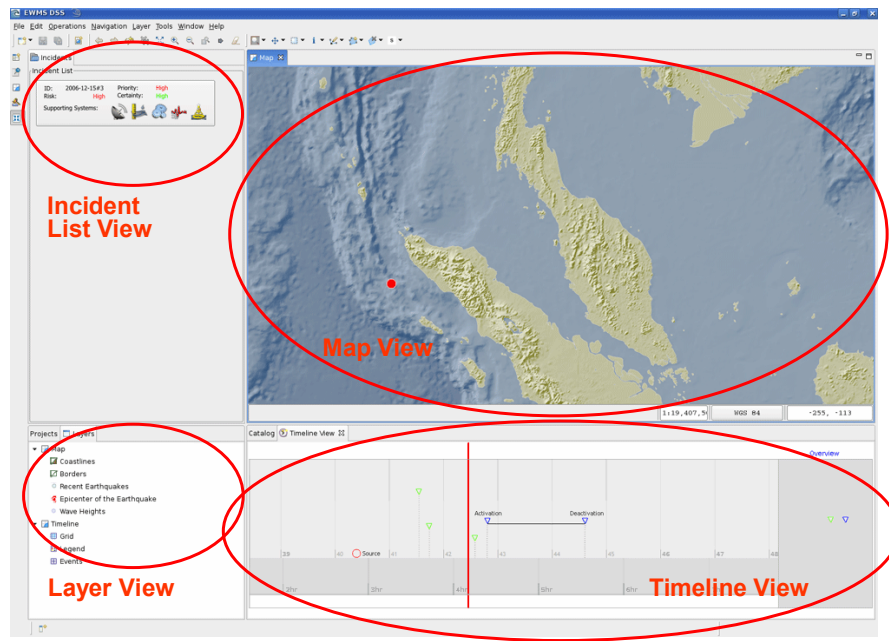
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Current Situation Perspective



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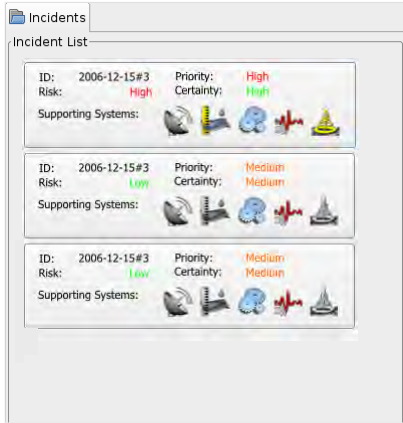
Incident List View




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- Incident
 - **Container** of all events and processes related to a single (potential) Tsunami (e.g. measures taken, decision proposals generated)
- Incident List
 - summary of all currently active incidents
 - Contextual display of perspectives according to selected incident
 - ⇒ events associated with an incident can be explored





Preliminary demonstrator version




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Events Perspective




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Blup_ID	Time	Event-Operation Time	Exp.Lvl. - Range	Event ID	Event Type	Quant. - value	Error - ratio	Location	Total Rank	GIS	GPS
8	2006_12_15_20:18:00	2006_12_15_20:18:00	0.2 meters	15	SeaLevelAnomaly	100	56%	110...10.2	1	None	GPS
9	2006_12_15_20:22:15	2006_12_15_20:22:15	2 meters	23	SeaLevelAnomaly	100	10%		1	None	GPS
10	2006_12_15_20:31:30	2006_12_15_20:31:30	-1.8 meters	27	SeaLevelAnomaly	100	15%		1	None	GPS
11	2006_12_15_20:31:40	2006_12_15_20:31:40	1.2 meters	21	SeaLevelAnomaly	100	20%		1	None	GPS
12	2006_12_15_20:30:10	2006_12_15_20:30:10	-0.4 meters	20	SeaLevelAnomaly	100	45%		1	None	GPS




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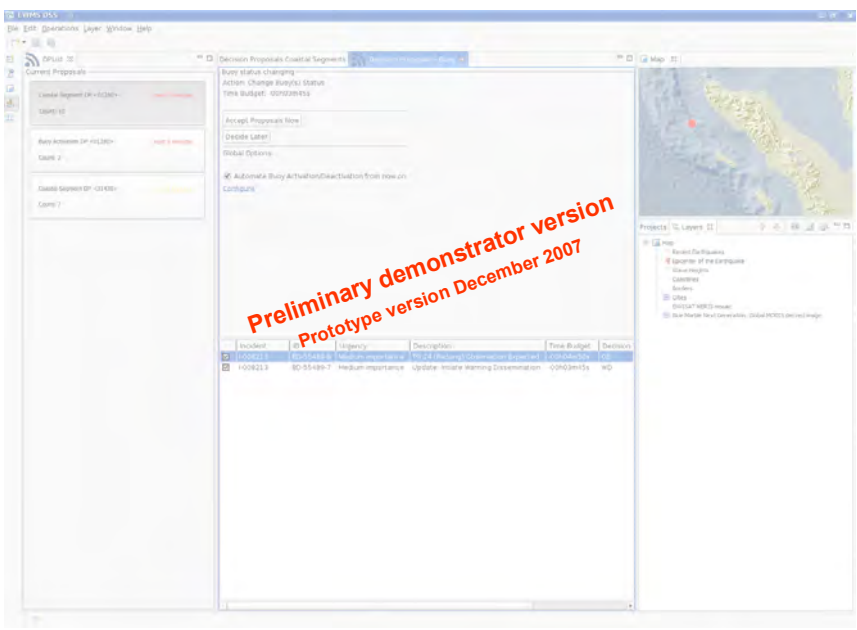
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Decision Perspective


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Project ID	Agency	Description	Theme Budget	Decision
1000221	DLR	Development of a new... (truncated)	1000000000	Open
1000219	DFG	Update Institute... (truncated)	100000000	Open

