Training/Workshop on

Tsunami Evacuation Maps, Plans, and Procedures and the UNESCO-IOC Tsunami Ready Recognition Programme for the Indian Ocean Member States

Hyderabad - India, 15-23 April 2025

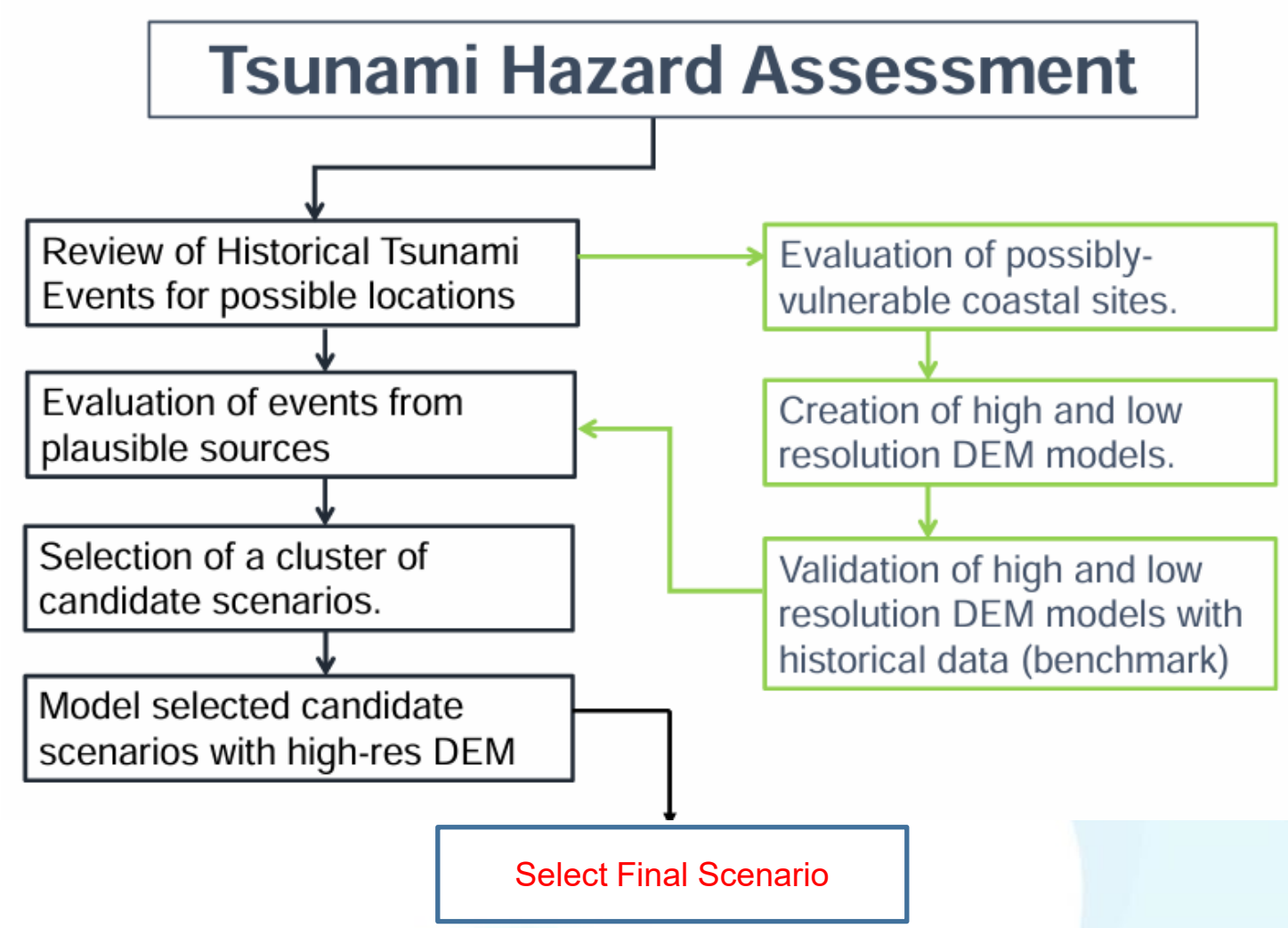
Tsunami Inundation Modelling and Map

TIMM: Finalizing Inundation Map Guidelines for Map Publication

Dr R S Mahendra
Scientist-E, INCOIS

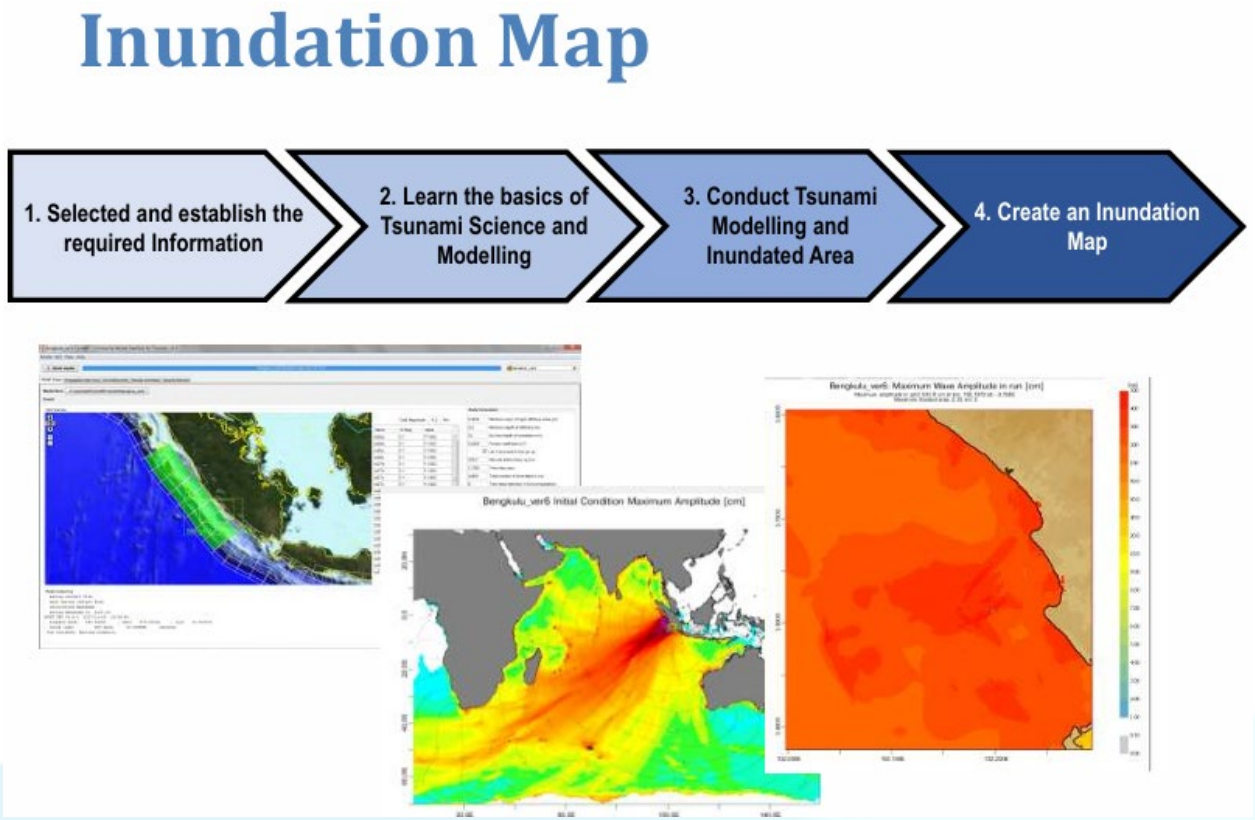
Introduction

- What is a tsunami inundation map?
- Why is it important?
- Objective of this presentation: to outline key steps and guidelines for finalizing and publishing the map.



Tsunami Inundation Mapping Overview

- Definition: Delineation of areas that may be flooded due to tsunami waves.
- Input data: Bathymetric/topographic data, tsunami modeling, historical records.
- Output: Maps for emergency planning and public awareness.



