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HIGH RESOLUTION TSUNAMI MODELING AT THE MEDITERRANEAN COAST OF ISRAEL TOWARDS AN EARLY WARNING TSUNAMI SCENARIOS DATA BANK

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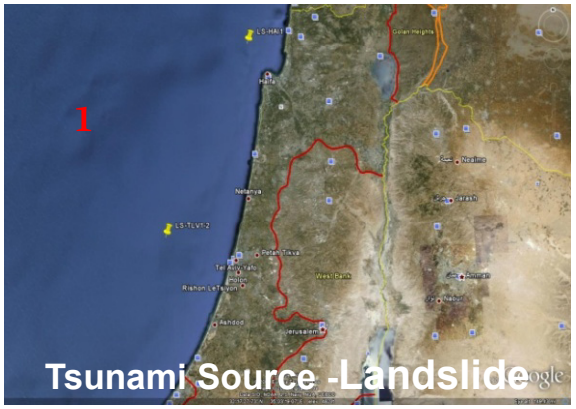
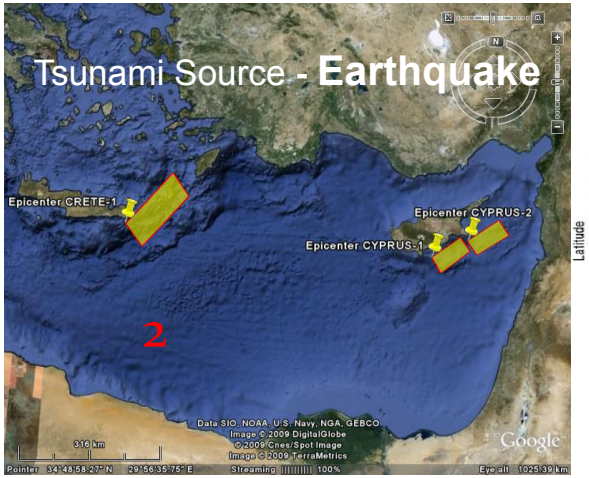
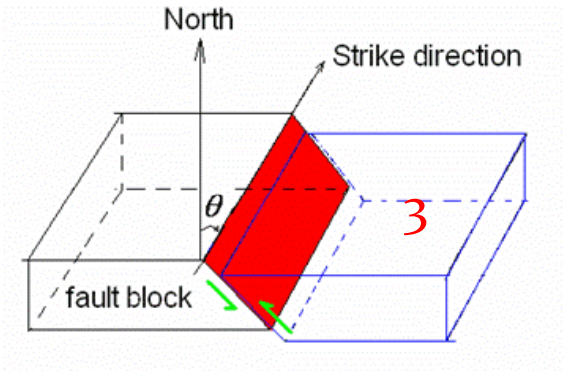
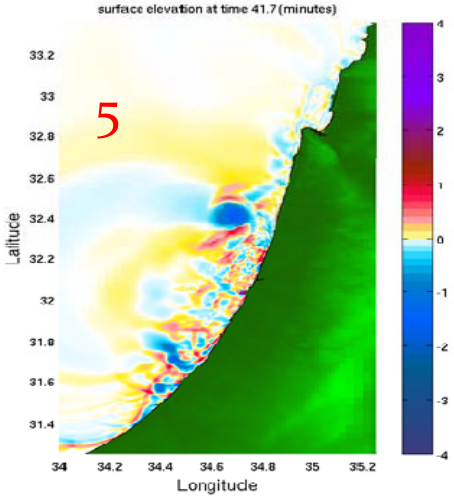
- **Tool used - GeoClaw open source numerical tsunami model. (*developers : R.J. LeVeque, M. Berger, D. George*) and additional tools were developed at IOLR by the first author to simulate the landslide tectonic movements as well as additional visualization tools.**
- **The tsunami model package was used to simulate several worst case tsunami scenarios, resulting from both earthquakes at the Hellenic arc and from offshore submarine landslides on the Israeli coastal shelf, induced by earthquakes at the Dead Sea Transform (part of the Afro-Syrian fault line).**
- **All the modelling was based on high resolution digital bathymetric and topographic data which enabled to produce a high resolution nearshore coast (shallower than -500m) and land grid (5X5m grid cell size), including also river estuaries.**
- **The results will serve in the development of a tsunami scenarios data bank, to be enriched by additional simulations, to aid early warning tsunami alerts to be received from the regional IOC/UNESCO NEAMTWS tsunami watch centers being developed at present in the Mediterranean.**