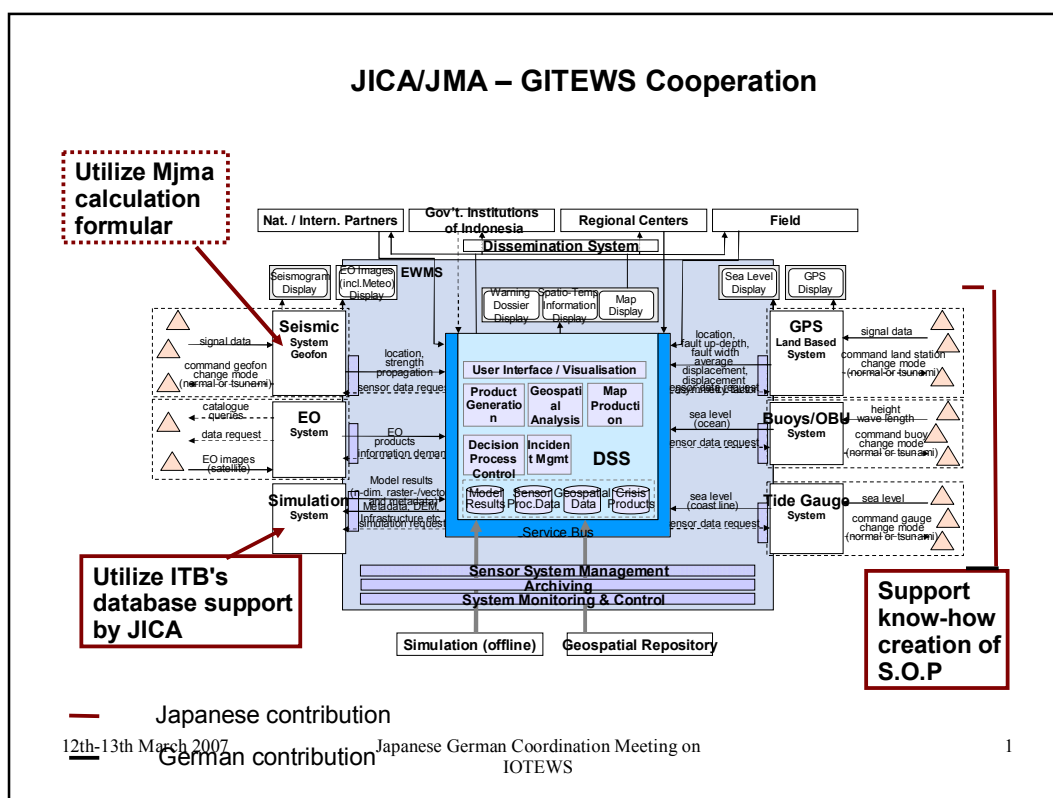



DLR Deutsches Zentrum
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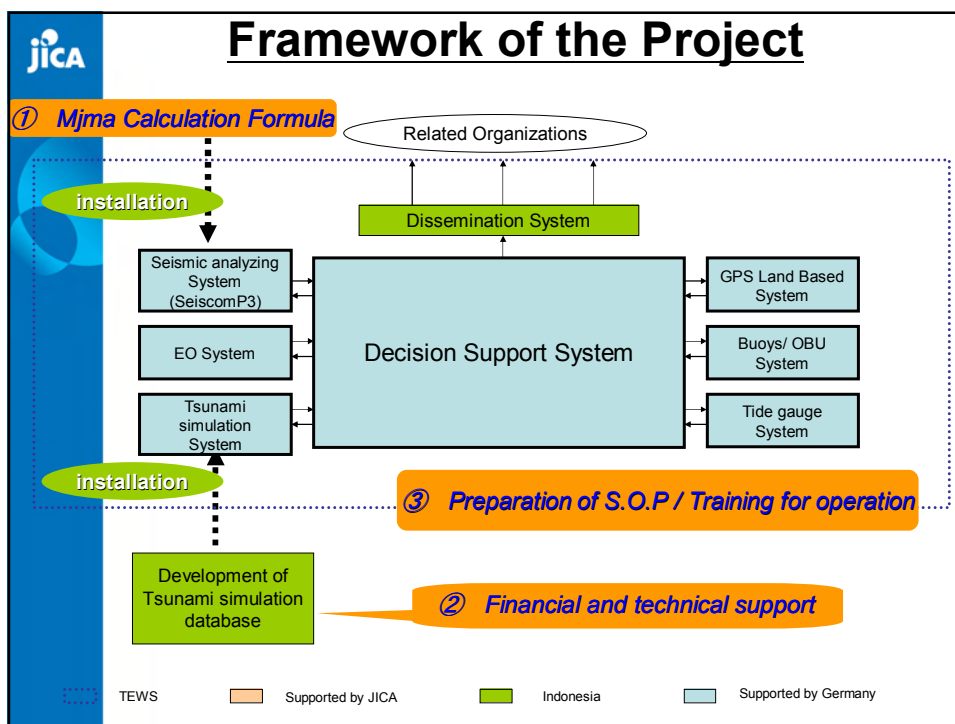




JICA's Cooperation on Ina TEWS

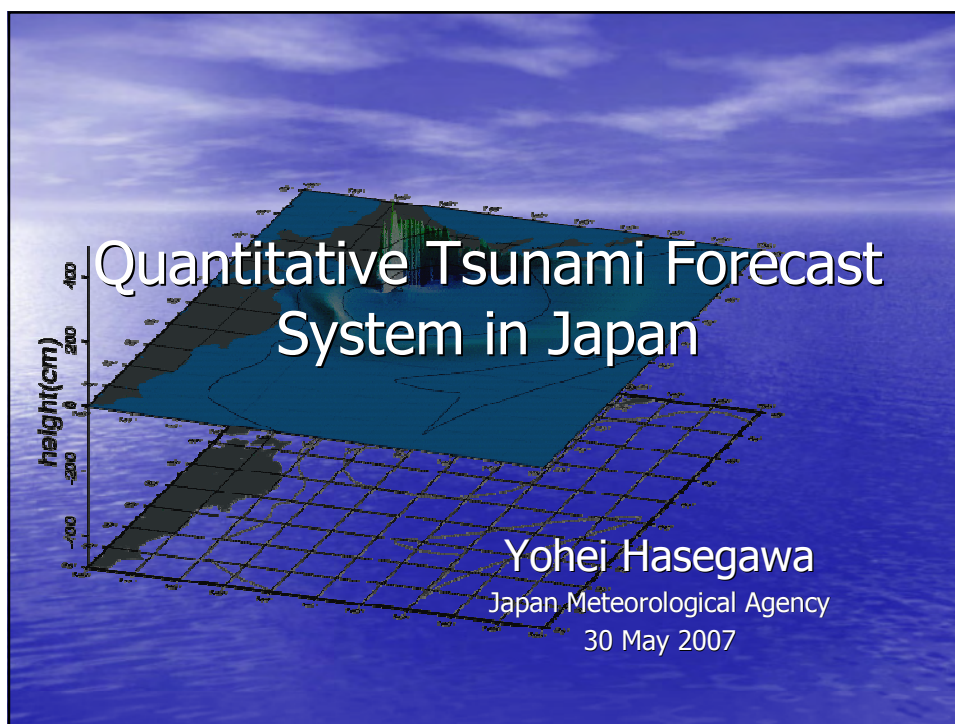
The Project on Capacity Development for National Center of Ina TEWS

