



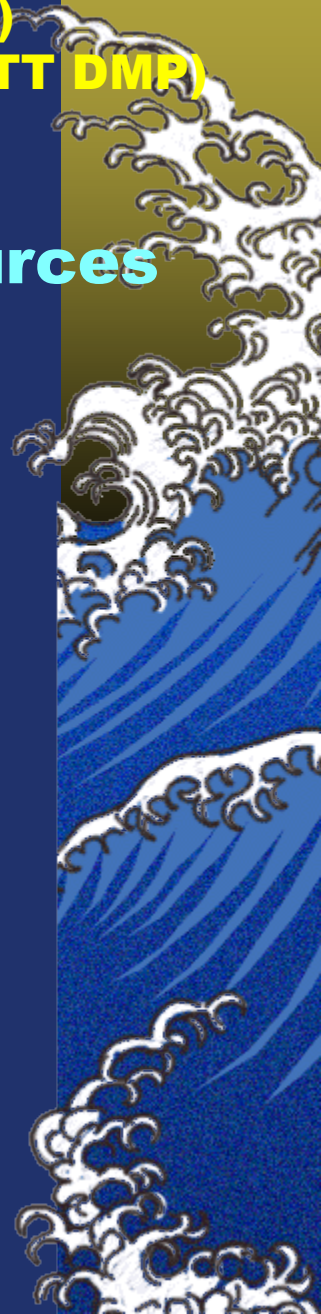
TOWS

Task Team on Tsunami Watch Operation (TT TWO)

Task Team on Disaster Management and Preparedness (TT DMP)

21- 22 February 2022

**Handling of tsunamis from non-seismic sources
and non-subduction zone earthquakes**



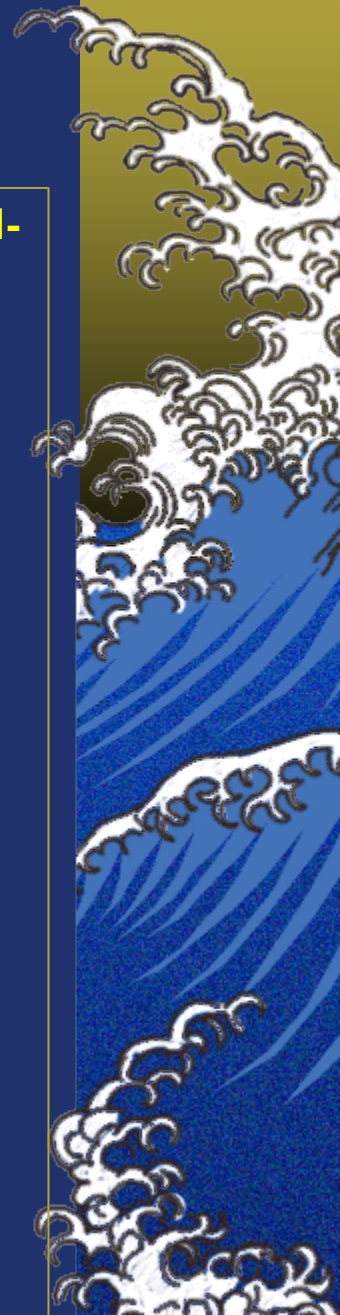


J2 Atypical tsunamis

TOWS XIV report (2021)

13. HANDLING OF TSUNAMIS FROM NON-SEISMIC-SOURCES AND NON-SUBDUCTION ZONE EARTHQUAKES

- ▲ A preliminary report was produced in 2020.
- ▲ Three main topics were presented:
 - (1) Non mega thrust earthquakes;**
 - (2) other geophysical sources (landslides, volcanoes);**
 - (3) Meteotsunami.**
- ▲ *The meteotsunami chapter has been finalized.*
- ▲ *The two other chapters will contain additional information related to the current volcano and landslides monitoring and warning systems as well as the detection and fast characterization of non mega thrust earthquakes. Near field and far field issues and solutions should be highlighted.*
- ▲ **Action 2:** Prepare the final report on atypical tsunami sources for presentation the 2022 TT TWO meeting.