Tsunami – Simulations Setup and Examples of Results

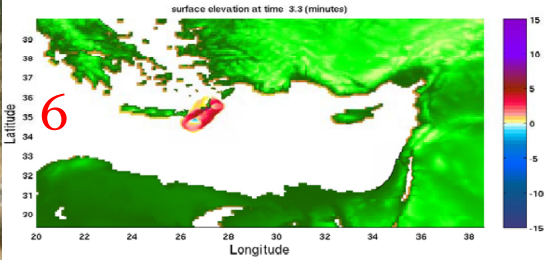




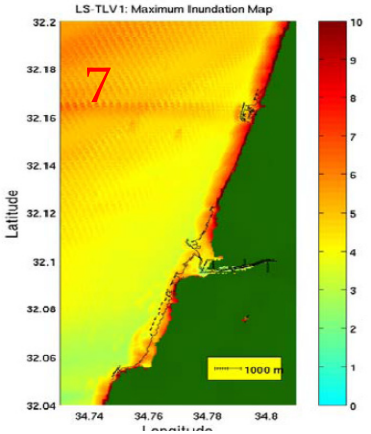


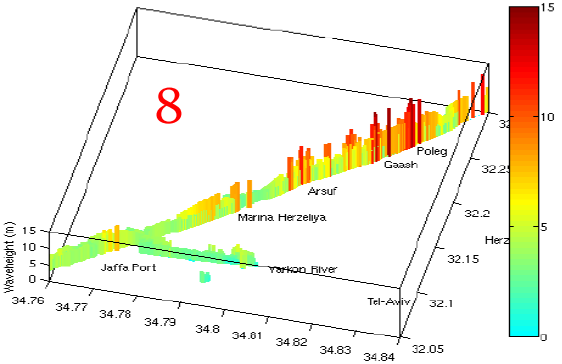


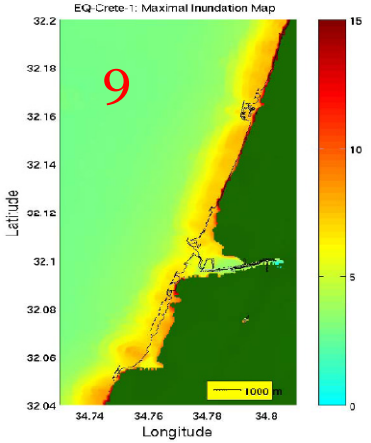
Landslide off Tel Aviv

