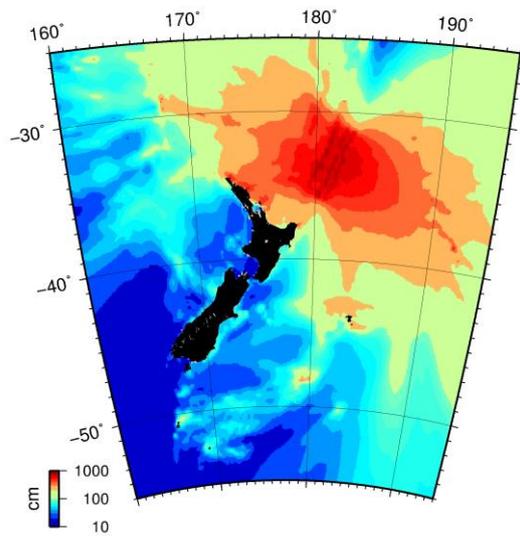
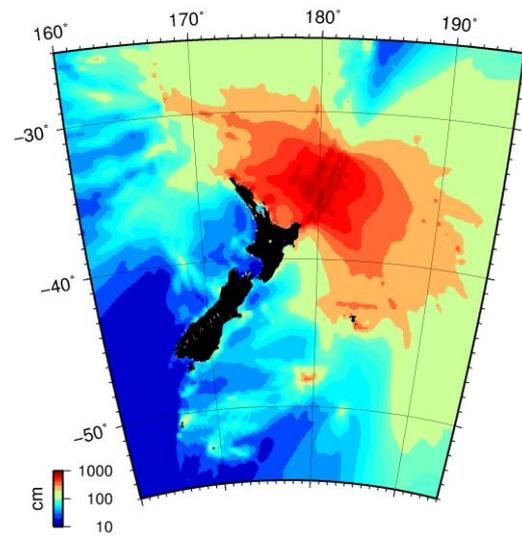


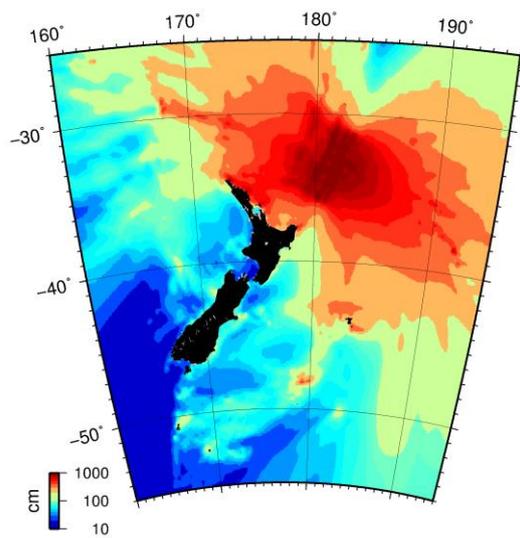
1 APPENDIX 1 – NEAR SOURCE PROPAGATION MODEL RESULTS: TONGA-KERMADEC (TK) TRENCH SCENARIOS



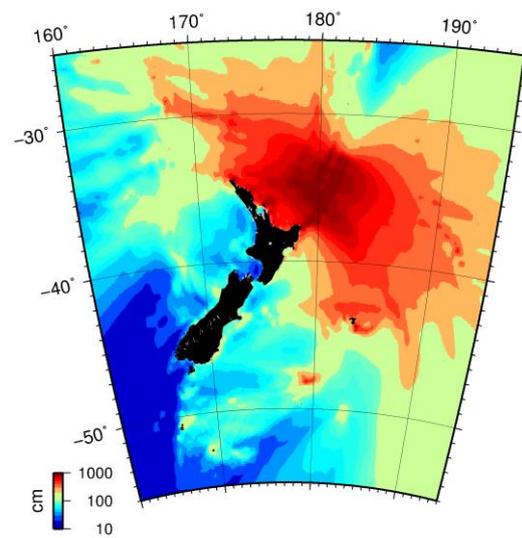
CASE 1



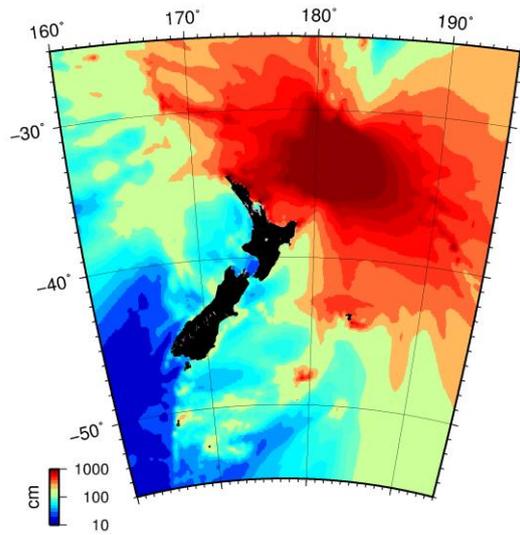
CASE 2



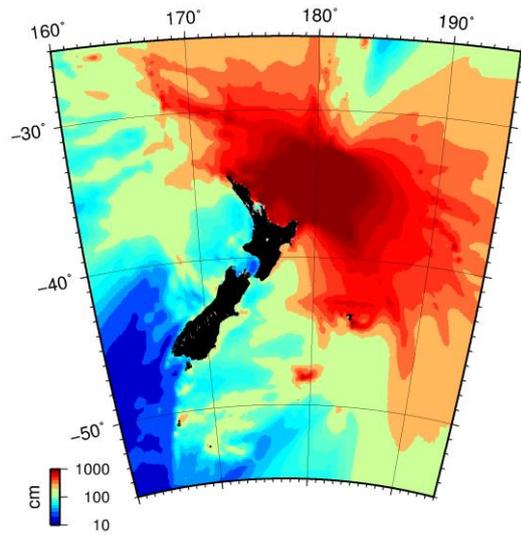
CASE 3



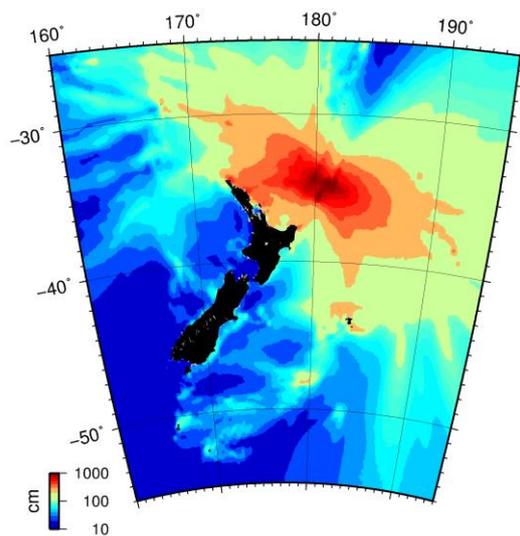
CASE 4



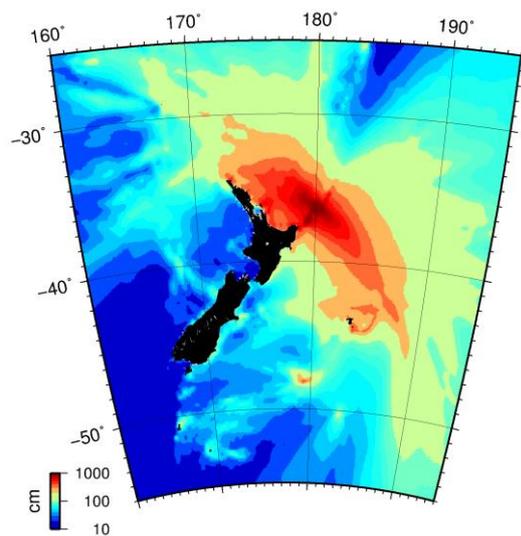
CASE 5



CASE 6



CASE 7

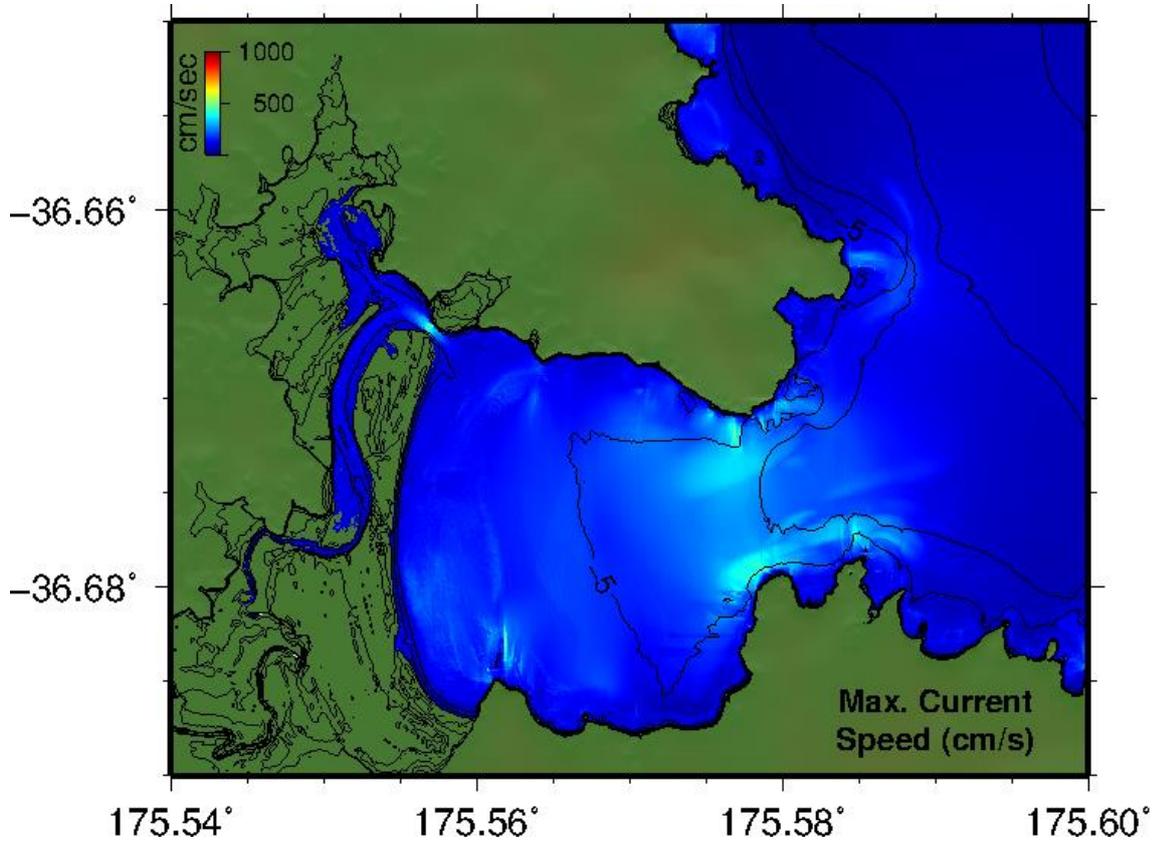
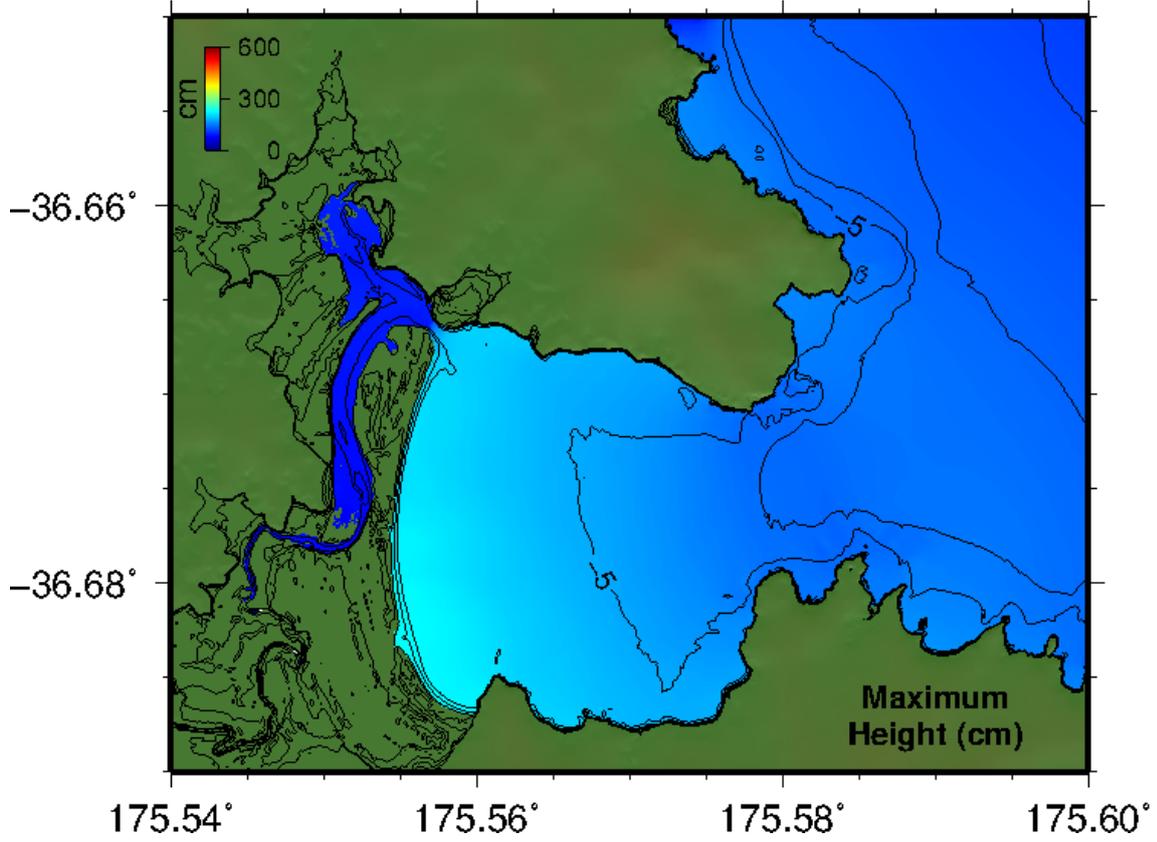


CASE 8

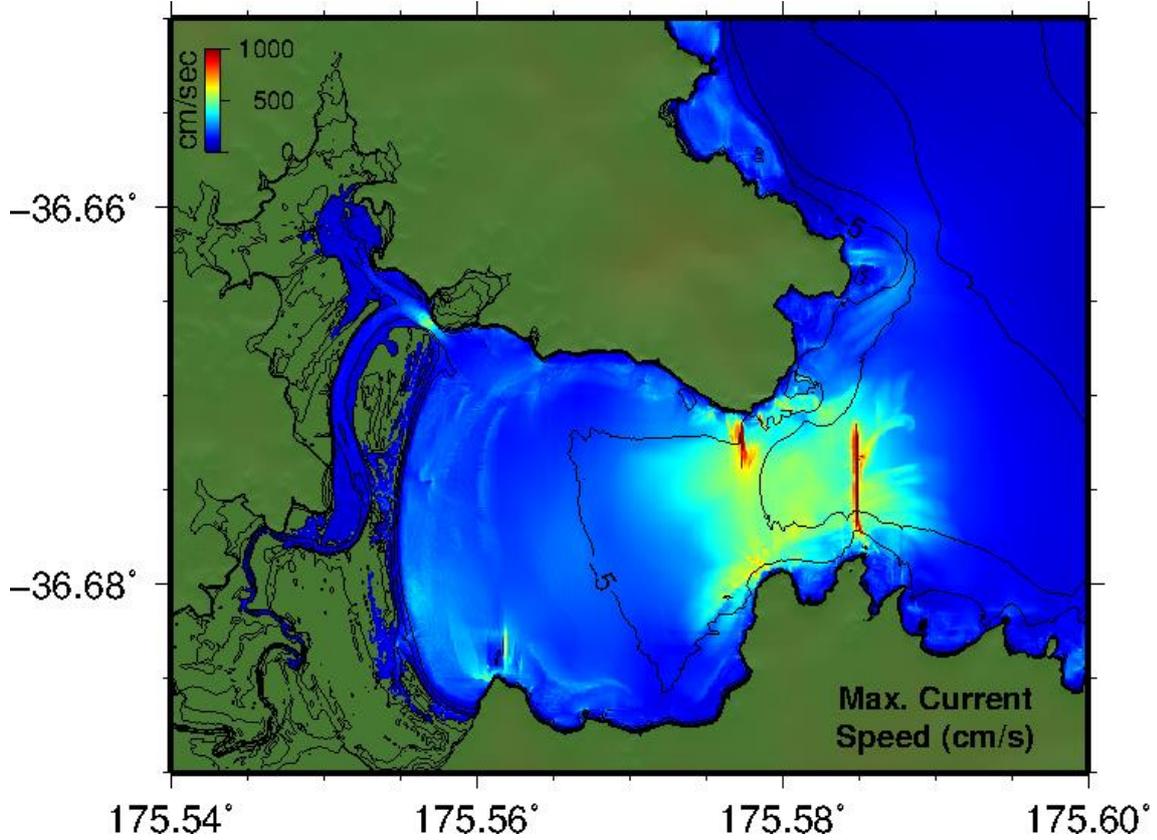
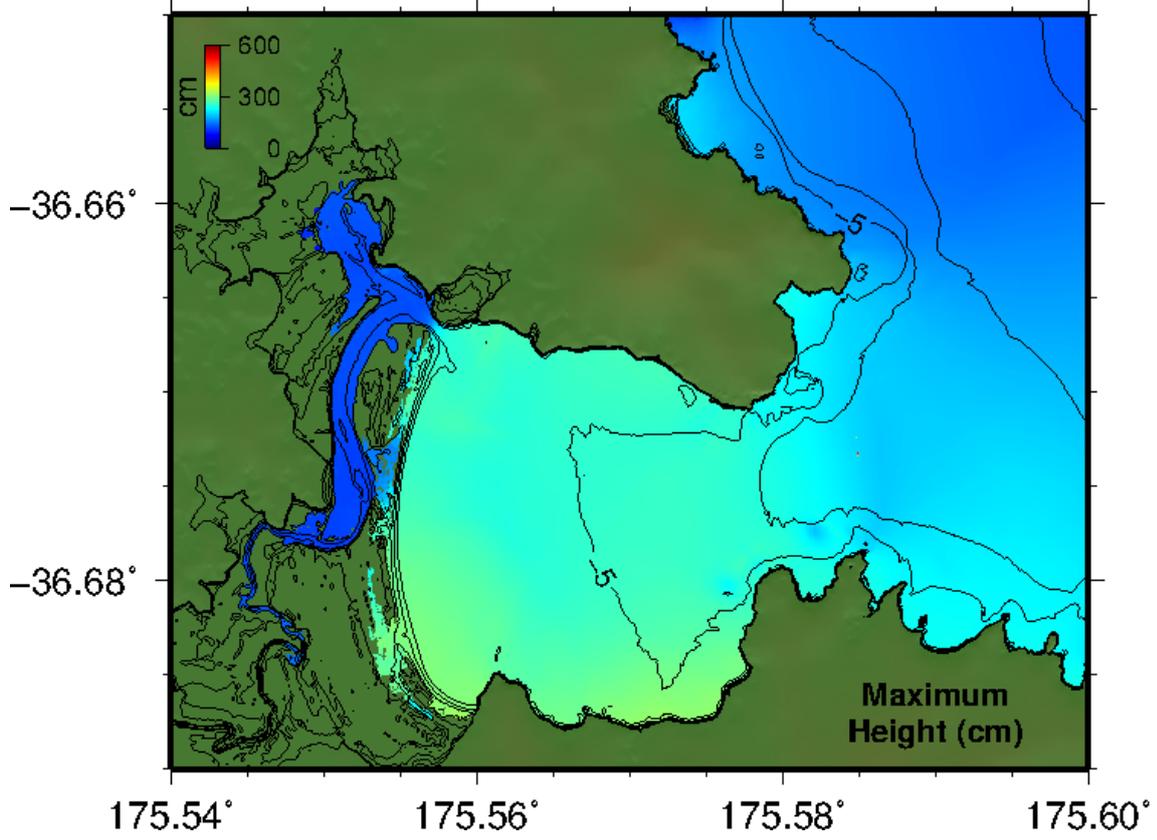
Figure 1.1 Modelled maximum tsunami wave heights from cases 1 – 8 in the vicinity of New Zealand.

2 APPENDIX 2 – KENNEDY BAY: TK TRENCH SOURCES

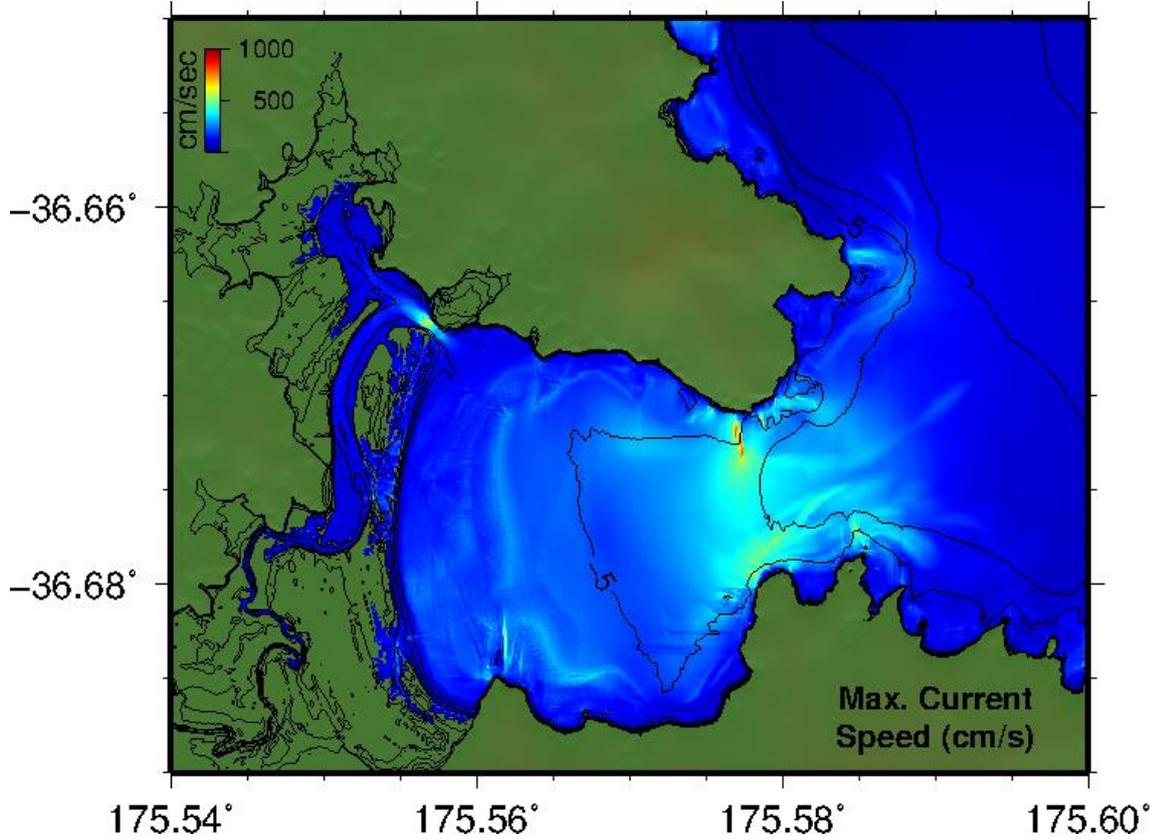
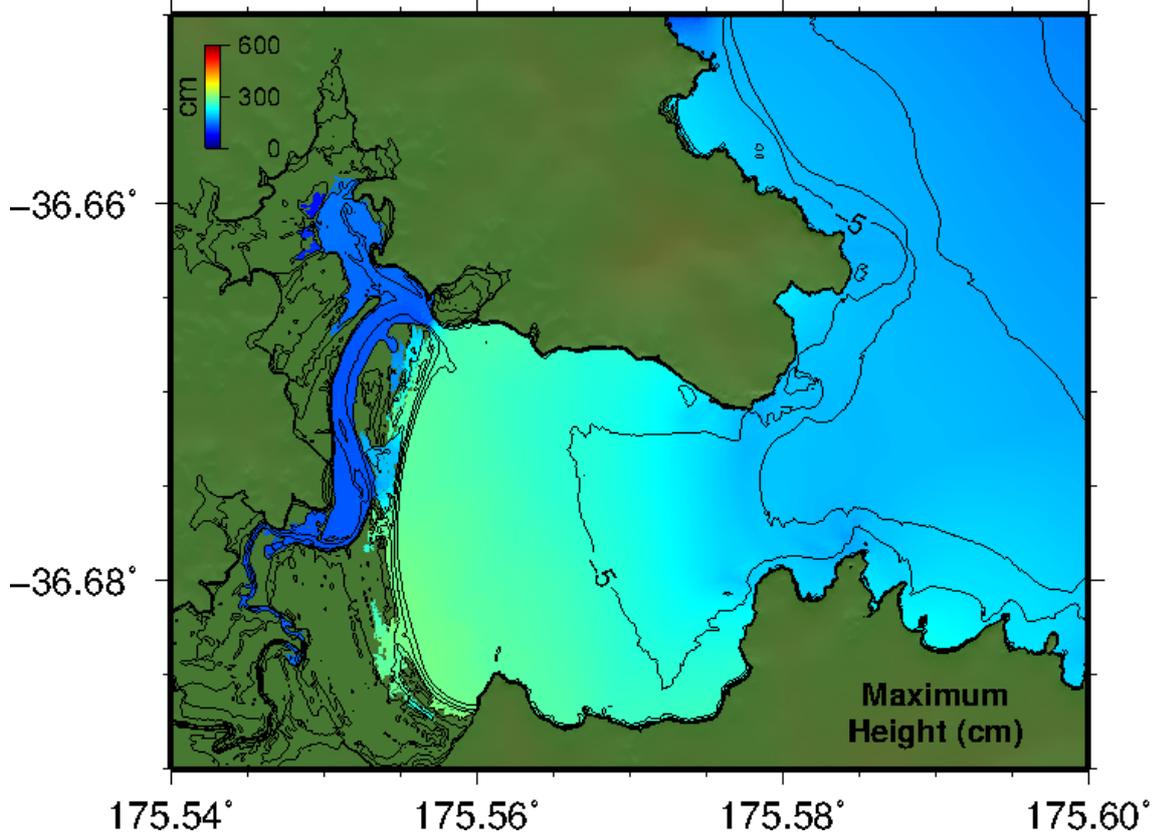
Case 1:



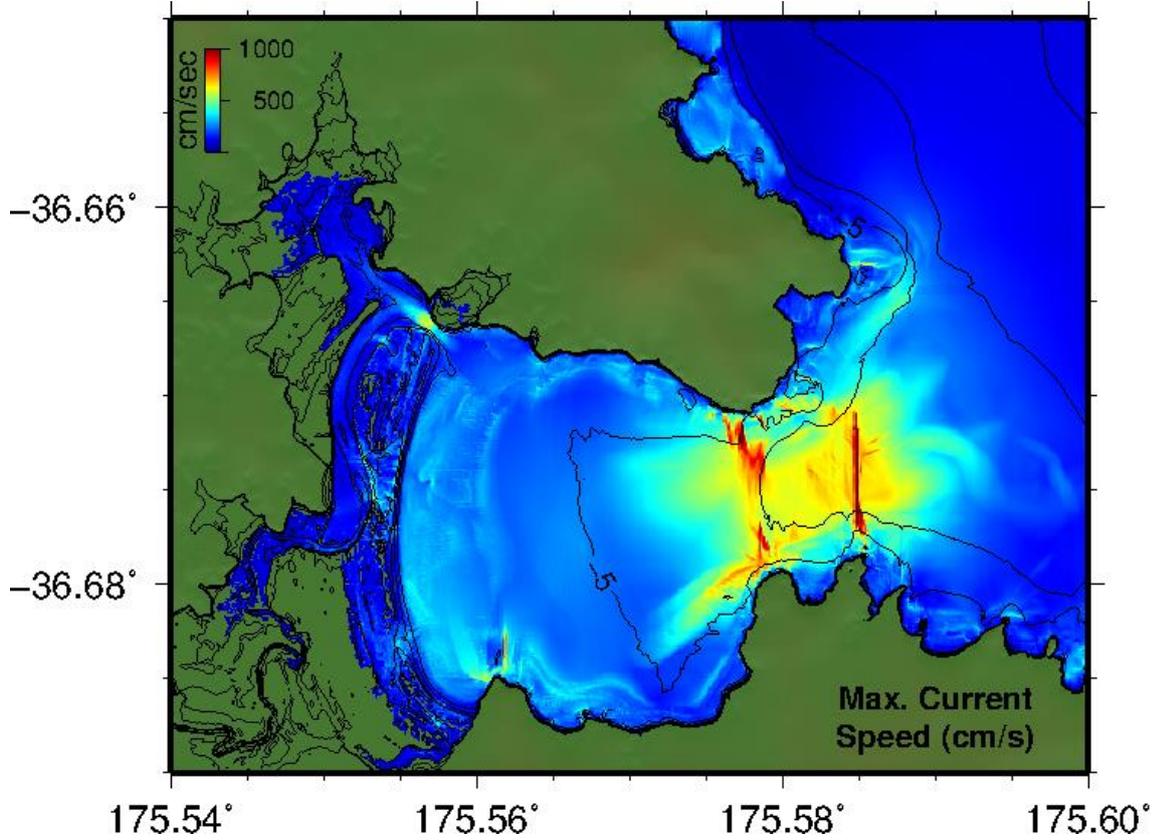
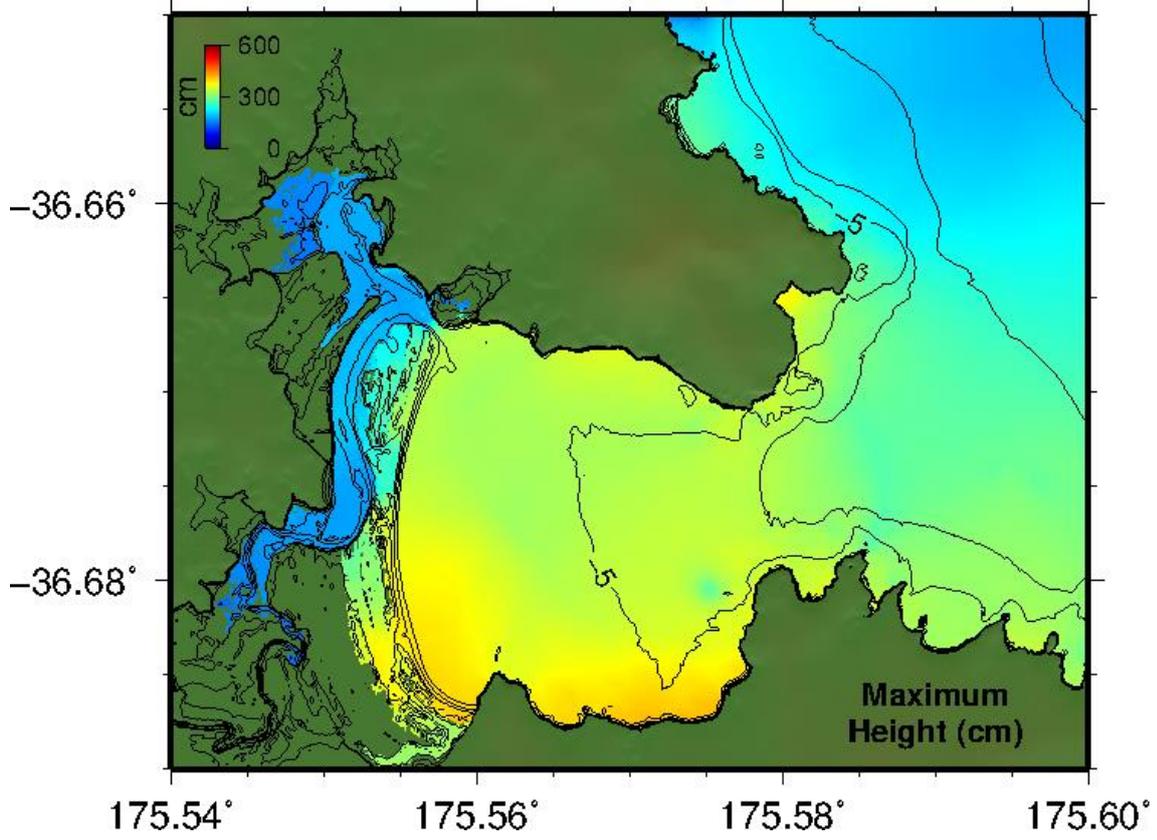
Case 2:



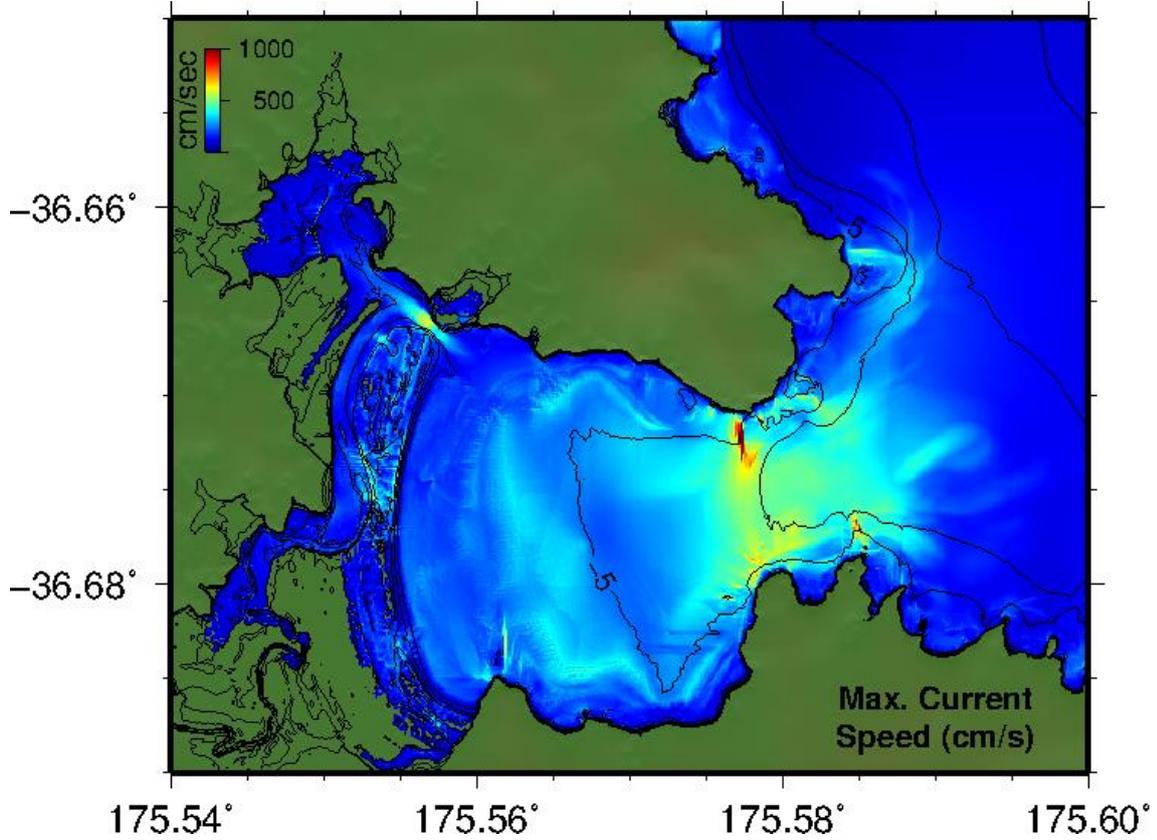
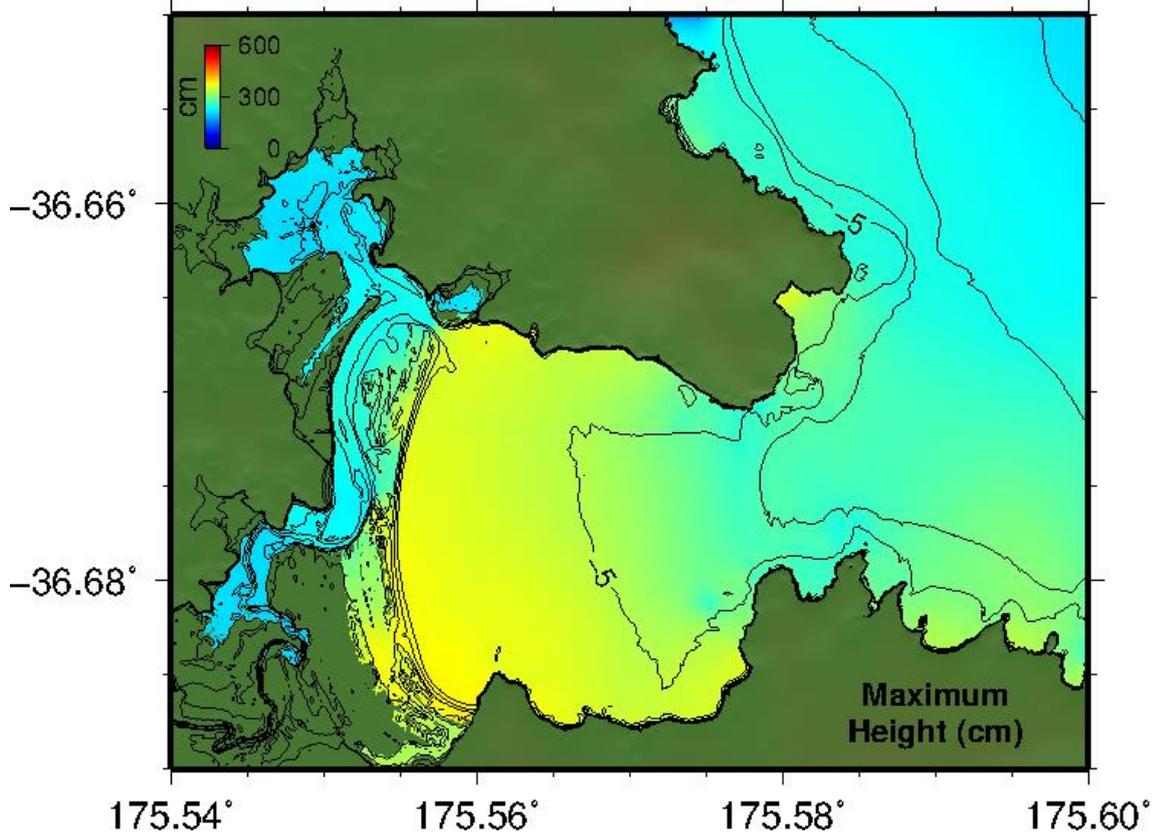
Case 3:



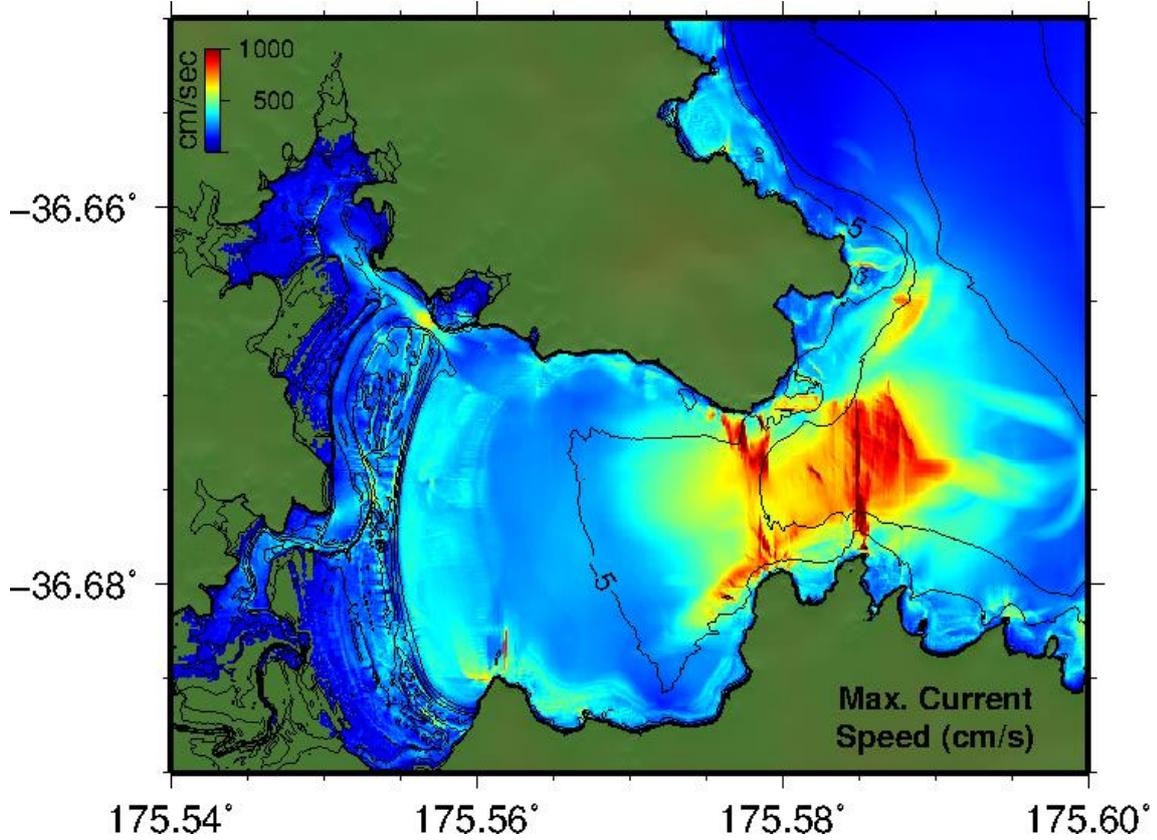
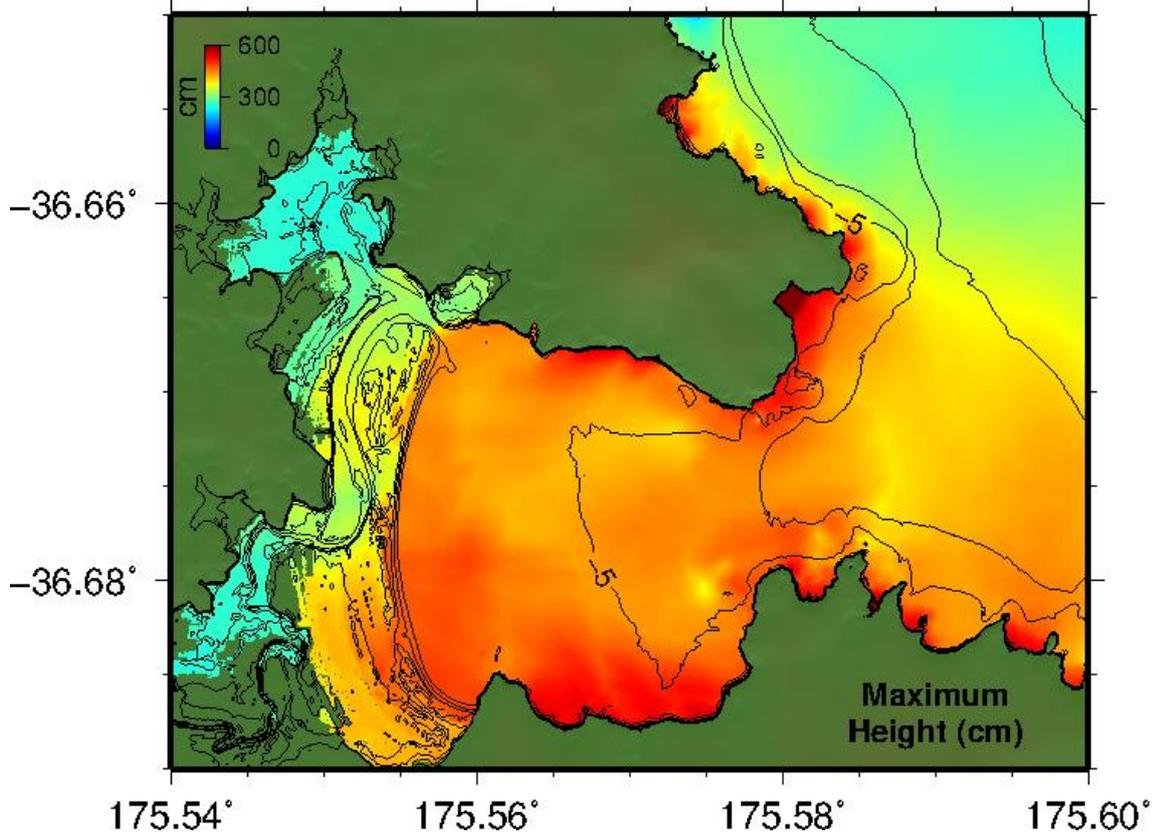
Case 4:



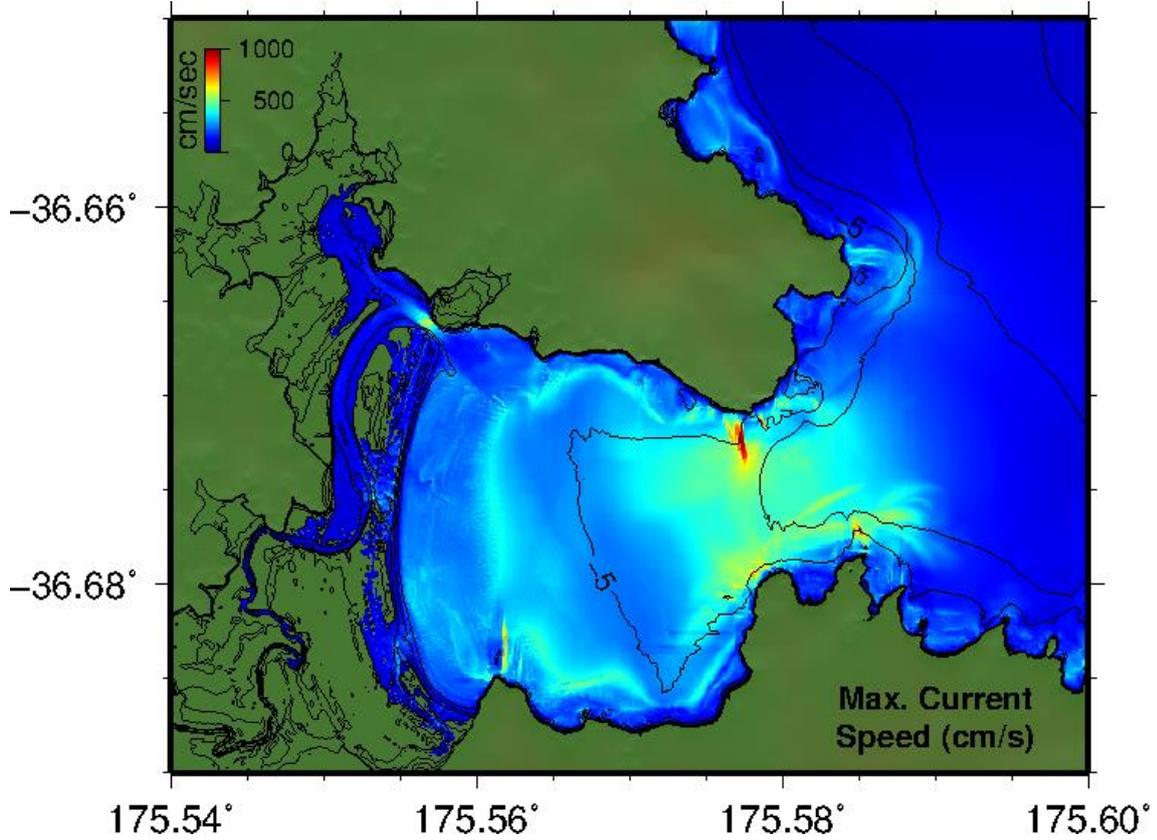
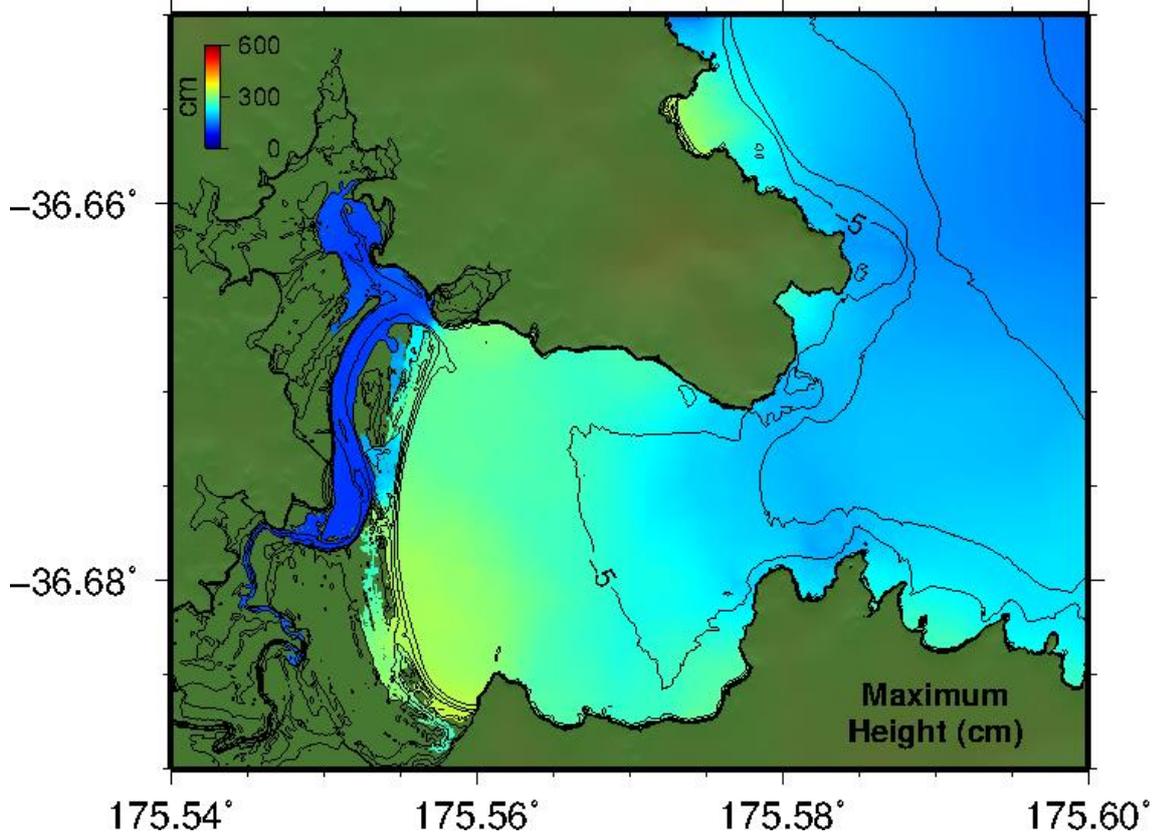
Case 5:



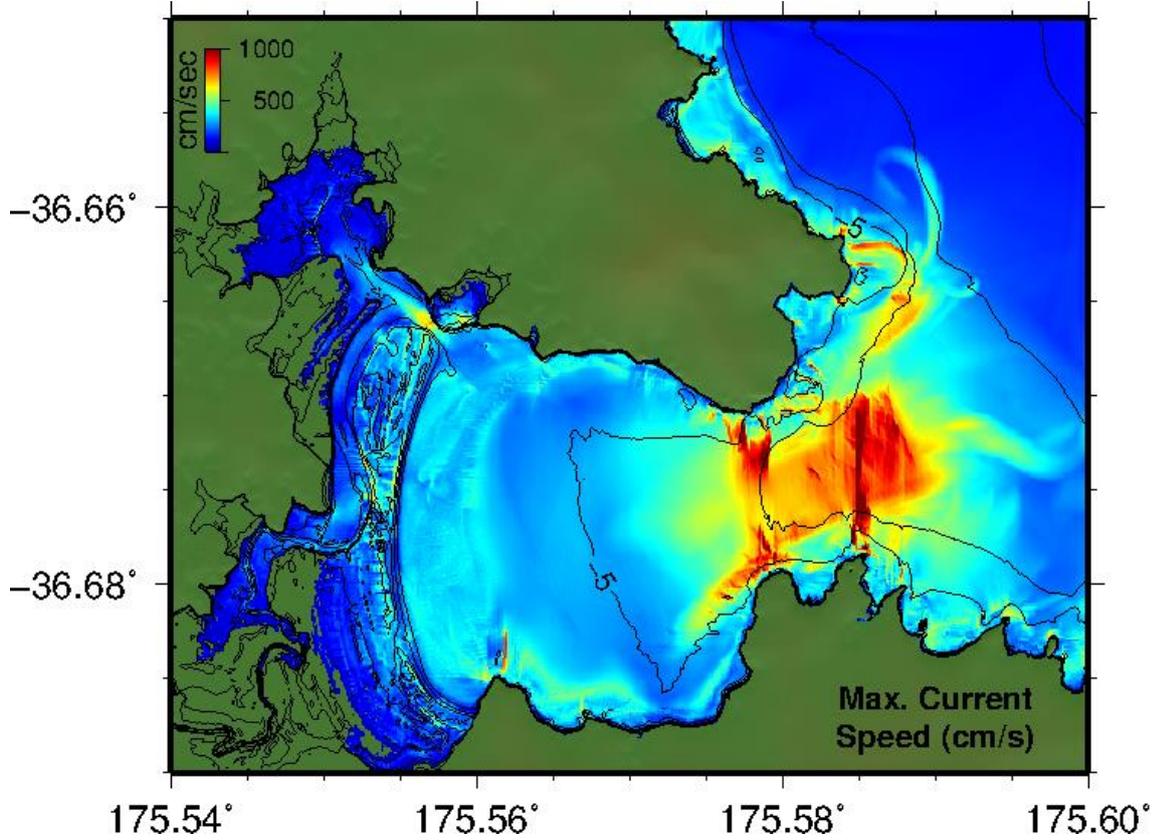
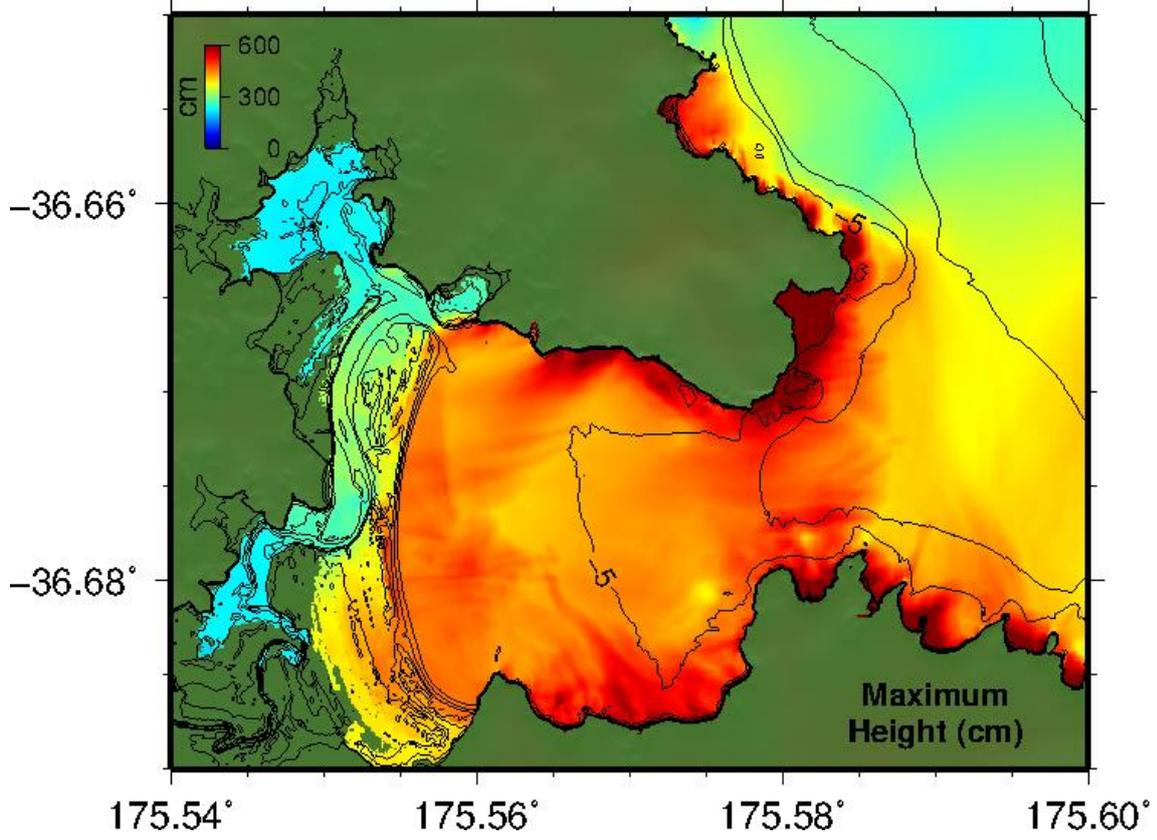
Case 6:



Case 7:



Case 8:



Case 8 HT:

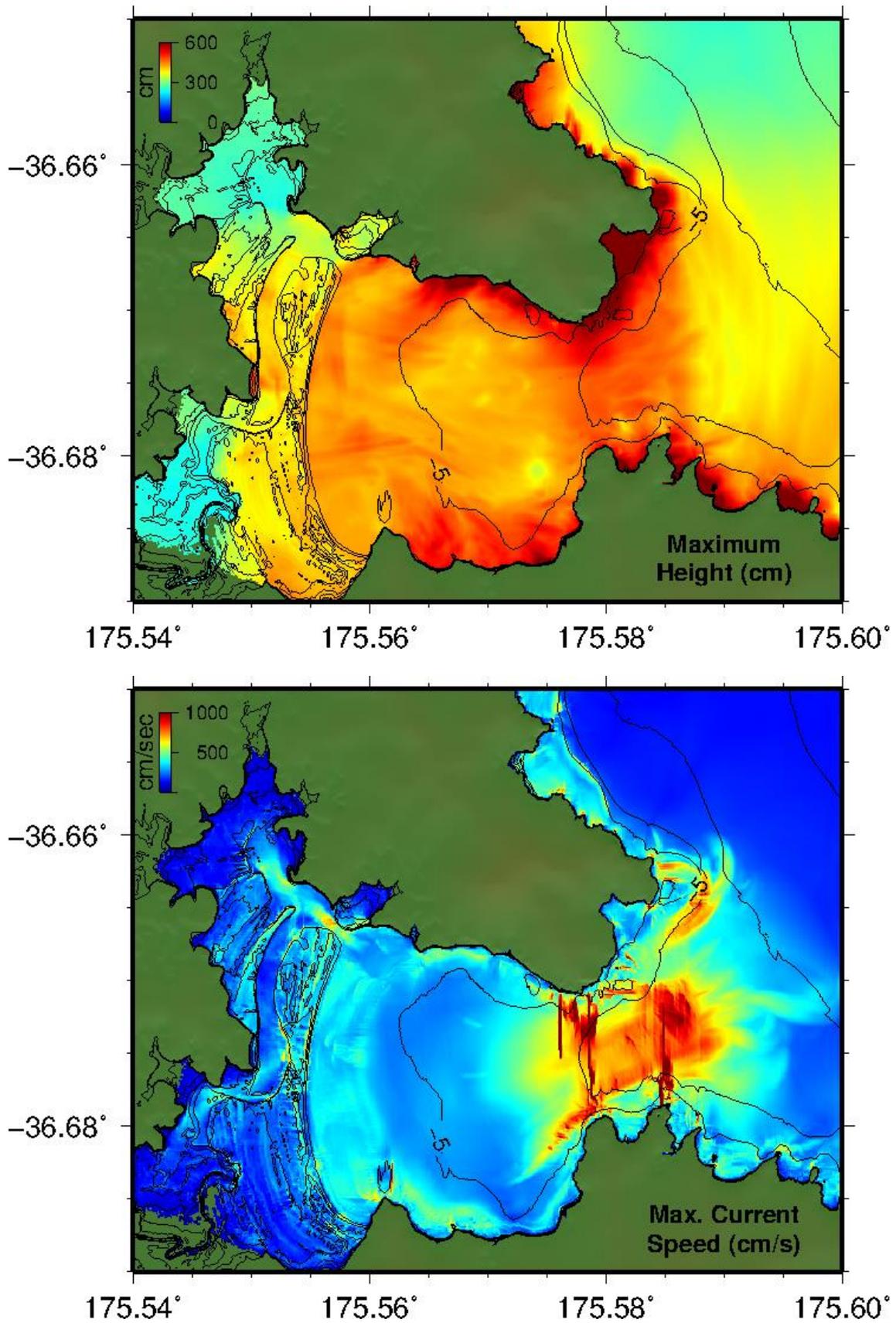
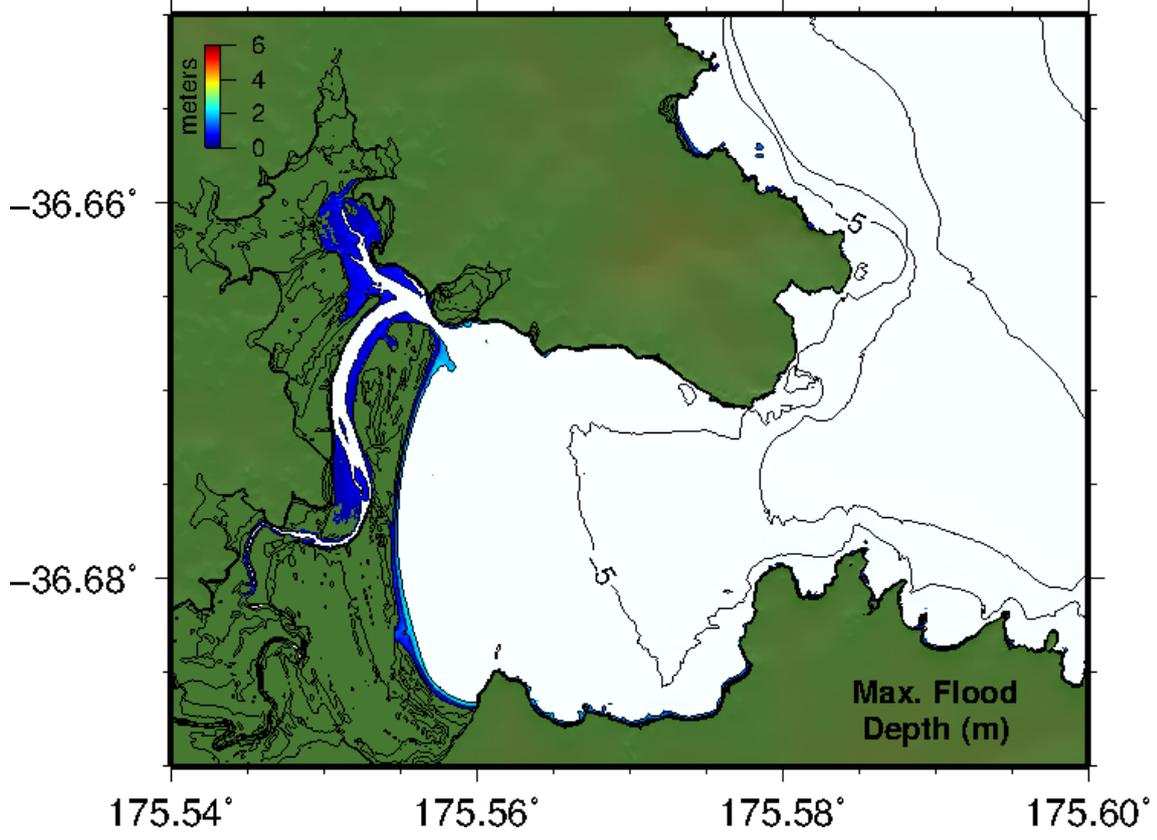
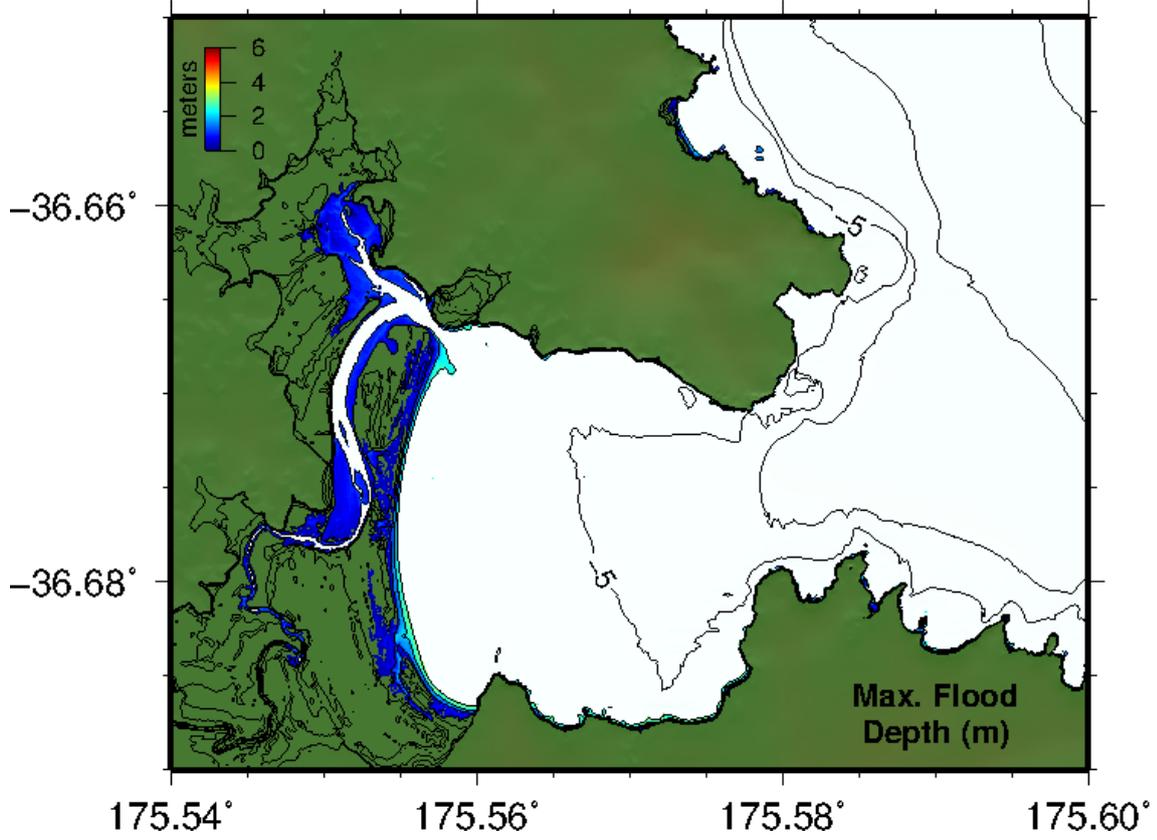


Figure 2.1 Maximum computed water levels and current speeds for the Kermadec Trench Cases 1-8 in Kennedy Bay at MSL and Case 8 at HT.

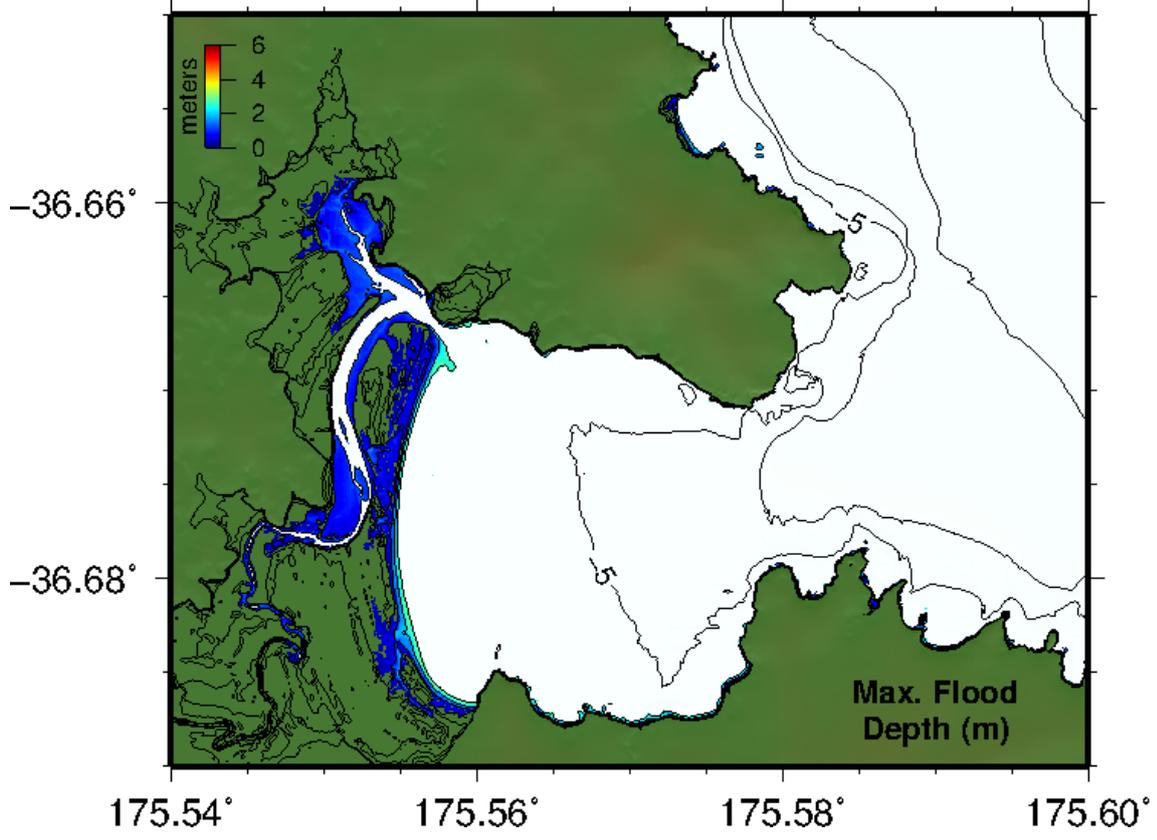
Case 1:



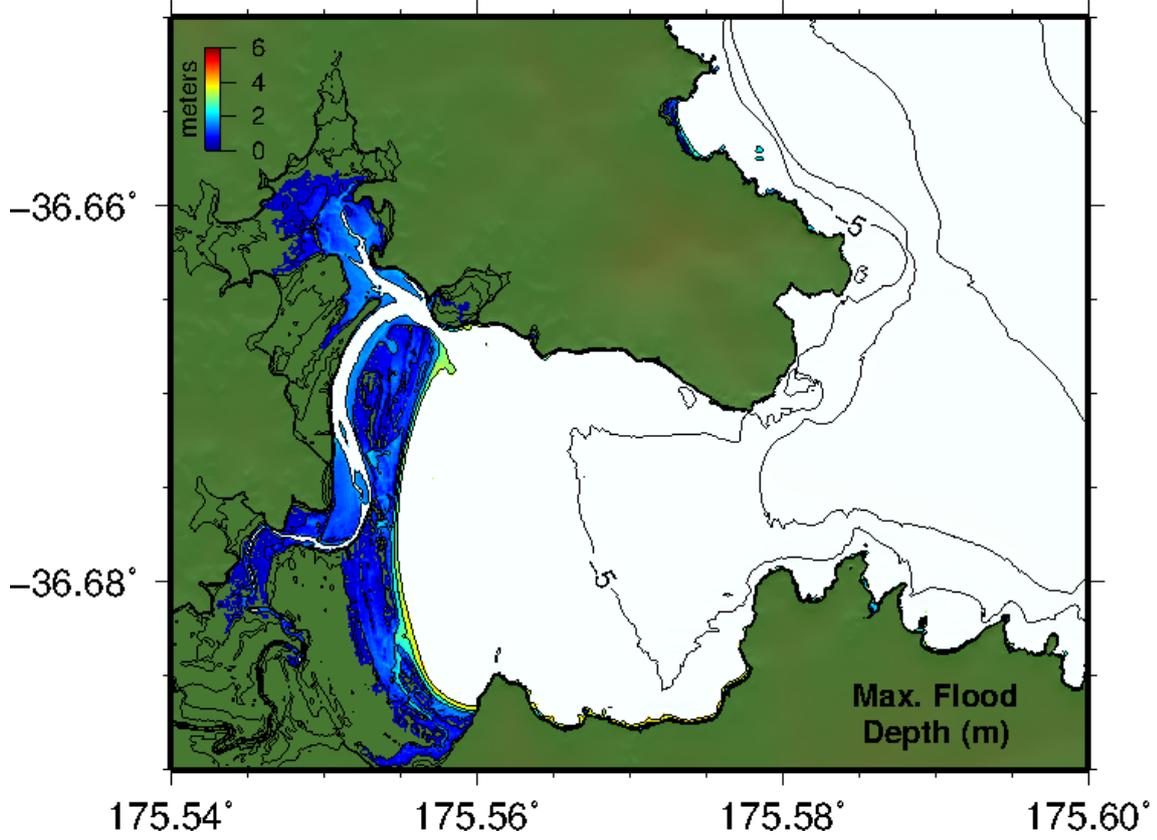
Case 2:



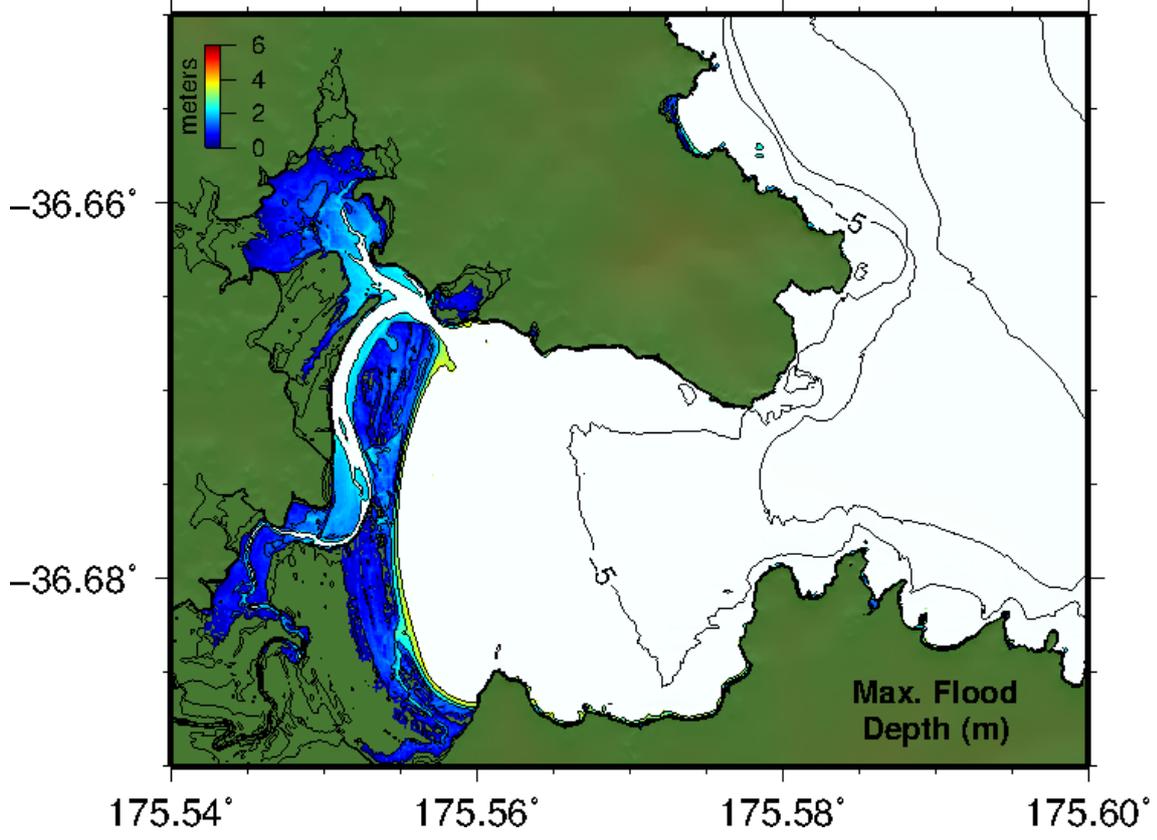
Case 3:



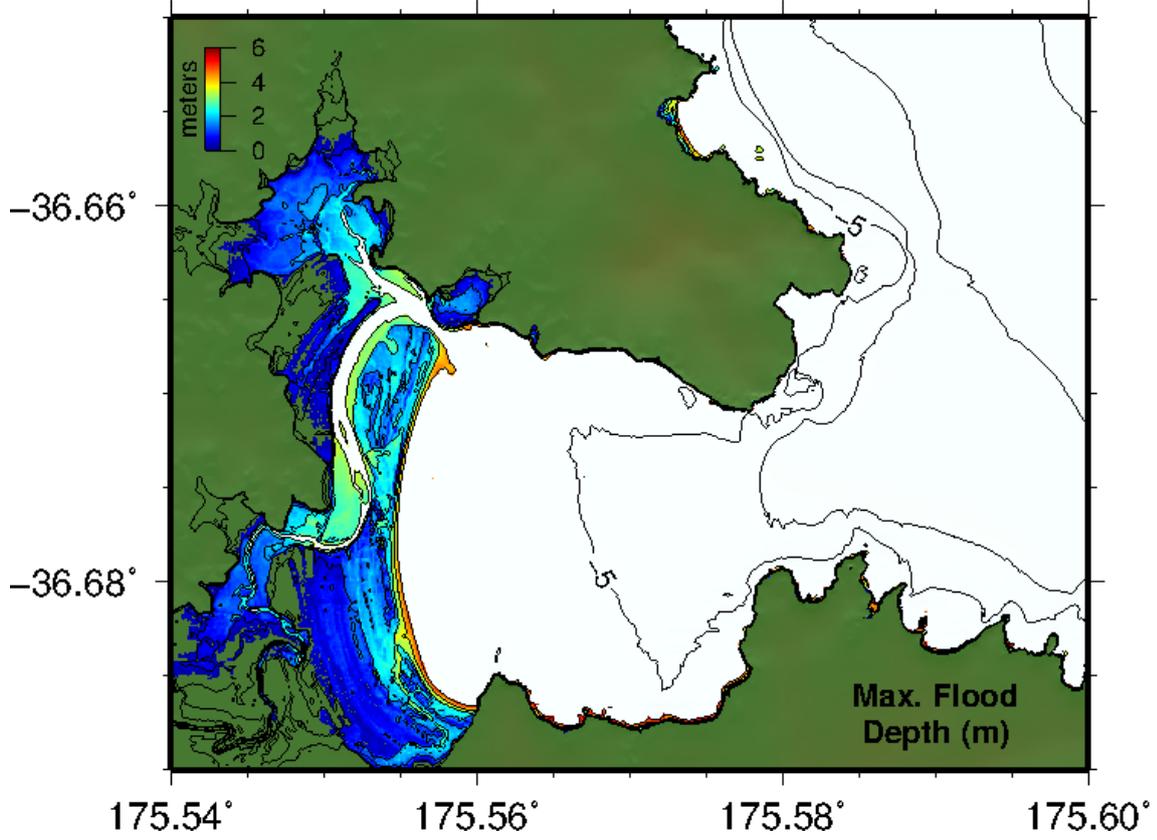
Case 4:



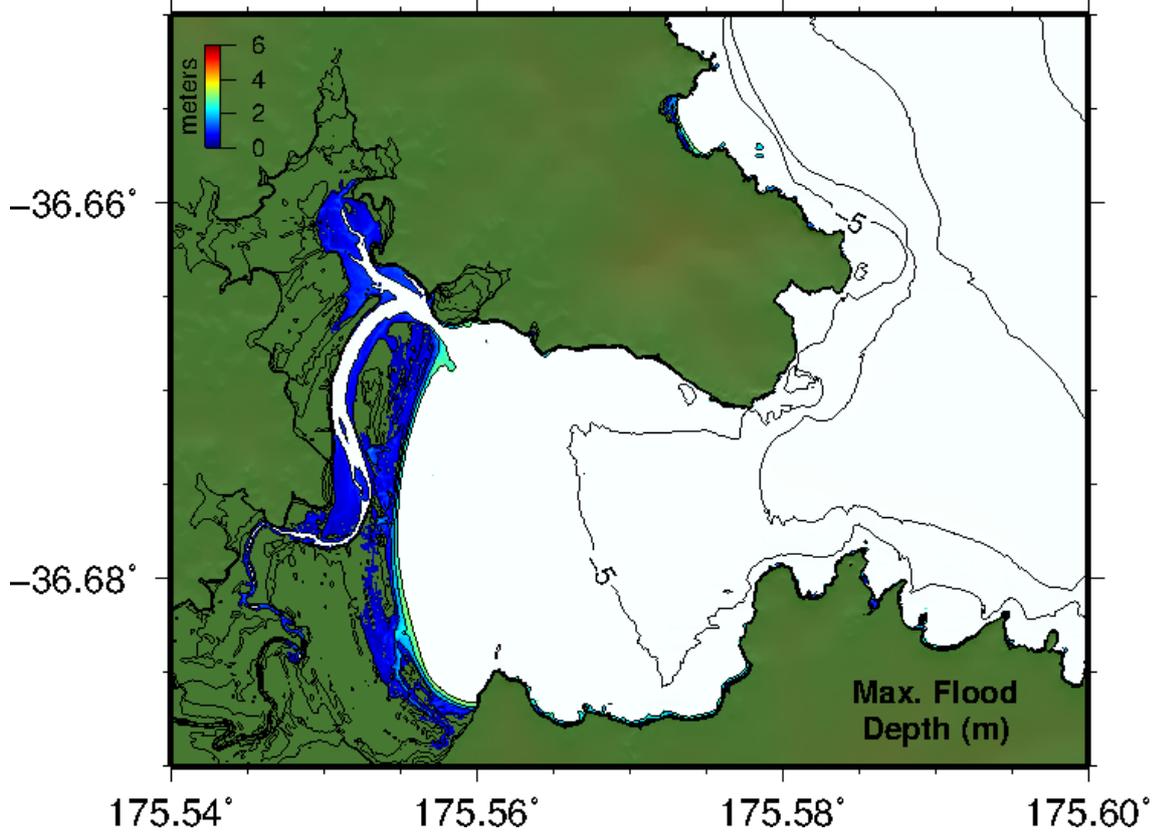
Case 5:



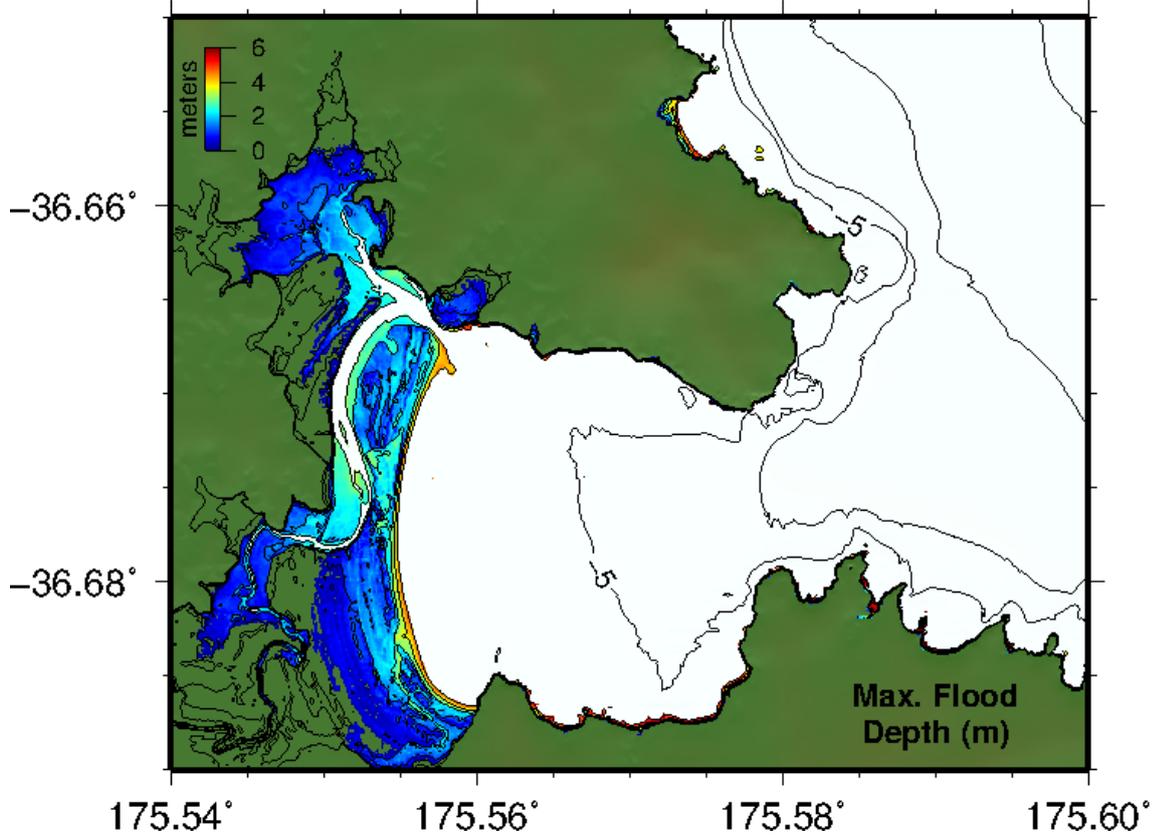
Case 6:



Case 8:



Case 8:



Case 8 HT:

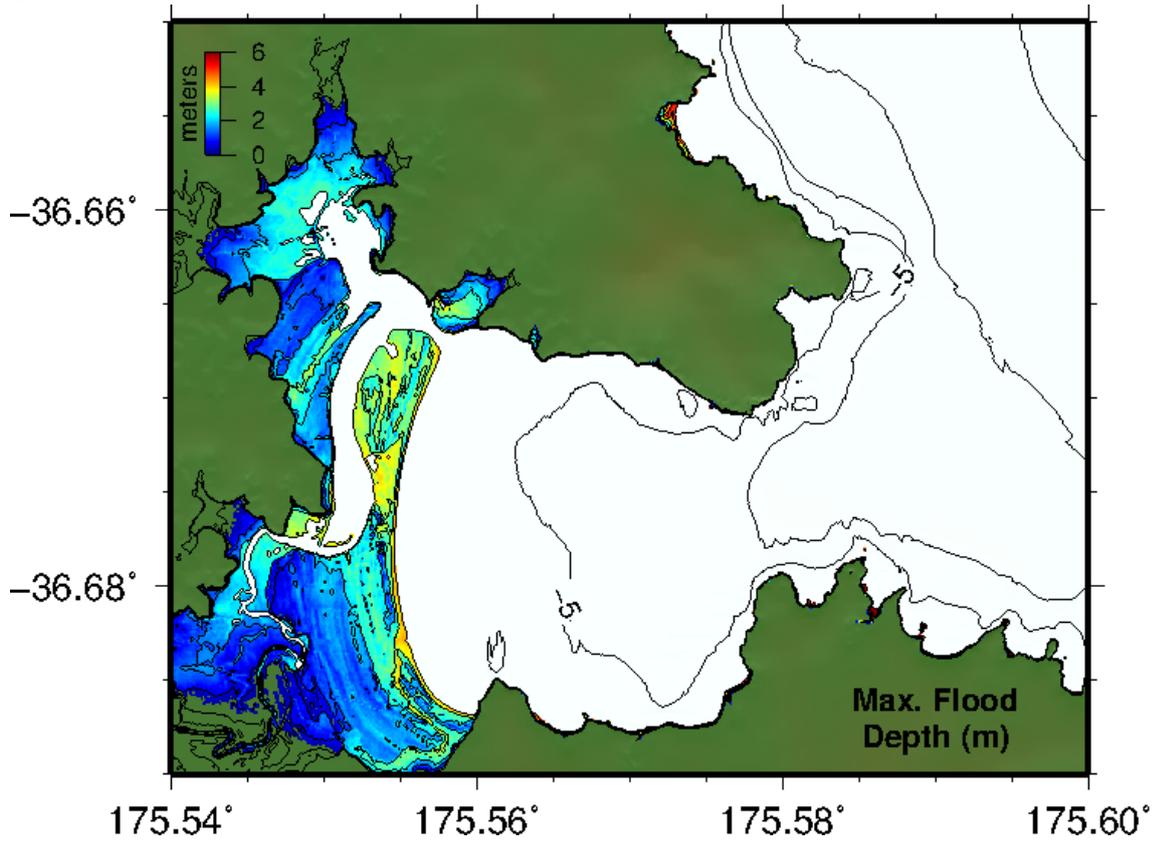
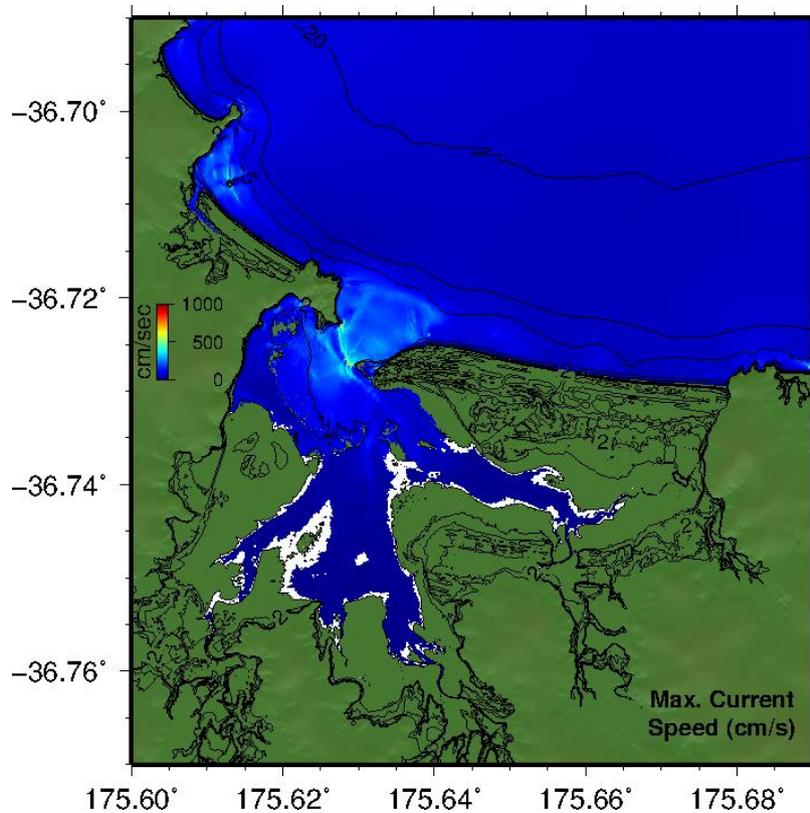
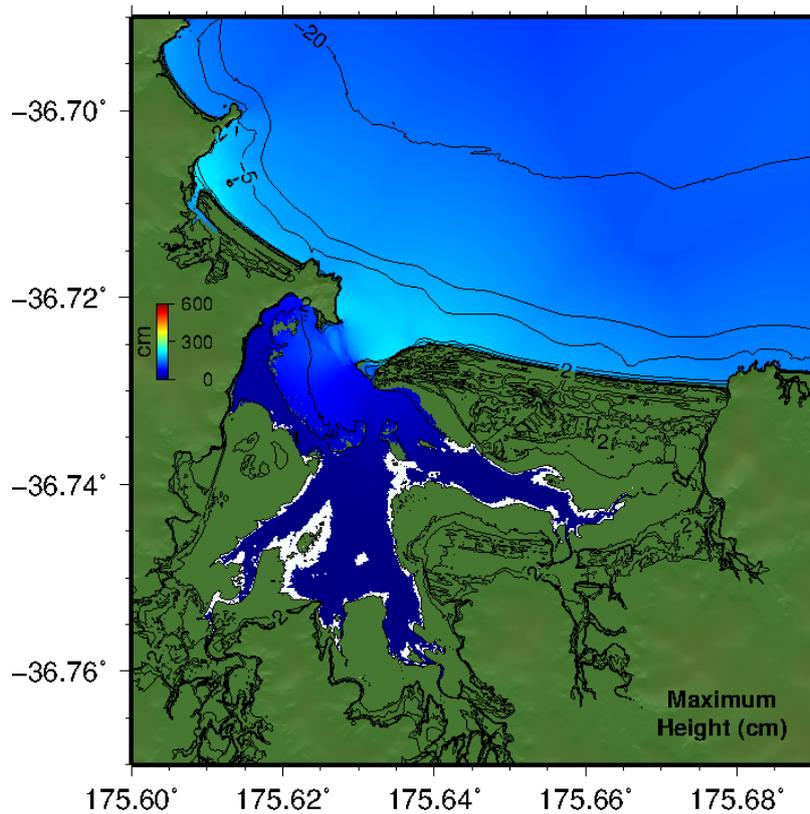


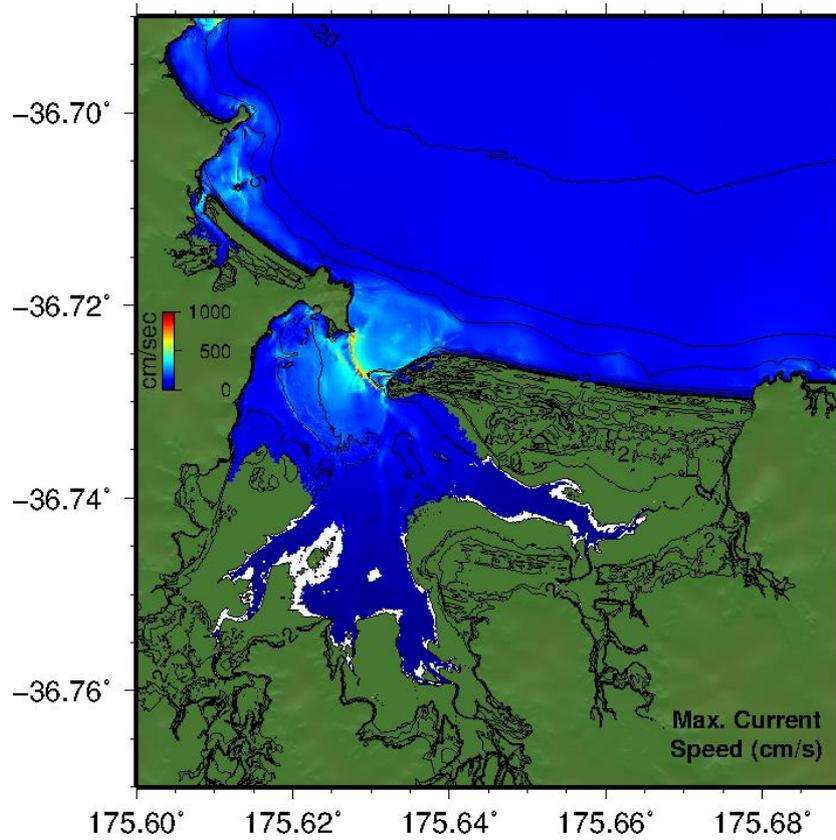
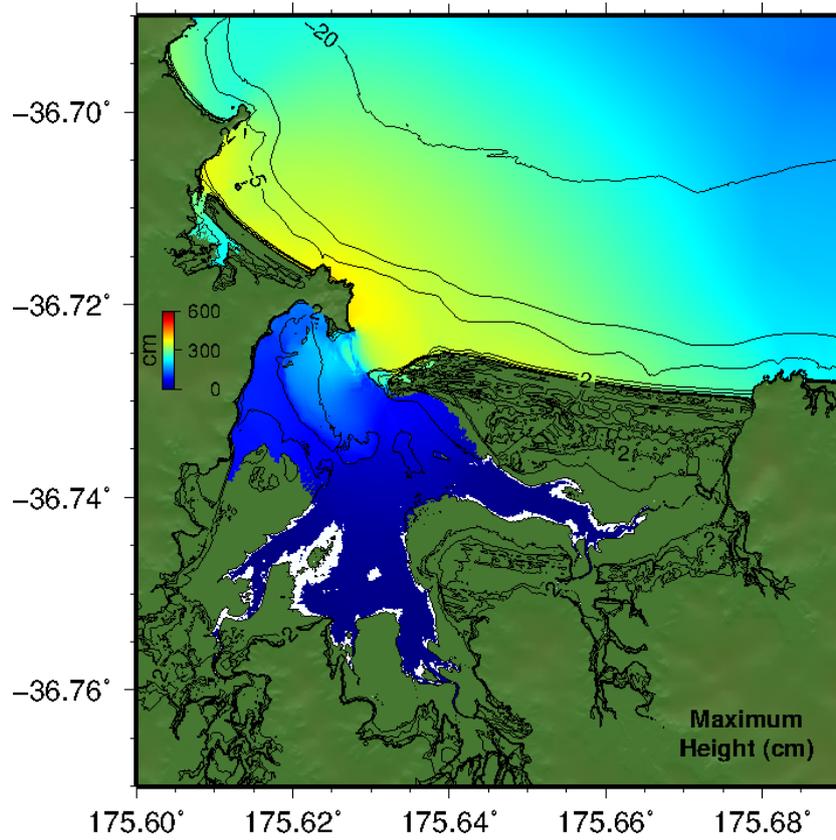
Figure 2.2 Maximum computed overland flood depths for the Kermadec Trench Cases 1-8 in Kennedy Bay at MSL and Case 8 at HT.

3 APPENDIX 3 – WHANGAPOUA: TK TRENCH SOURCES

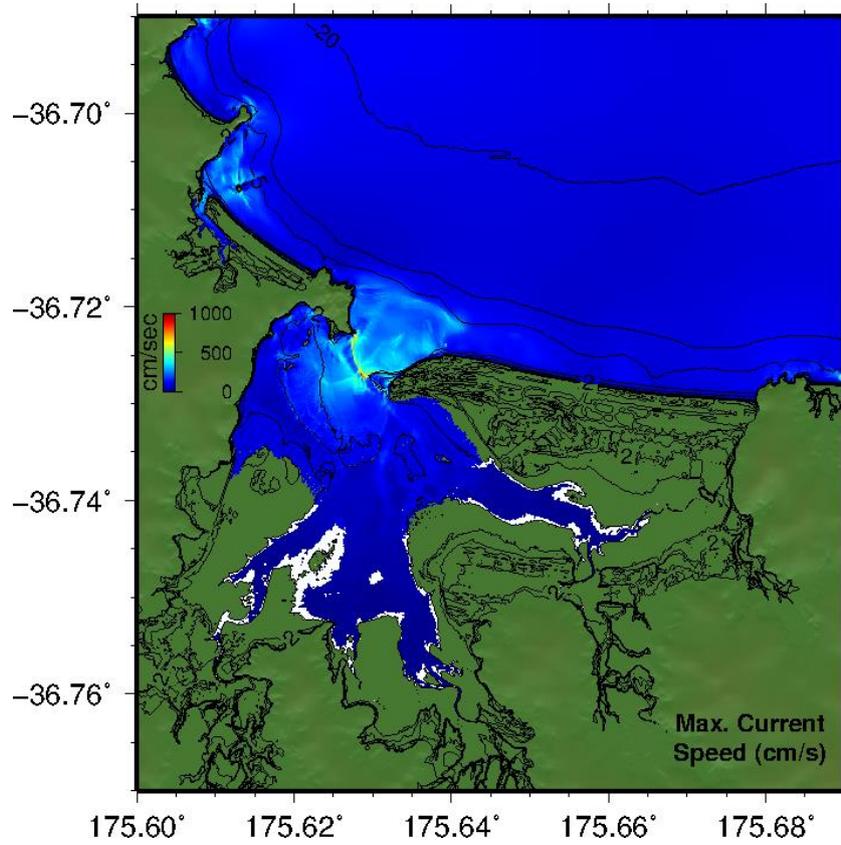
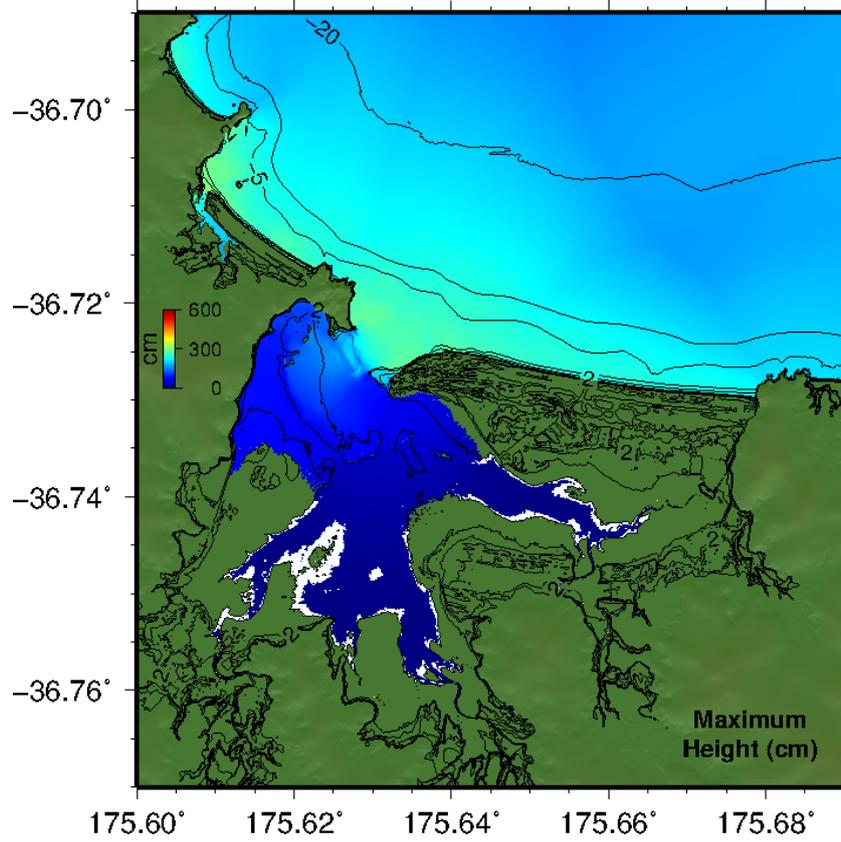
Case 1:



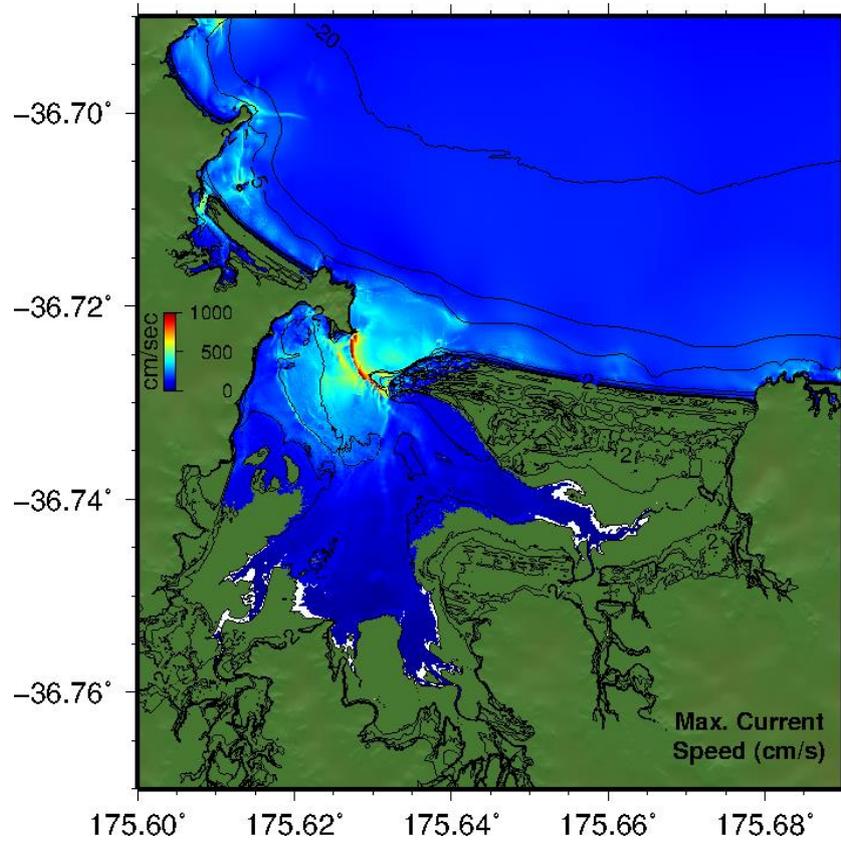
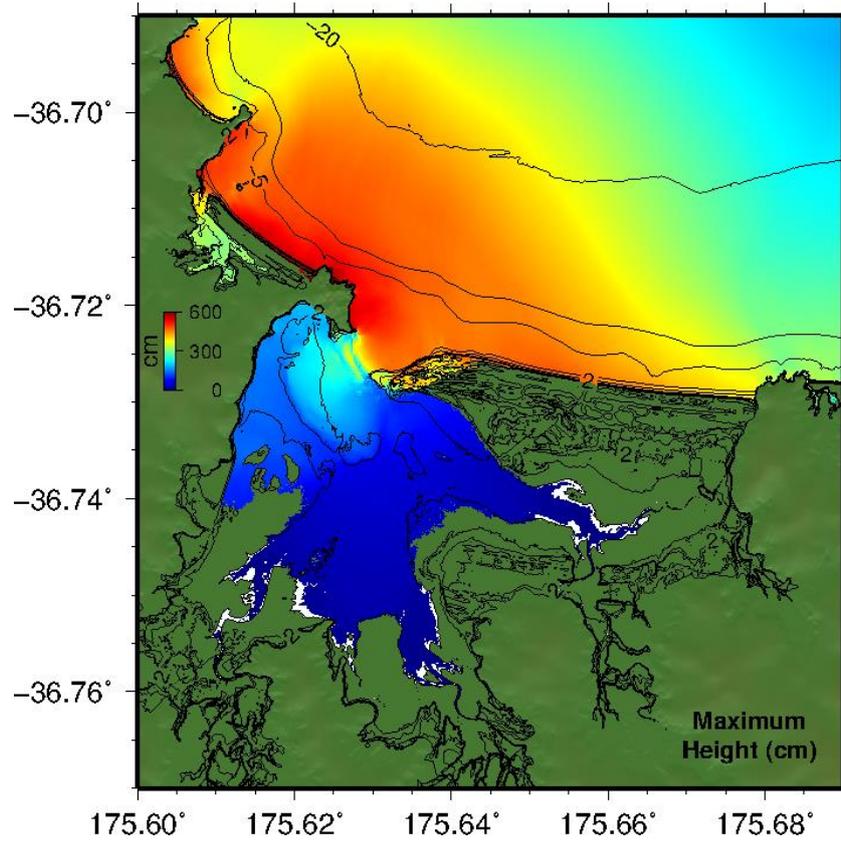
Case 2:



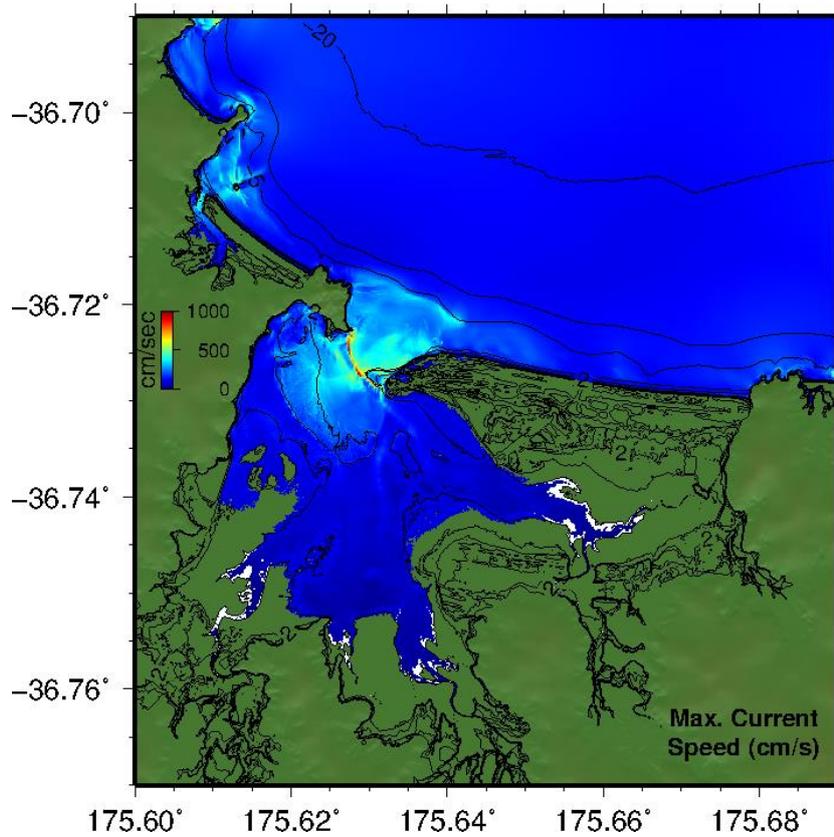
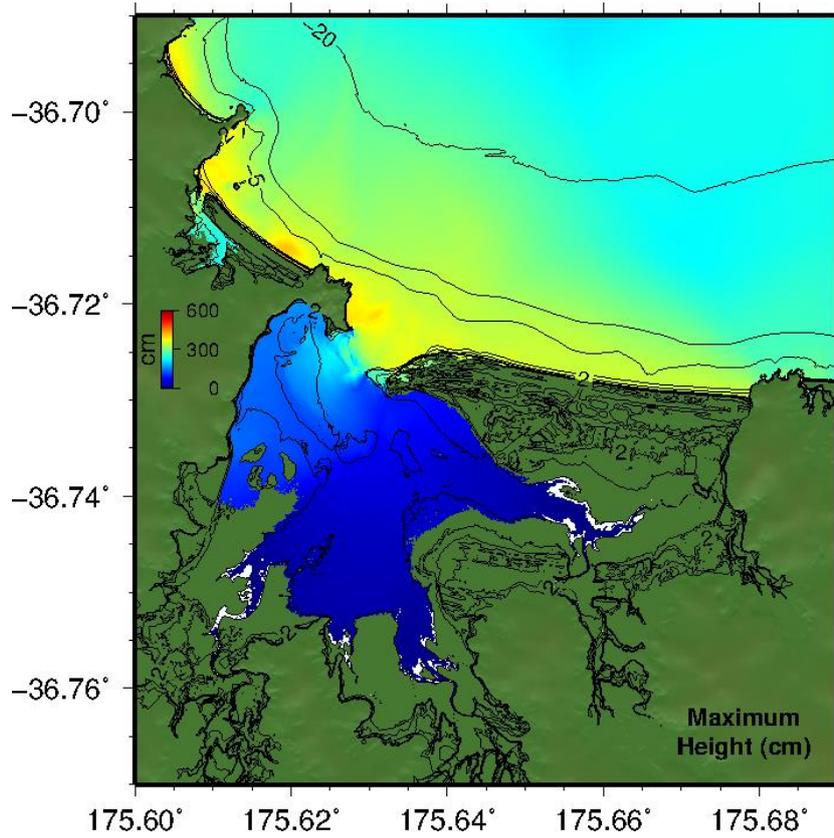
Case 3:



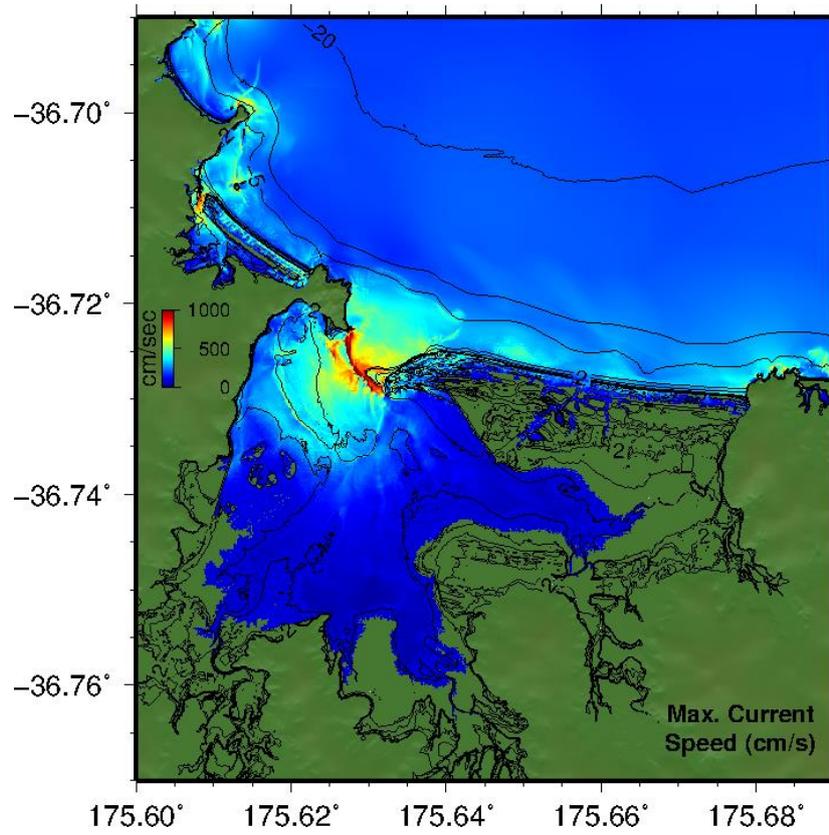
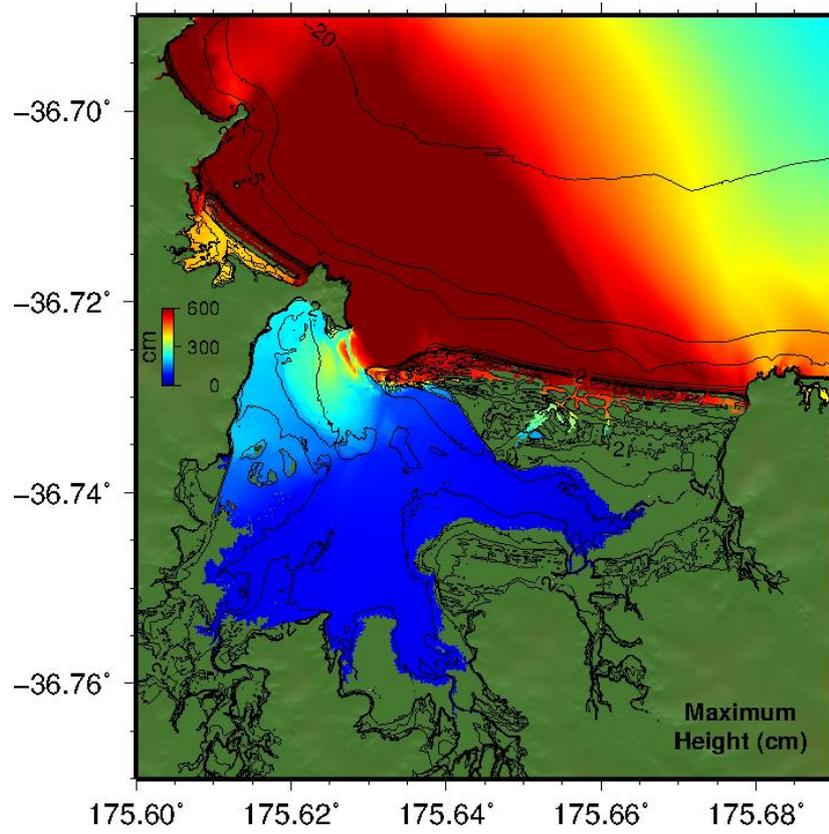
Case 4:



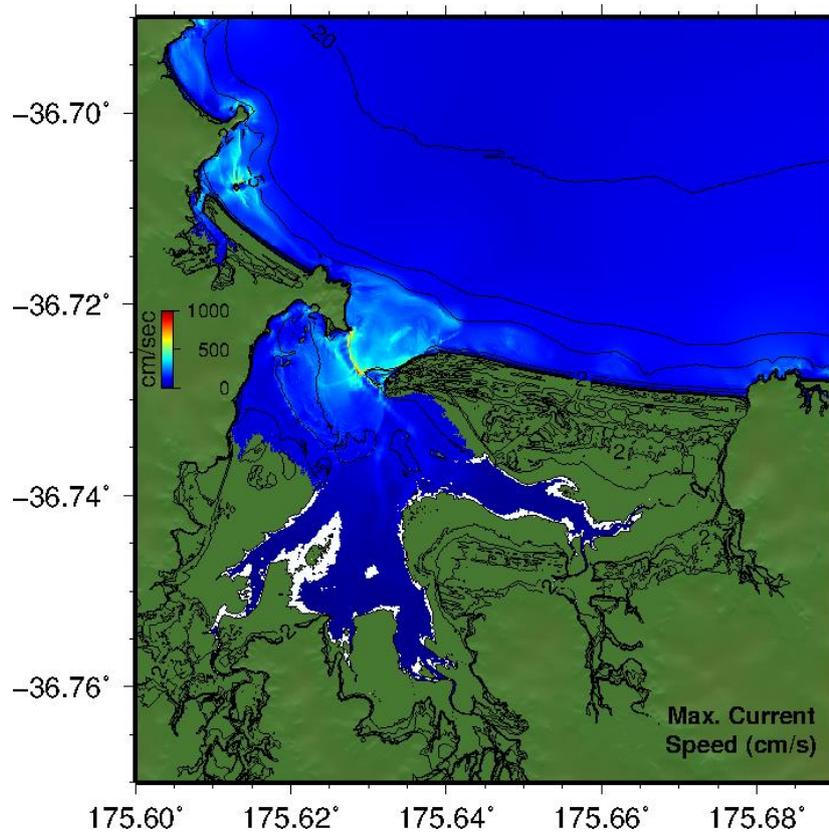
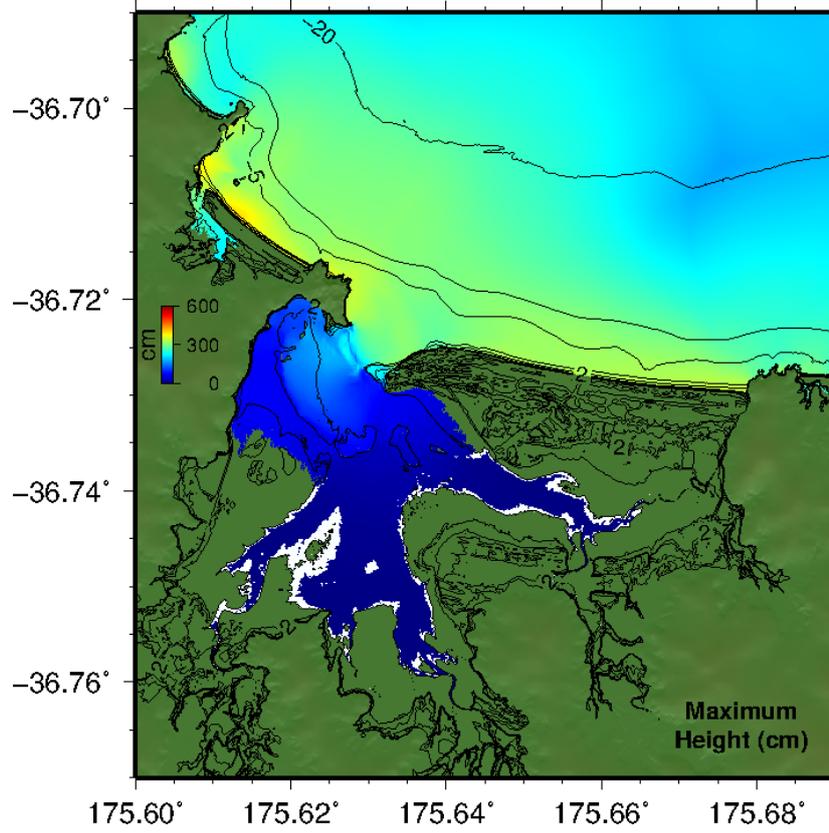
Case 5:



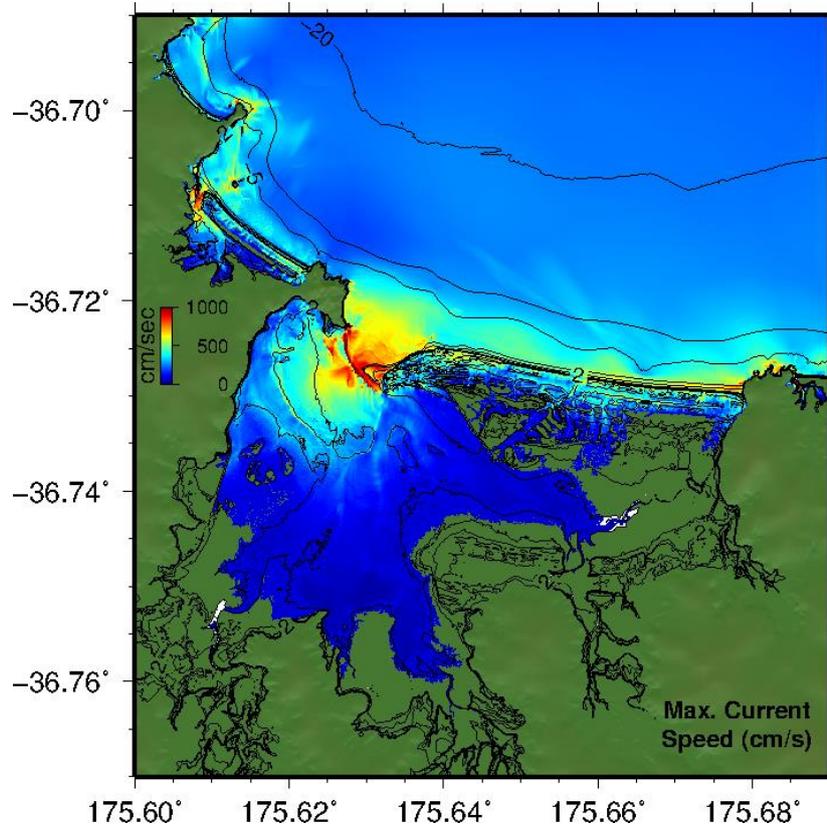
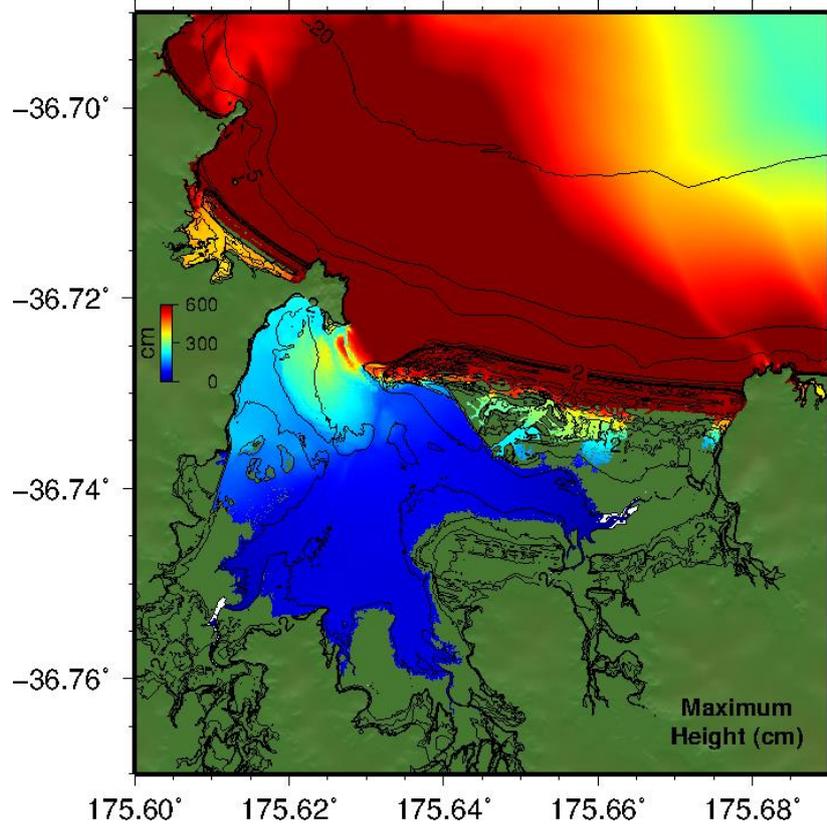
Case 6:



Case 7:



Case 8:



Case 8 HT:

