



## Supplement of

## Speeding up tsunami forecasting to boost tsunami warning in Chile

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Contents of this file

Figures S1 to S24 and Table S1.

## S.1 Elliptic sources data

Event	Lat [°]	Lon [°]	Depth [km]	Strike[°]	Dip[°]	Rake [°]	Moment [Nm]	Mw
1992 Nicaragua	11.26	-87.7258	11.5	293.1	11.7	73.5	4.55E + 27	7.71
2001 Perú	-17.06	-73.015	23.5	315.3	16.4	70.4	4.94E + 28	8.4
2003 Japan	42.21	143.7746	23.5	245.6	15.6	125.3	2.21E + 28	8.16
2006 Indonesia	-9.284	107.419	11.5	284.1	9	86.5	4.11E + 27	7.68
2007 Solomon Isl.	-13.79	-76.6	25.5	324.2	14	63.4	2.24E + 28	8.17
2007 Perú	-7.86	156.3325	21.5	322.4	30	101.3	1.75E + 28	8.09
2009 Samoa	-15.29	-171.9962	15.5	306.5	22.1	-115.3	1.85E + 28	8.11
2010 Chile	-35.95	-72.71	30.5	2.3	23.5	79	2.26E + 29	8.71
2011 Japan	37.92	143.113	19.5	196.3	11.9	85.5	4.26E + 29	9.02
2012 Canada	52.47	-132.13	15	320	29	111	5.18E + 27	7.7
2014 Chile	-19.6097	-70.7691	25	328.3	16.9	70.2	2.35E + 28	8.14
2015 Chile	-31.38	-71.77	25.5	358	11.5	107.1	$3.19E{+}28$	8.23

Table S1: List of W-Phase CMT parameters for the tested events.

## S.2 Scenarios tested

This section provides 24 figures that resumes the tsunami simulation of each event ( $\times$  12) with an elliptic patch and a finite fault model for both, JAGURS code and the simple linear method presented in this work. The left panel shows the source model, yellow triangles are the DART buoys (when available) and white curve is the isobath of 100 m. The central panel displays the maximum tsunami amplitudes with the linear method and above and right are the corresponding run-up heights along longitude and latitude respectively.



Fig. S1: Summary of the tsunami simulation for The 1992 Nicaragua Earthquake with imagenumber.



Fig. S2: Summary of the tsunami simulation for The 1992 Nicaragua Earthquake with imagenumber.



Fig. S3: Summary of the tsunami simulation for The 2001 Southern Perú Earthquake with imagenumber.



Fig. S4: Summary of the tsunami simulation for The 2001 Southern Perú Earthquake with imagenumber.



Fig. S5: Summary of the tsunami simulation for The 2003 Japan Earthquake with imagenumber.



Fig. S6: Summary of the tsunami simulation for The 2003 Japan Earthquake with imagenumber.



Fig. S7: Summary of the tsunami simulation for The 2006 Indonesia Earthquake with imagenumber.



Fig. S8: Summary of the tsunami simulation for The 2006 Indonesia Earthquake with imagenumber.



Fig. S9: Summary of the tsunami simulation for The 2007 Solomon Isl. Earthquake with imagenumber.



Fig. S10: Summary of the tsunami simulation for The 2007 Solomon Isl. Earthquake with imagenumber.



Fig. S11: Summary of the tsunami simulation for The 2007 Perú Earthquake with imagenumber.



Fig. S12: Summary of the tsunami simulation for The 2007 Perú Earthquake with imagenumber.



Fig. S13: Summary of the tsunami simulation for The 2009 Samoa Earthquake with imagenumber.



Fig. S14: Summary of the tsunami simulation for The 2009 Samoa Earthquake with imagenumber.



Fig. S15: Summary of the tsunami simulation for The 2010 Chile Earthquake with imagenumber.



Fig. S16: Summary of the tsunami simulation for The 2010 Chile Earthquake with imagenumber.



Fig. S17: Summary of the tsunami simulation for The 2011 Japan Earthquake with imagenumber.



Fig. S18: Summary of the tsunami simulation for The 2011 Japan Earthquake with imagenumber.



Fig. S19: Summary of the tsunami simulation for The 2012 Canada Earthquake with imagenumber.



Fig. S20: Summary of the tsunami simulation for The 2012 Canada Earthquake with imagenumber.



Fig. S21: Summary of the tsunami simulation for The 2014 Chile Earthquake with imagenumber.



Fig. S22: Summary of the tsunami simulation for The 2014 Chile Earthquake with imagenumber.



Fig. S23: Summary of the tsunami simulation for The 2015 Chile Earthquake with imagenumber.



Fig. S24: Summary of the tsunami simulation for The 2015 Chile Earthquake with imagenumber.