Satoru Mimura
Director,
Disaster Management Team, JICA



附属資料 7 三村団長プレゼンテーション資料

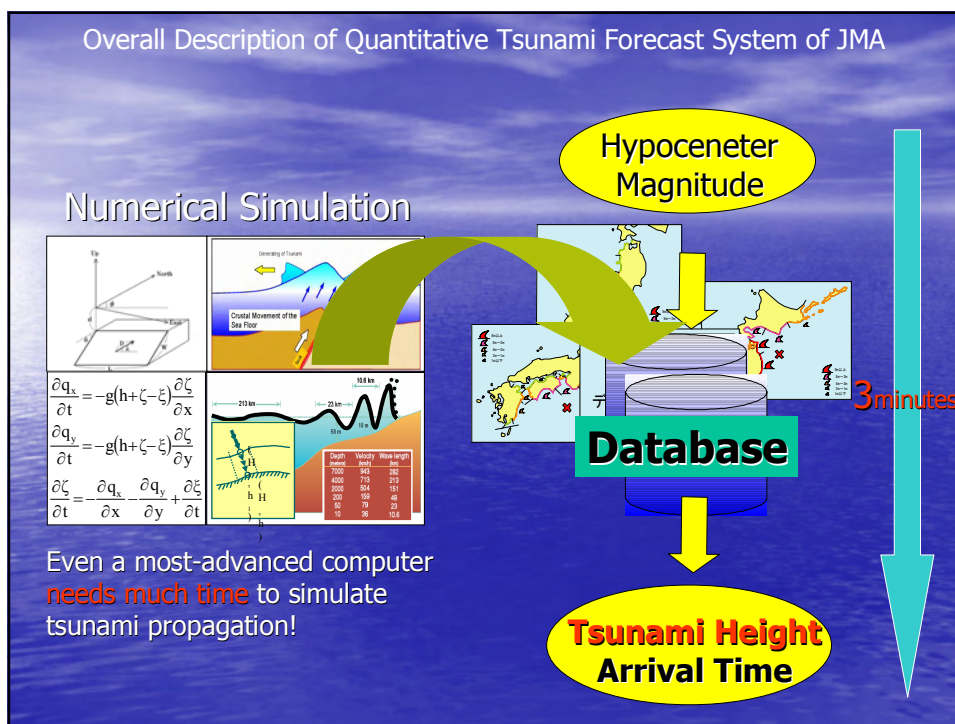
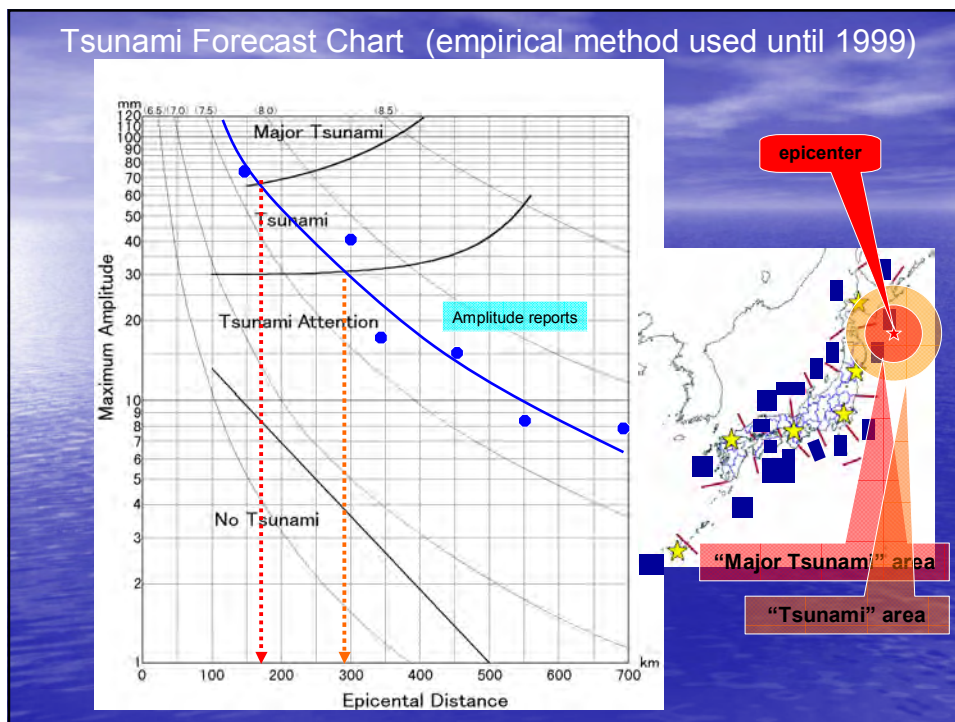
No.		Activities		Year / Month																				
				2007																				
		2008												2009										
		5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
a-1	Reviewing overall plan of the Indonesian Tsunami Early Warning System project																							
a-2	Installing MJMA-magnitude calculation formula into the seismic data processing and analyzing system (SeiscomP3)																							
a-3	Developing tsunami simulation database and installing it into the tsunami analyzing system (Decision Support System)																							
a-4	Preparing standard operation procedure of the Tsunami Early Warning System																							
b-1	Conducting trainings on MJMA-magnitude calculation method																							
b-2	Promoting operational exercises based on the standard operational procedure																							
Related Issues																								
Launch of SeiscomP3 proto type					★																			
Launch of DSS proto type										★														
Launch of Indonesian Tsunami Early Warning System																							★	
Input from Japan (within the Project)																								
(1)	Short term expert (Seismic data analysis)				↔																			
(2)	Lecture to counterparts (Mjma calculation method)				●																			
(3)	Short term expert (Tsunami early warning technique)									↔														
(4)	Lecture to counterparts (Tsunami simulation method)									●														
(5)	Long term expert (System operation and procedure training)																							
(6)	Lecture to counterparts (SOP)																							
(7)	Counterpart training in Japan (System operation)																							
(8)	Workshop																							