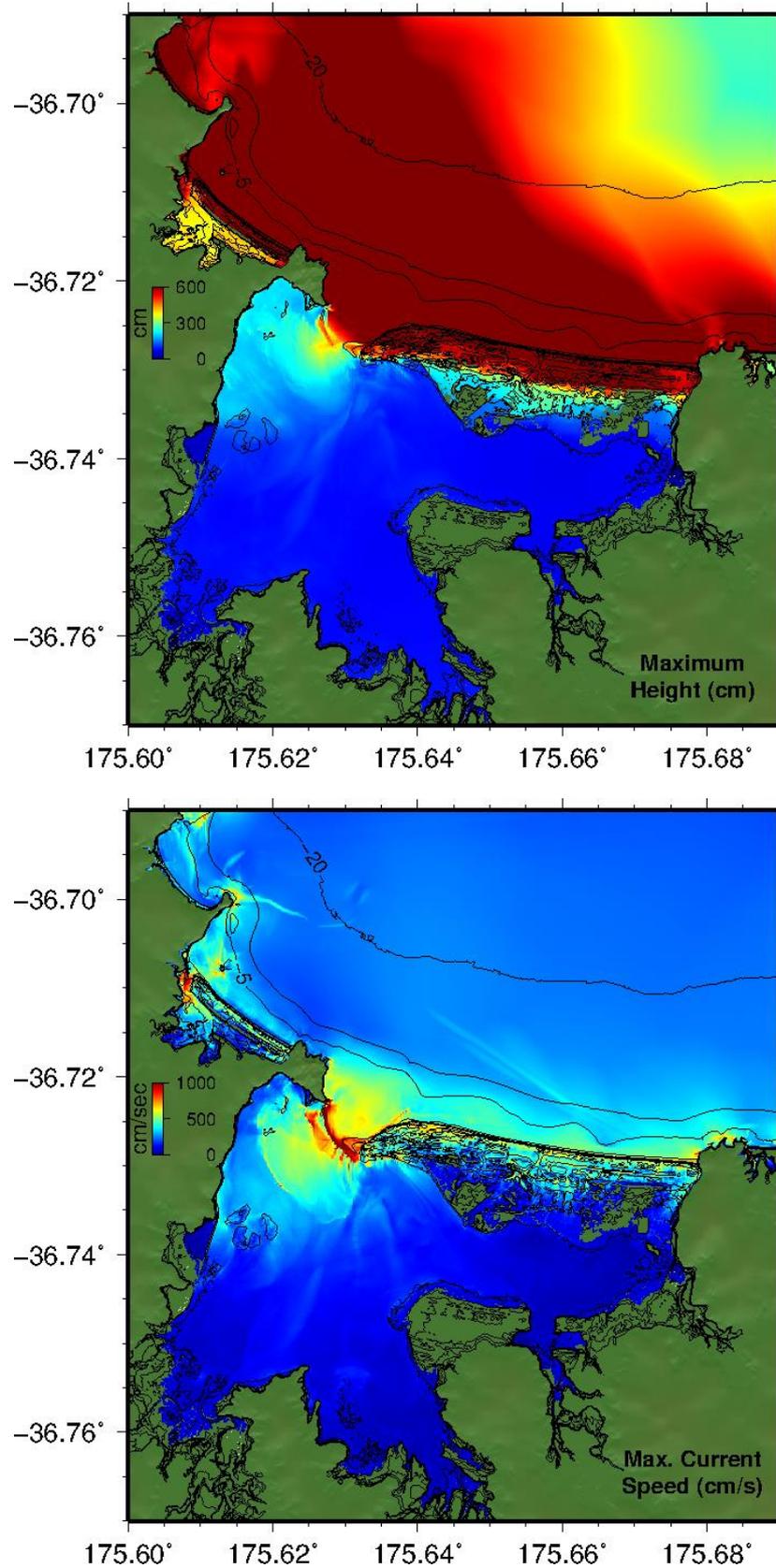
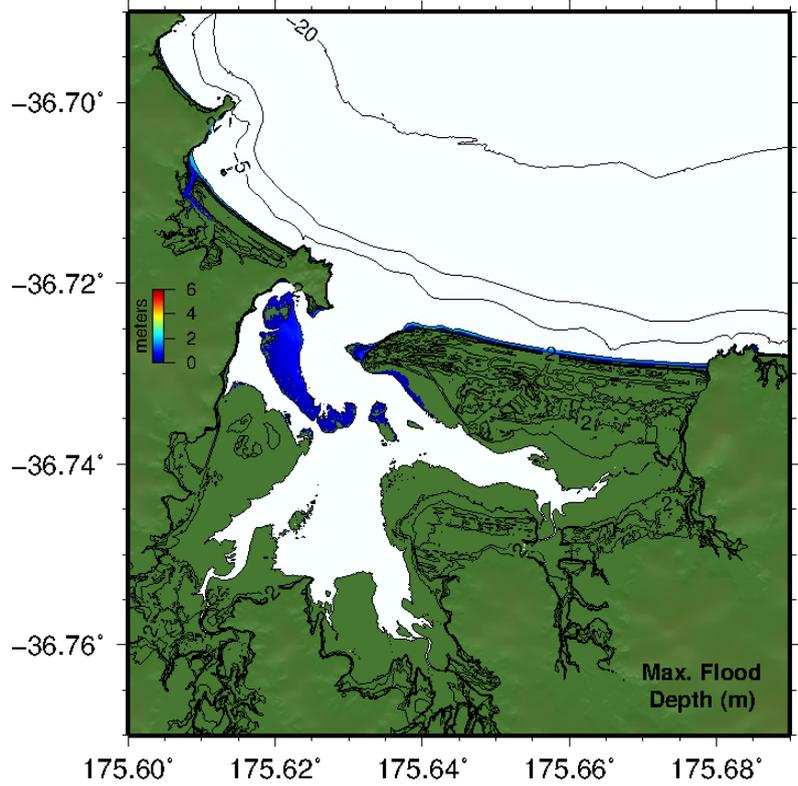
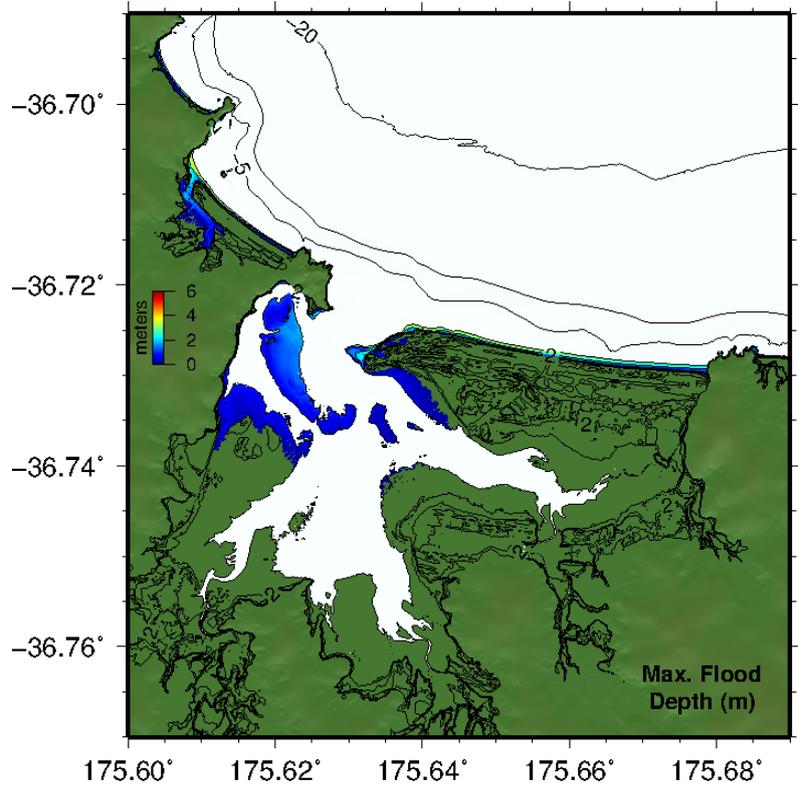


Figure 3.1 Maximum computed water levels and current speeds for the Kermadec Trench Cases 1-8 in Whangapoua at MSL and Case 8 at HT.

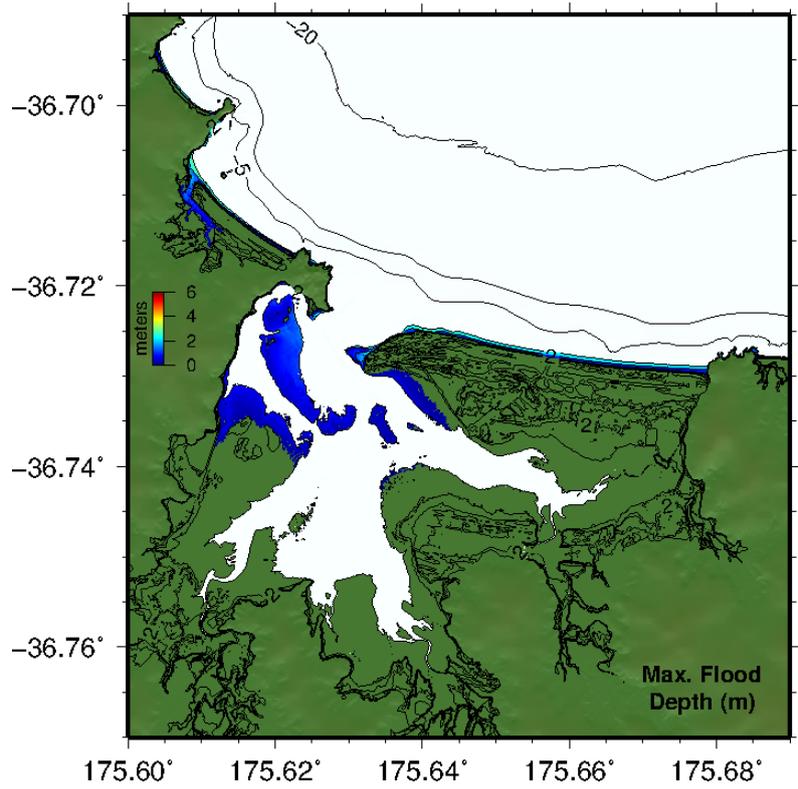
Case 1:



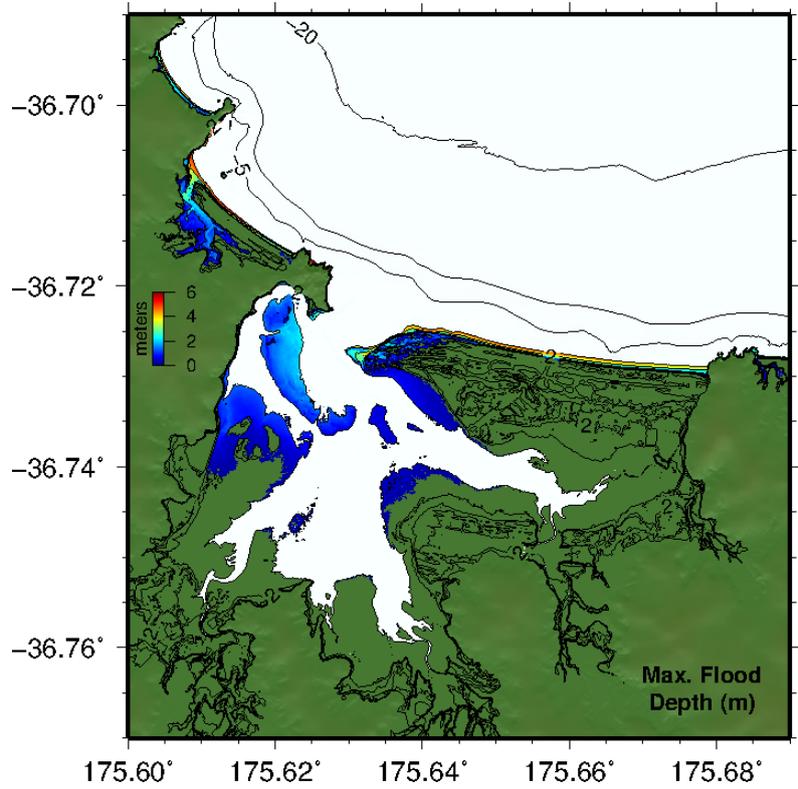
Case 2:



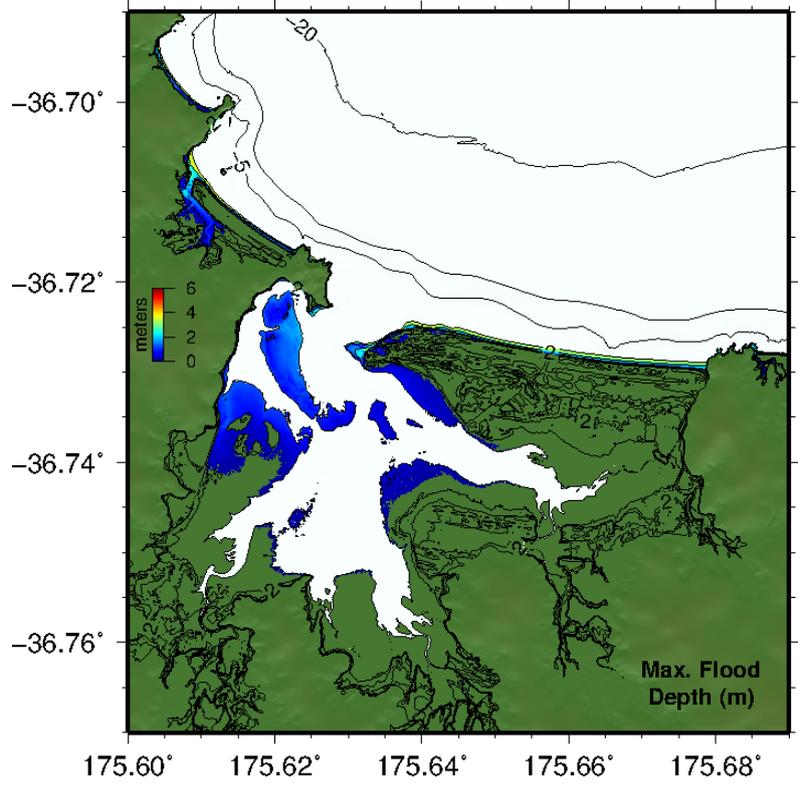
Case 3:



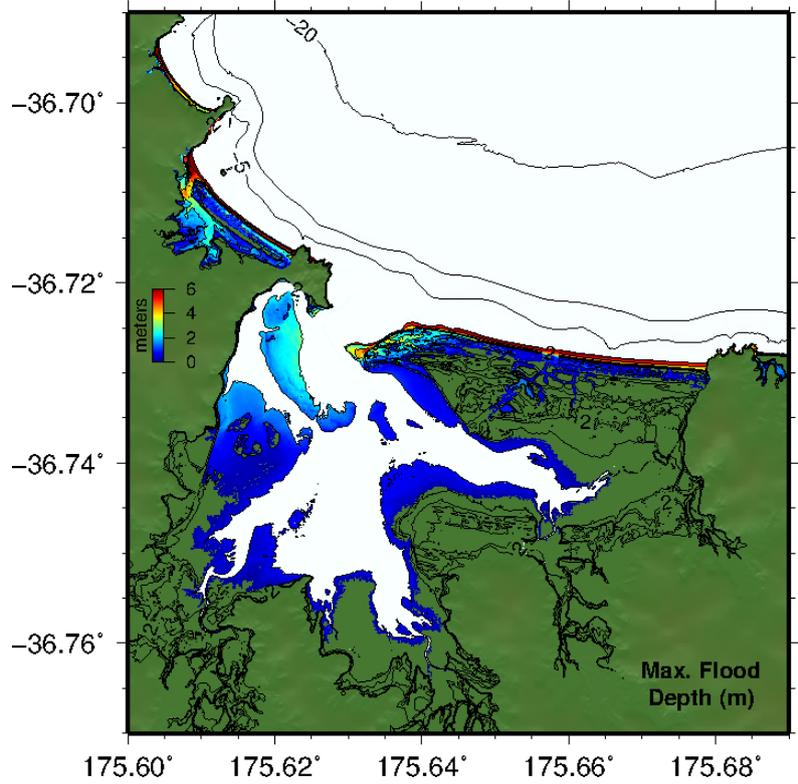
Case 4:



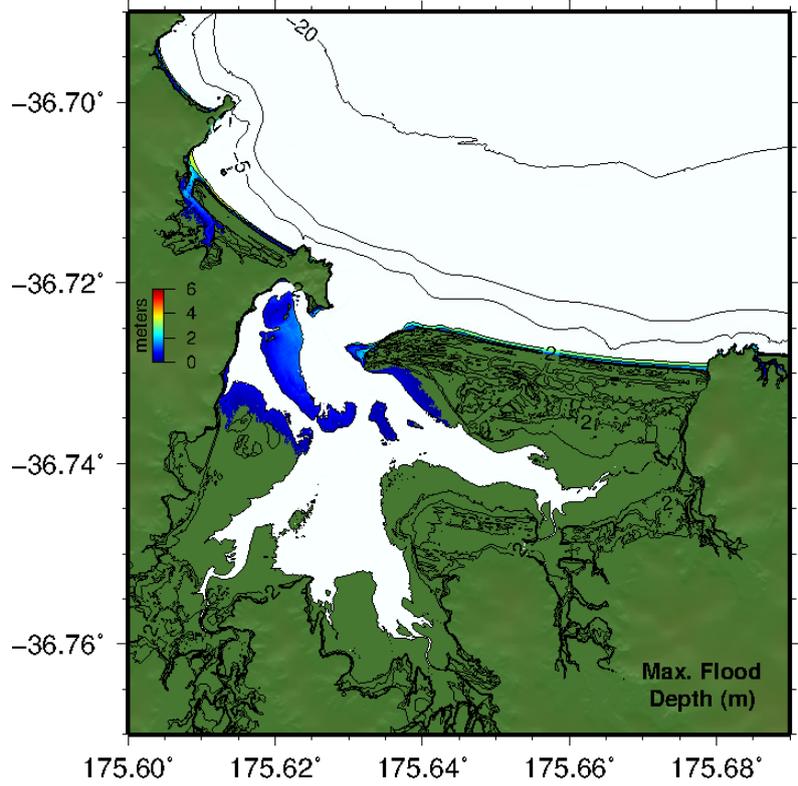
Case 5:



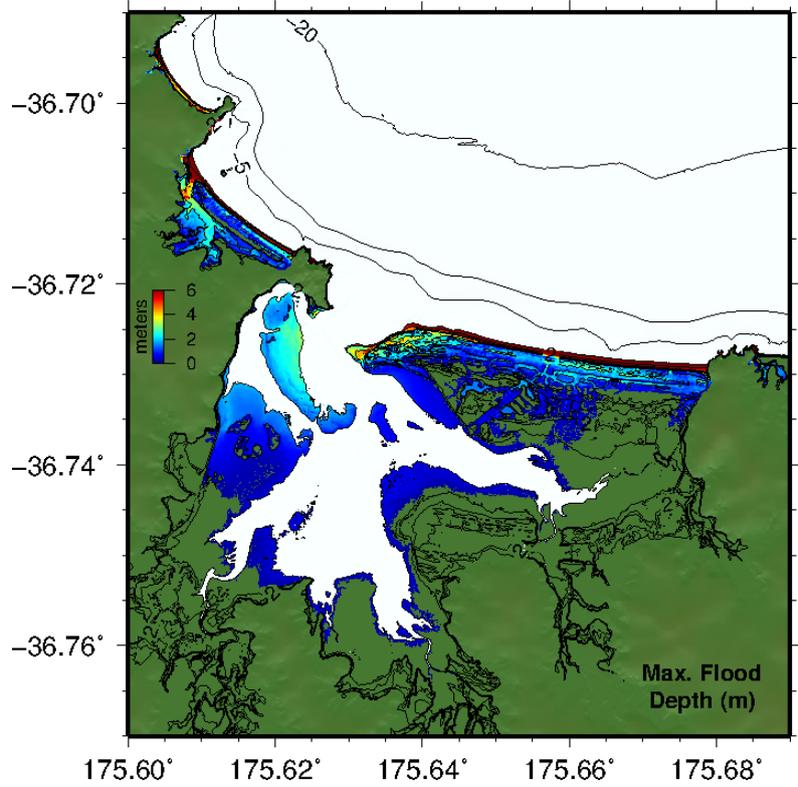
Case 6:



Case 7:



Case 8:



Case 8 HT:

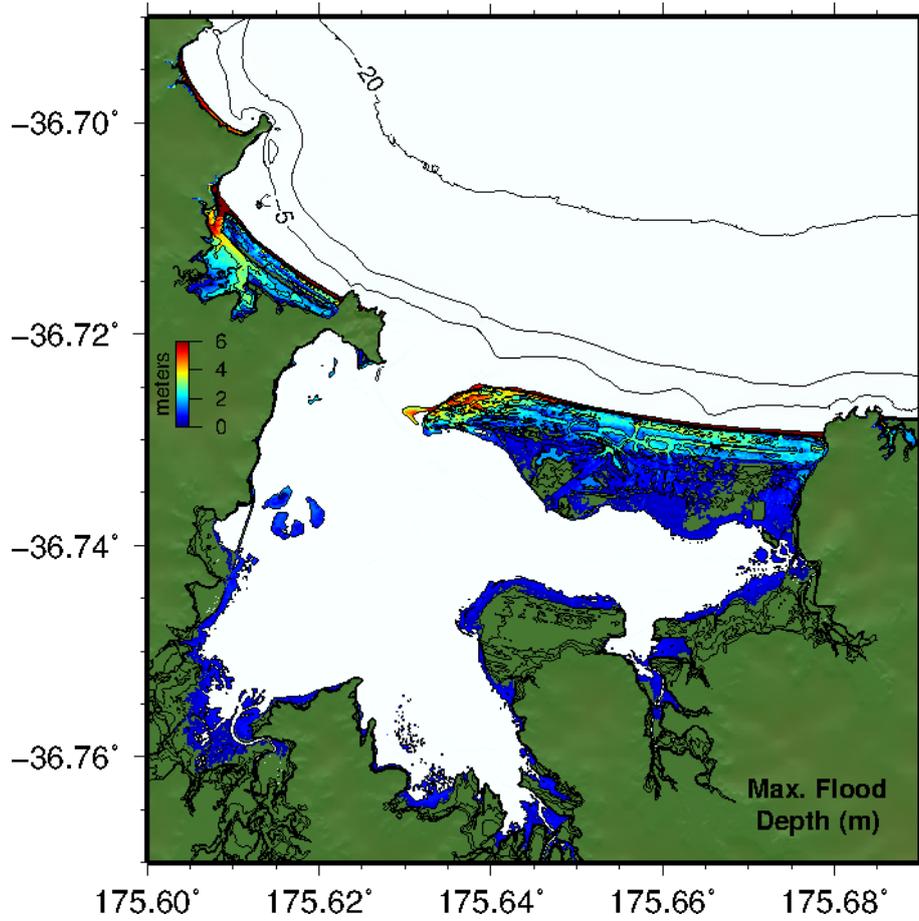
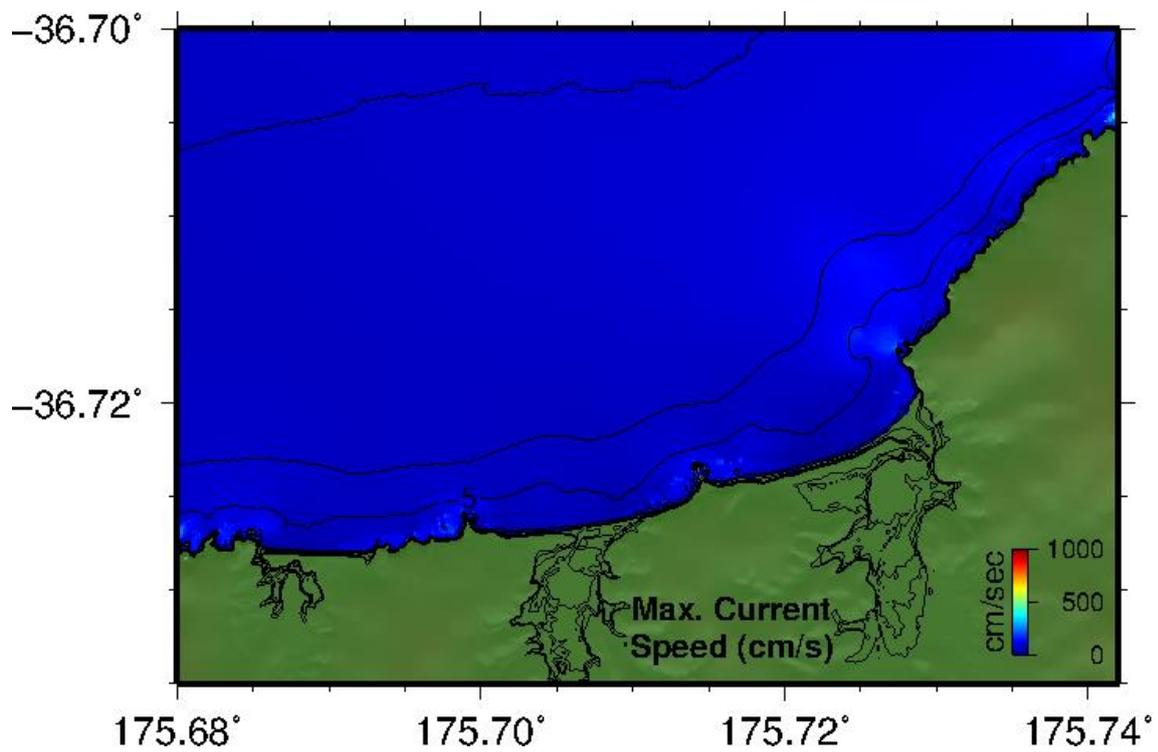
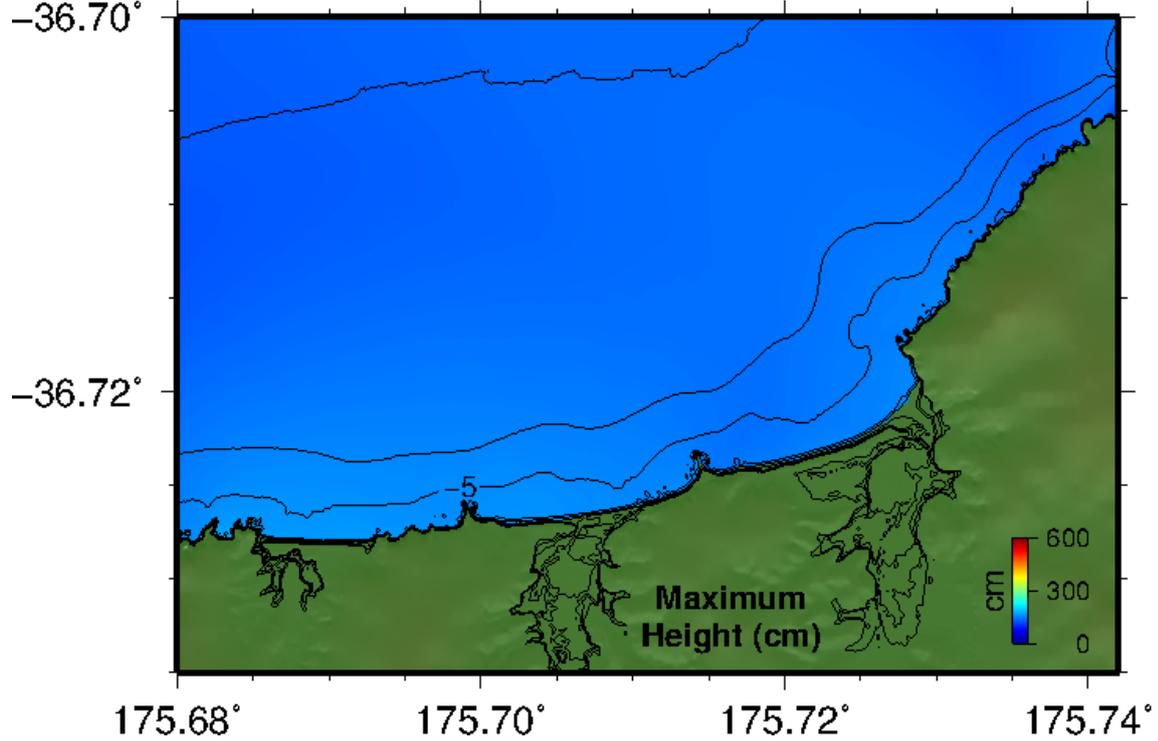


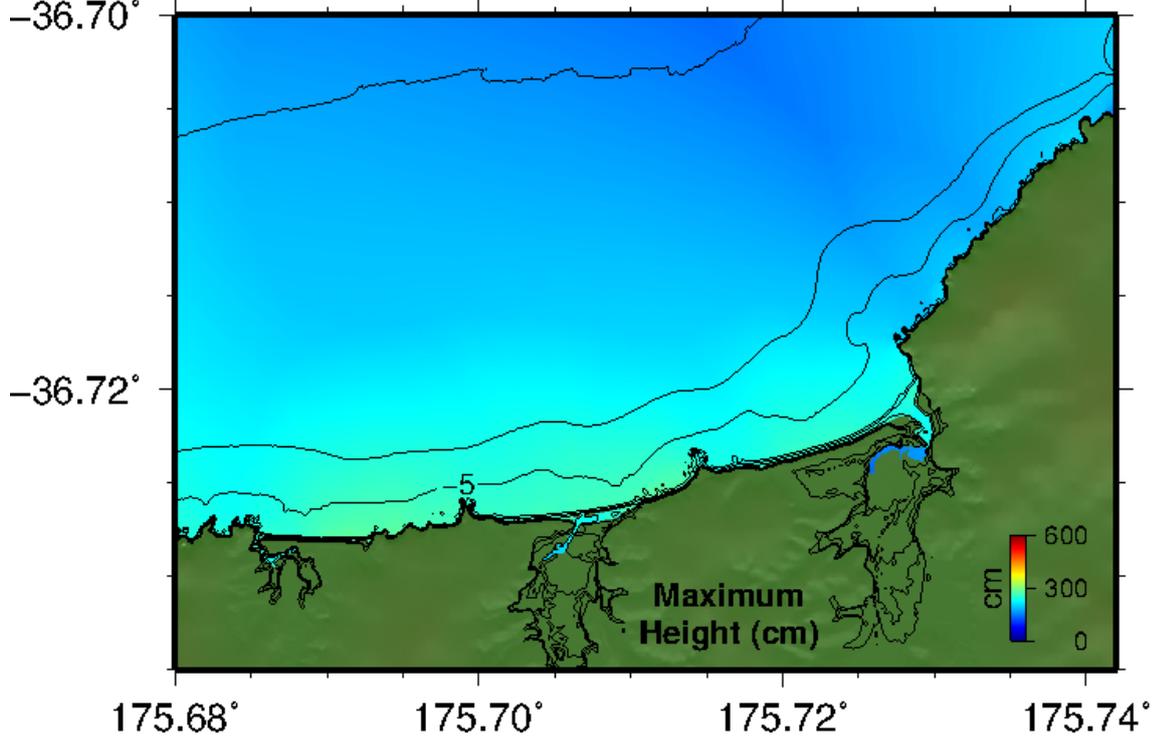
Figure 3.2 Maximum computed overland flood depths for the Kermadec Trench Cases 1-8 in Whangapoua at MSL and Case 8 at HT.