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Finalizing the Map – Key Considerations

- Accuracy of elevation and bathymetric data
- Resolution and scale (usually 1:10,000 to 1:25,000)
- Map overlays: critical infrastructure, population centers
- Scenario selection: worst-case, historical, or probabilistic models

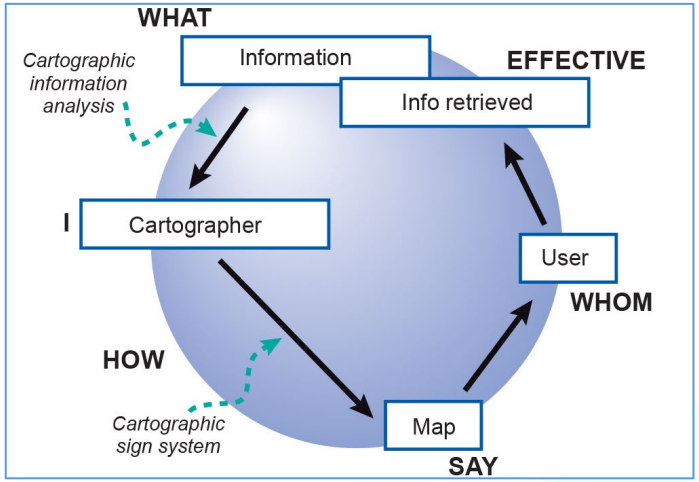
Map Elements to Include

- Inundation extent and depth
- Landmarks and infrastructure
- Evacuation zones and routes
- Legend, scale bar, north arrow
- Source and metadata
- Index maps, Logos, etc.

Quality Assurance & Validation

- Cross-check with historical data and field verification
- Peer reviews by technical experts
- Stakeholder consultation (local authorities, emergency services)

Cartographic Guidelines



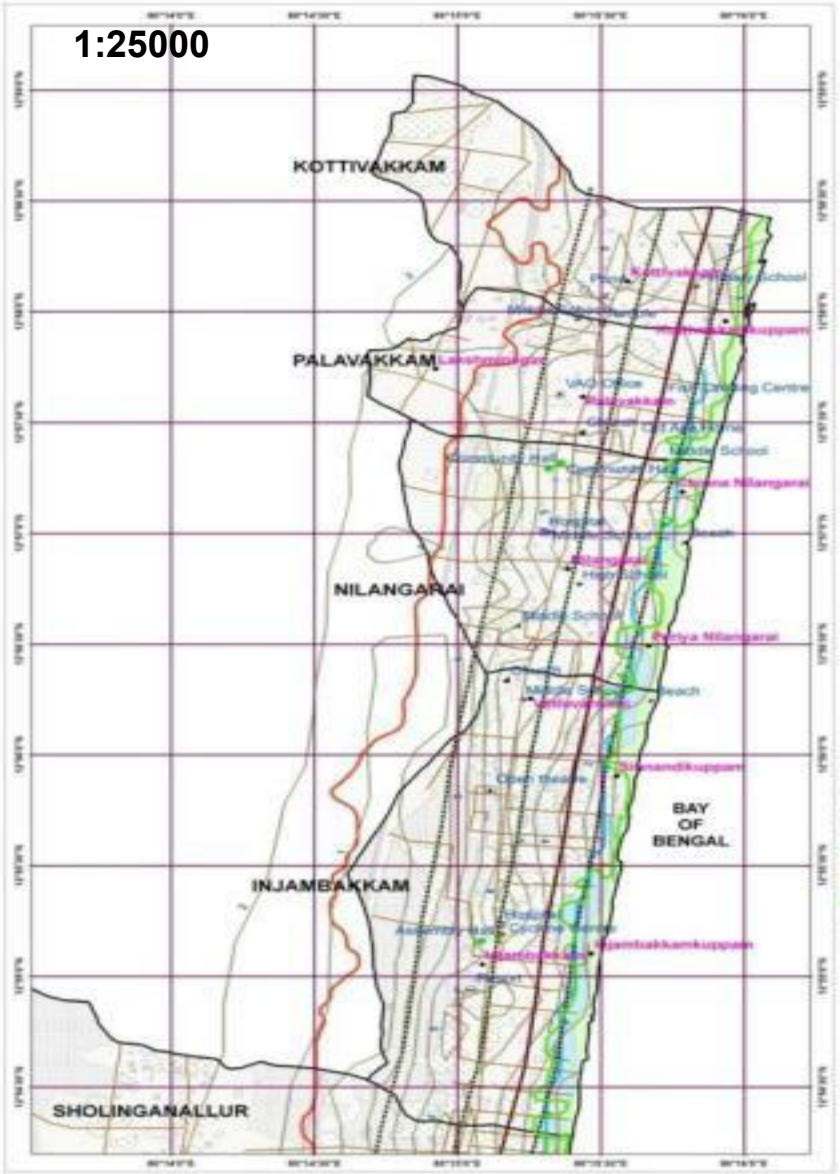
- Consistent color schemes (e.g., blue shades for inundation)
- Clarity and readability: avoid clutter
- Labeling of high-risk areas
- Use of standard symbology (ISO/TC 211 where applicable)