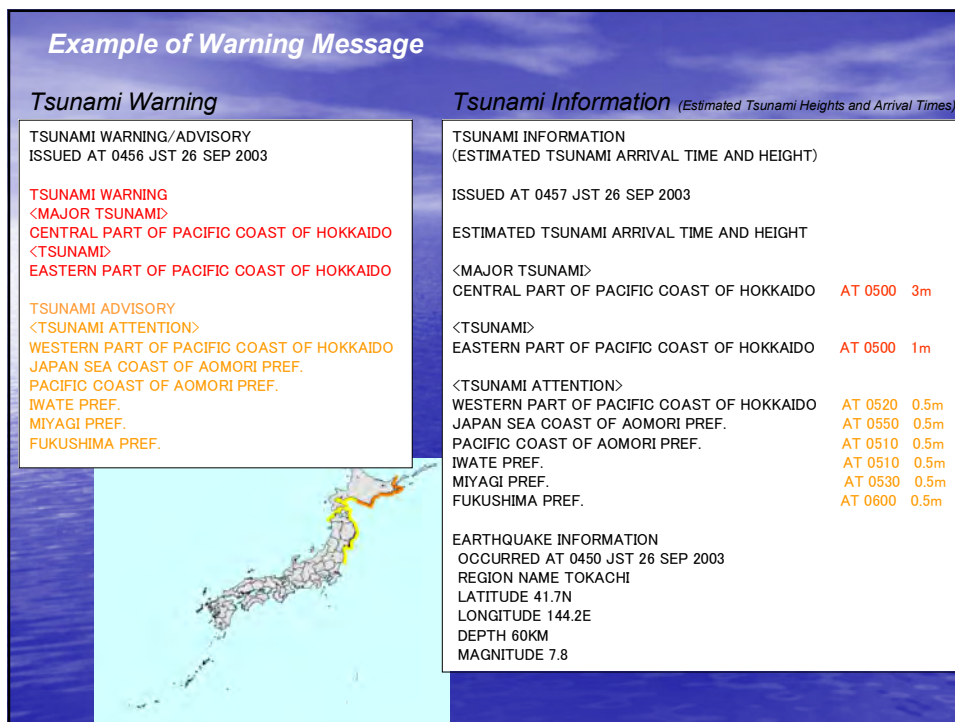
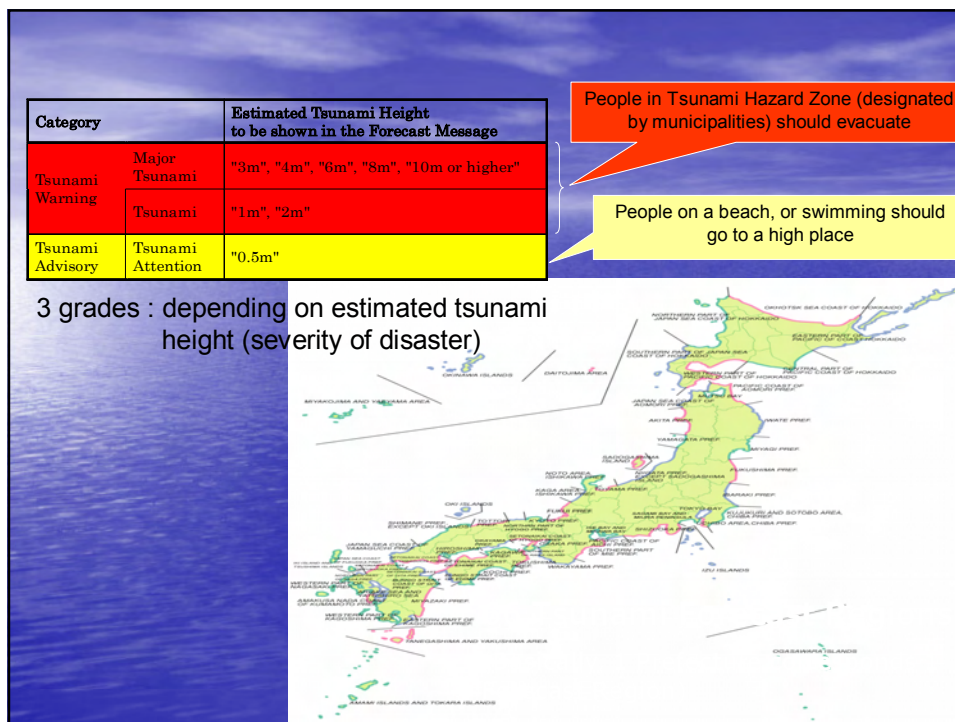
1. Overall Description of
Quantitative Tsunami Forecast System
of JMA

The slide features a background of a blue sky with light clouds and a blue ocean surface. The text is centered on the slide and reads: '1. Overall Description of Quantitative Tsunami Forecast System of JMA'.

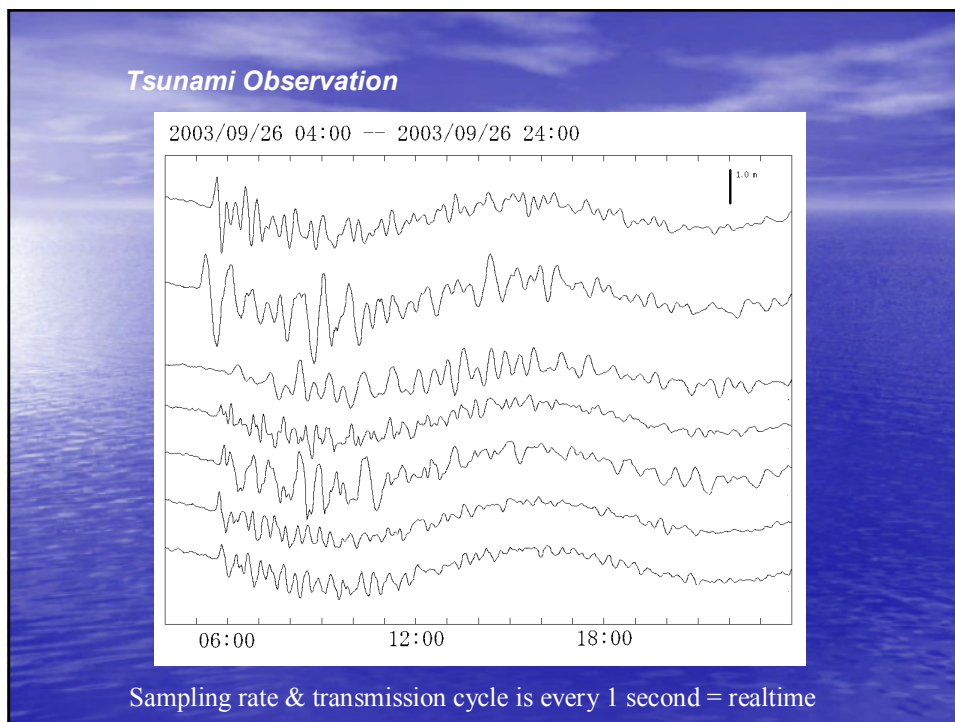
附属資料 8 長谷川団員プレゼンテーション資料



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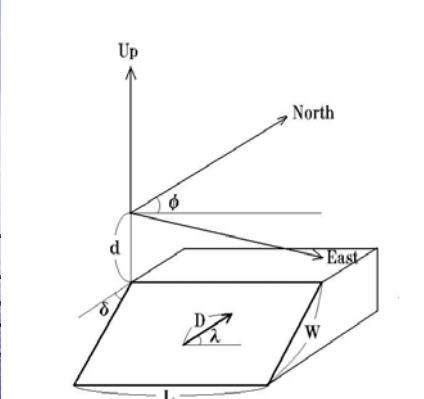