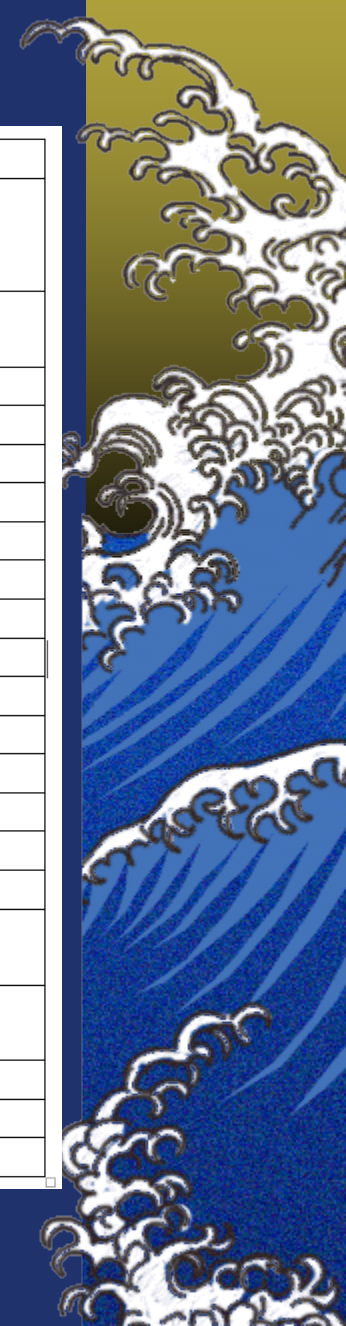




J2 Atypical tsunamis

New Table of Content

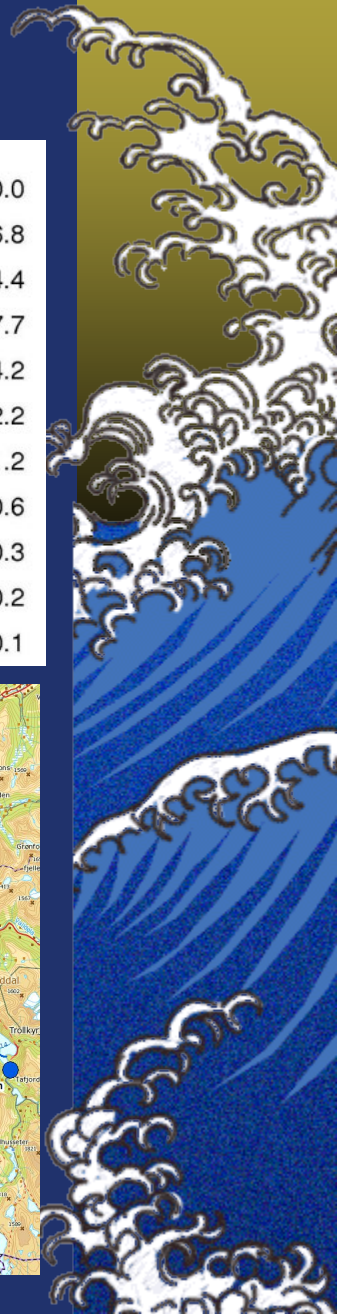
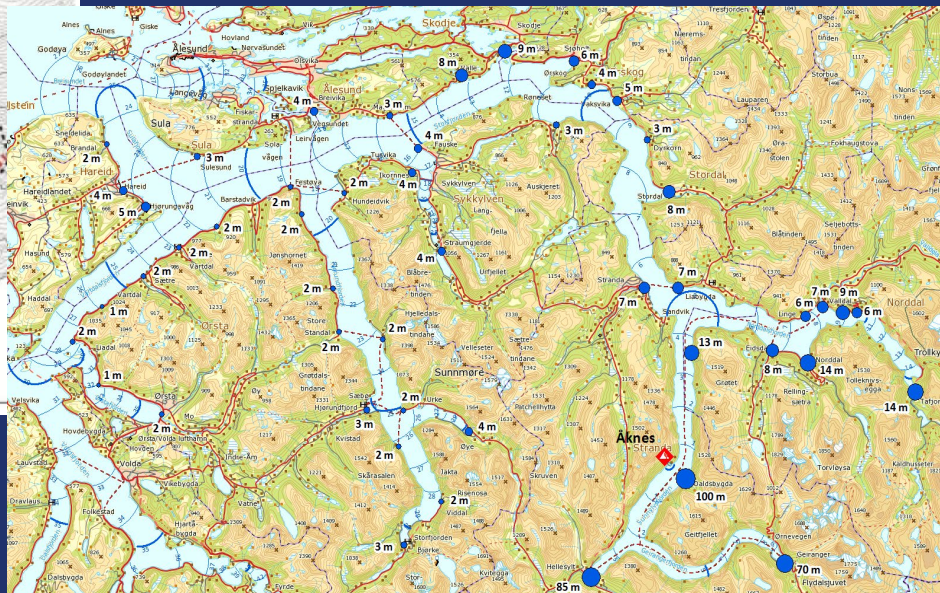
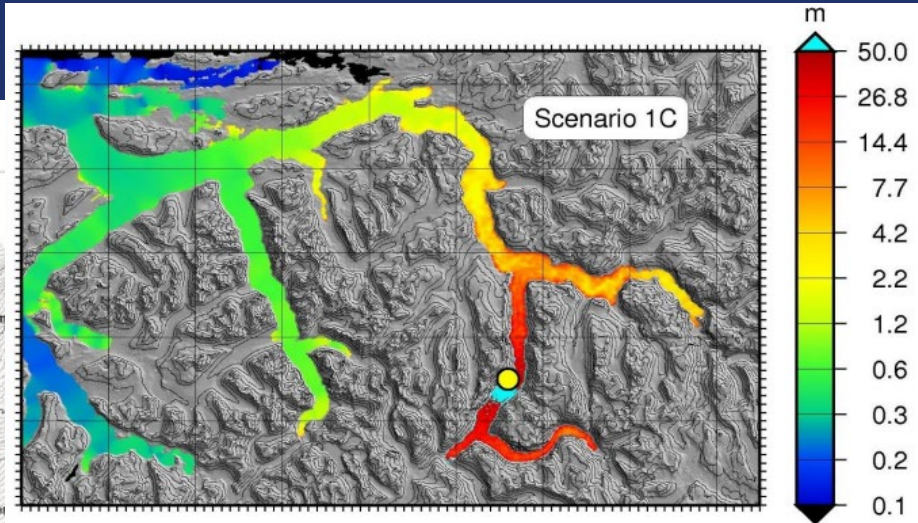
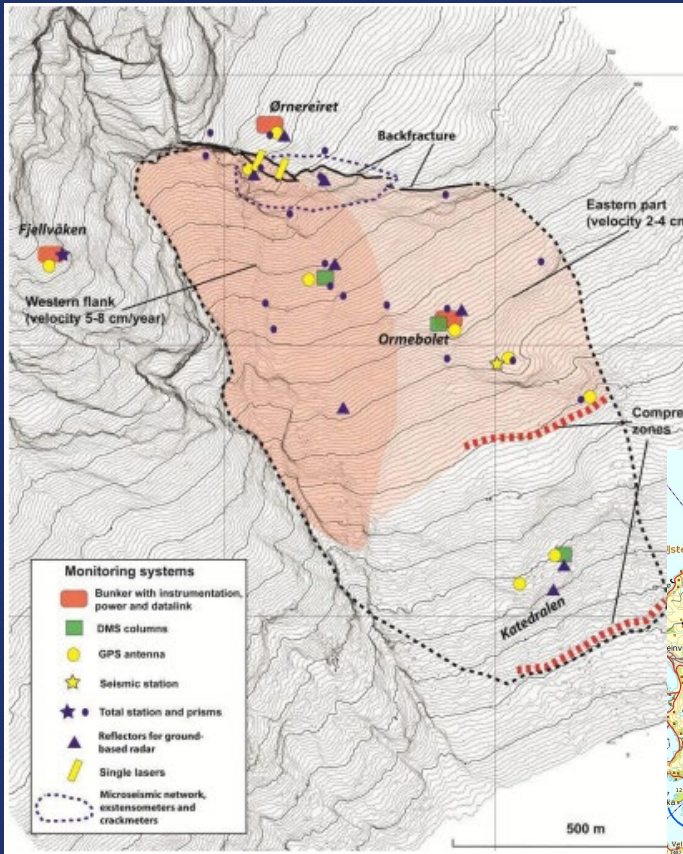
| Chapter | Title | Author | Pages | Remark |
|---------|--|---|-------|----------|
| 1 | NON MEGA THRUST EARTHQUAKES | Elisabeth Vanacore UPDATE Jacopo Selva Yuji Nishimae | 7 | |
| 2 | OTHER GEOPHYSICAL SOURCES (LANDSLIDES – VOLCANOES) | | | |
| 2.1 | MONITORING | <i>(F.Schindel )</i> | | Reviewer |
| 2.11 | Italy - Stromboli | Jacopo Selva | 1,5 | |
| 2.12 | Indonesia – Anak Krakatau | Weniza – R Paris | 2,5 | |
| 2.13 | Japan (JMA) | Y. Nishimae | 2 | |
| 2.14 | Norway | F. Schindel  NEW | 3 | |
| 2.2 | MODELING | R Paris | 9 | |
| 2.3 | HAZARD ASSESSMENT | <i>(F. Schindel )</i> | | Reviewer |
| 2.31 | Italy - Stromboli | Jacopo Selva | 1 | |
| 2.32 | Indonesia – Anak Krakatau | R. Paris | 0,5 | |
| 2.33 | Other (Greenland) | F. Schindel  | 0,5 | |
| 2.4 | WARNING | <i>(Y. Nishimae)</i> | | Reviewer |
| 2.41 | Italy – Stromboli | Jacopo Selva | 2 | |
| 2.42 | Indonesia – Anak Krakatau | Weniza | 0,5 | |
| 2.43 | Japan (JMA) | Y. Nishimae | 2 | |
| 2.44 | Norway | F. Schindel  NEW | | |
| 2.45 | Emergency management perspective | D. Coetzee | 0,5 | |
| 3 | METEOTSUNAMI | M. Angove ; I Vilibic | 2 | |
| 4 | References | ALL | 7,5 | |
| ANNEX | Table Volcanoes | R. Paris | 3 | |