Guidelines for Map Publication

- **Format:** Digital (PDF, GIS layers), Print (Posters, Brochures)
- **Accessibility:** Multilingual, large print for visibility, colorblind-friendly options
- **Distribution:** Government portals (Web GIS, Mobile Applications, APIs), public awareness campaigns, community centers

Version control: Include map version, date of publication

Examples of Tsunami Inundation Maps



I. Vulnerability classification

- Low risk – Carnicobar Eq (8.1.Mw)
- High risk – Sumatra Eq (9.3Mw)
- Maximum risk – Hypo. Carnicobar Eq (9.3 Mw)

II. Inundation Depth

water level due to Sumatra 2004

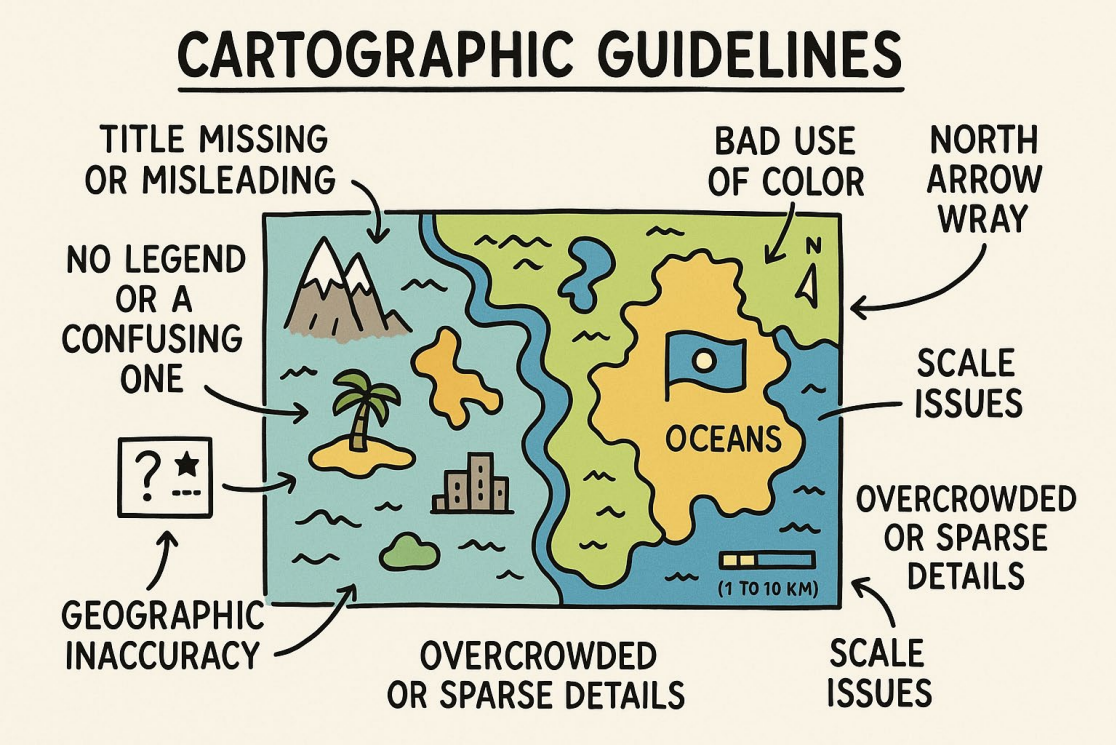
III. Others details

❑From Satellite Imagery
- Landuse

❑From DC images (upto 2 km from coast)
- Elevation Contours
- Infrastructure details
- Trees
- Roads
- Railways
- Buildings

❑Secondary data
- Cadastral boundaries and Survey Nos
- Administrative boundaries

Thank you


CARTOGRAPHIC GUIDELINES
TITLE MISSING OR MISLEADING
BAD USE OF COLOR
NORTH ARROW WRAY
NO LEGEND OR A CONFUSING ONE
SCALE ISSUES
OCEANS
OVERCROWDED OR SPARSE DETAILS
(1 TO 10 KM)
GEOGRAPHIC INACCURACY
OVERCROWDED OR SPARSE DETAILS
SCALE ISSUES