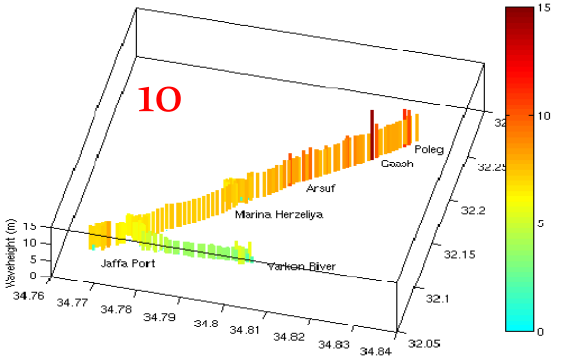


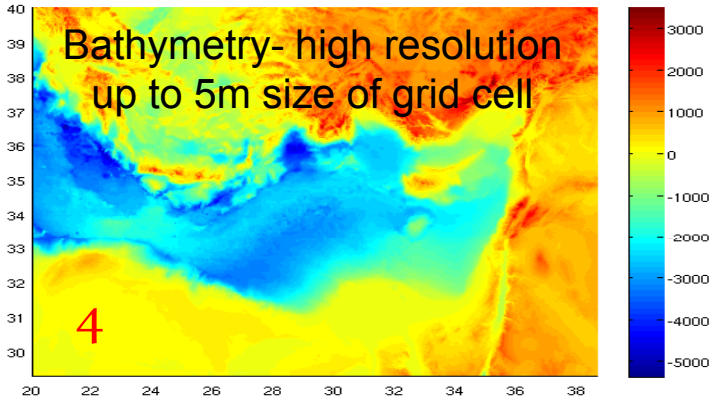
Earthquake off Crete

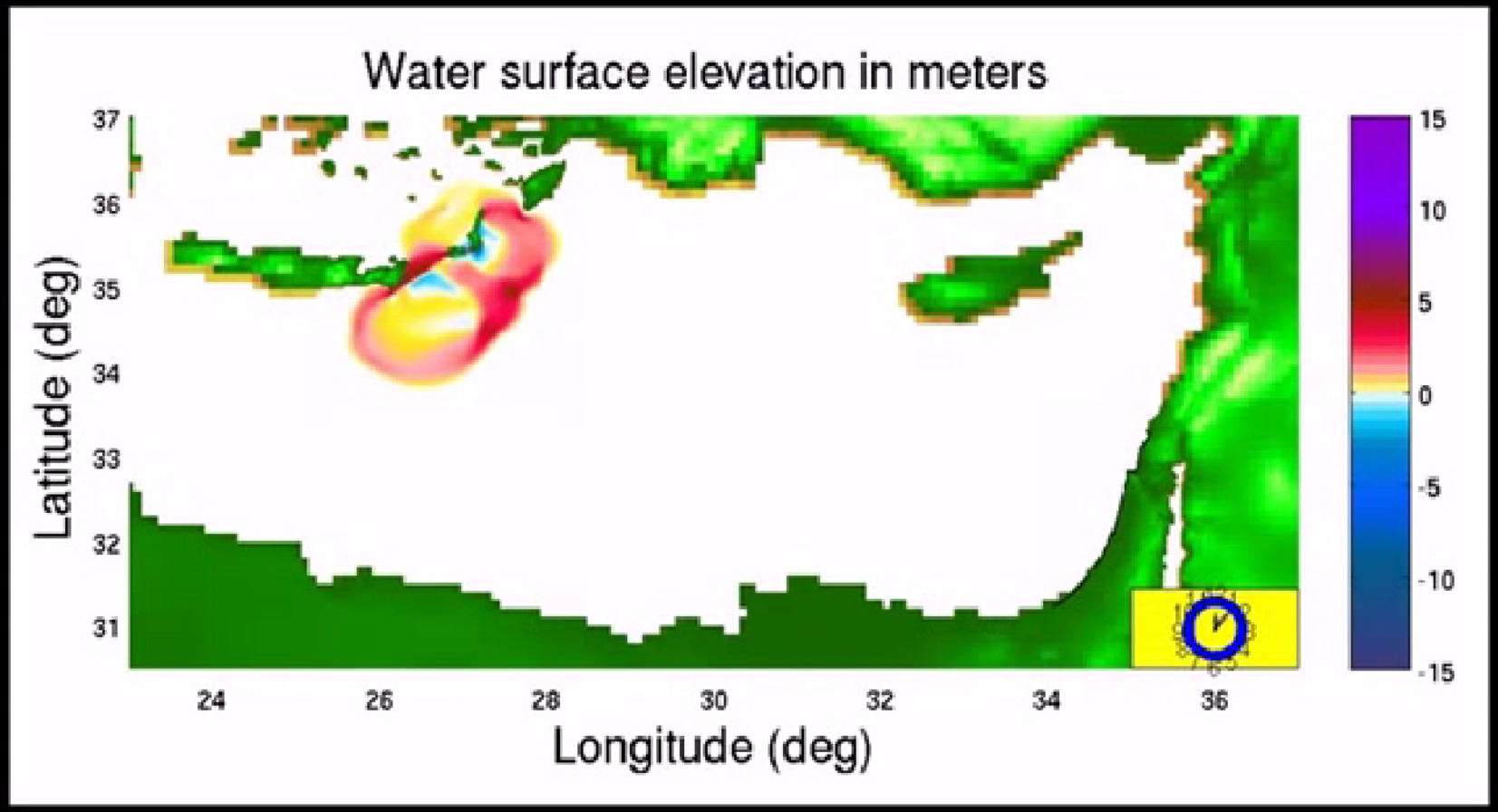











Water surface elevation in meters
Latitude (deg)
37
36
35
34
33
32
31
24
26
28
30
32
34
36
Longitude (deg)
15
10
5
0
-5
-10
-15