4 APPENDIX 4 – KUAOTUNU: TK TRENCH SOURCES

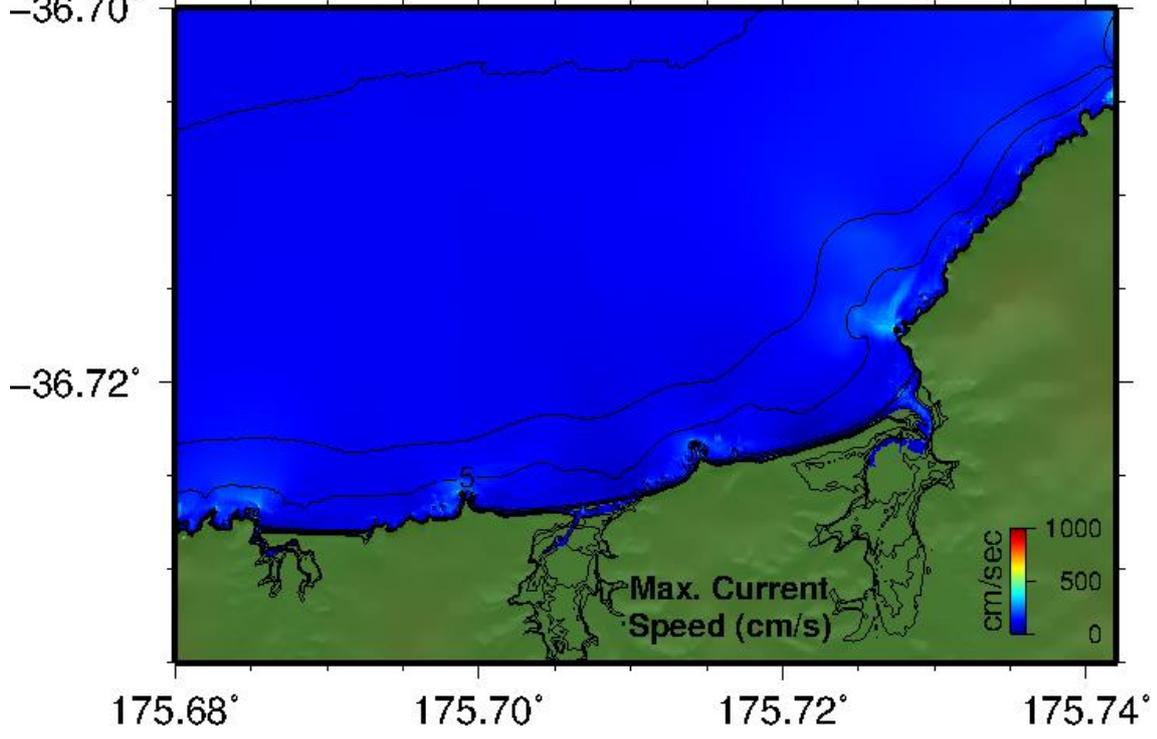
Case 1:
-36.70°



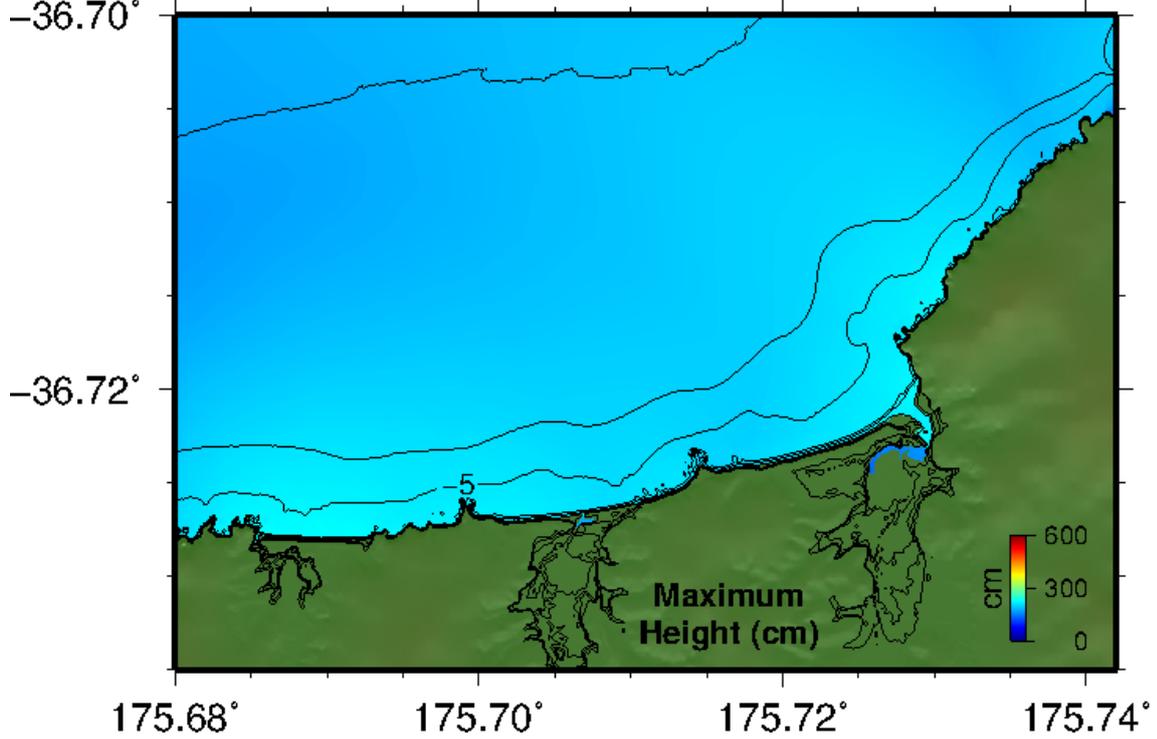
Case 2:
-36.70°



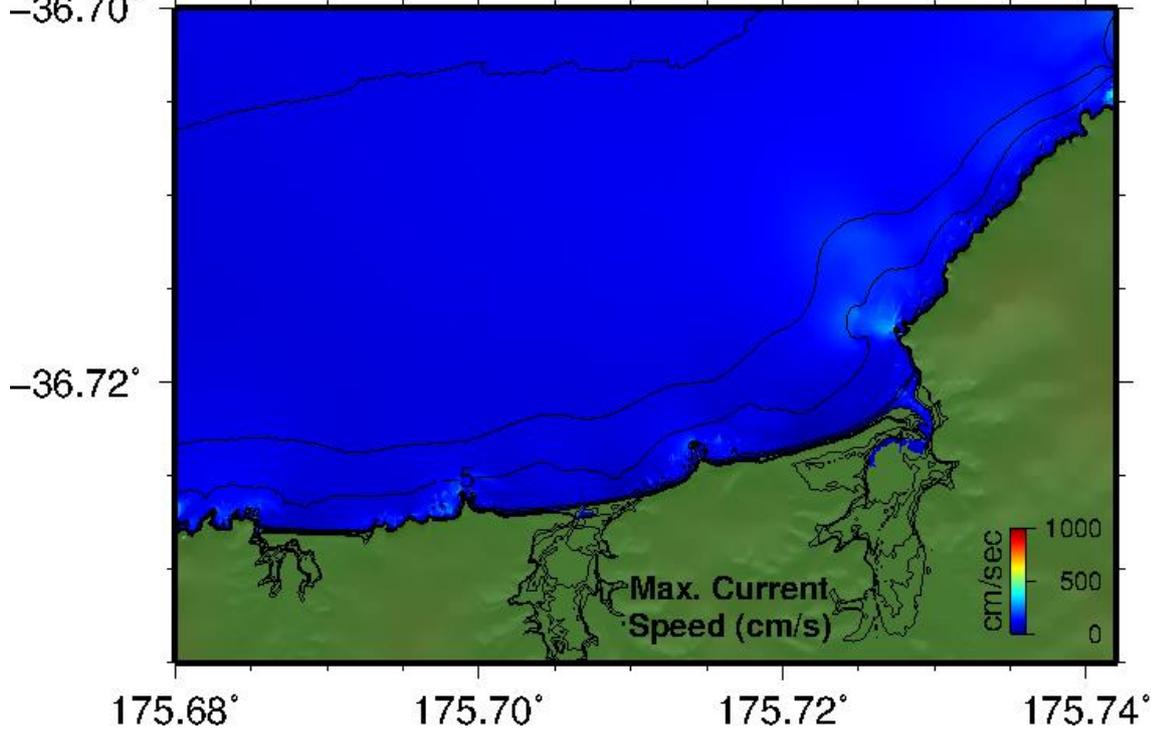
-36.70°



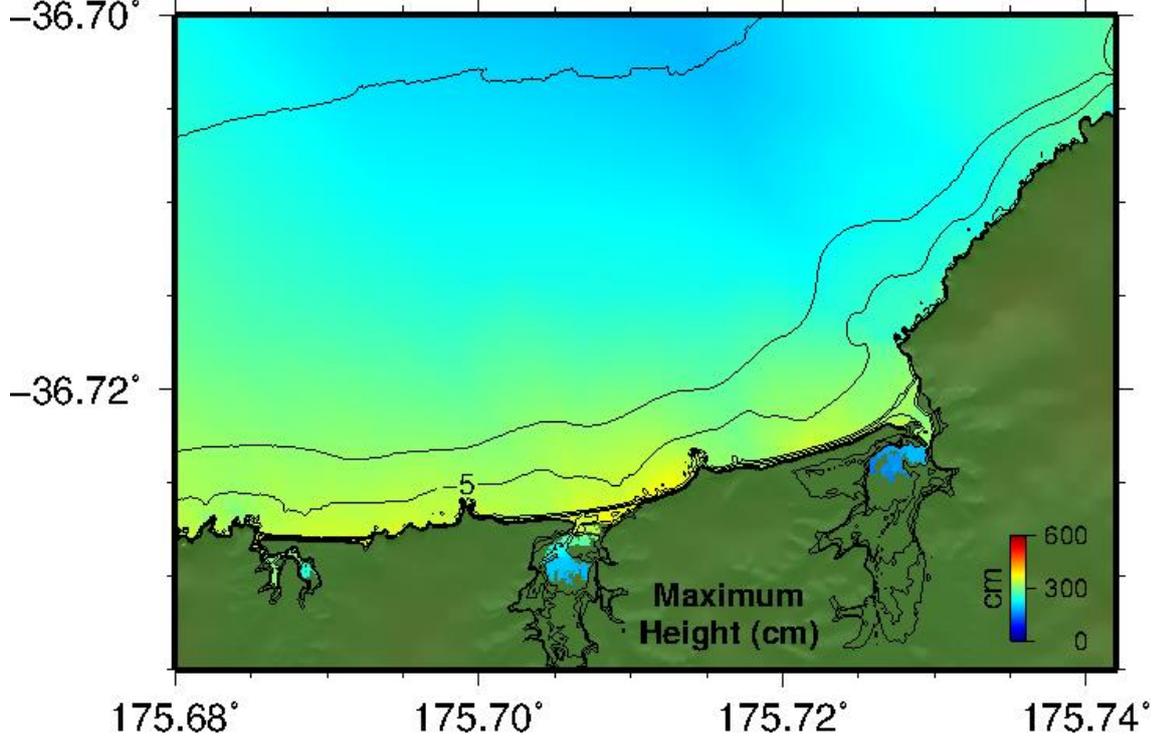
Case 3:
-36.70°



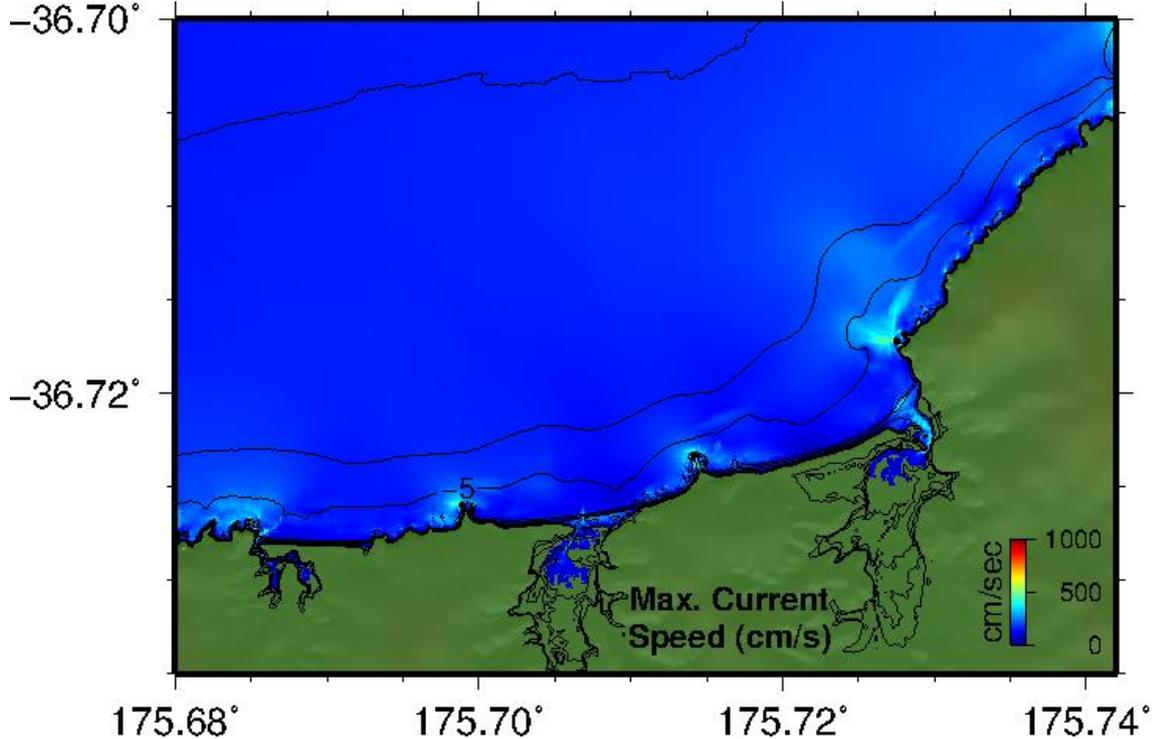
-36.70°



Case 4:
-36.70°



-36.70°



-36.72°

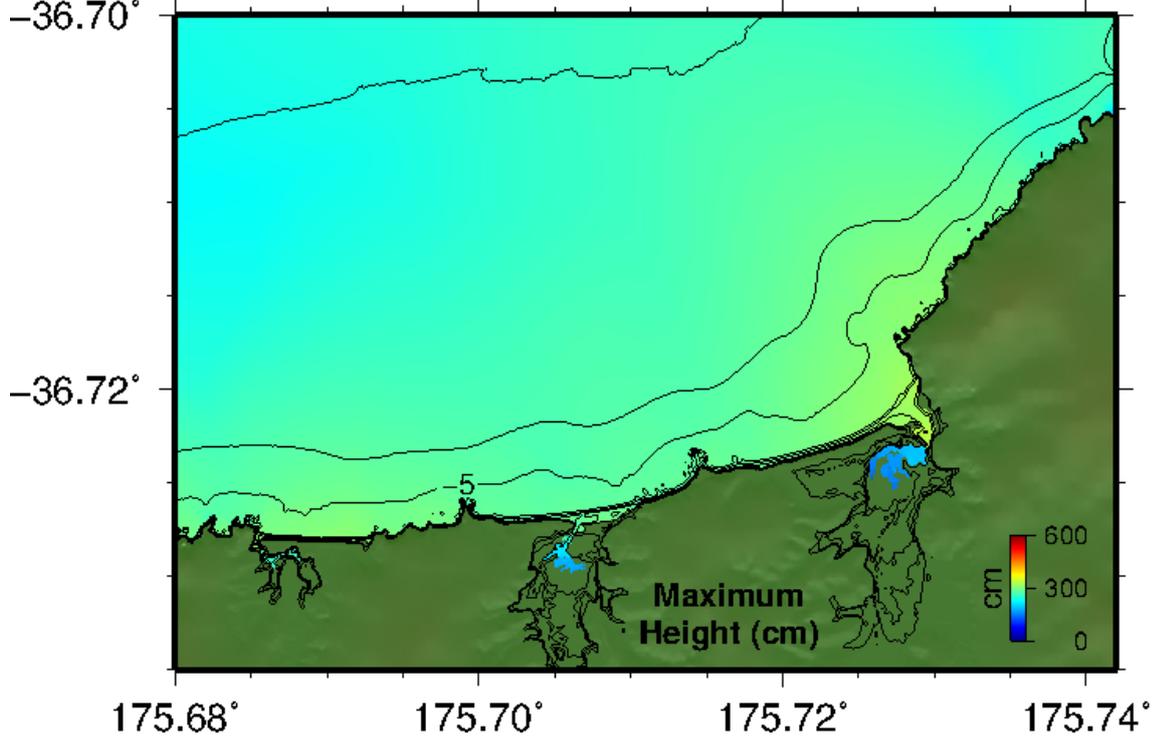
175.68°

175.70°

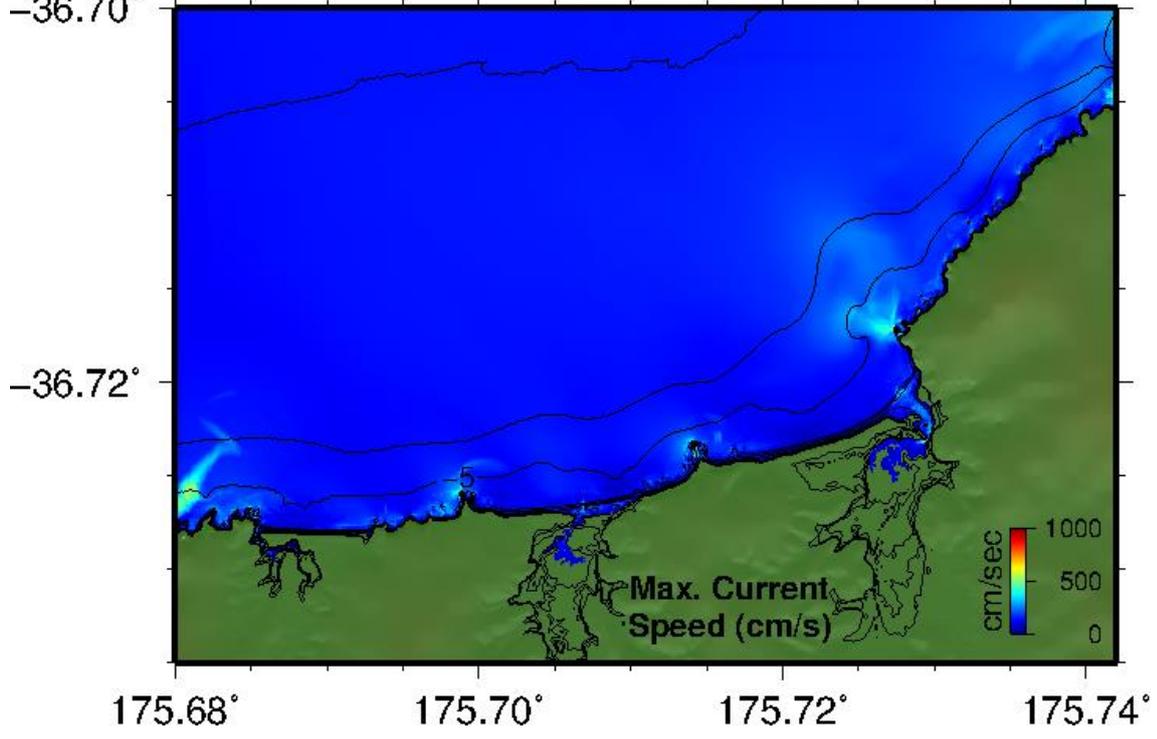
175.72°

175.74°

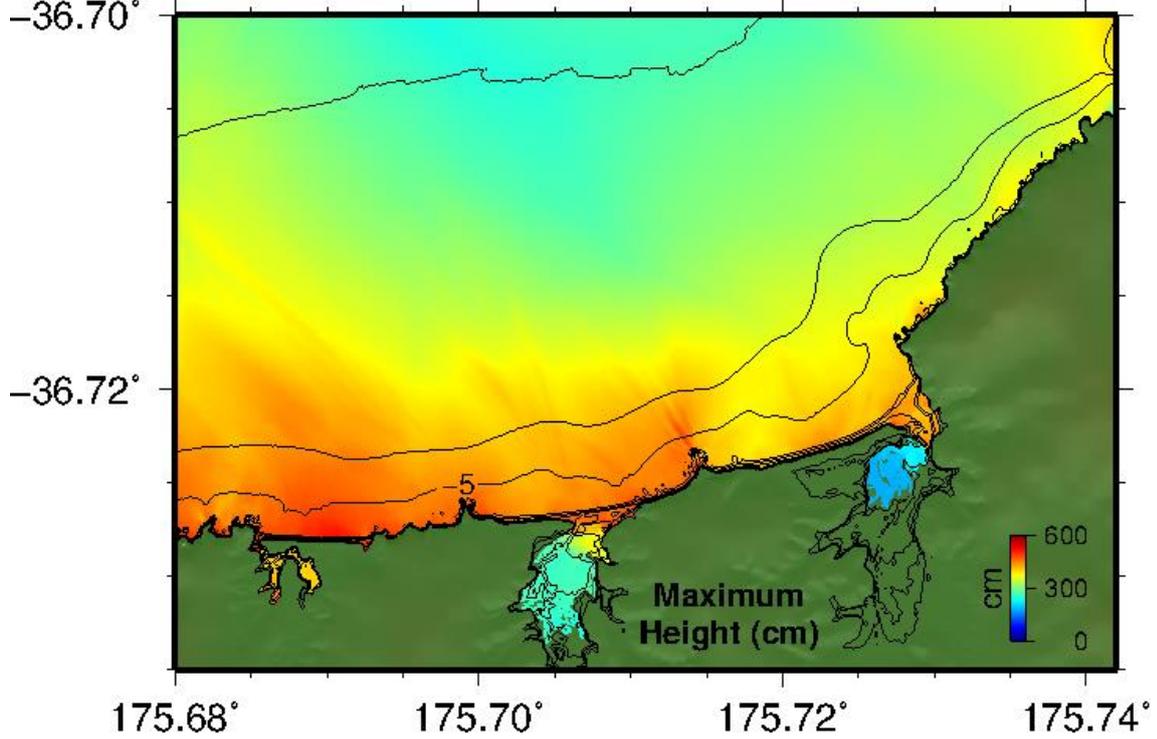
Case 5:
-36.70°



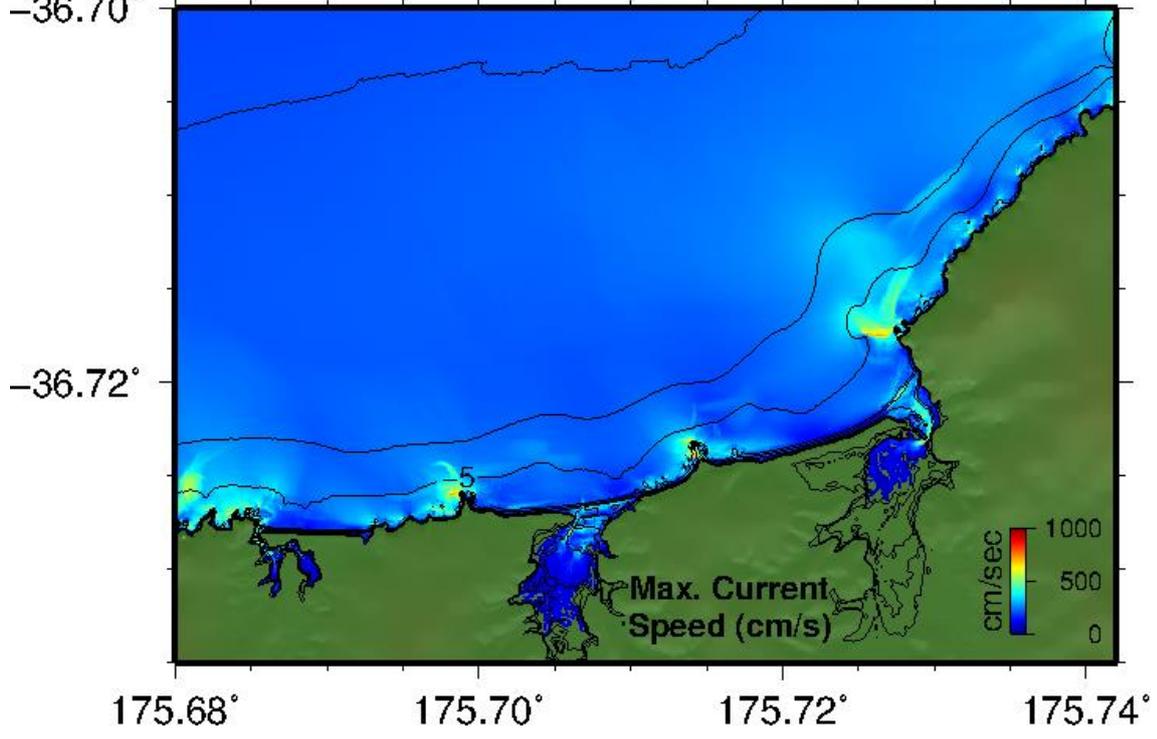
-36.70°



Case 6:
-36.70°



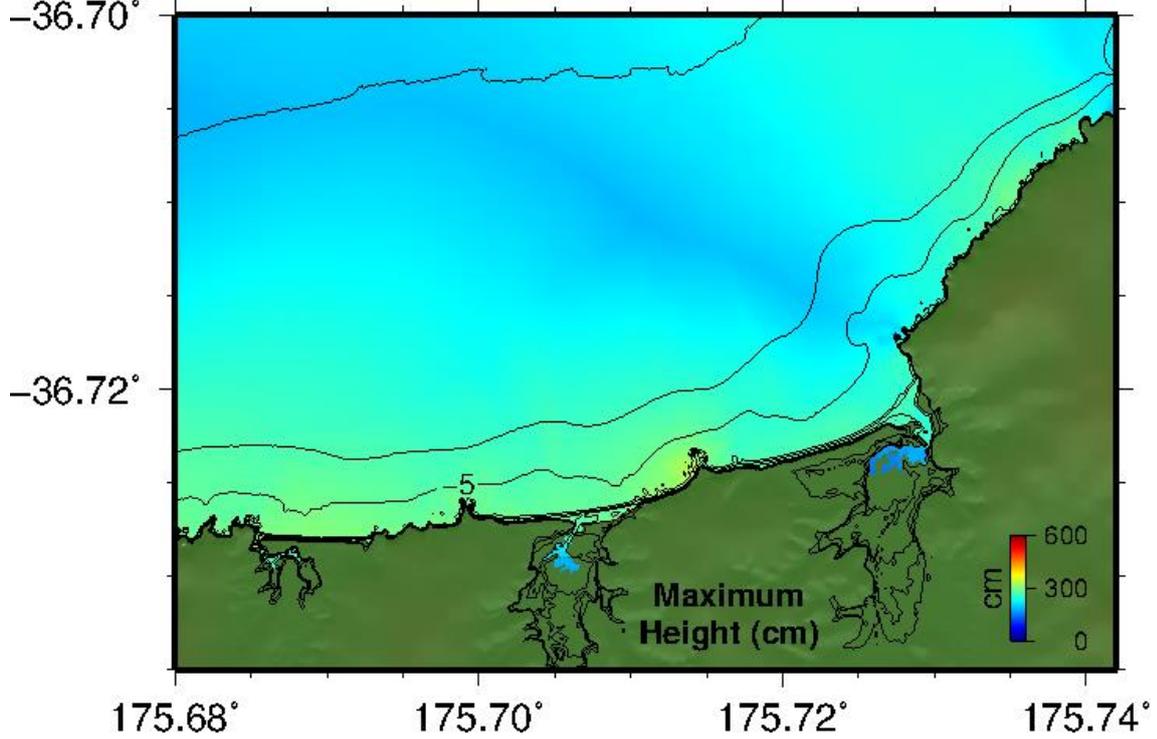
-36.70°



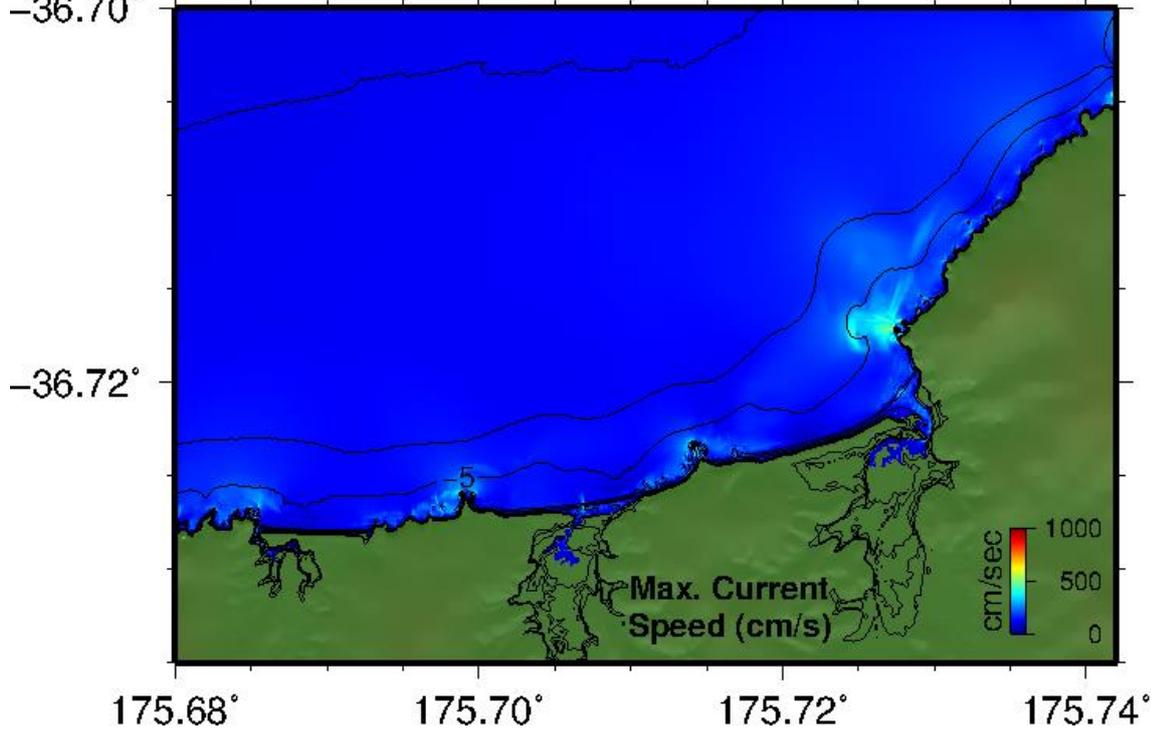
-36.72°

175.68° 175.70° 175.72° 175.74°

Case 7:
-36.70°



-36.70°



-36.72°

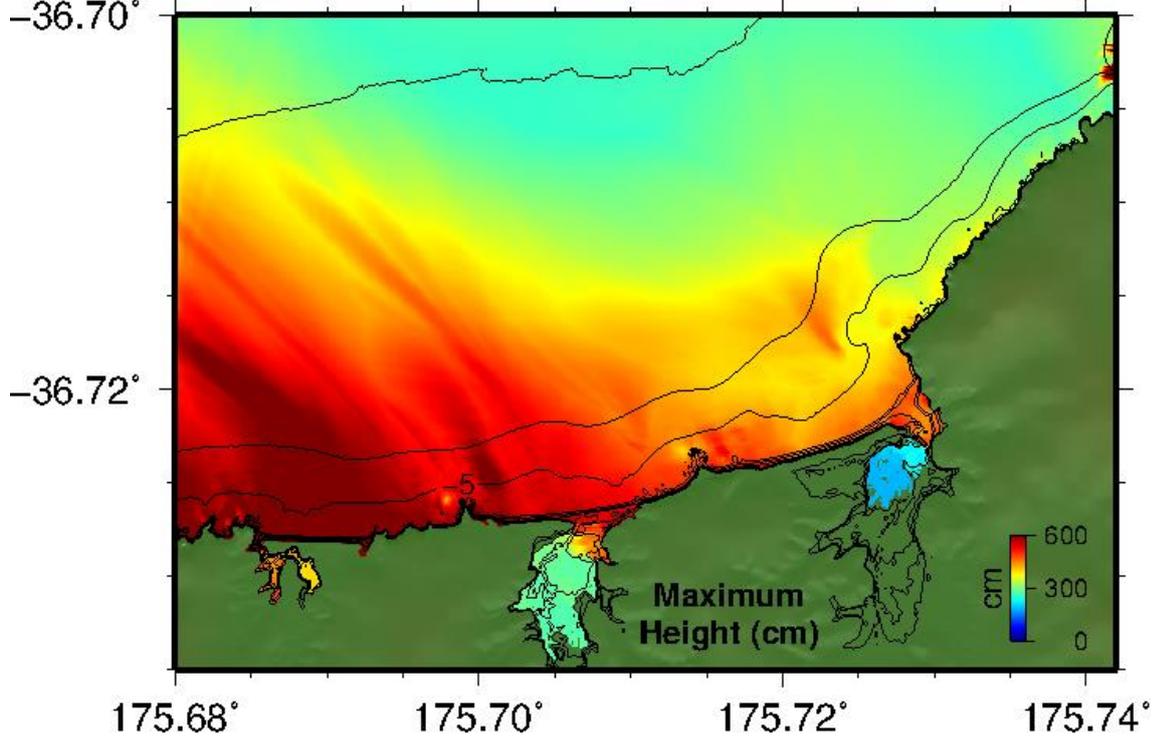
175.68°

175.70°

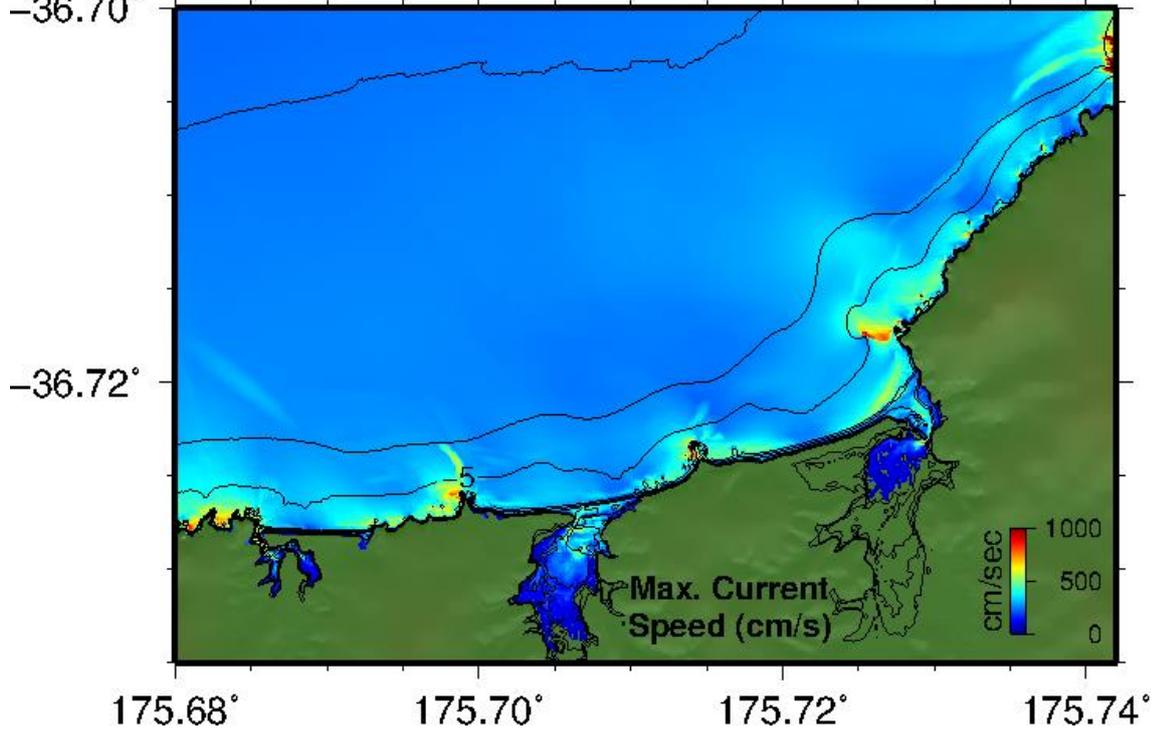
175.72°

175.74°

Case 8:
-36.70°



-36.70°



-36.72°

175.68° 175.70° 175.72° 175.74°

175.68° 175.70° 175.72° 175.74°

Case 8 HT:

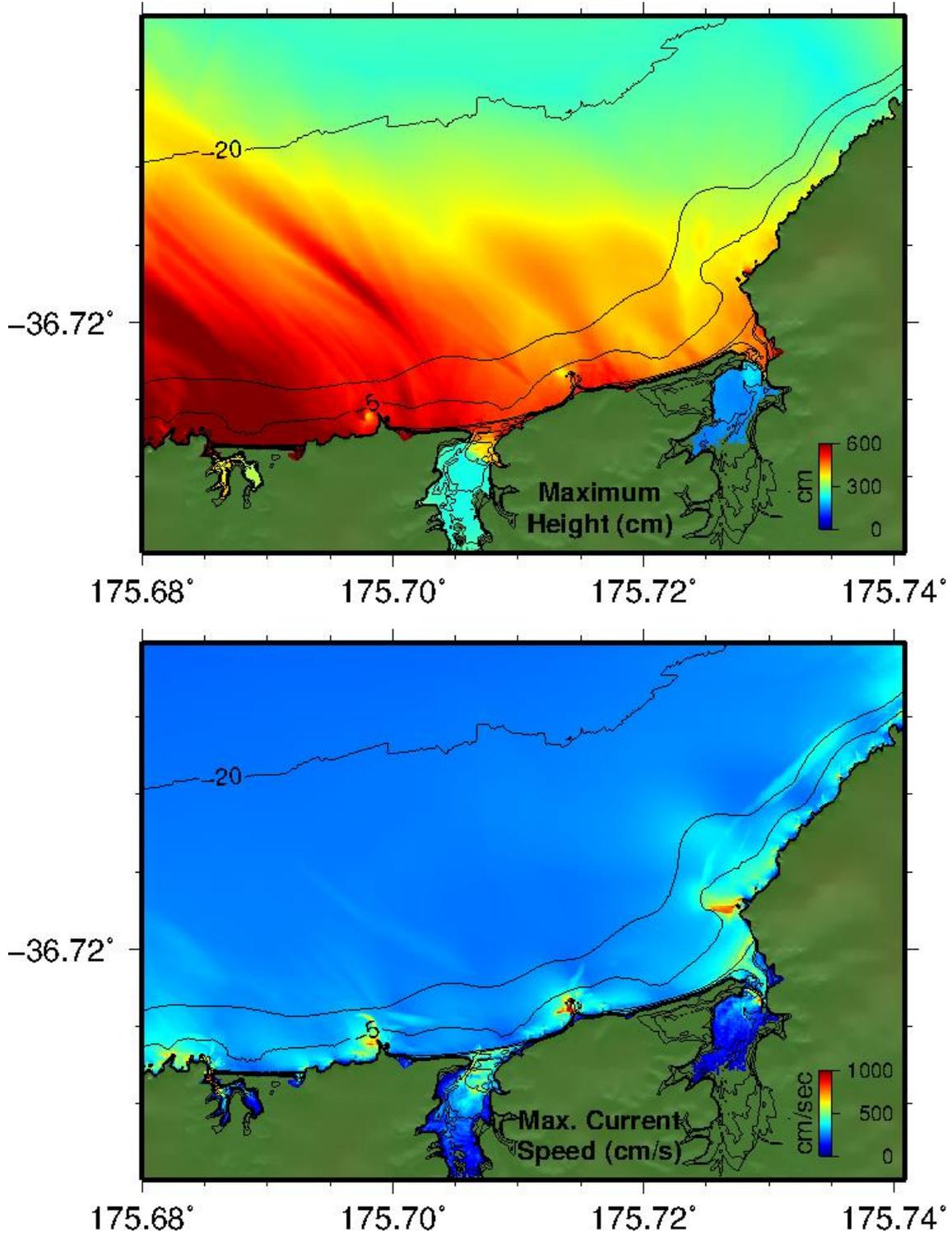
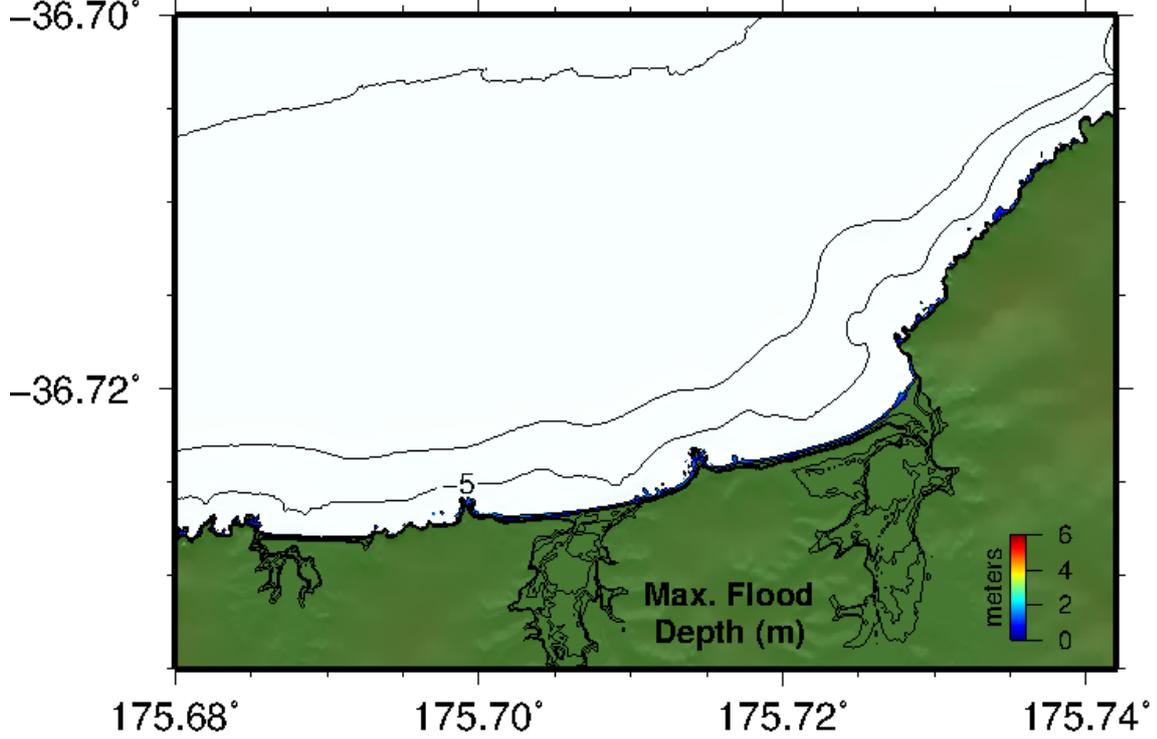
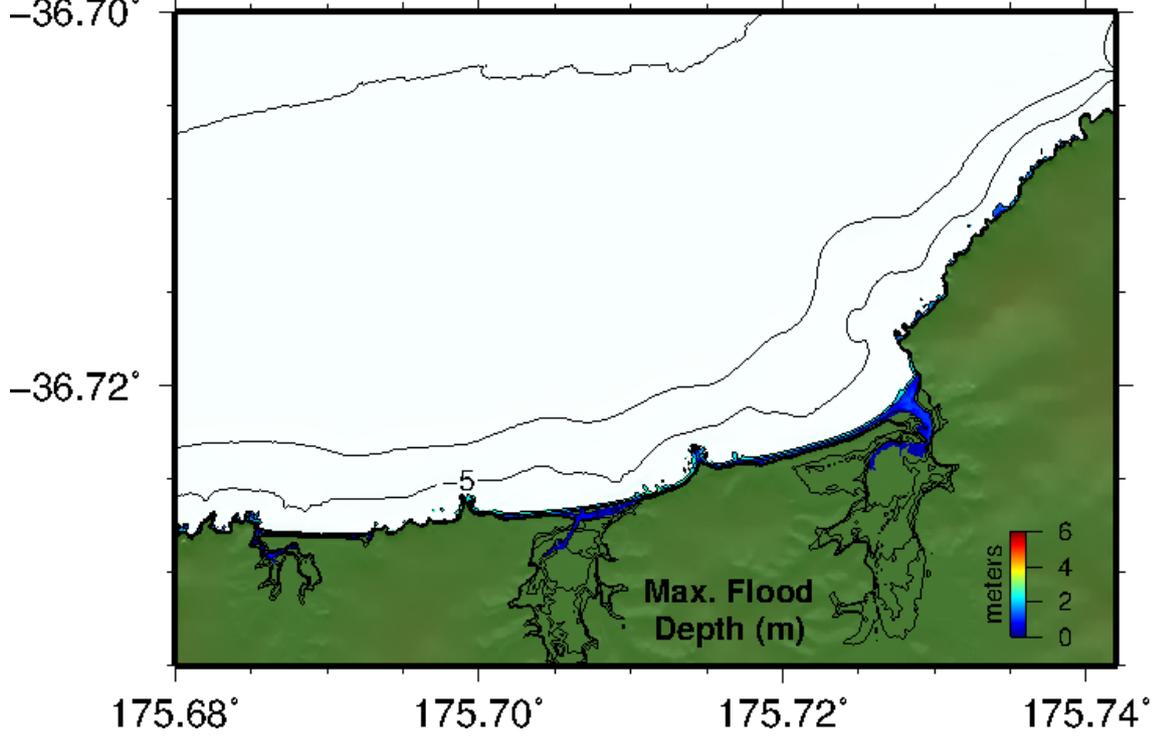


Figure 4.1 Maximum computed water levels and current speeds for the Kermadec Trench Cases 1-8 in Kuaotunu at MSL and Case 8 at HT.