Tsunami Information (Observed Tsunami Data)

TSUNAMI INFORMATION (TSUNAMI OBSERVATIONS)				KAMAISHI INITIAL TSUNAMI AT 0540 (+) 0.4M MAXIMUM TSUNAMI AT 0747 0.5M
ISSUED AT 1833 JST 26 SEP 2003				AYUKAWA INITIAL TSUNAMI AT 0559 (+) 0.2M MAXIMUM TSUNAMI AT 0900 0.3M
TSUNAMI OBSERVATIONS AS OF 1830 JST				ONAHAMA INITIAL TSUNAMI AT 0615 (+) 0.1M MAXIMUM TSUNAMI AT 0823 0.2M
AT SOME PARTS OF THE COASTS, TSUNAMIS MAY BE HIGHER THAN THOSE OBSERVED AT THE OBSERVATION SITES.				-----(In case of cancellation)----- TSUNAMI WARNING/ADVISORY WAS ALL CLEARED HOWEVER THERE MAY BE SLIGHT SEA LEVEL CHANGES AT SOME COASTS. CAUTION SHOULD BE PAYED IN SEA BATHING OR FISHING.
KUSHIRO INITIAL TSUNAMI AT 0506 (+) 1.0M MAXIMUM TSUNAMI AT 0903 1.2M				EARTHQUAKE INFORMATION OCCURRED AT 0450 JST 26 SEP 2003 REGION NAME TOKACHI LATITUDE 41.7N LONGITUDE 144.2E DEPTH 60KM MAGNITUDE 7.8
HANASAKI INITIAL TSUNAMI AT 0527 (+) 0.9M MAXIMUM TSUNAMI AT 0540 0.9M				
URAKAWA INITIAL TSUNAMI AT 0507 (+) 0.2M MAXIMUM TSUNAMI AT 0624 1.3M				
MURORAN INITIAL TSUNAMI AT 0526 (-) 0.1M MAXIMUM TSUNAMI AT 0726 0.3M				
HAKODATE INITIAL TSUNAMI AT 0605 (+) 0.3M MAXIMUM TSUNAMI AT 0818 0.8M				
HACHINOHE INITIAL TSUNAMI AT 0544 (+) 0.6M MAXIMUM TSUNAMI AT 0817 1.0M				
SEKINEHAMA INITIAL TSUNAMI AT 0539 (+) 0.4M MAXIMUM TSUNAMI AT 0747 0.5M				
MIYAKO INITIAL TSUNAMI AT 0534 (+) 0.6M MAXIMUM TSUNAMI AT 0544 0.6M				
OFUNATO INITIAL TSUNAMI AT 0544 (+) 0.2M MAXIMUM TSUNAMI AT 0549 0.2M				

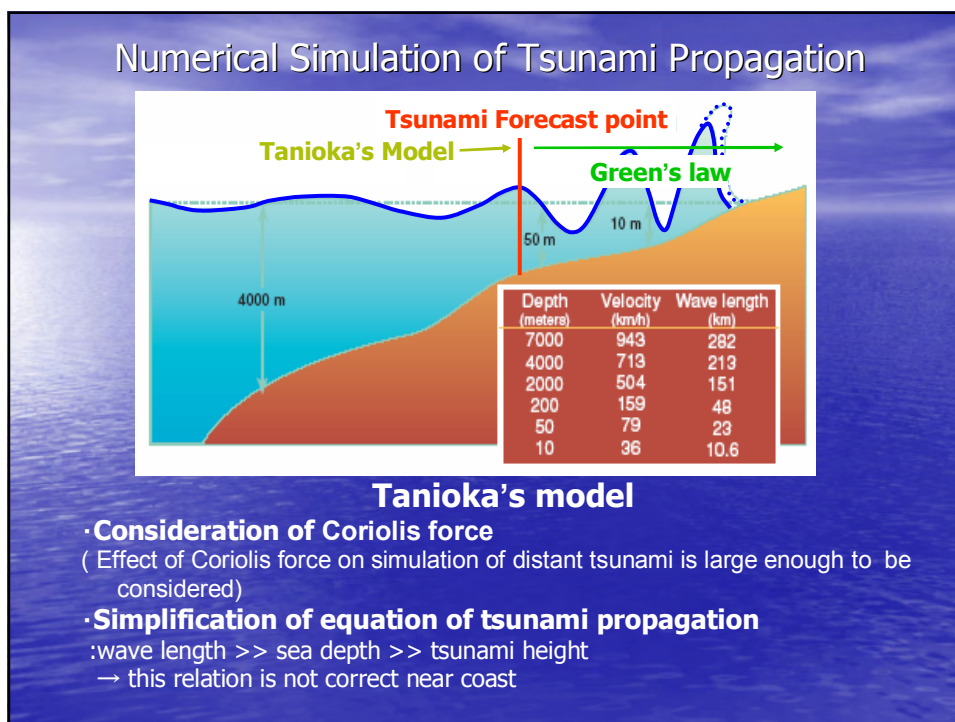
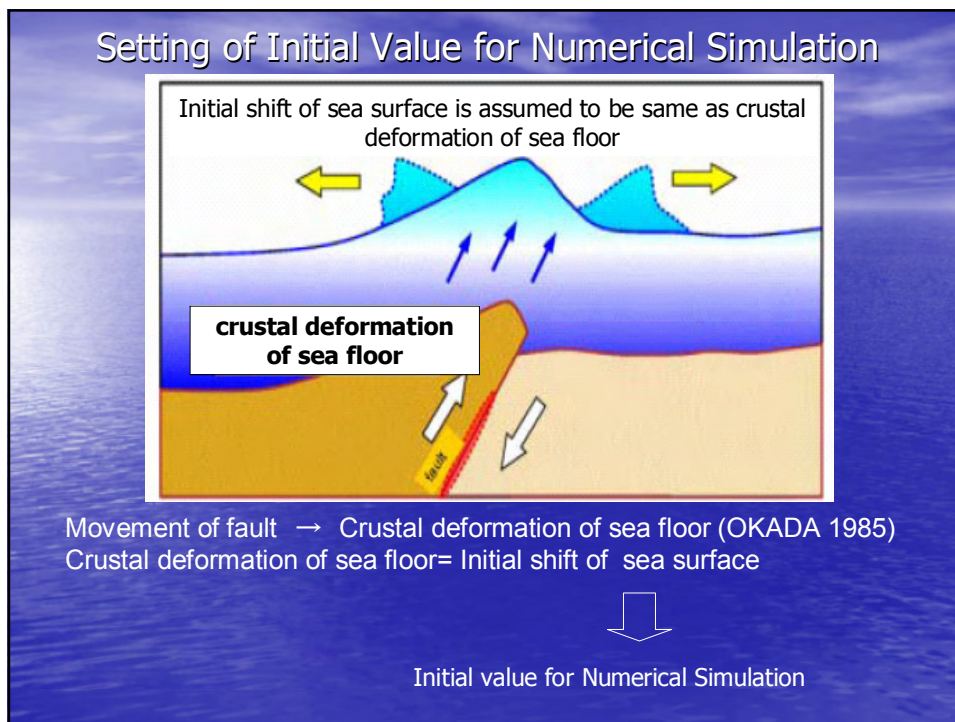
2. Numerical Simulation of Tsunami Propagation