J2 Atypical tsunamis

New Chapters : Norway 2.14 – 2.44





J2 Atypical tsunamis

Next Steps : Proposals (1/2)

0 Publication of the Report (IOC – Technical Manual)

1 Atypical earthquakes

Same monitoring, detection and forecast as Thrust fault quakes
these events should be managed and warned by TSP and NTWC.

=> WG1 and 2 of the 4 ICG

2 Rock - aerial landslide

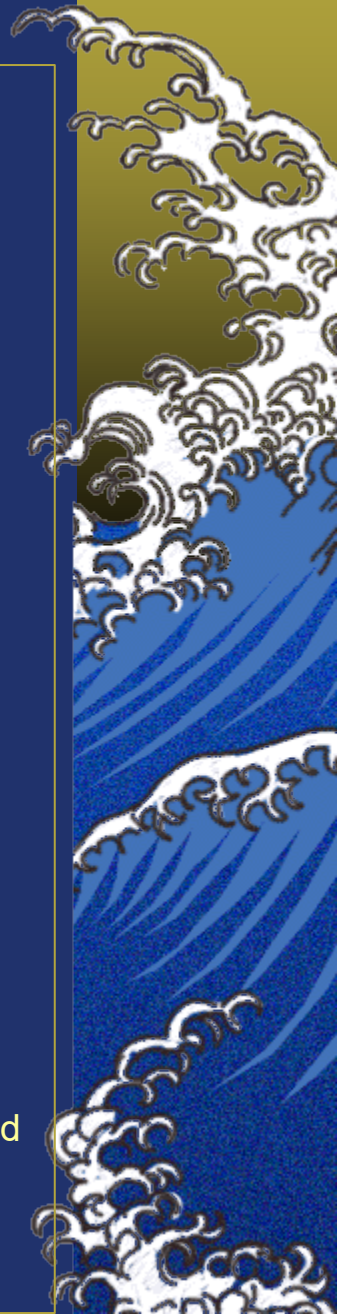
The only system identified is in Norway

=> translate documentation in English (IOC)

3 Meteo-tsunami

2 systems are in place in Europe (Balearic and Adriatic)

-=>TOWS or IOC could request the two MS (Spain and Croatia) to provide their SOP and documentation





J2 Atypical tsunamis

Next Steps : Proposals (2/2)

4 Volcano tsunami :

this is the most challenging phenomena:
7 different types of tsunami sources should be monitored, detected and warned

Hunga Tonga 15 January 2022 event confirms that the threat exists at near and far field.

Nobody knows which and when would be the next volcano tsunami event.

=> A specific **Volcano tsunami team** should be established (need volcanologists, expert on blast and Lamb modelling...., landslide modeling and monitoring...)