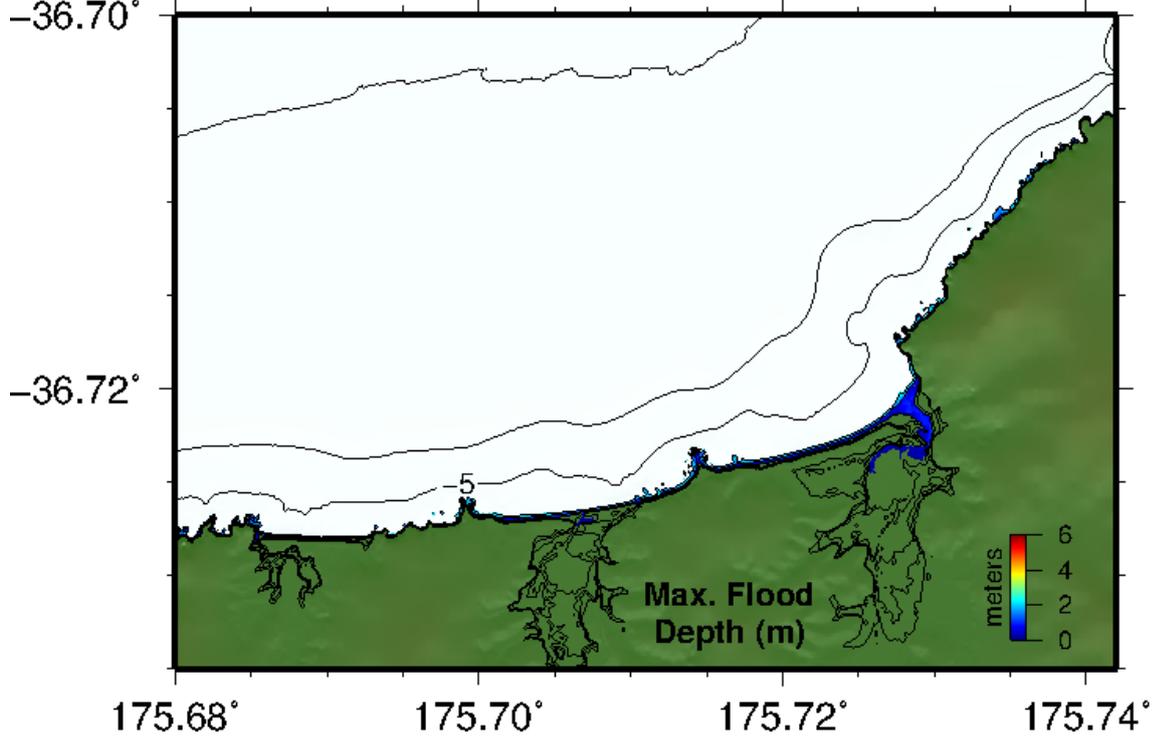
Case 1:
-36.70°



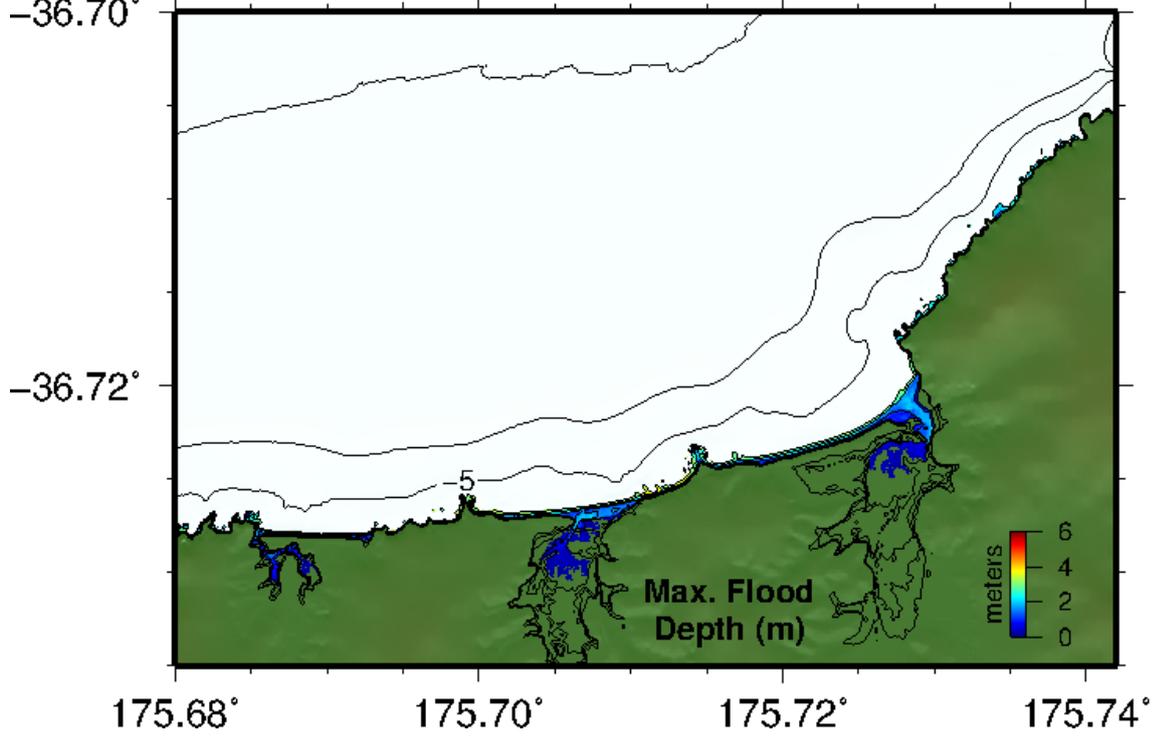
Case 2:
-36.70°



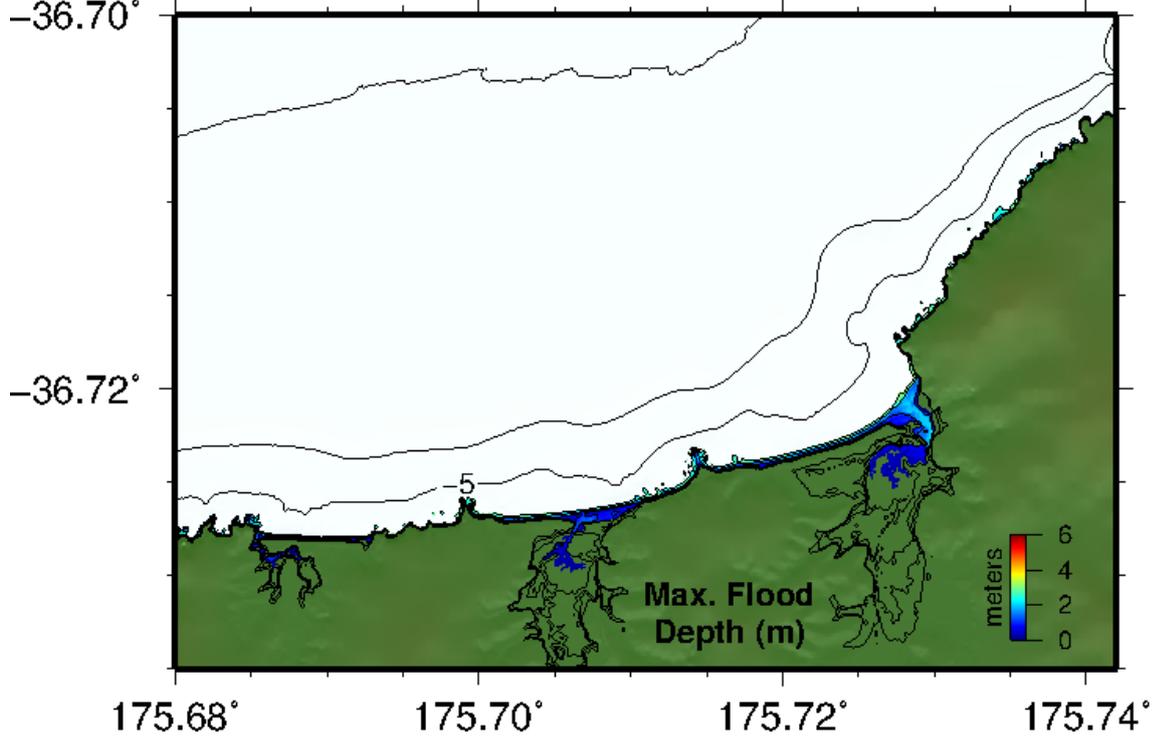
Case 3:
-36.70°



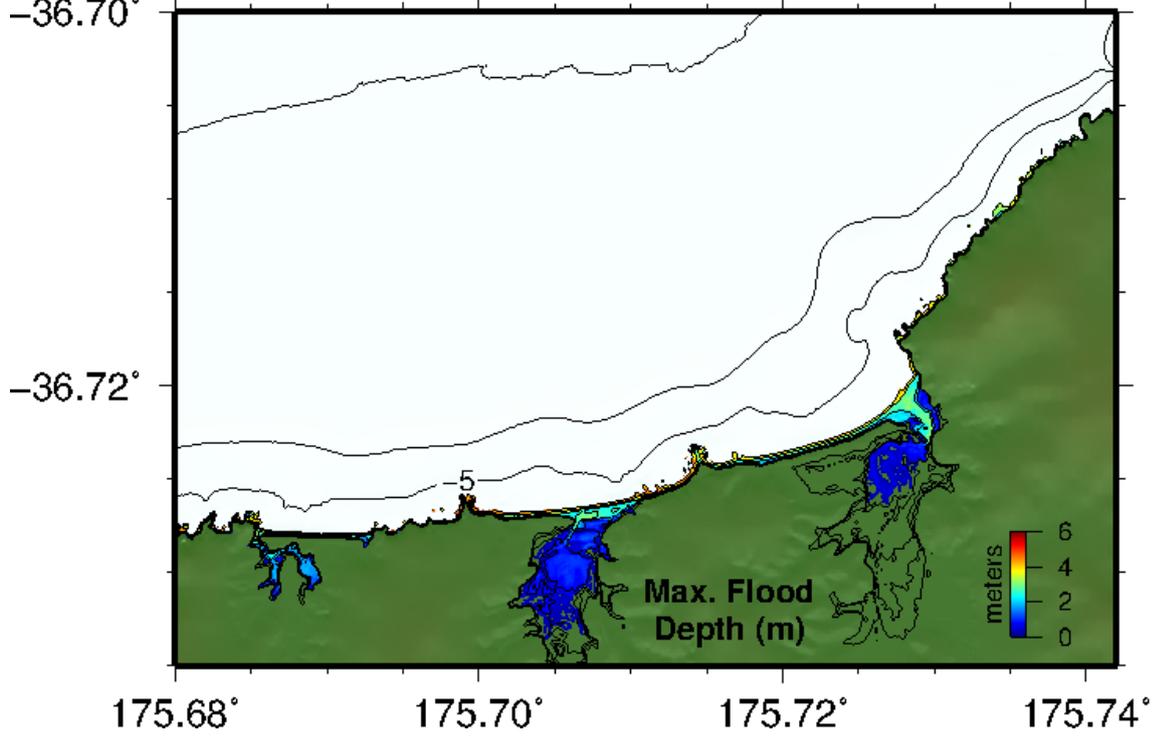
Case 4:
-36.70°



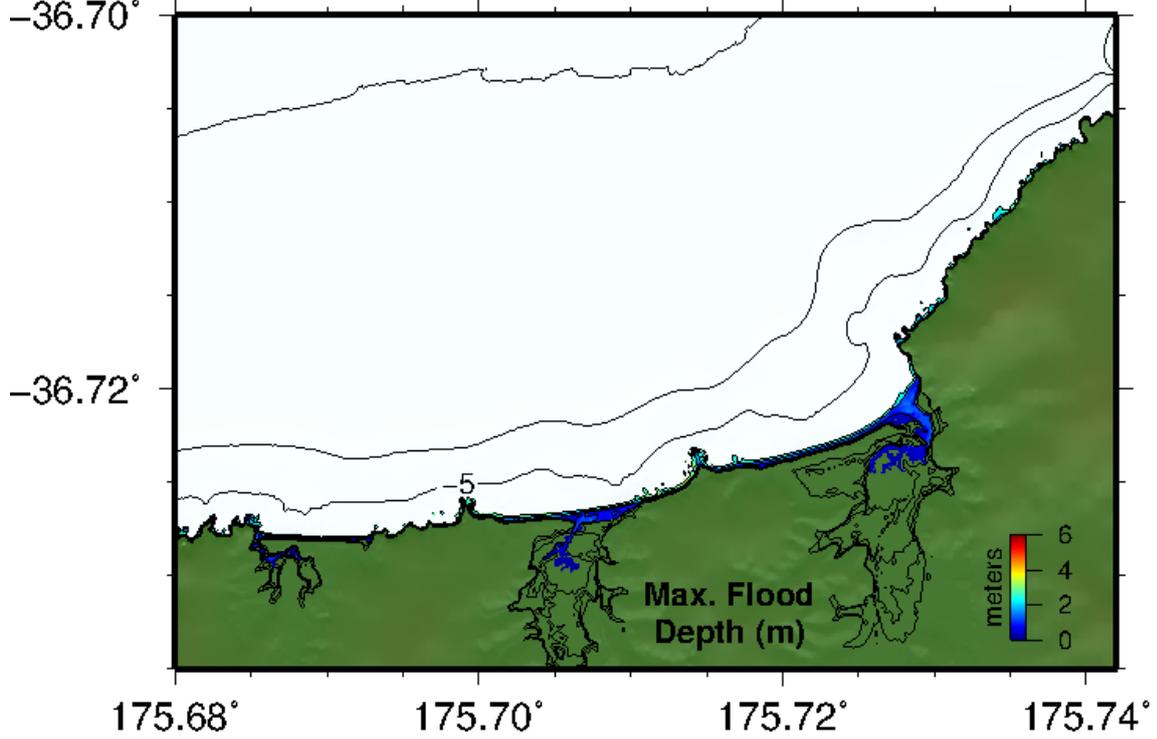
Case 5:
-36.70°



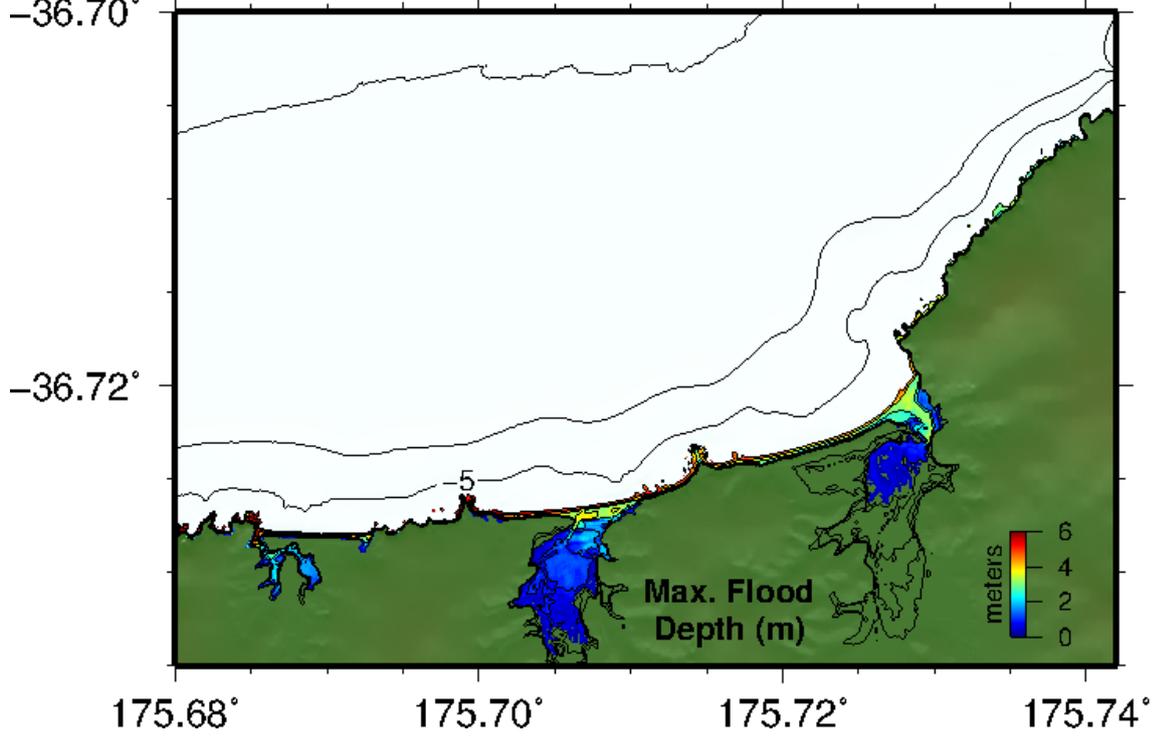
Case 6:
-36.70°



Case 7:
-36.70°



Case 8:
-36.70°



Case 8 HT:

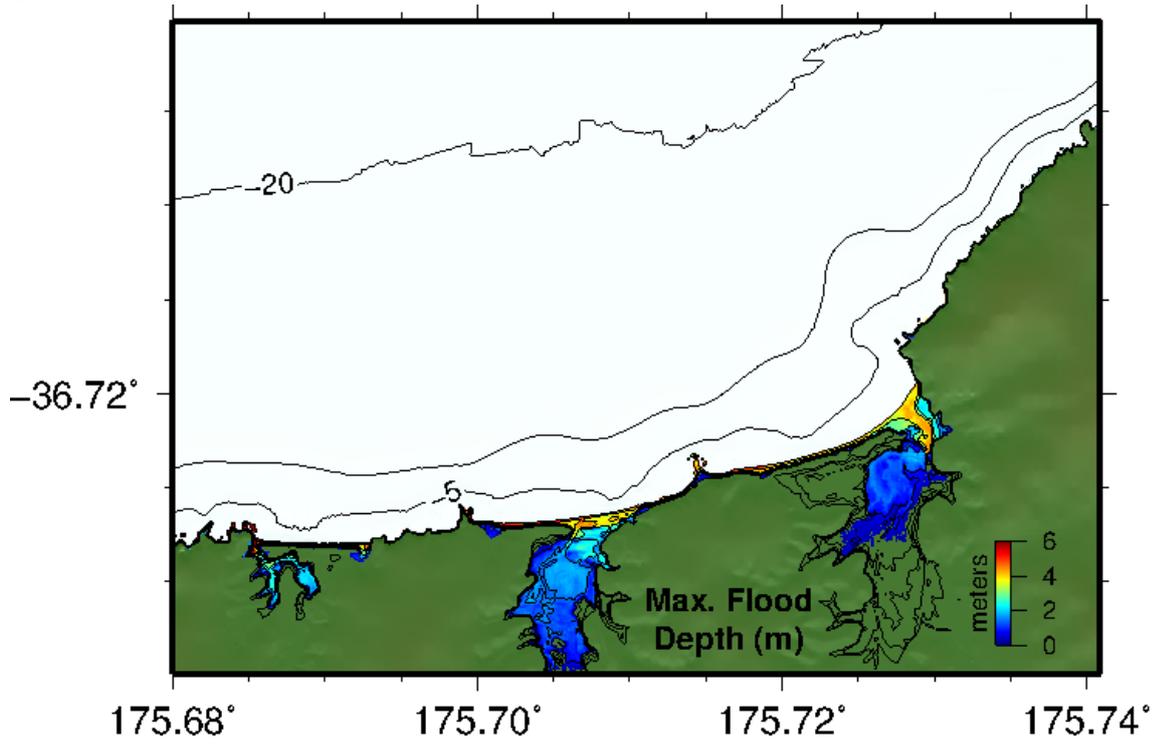
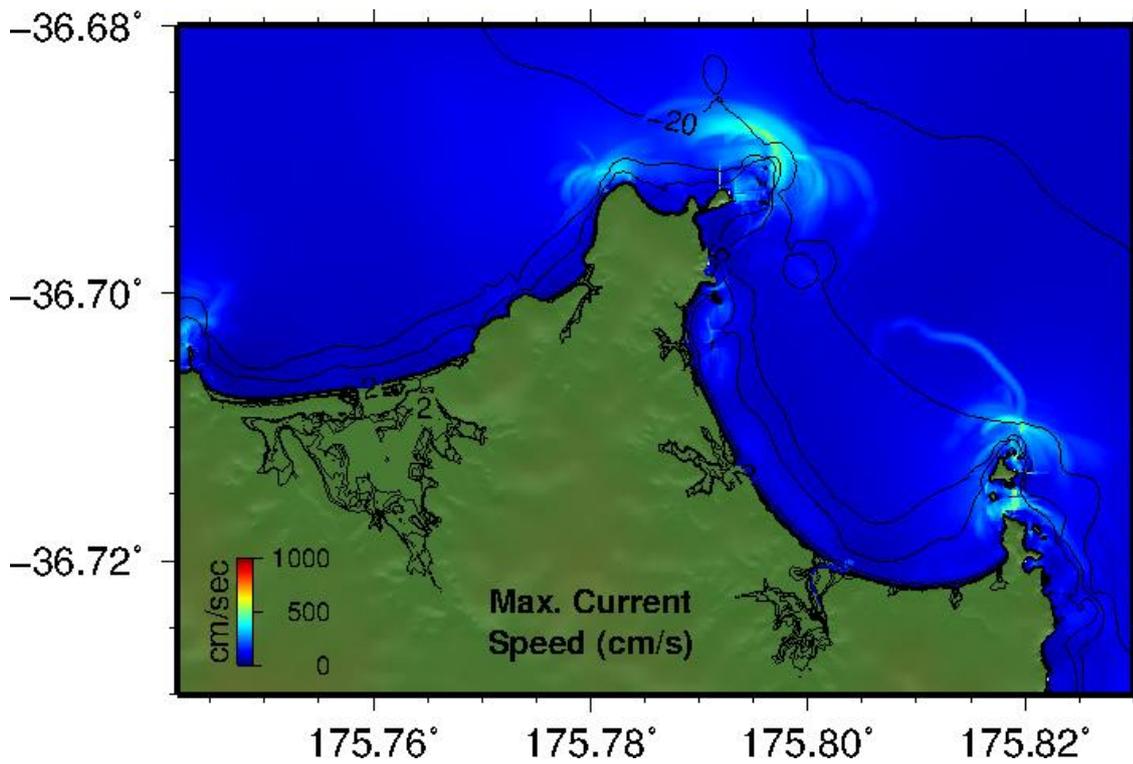
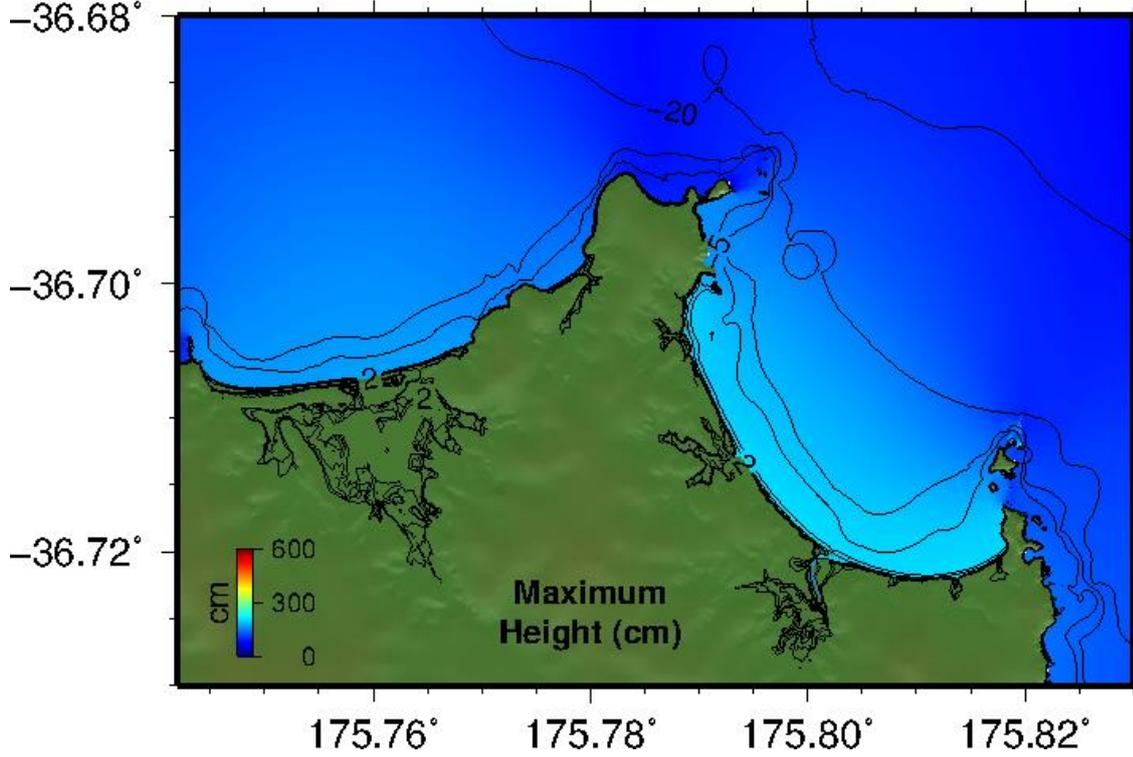


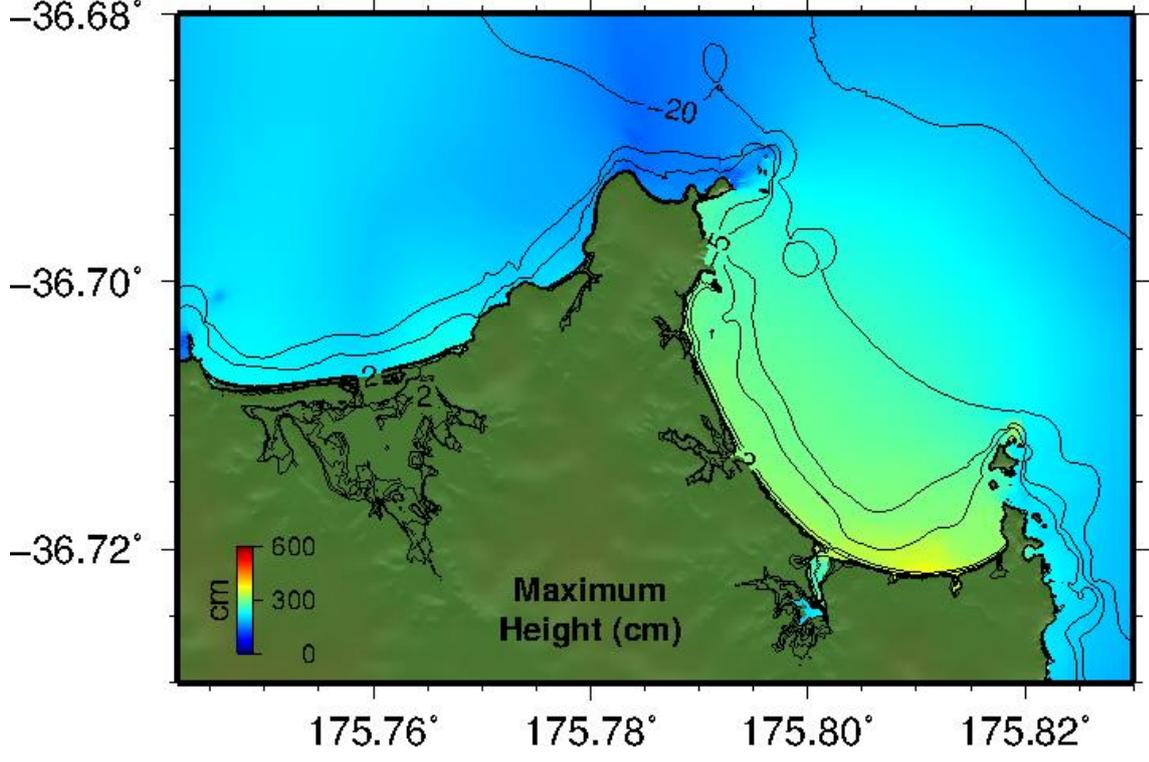
Figure 4.2 Maximum computed overland flood depths for the Kermadec Trench Cases 1-8 in Kuaotunu at MSL and HT

5 APPENDIX 5 – OPITO BAY: TK TRENCH SOURCES

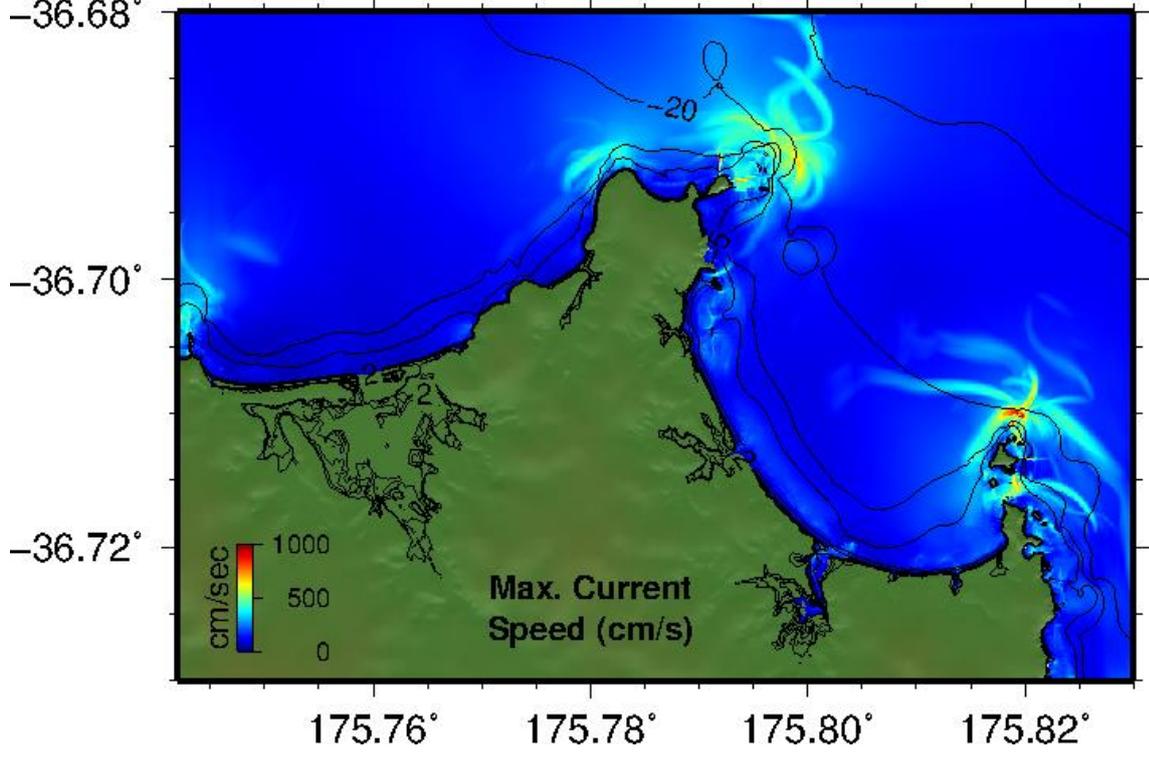
Case 1:
-36.68°



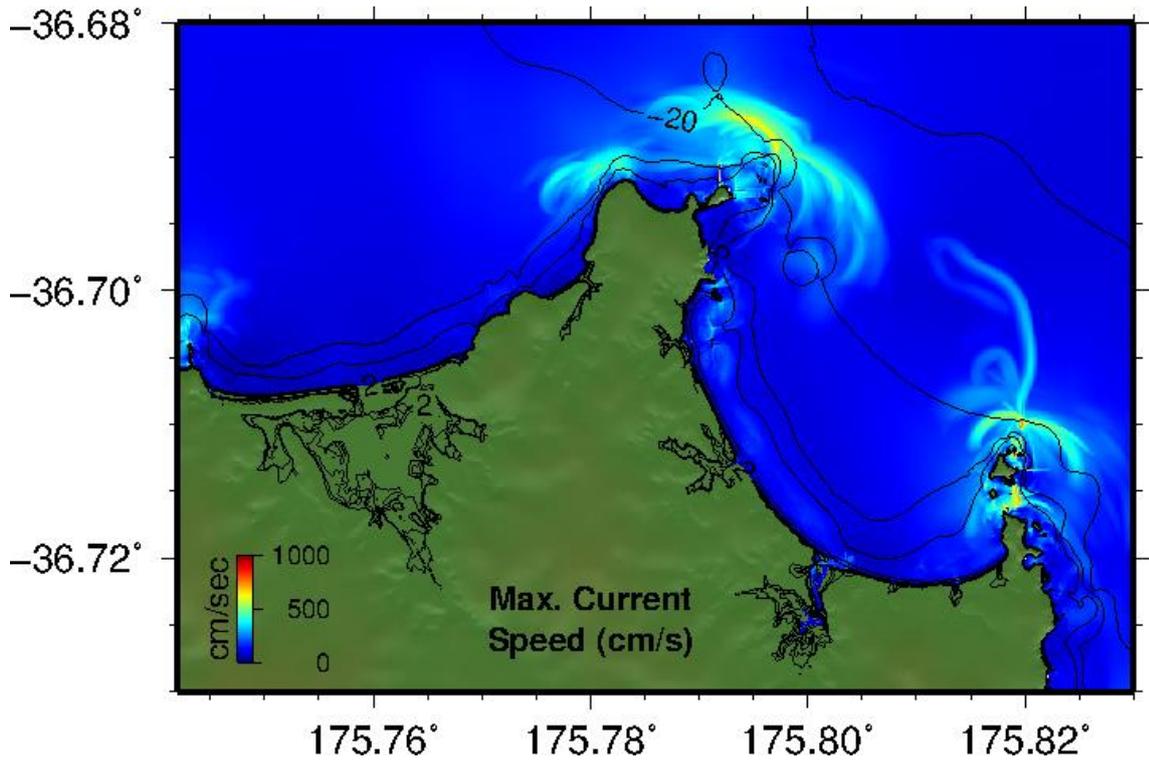
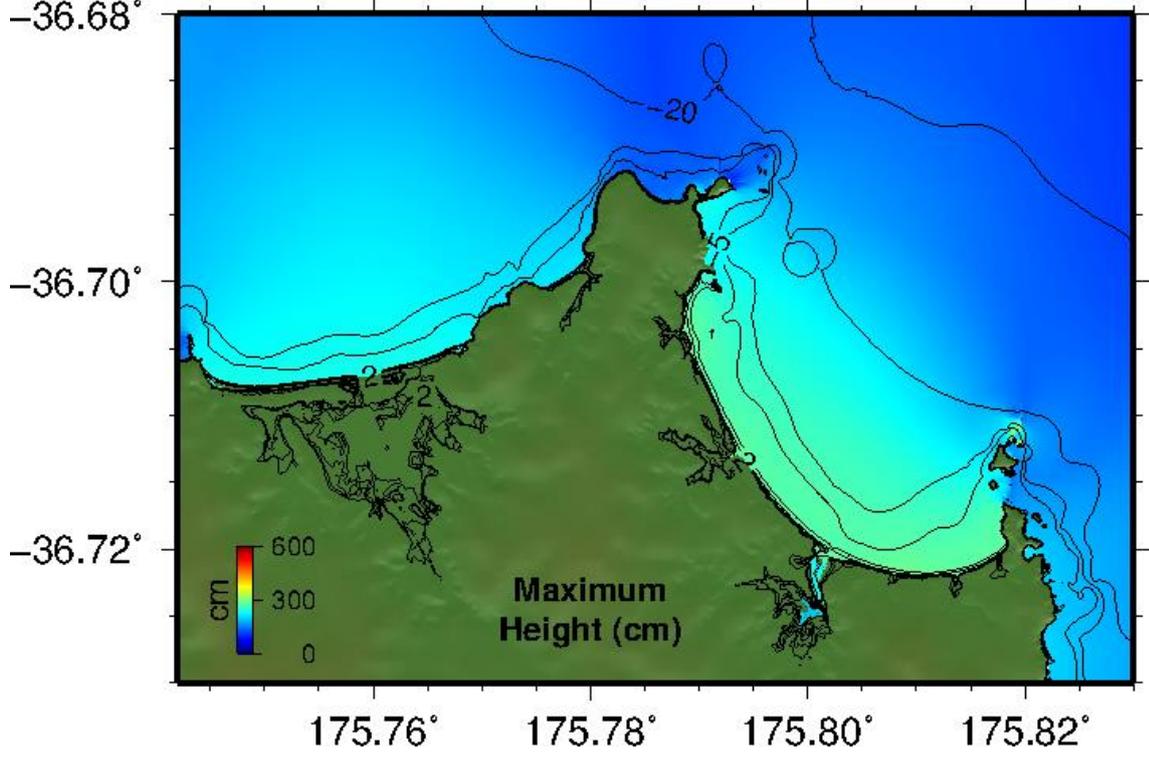
Case 2:
-36.68°



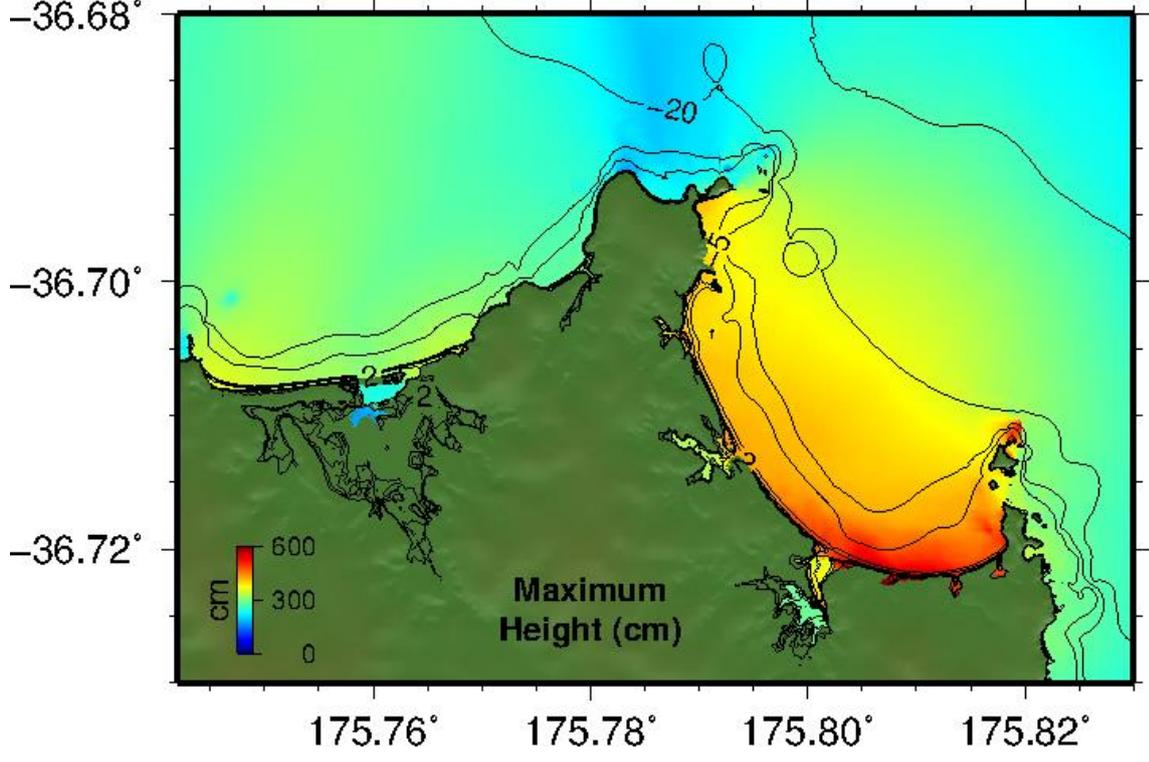
-36.68°



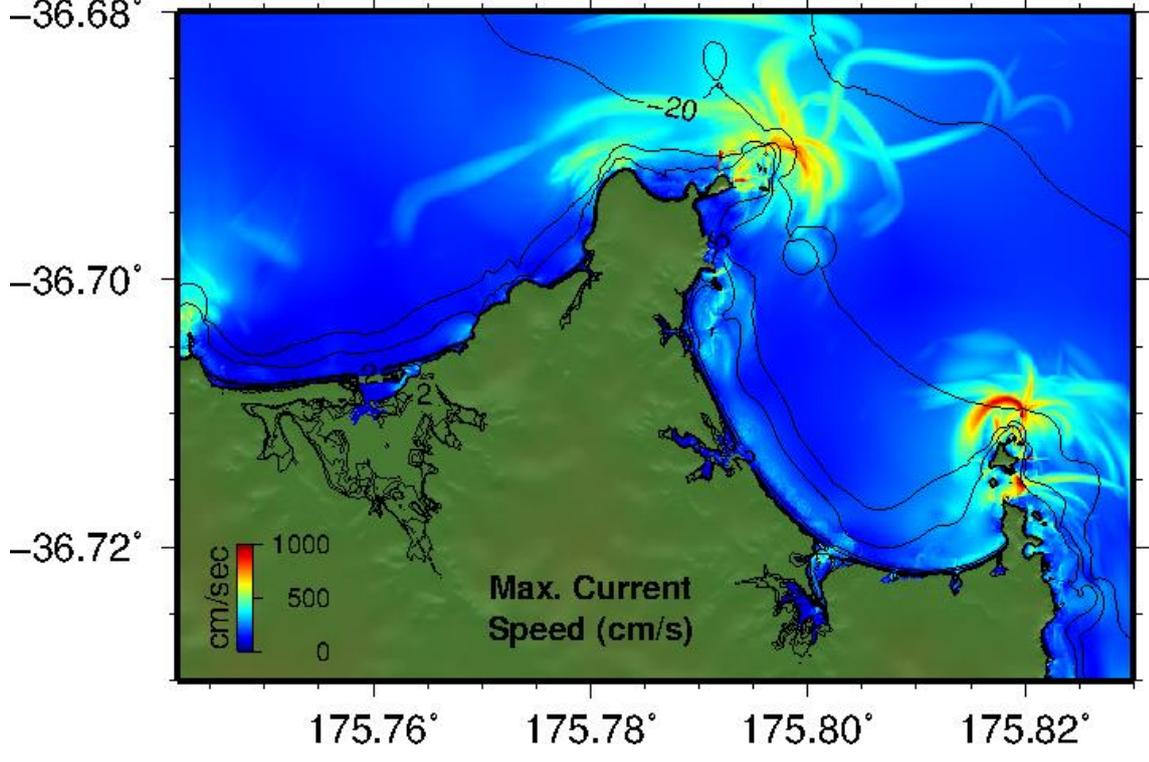
Case 3:
-36.68°



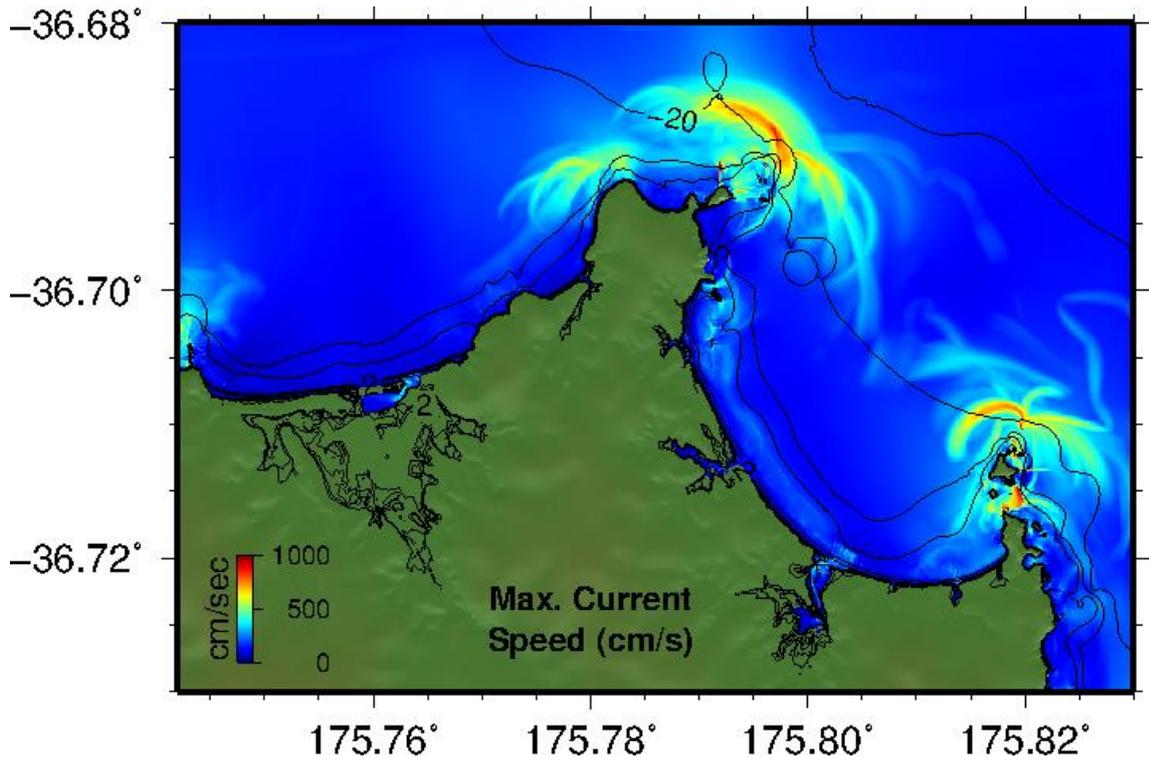
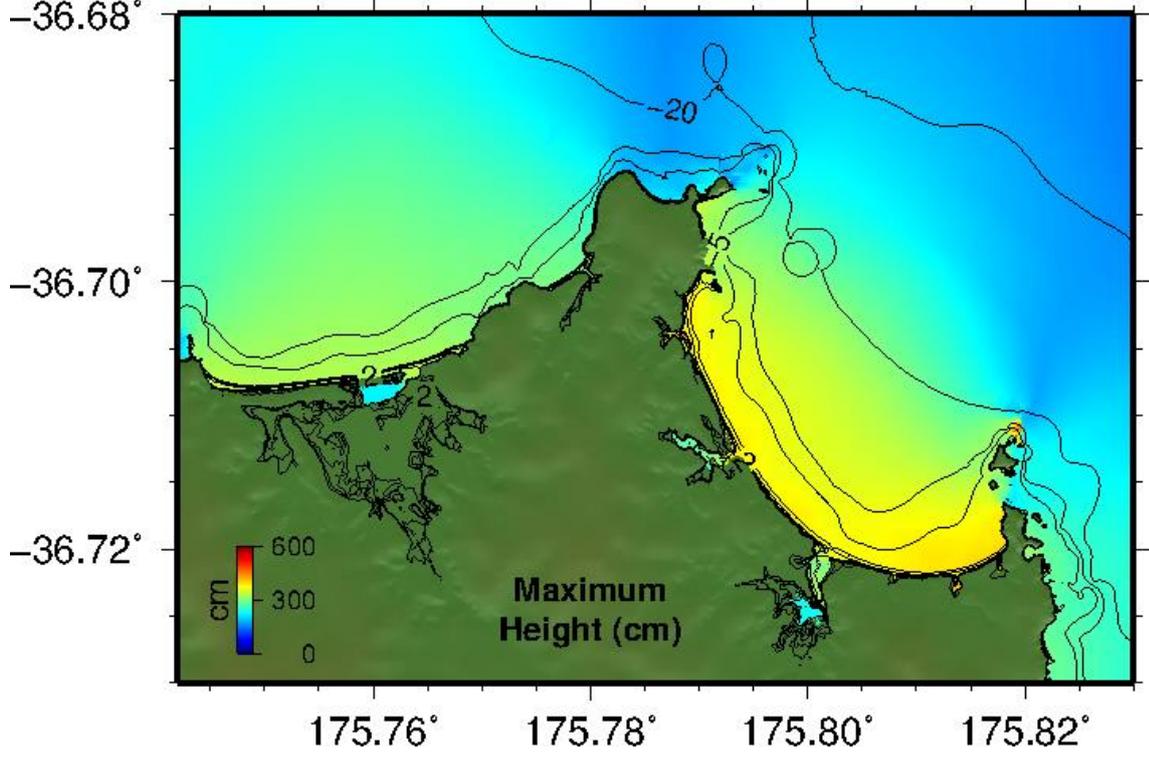
Case 4:
-36.68°