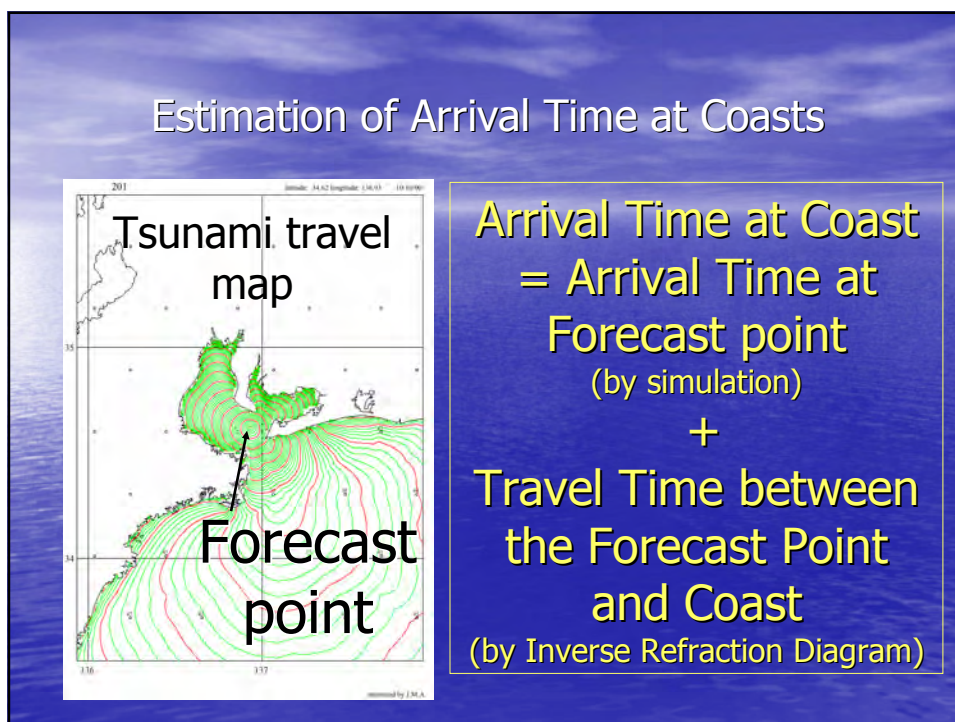
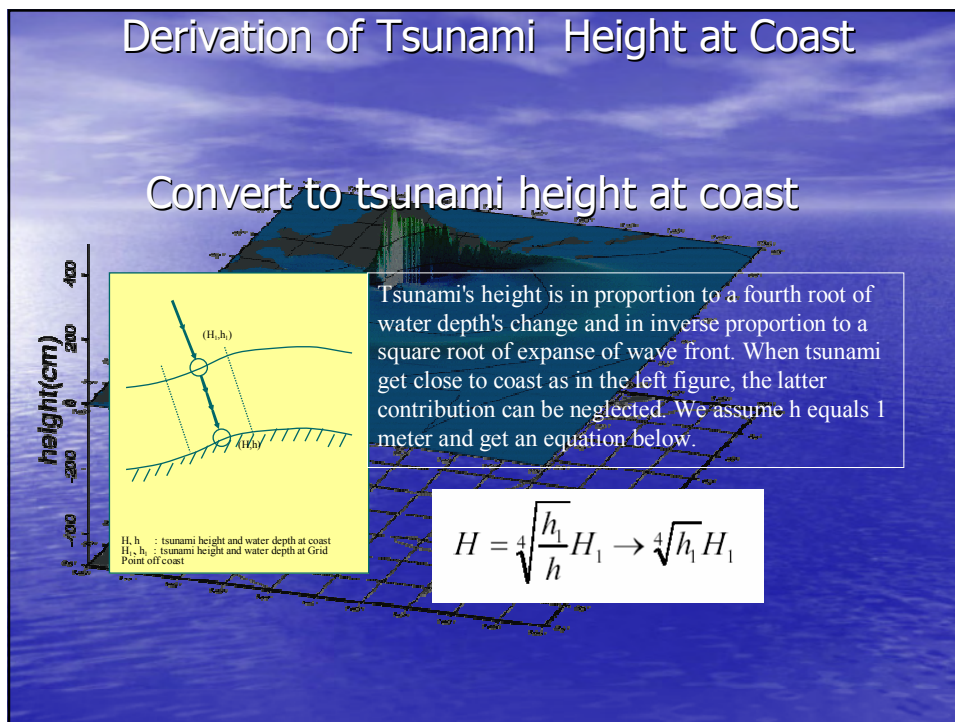
Setting of Fault Parameter



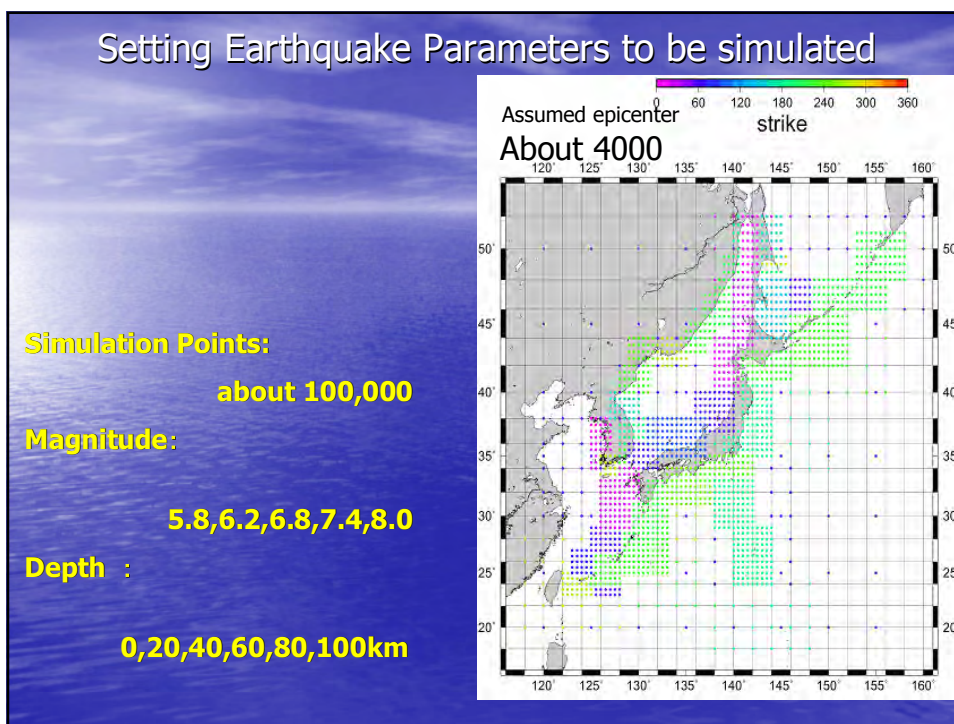
d : Depth of fault top edge
 L : Fault Length
 W : Fault Width
 D : Slip amount
 ϕ : Strike angle (clockwise from North)
 δ : Dip angle (from horizontal plane)
 λ : Slip angle (counterclockwise from horizontal line on the fault plane)

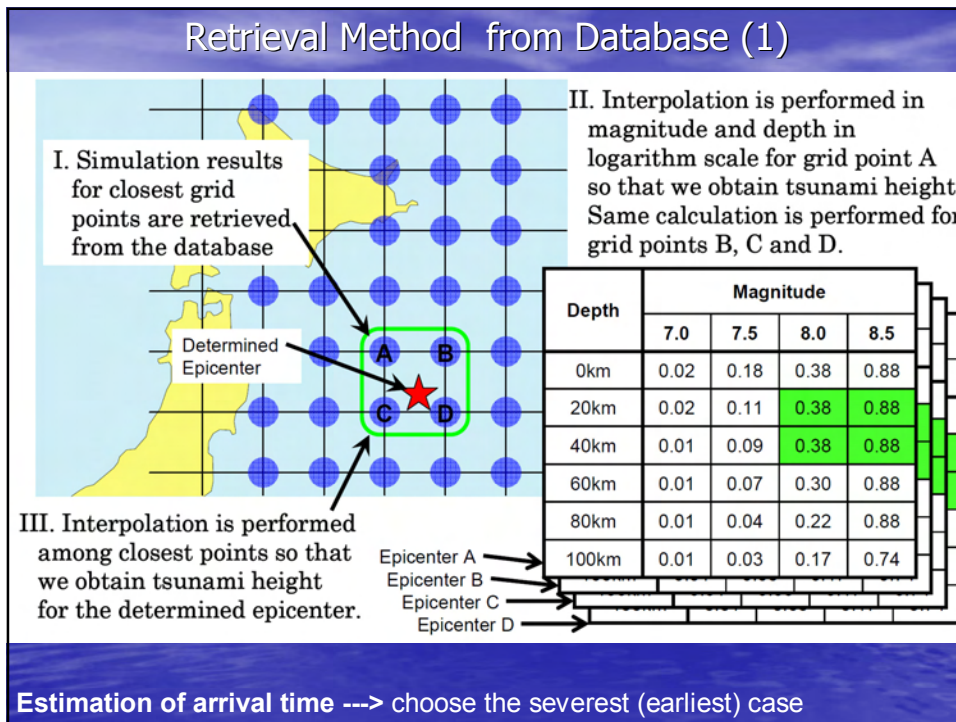
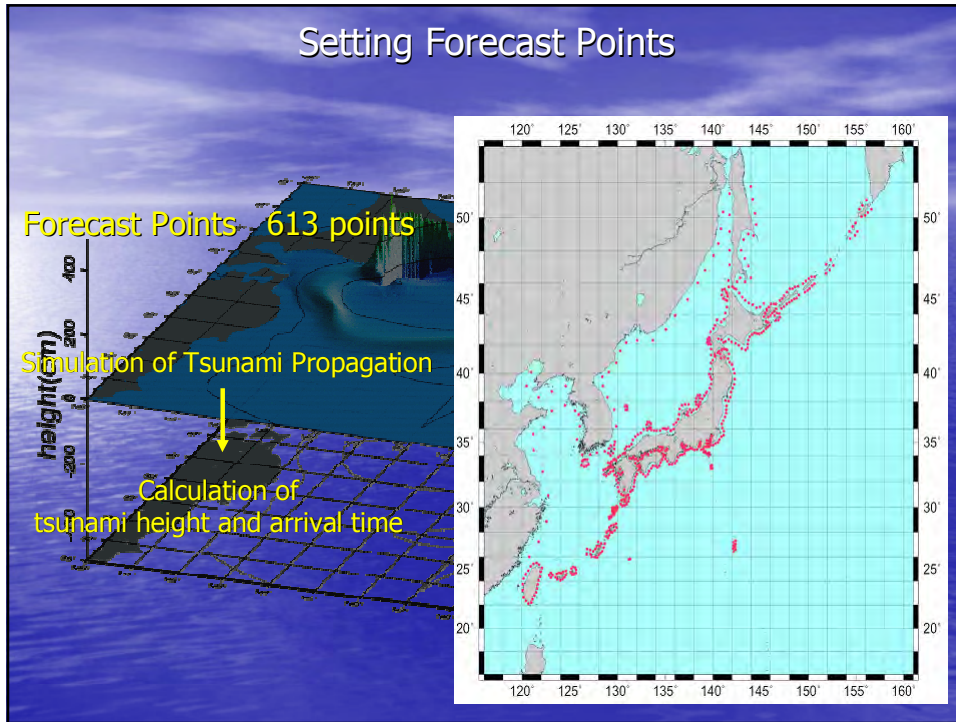
a) $\log L = 0.5 M - 1.9$, $\log W = 0.5 M - 2.2$, $\log D = 0.5 M - 3.2$
 where L:length, W:width, D:slip, M:magnitude
 b) δ (dip angle) = 45° , λ (slip angle) = 90° : reverse fault
 c) strike of the fault is parallel to the trenches or the coastlines
 d) hypocenter is located at the center of the fault plane



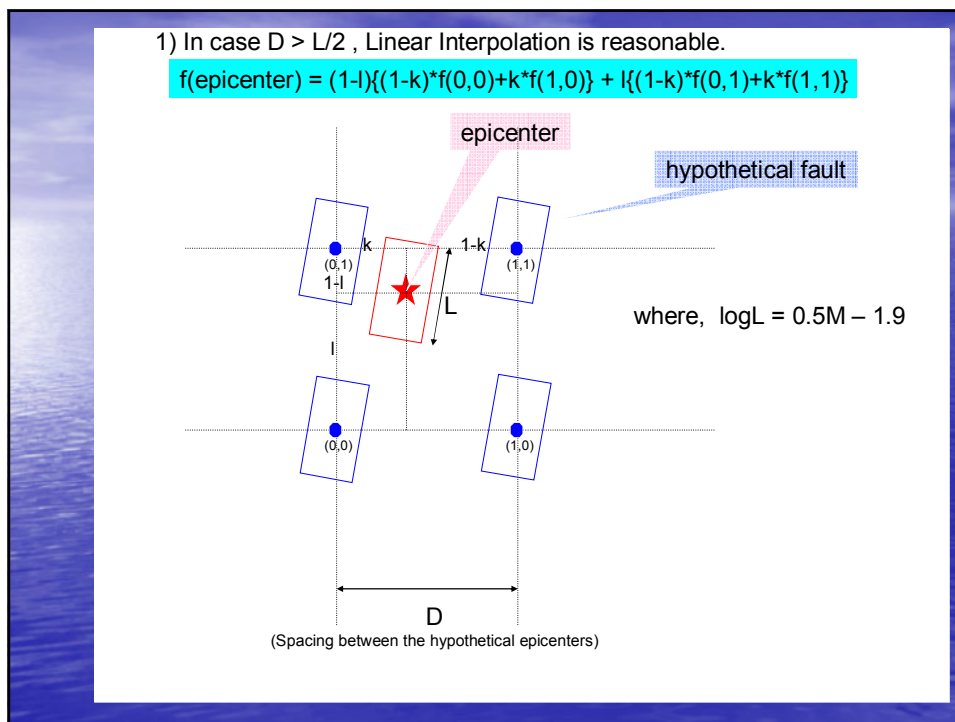
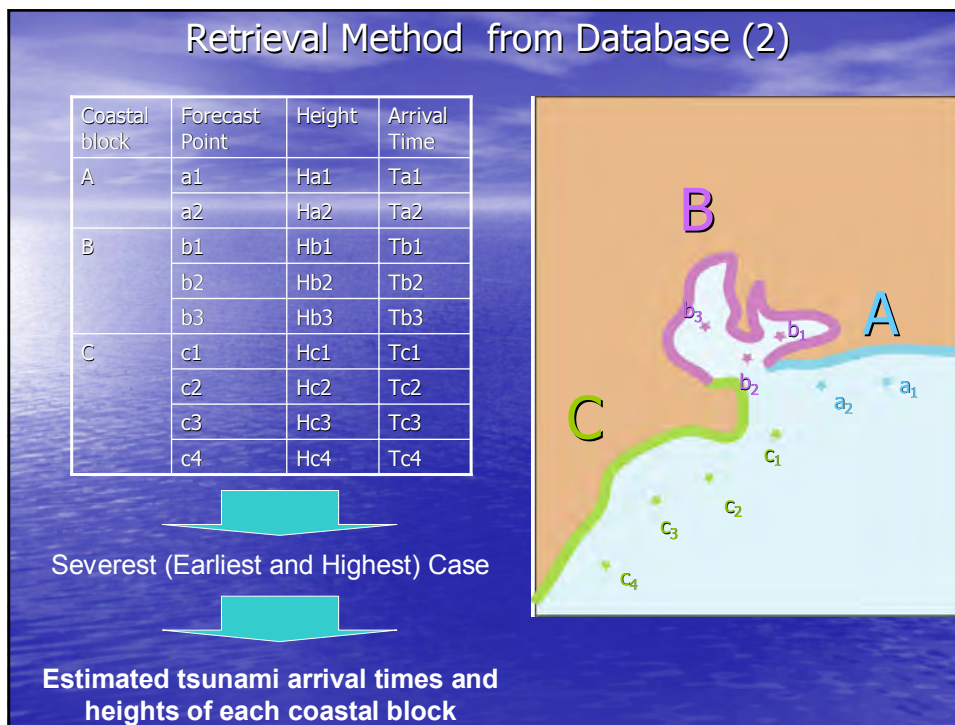


3. How to Create Database, and Retrieval Method

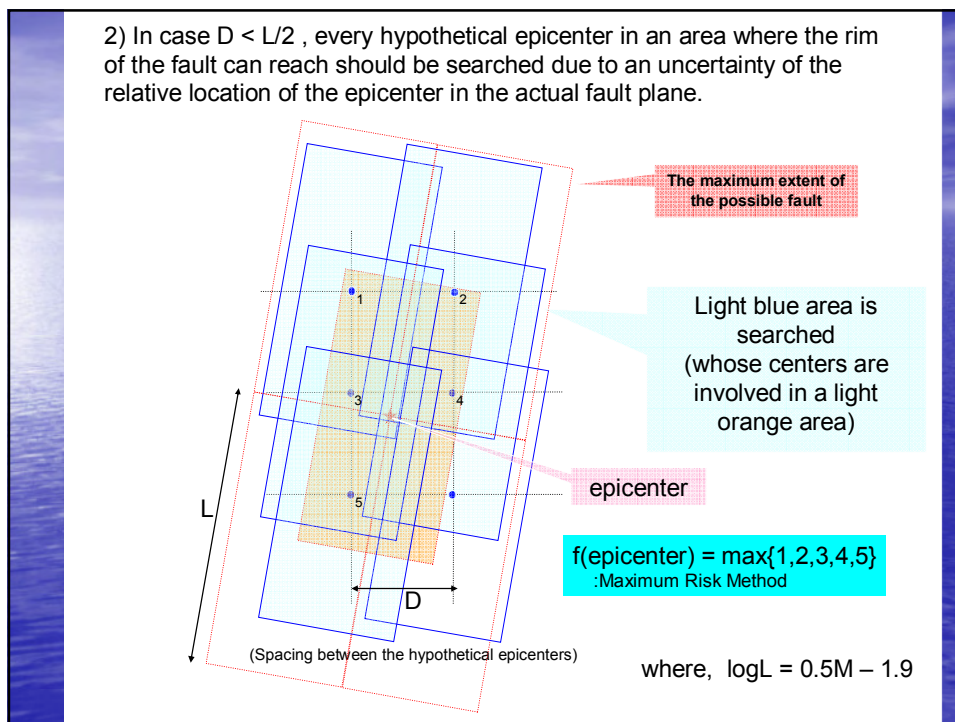




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END

Thank you very much.

2003年千歳沖地震 19M

2004年12月26日スマトラ島沖地震 309M