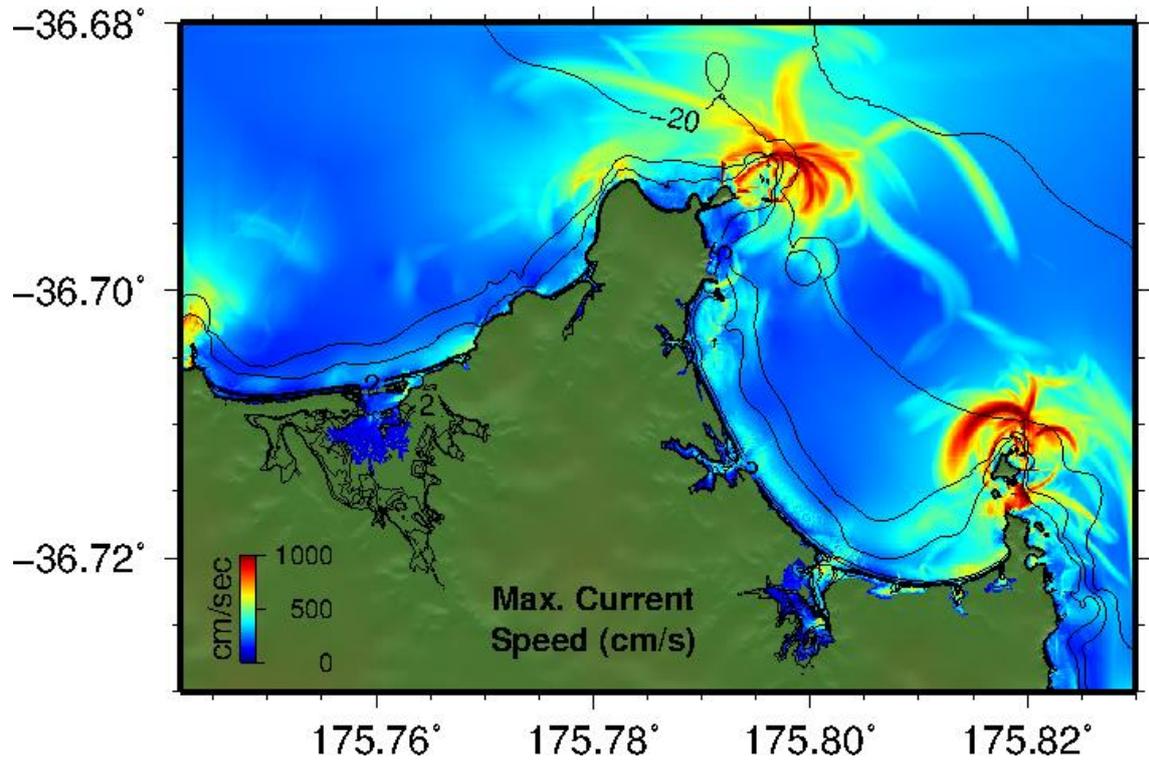
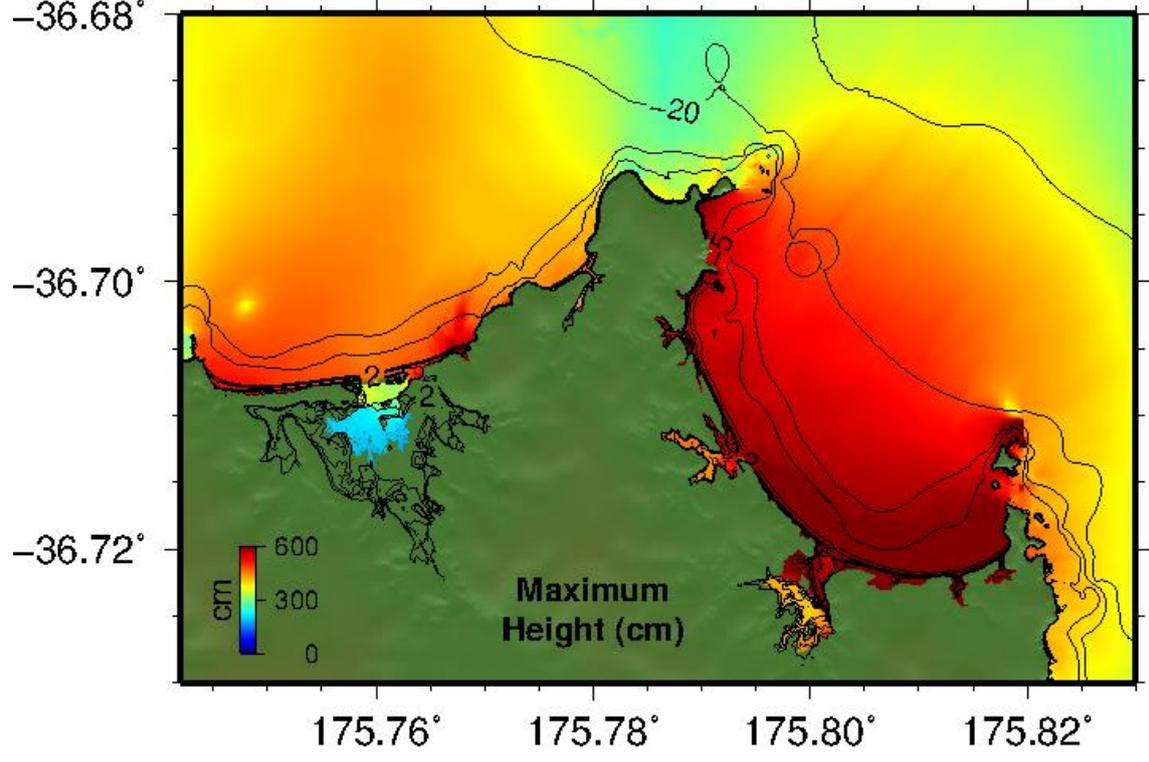
-36.68°



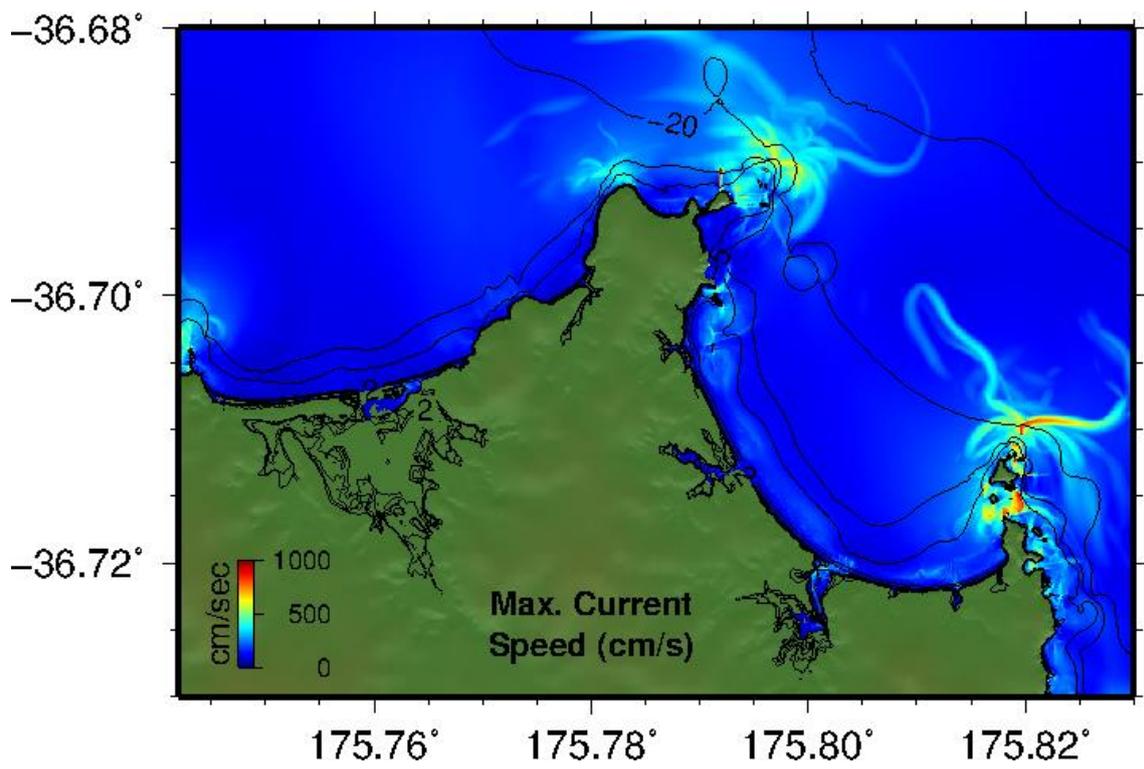
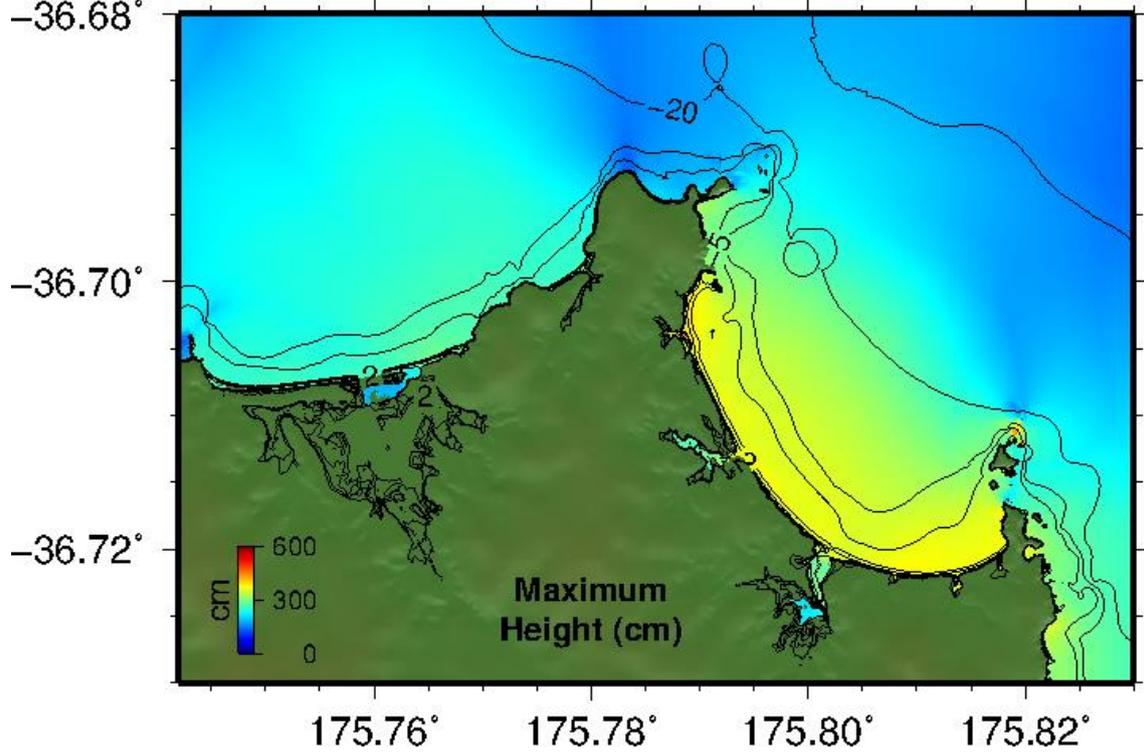
Case 5:
-36.68°



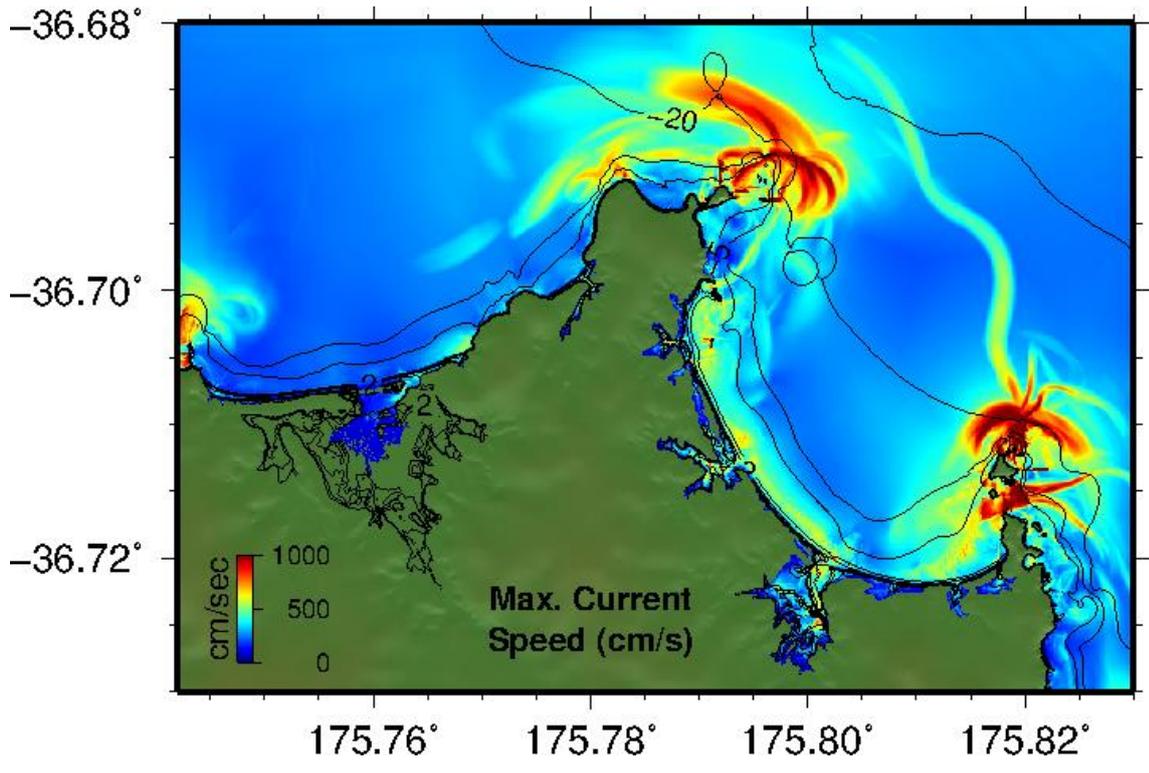
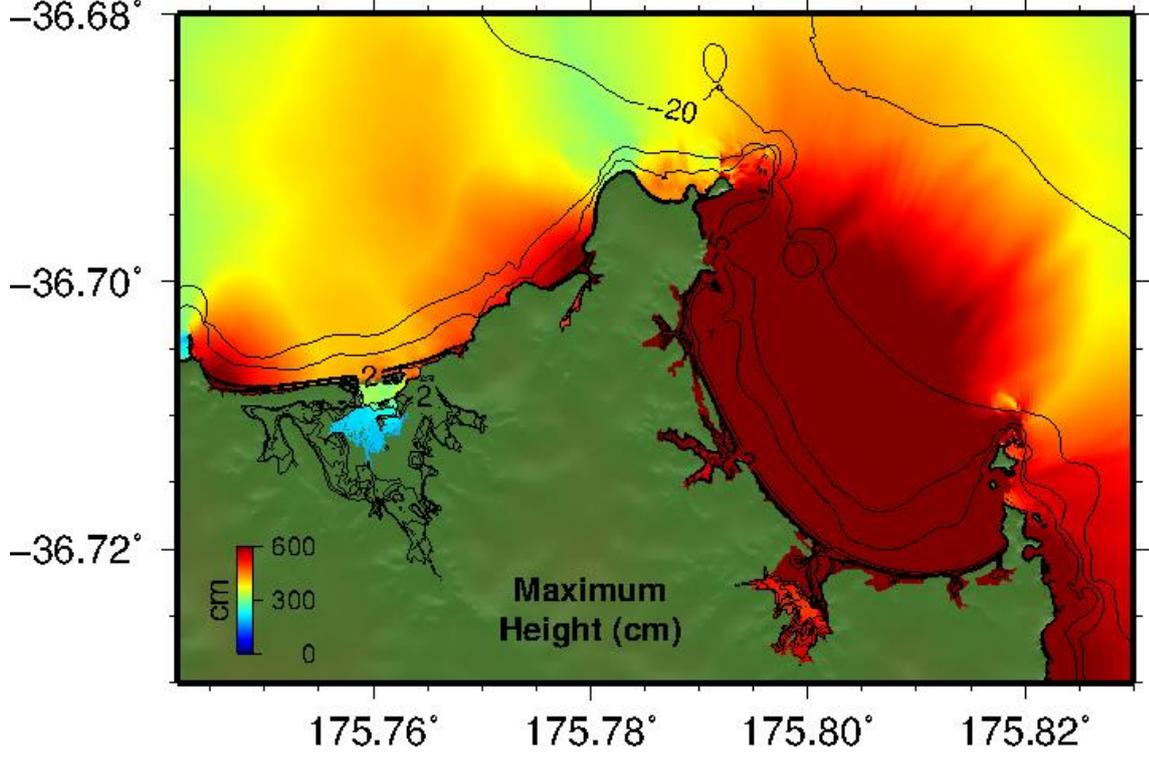
Case 6:
-36.68°



Case 7:
-36.68°



Case 8:
-36.68°



Case 8 HT:
-36.68°

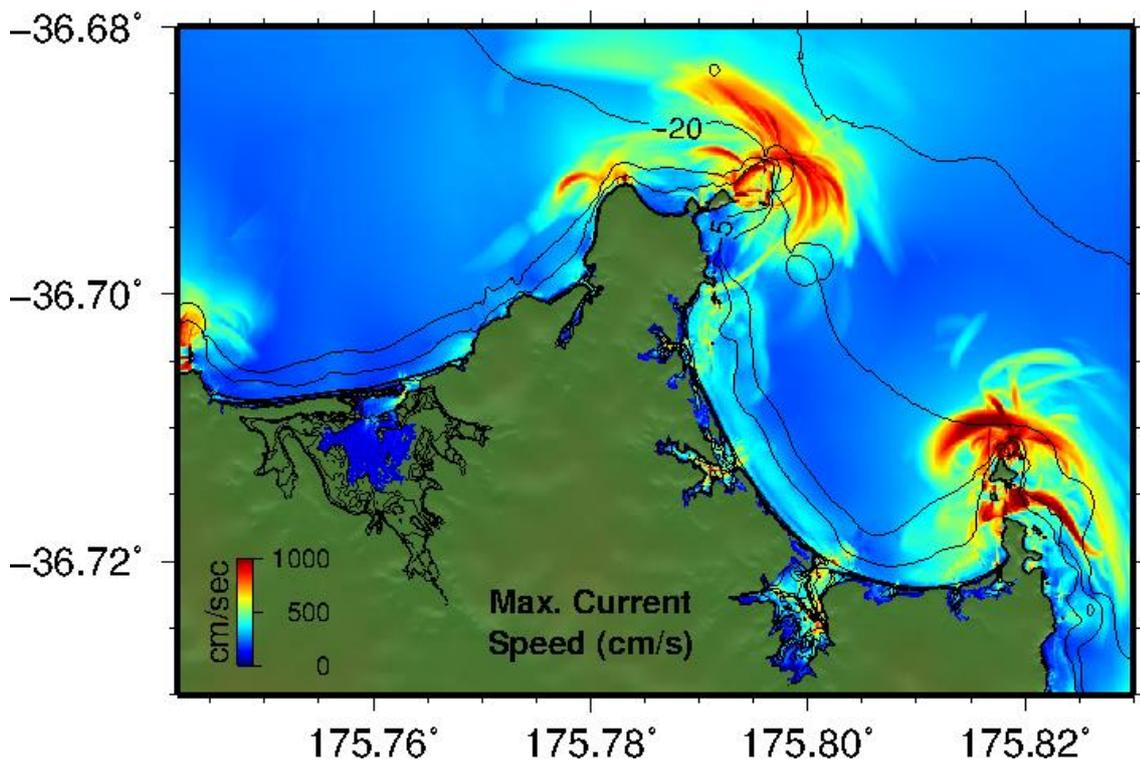
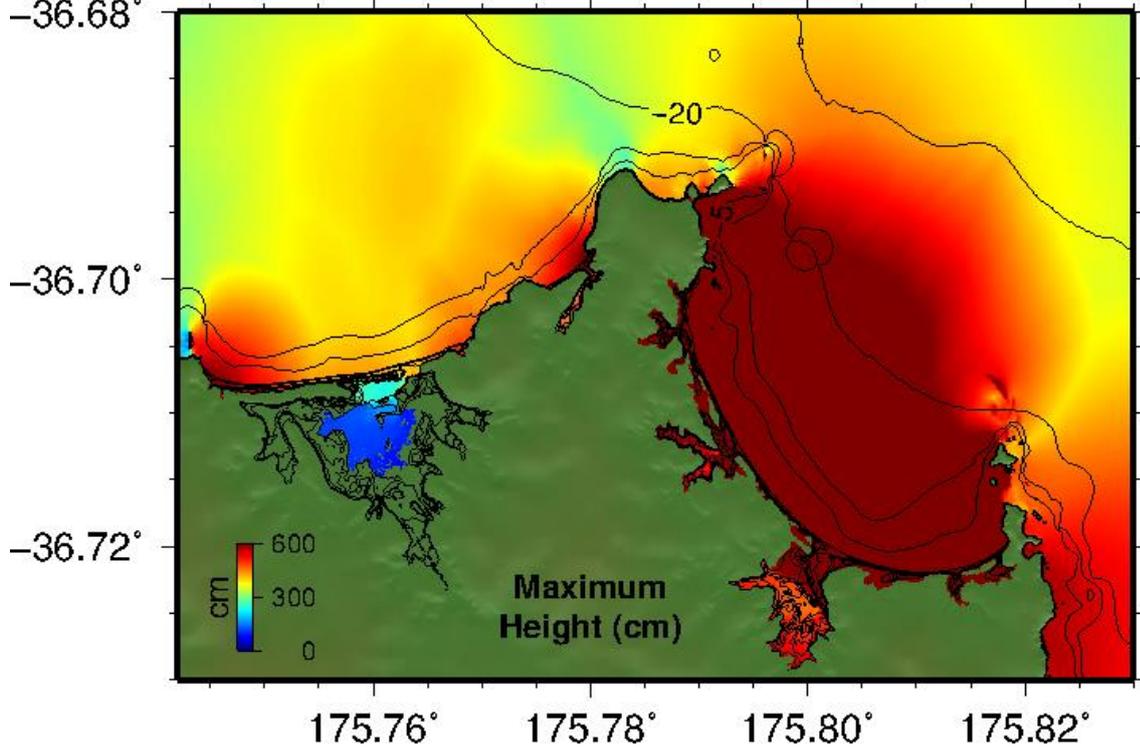
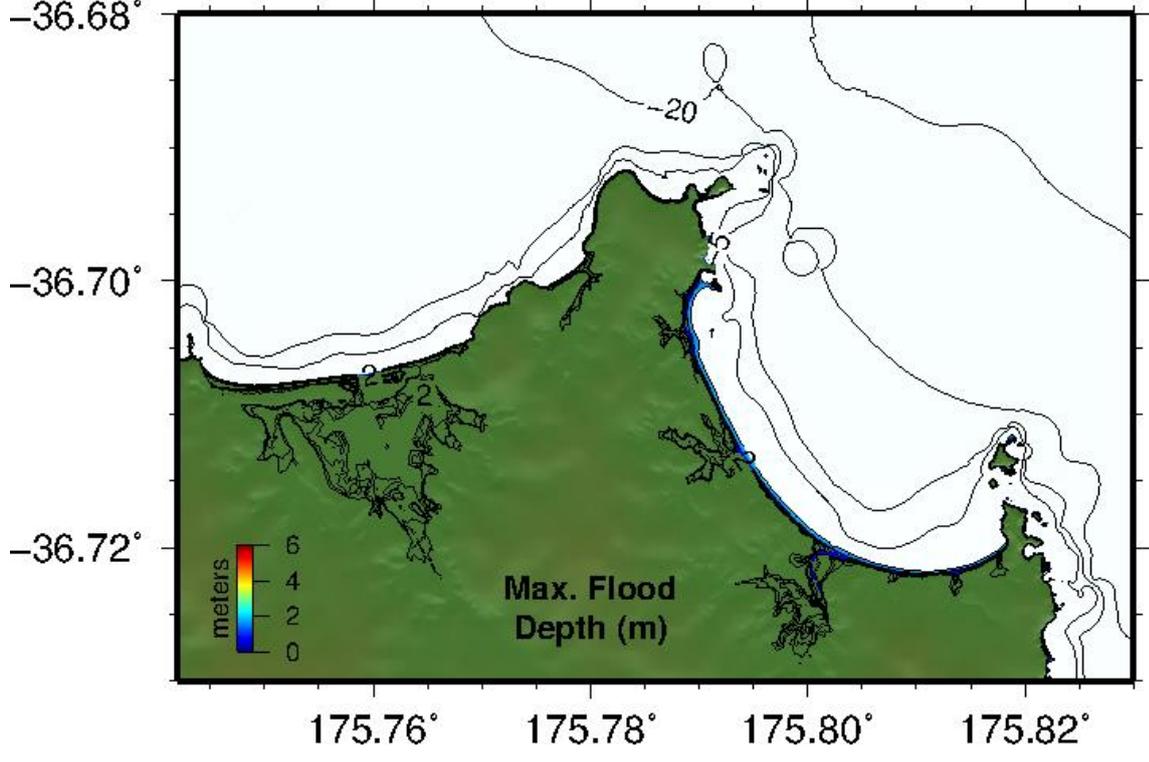
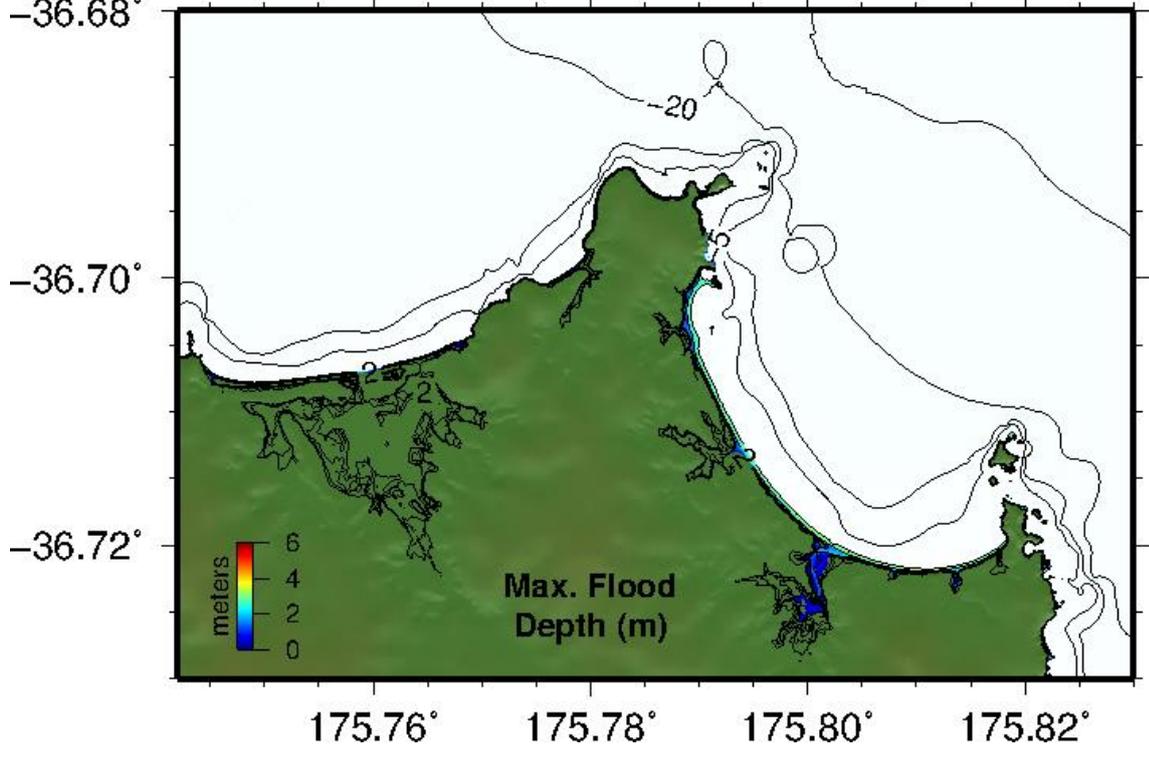


Figure 5.1 Maximum computed water levels and current speeds for the Kermadec Trench Cases 1-8 in Opito Bay at MSL and Case 8 at HT.

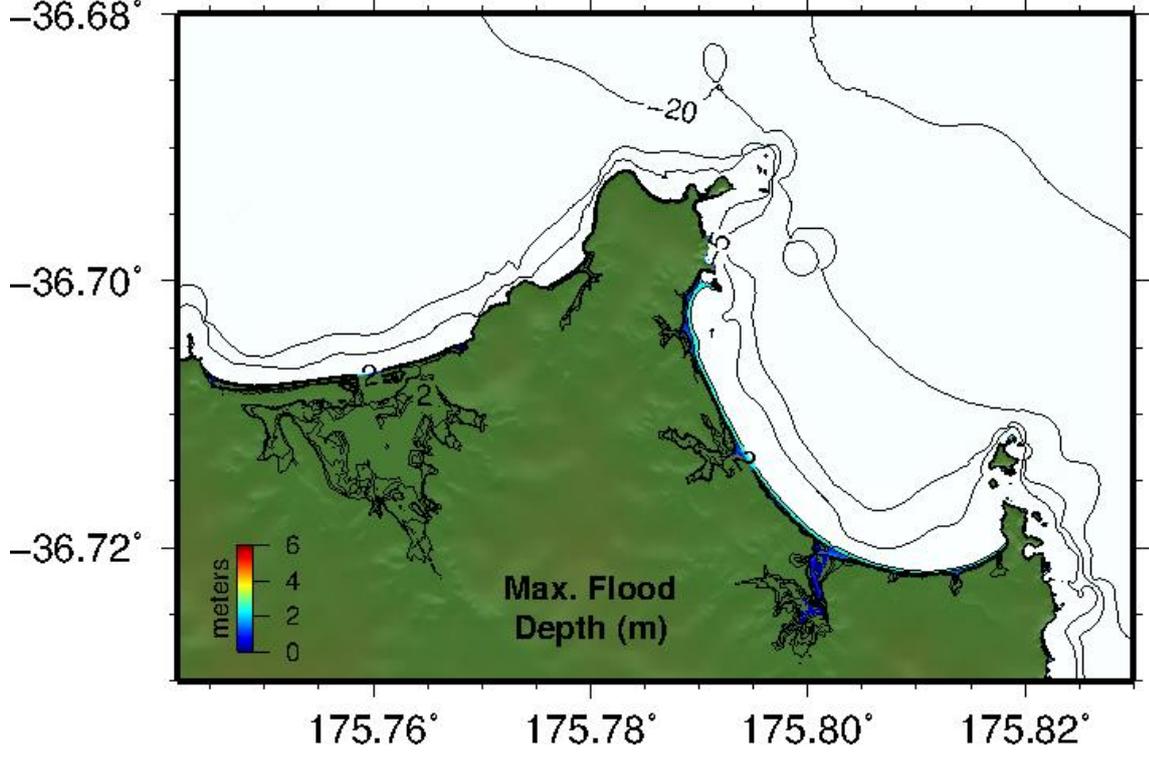
Case 1:
-36.68°



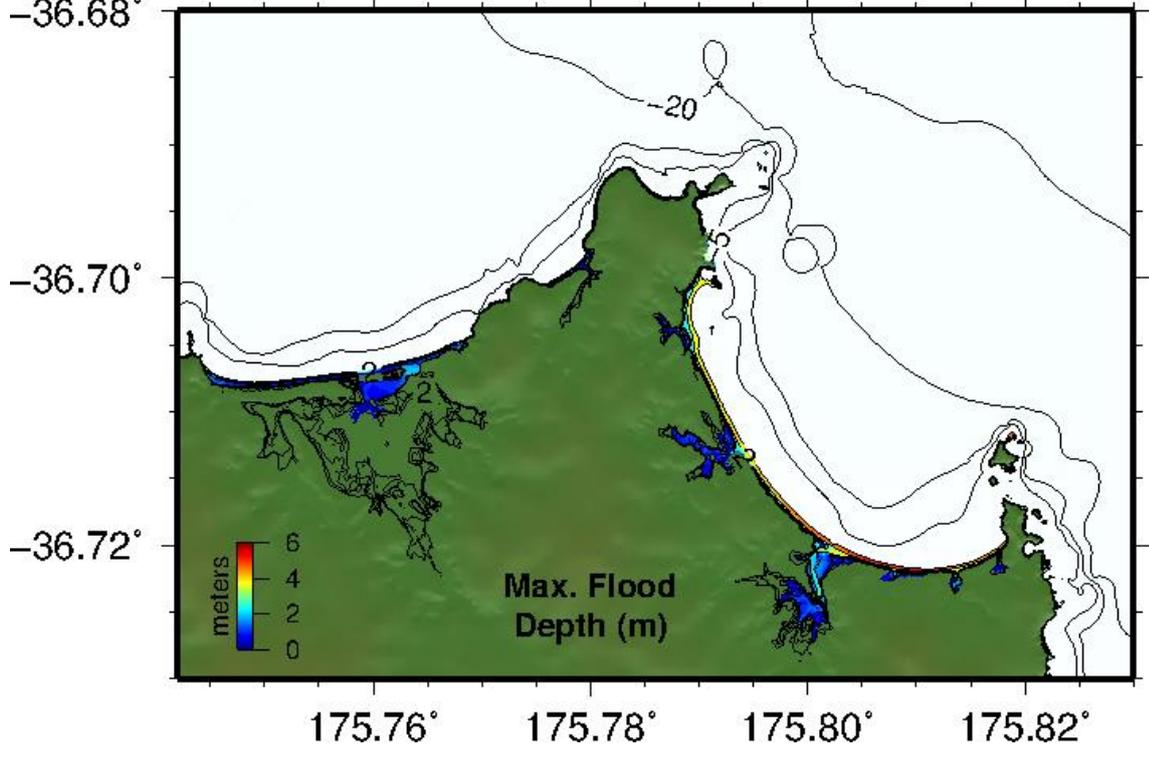
Case 2:
-36.68°



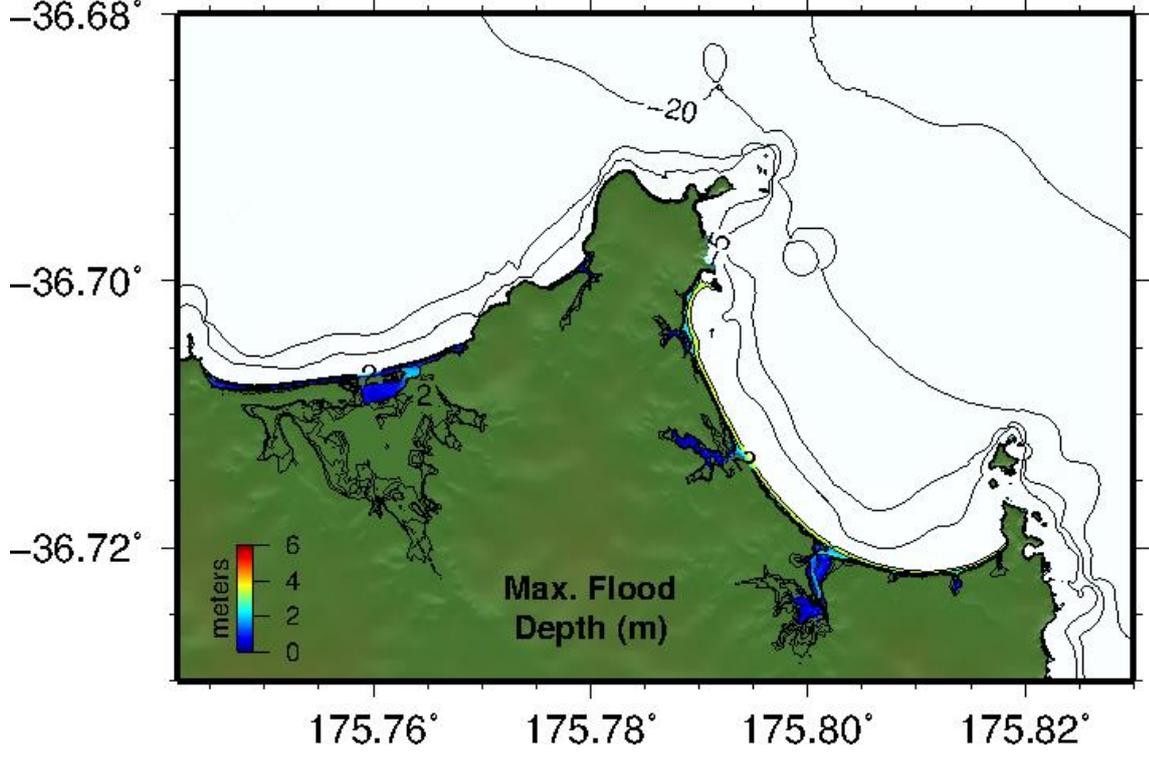
Case 3:
-36.68°



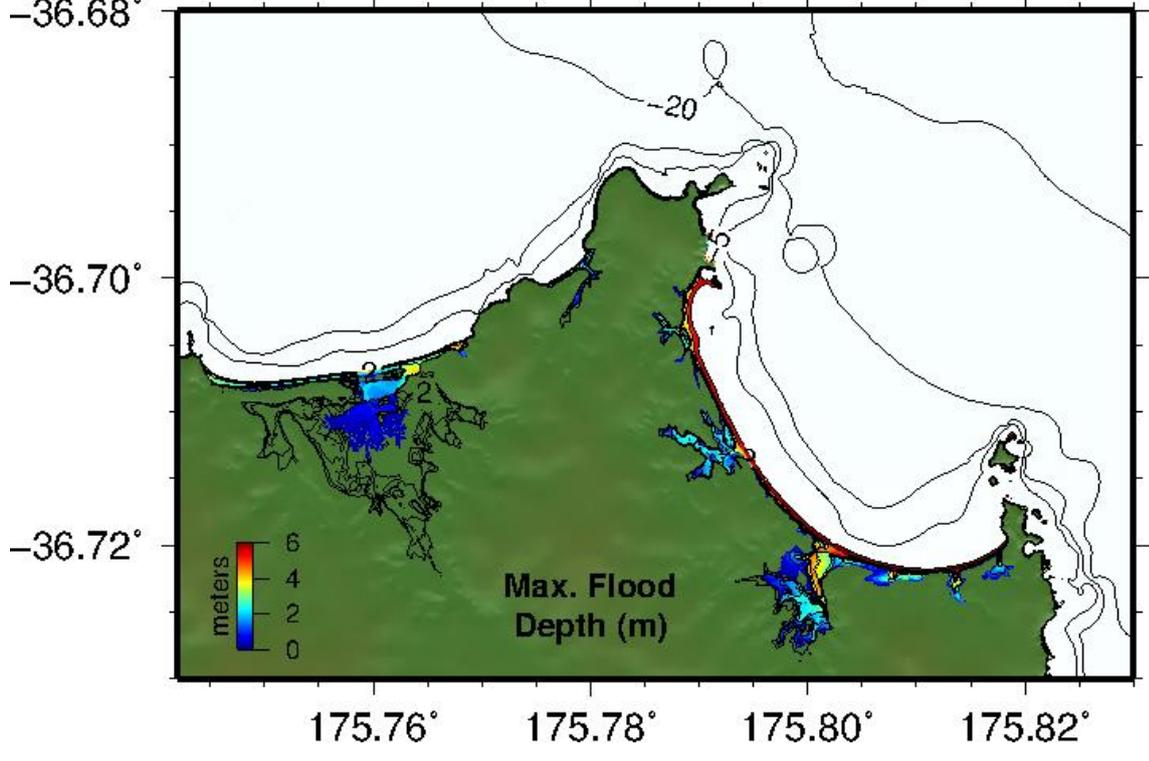
Case 4:
-36.68°



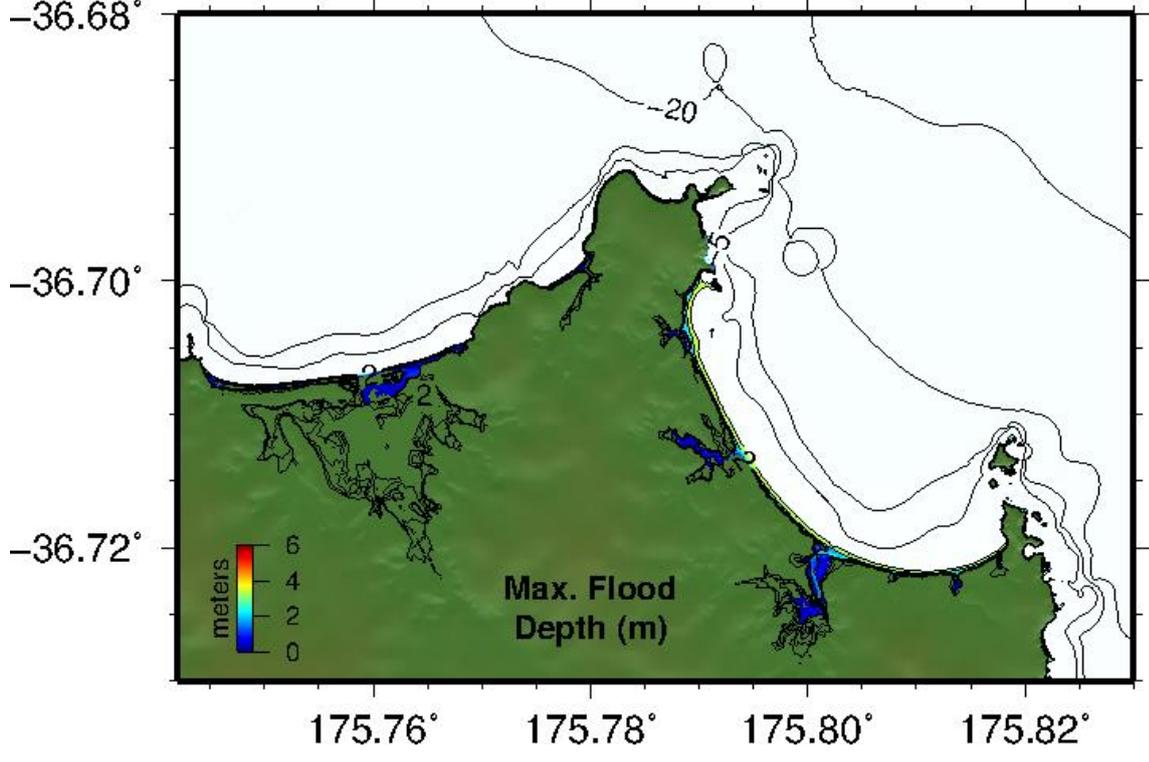
Case 5:
-36.68°



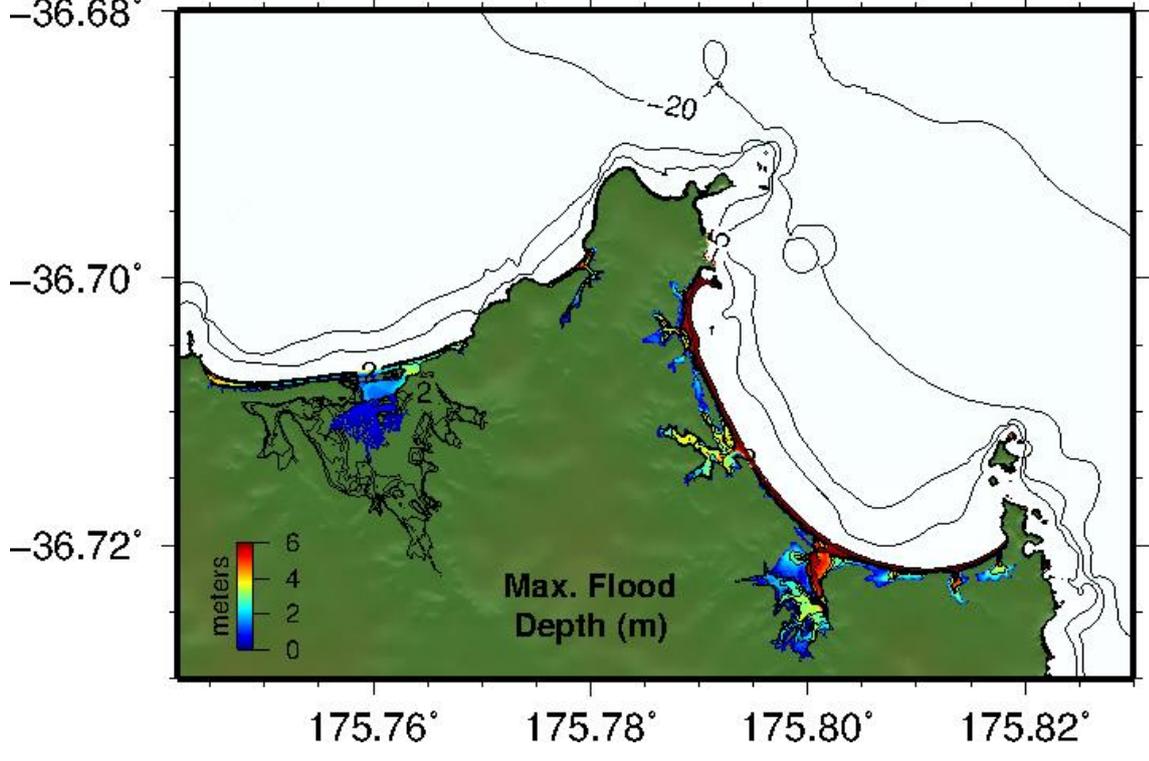
Case 6:
-36.68°



Case 7:
-36.68°



Case 8:
-36.68°



Case 8 HT:

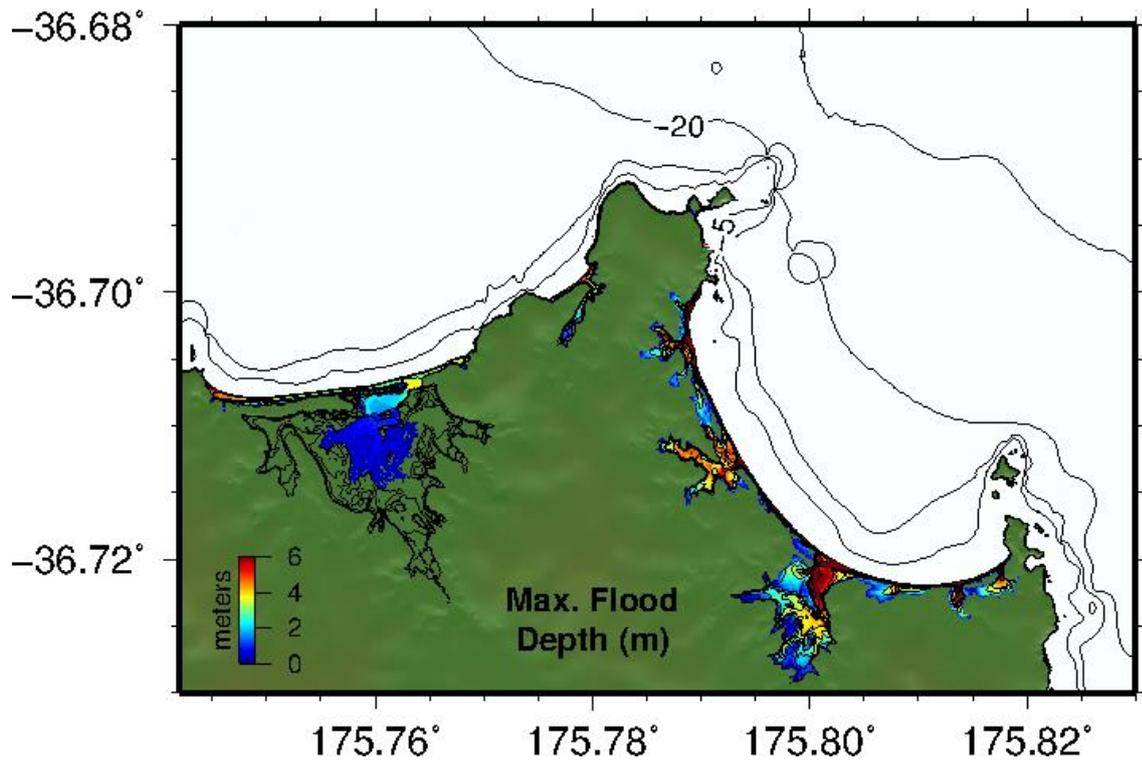
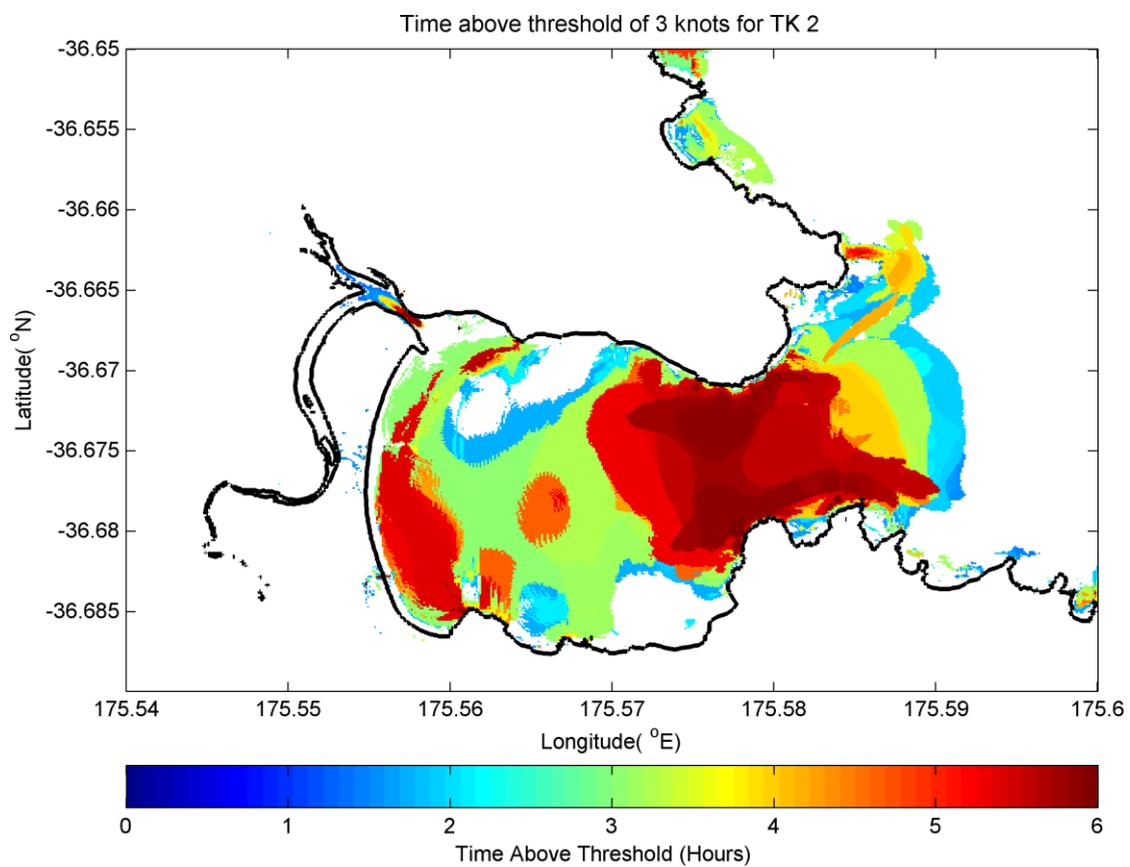
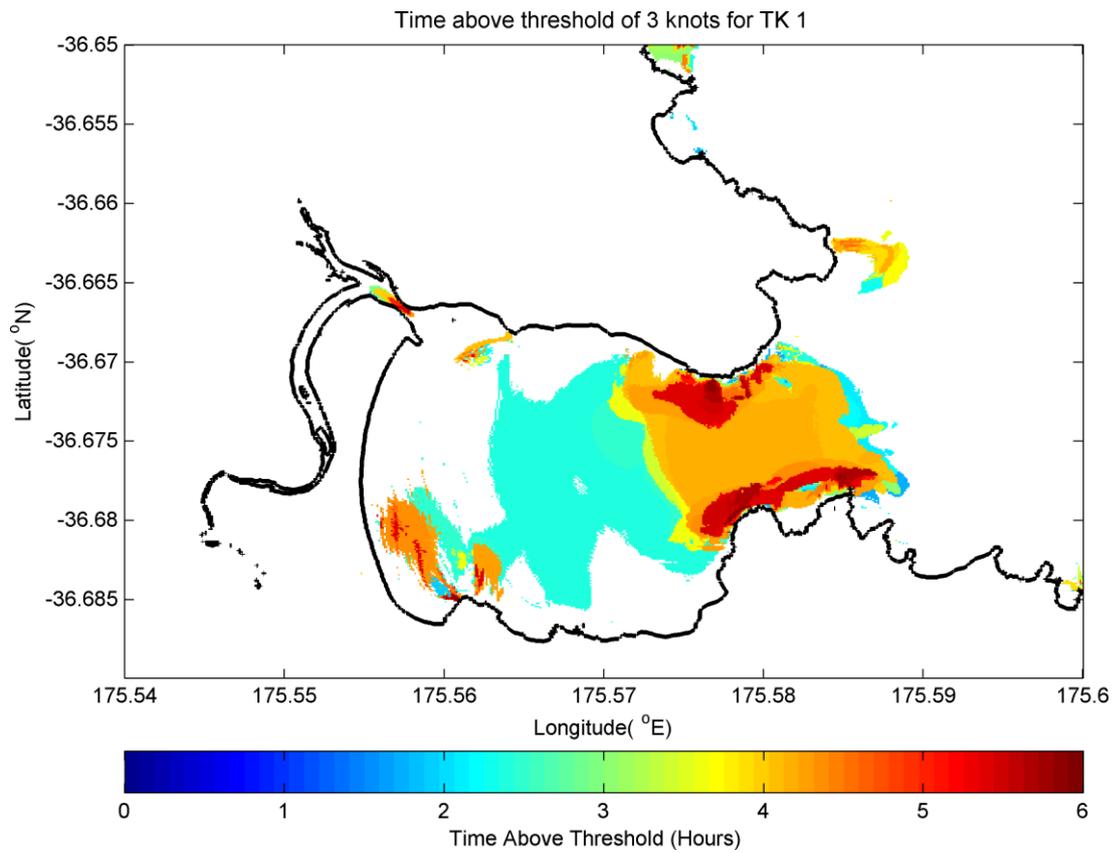
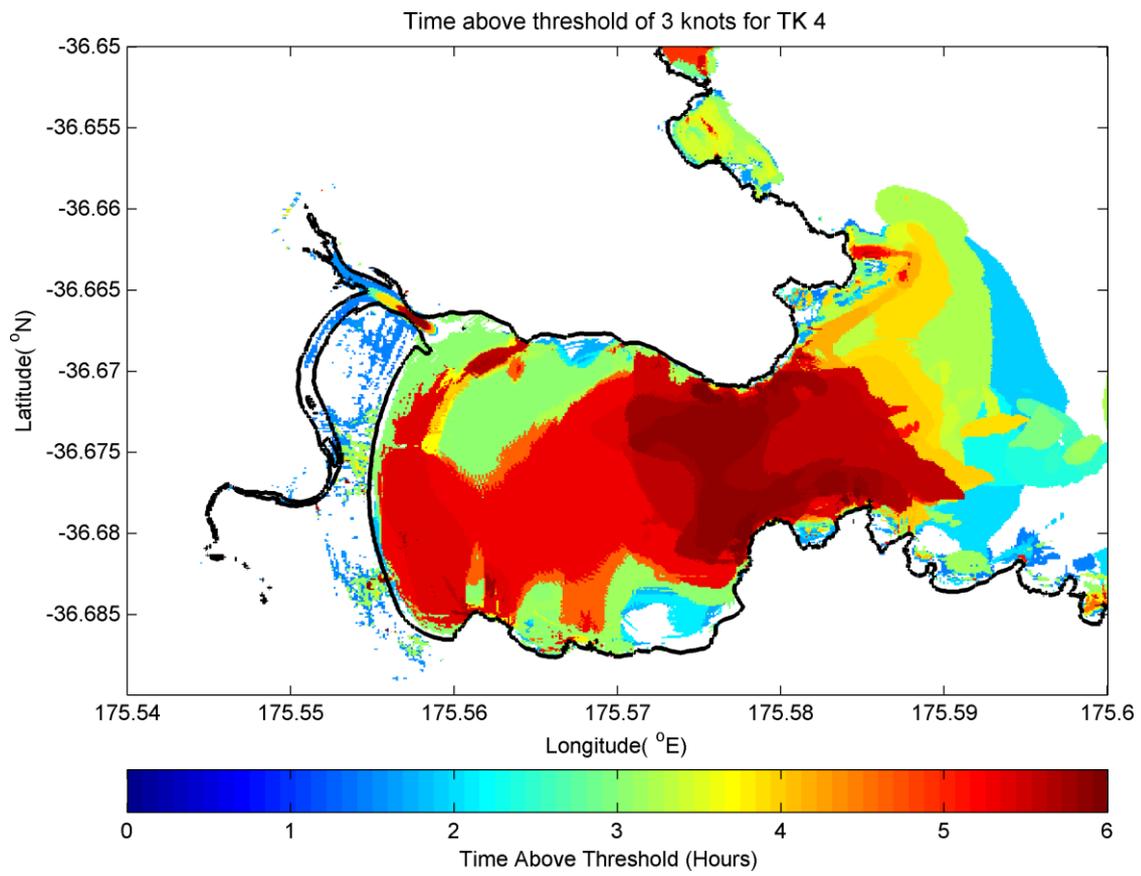
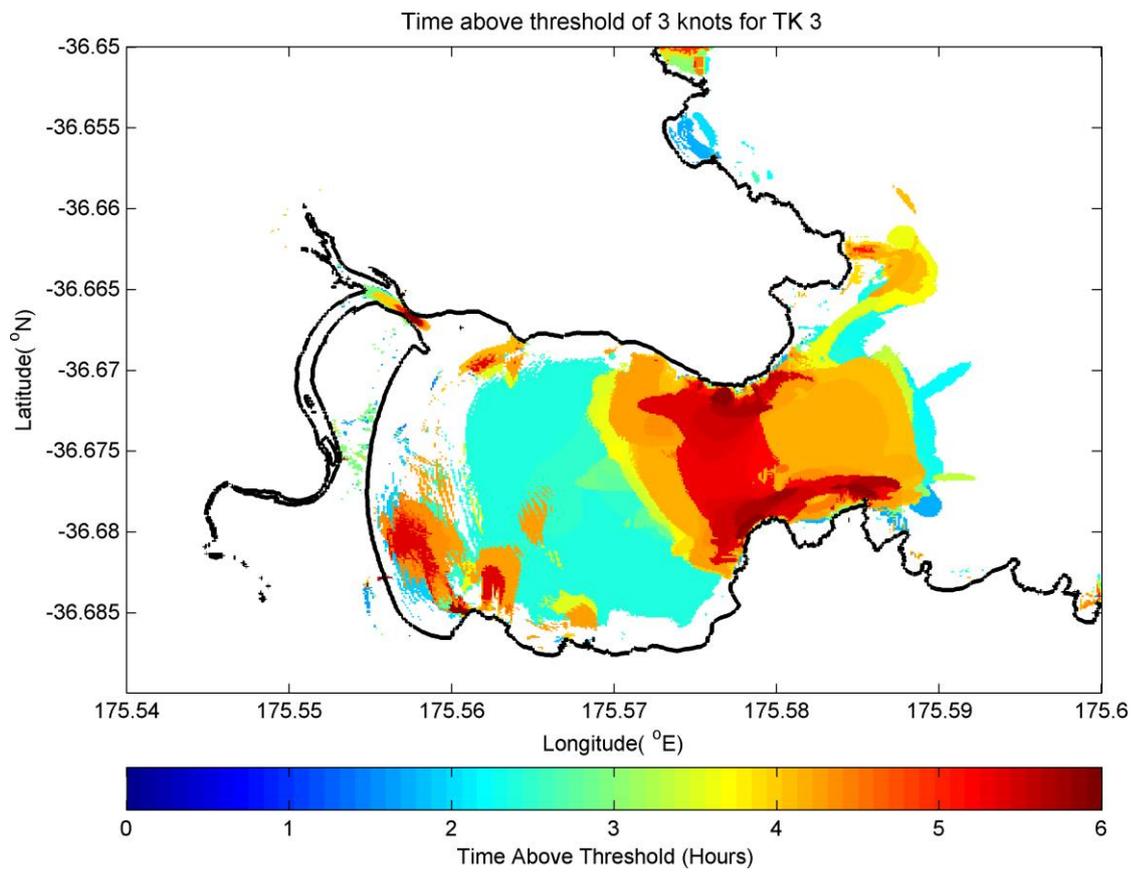
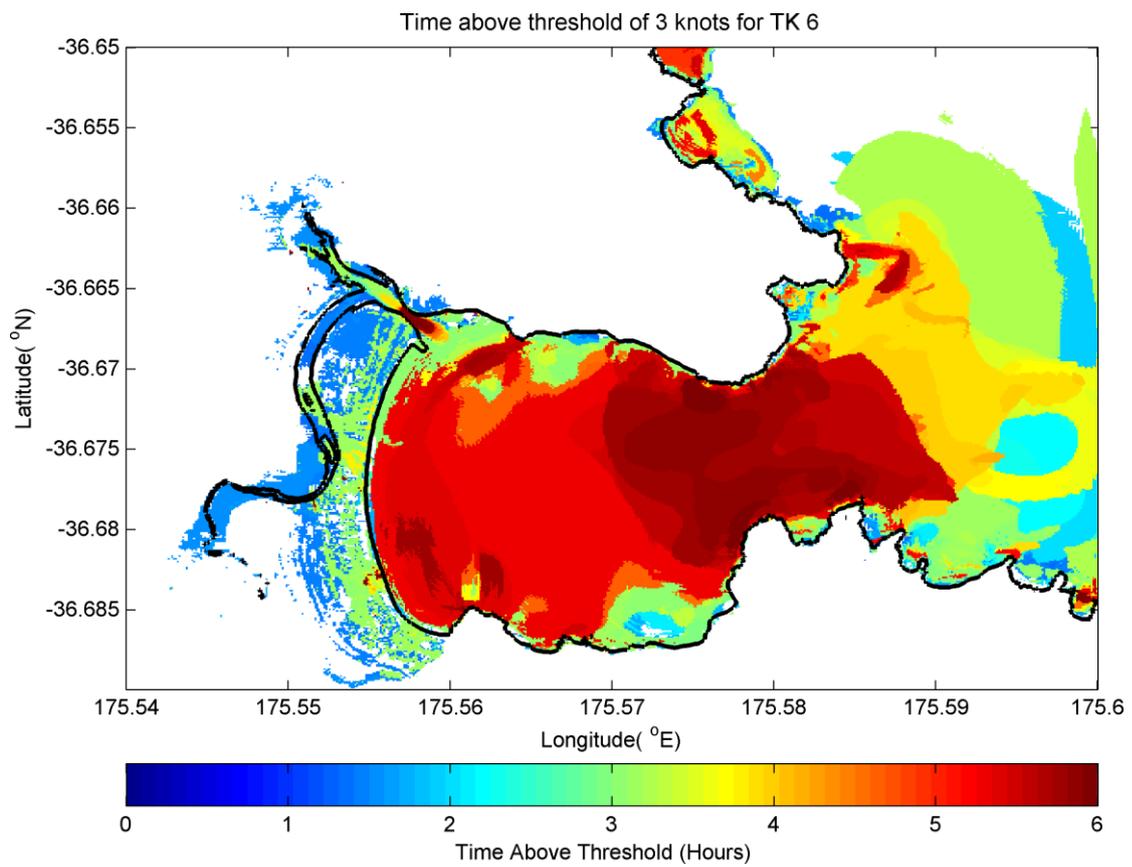
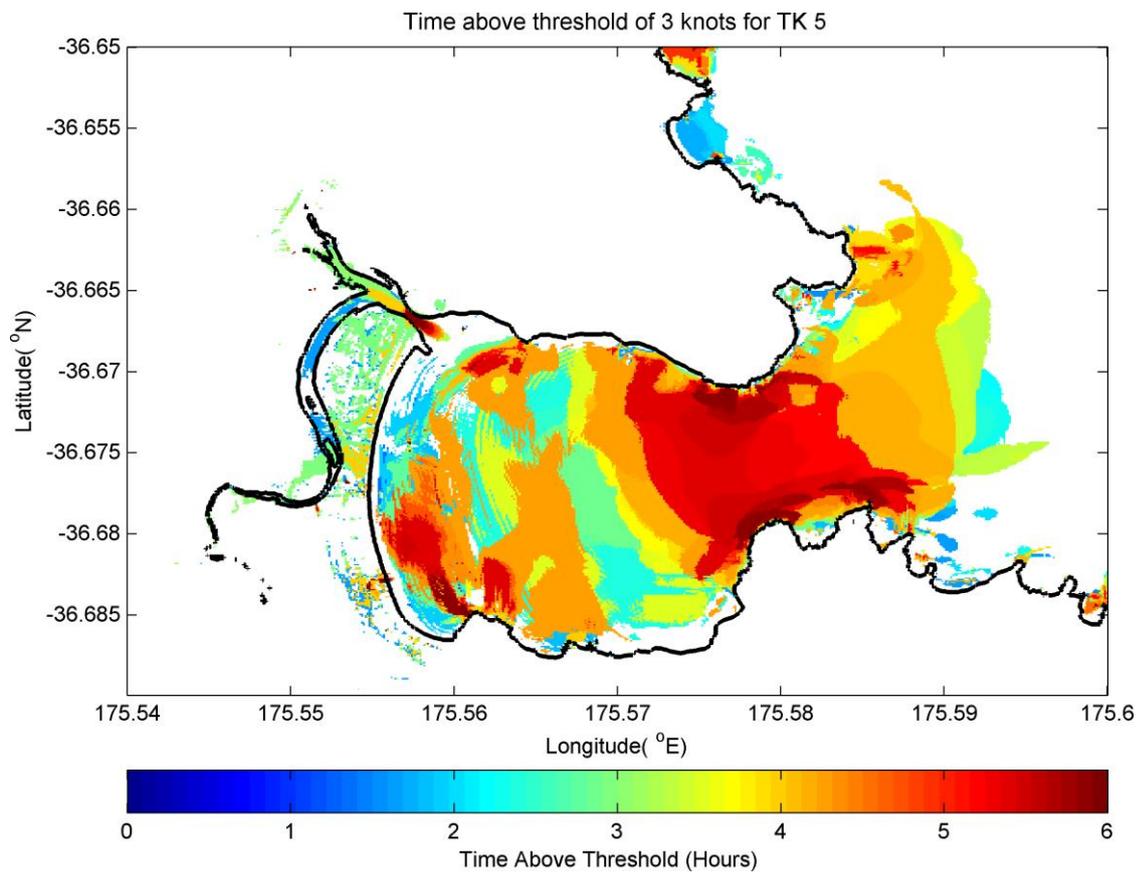


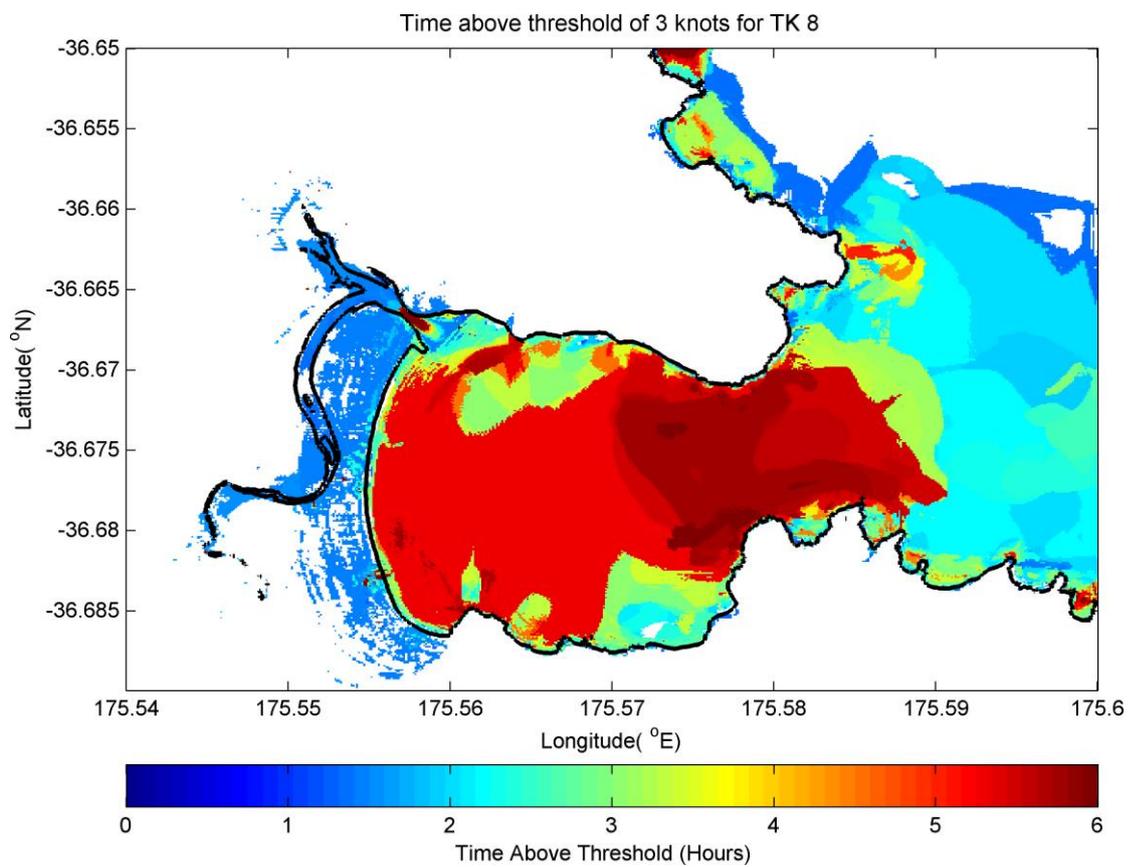
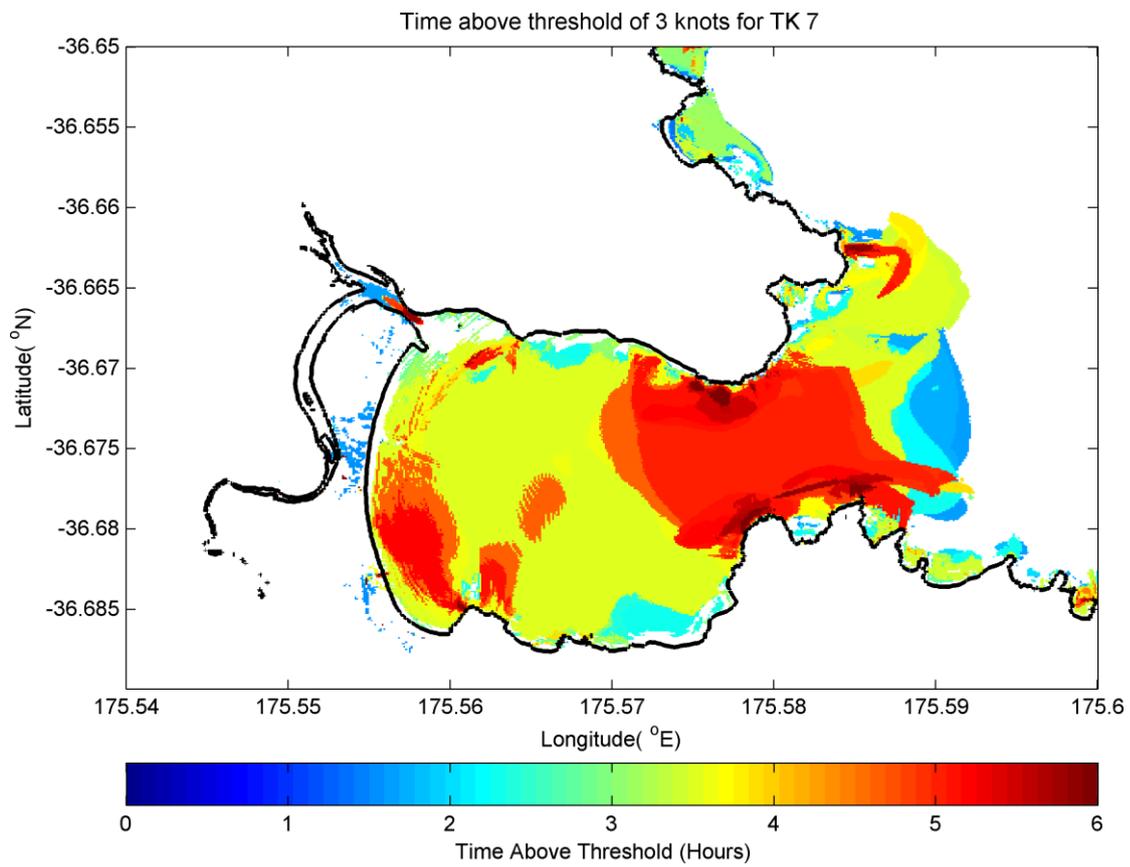
Figure 5.2 Maximum computed overland flood depths for the Kermadec Trench Cases 1-8 in Opito Bay at MSL and HT

6 APPENDIX 6 – KENNEDY BAY: TK TRENCH CURRENT SPEED DURATION

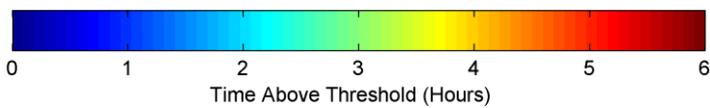
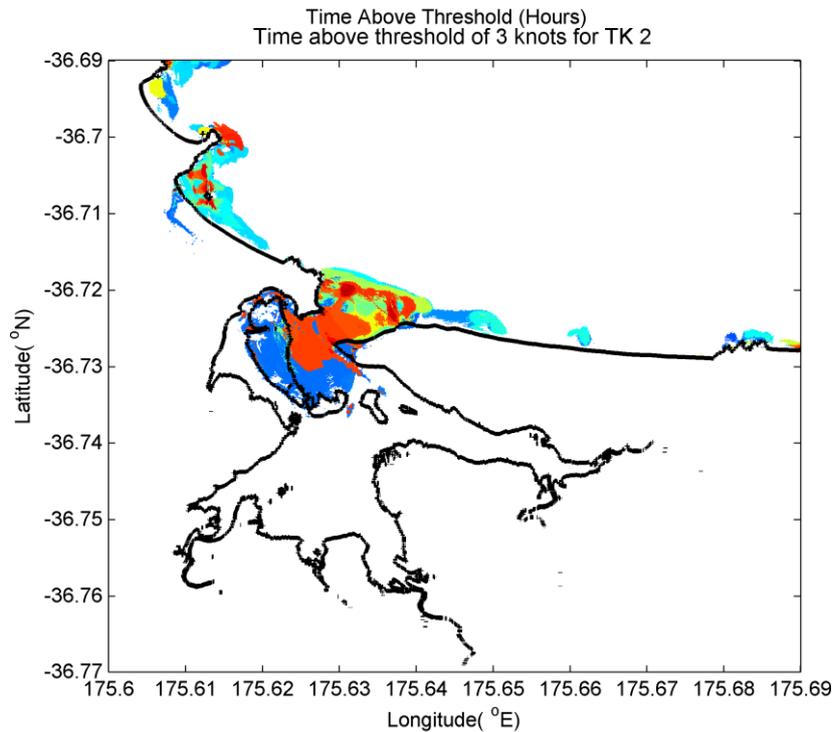
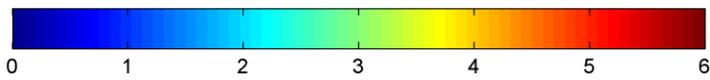
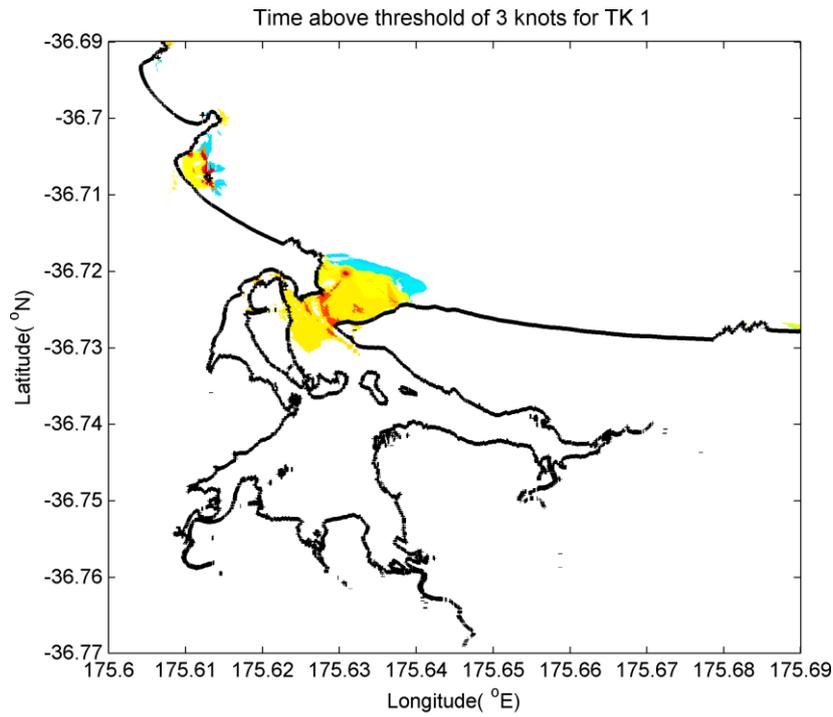


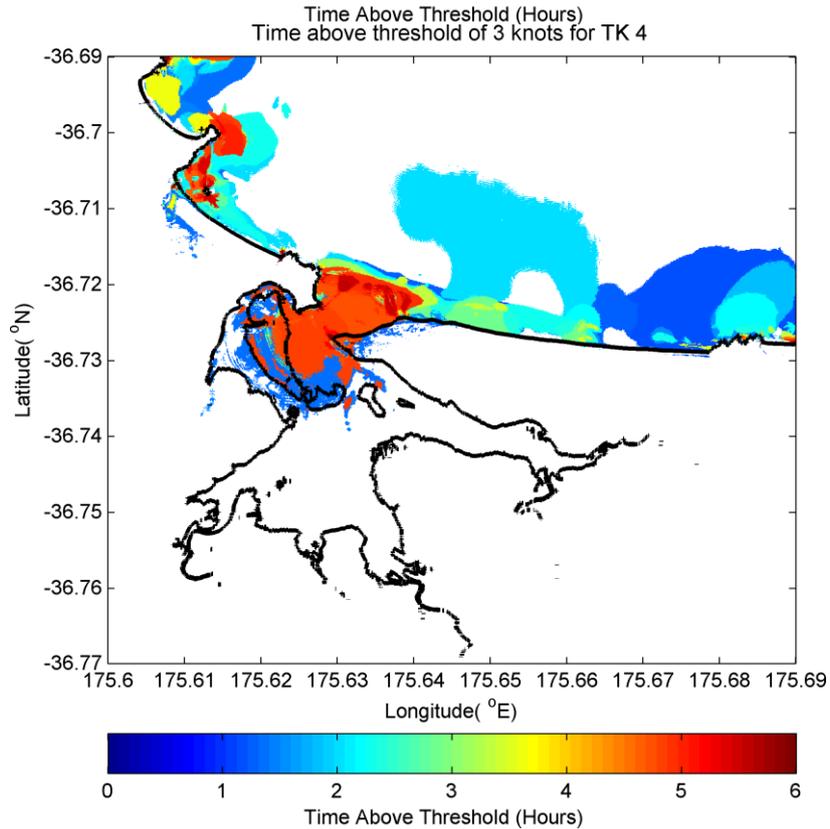
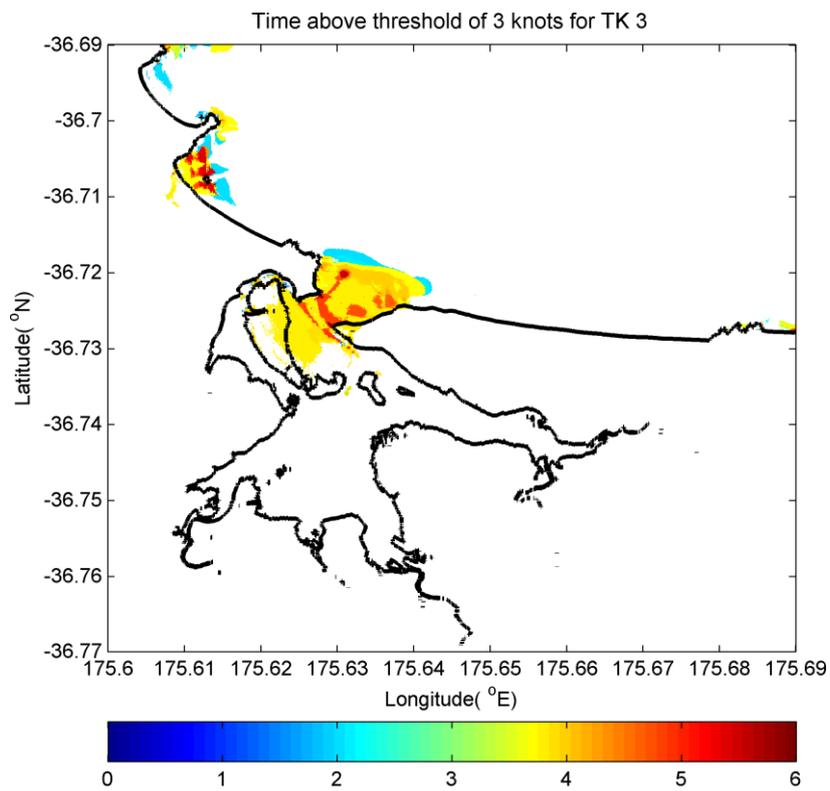


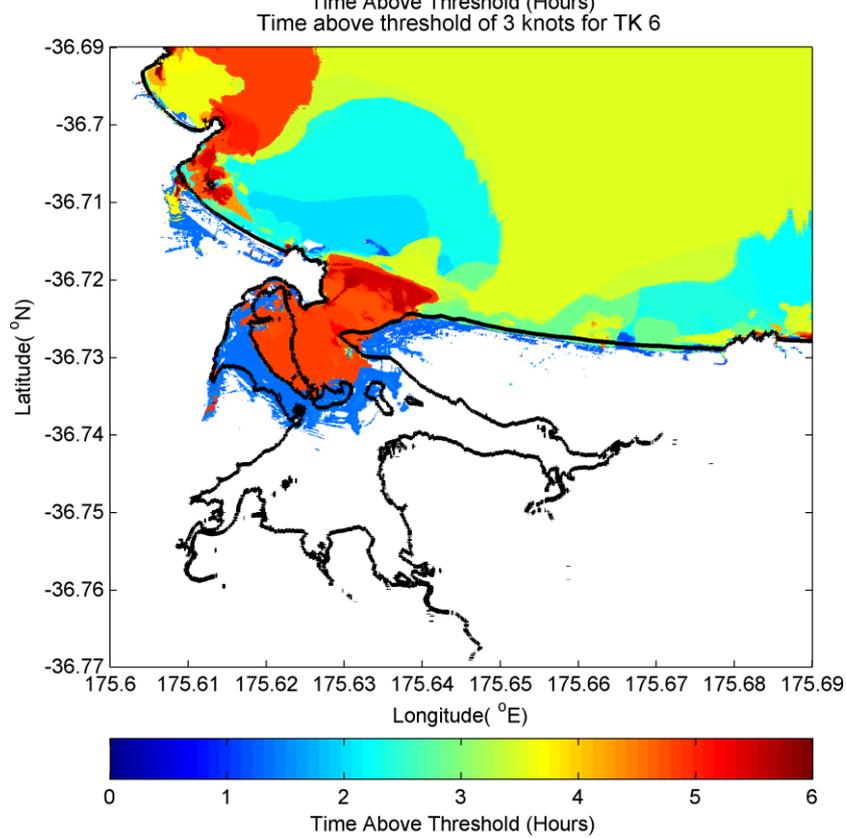
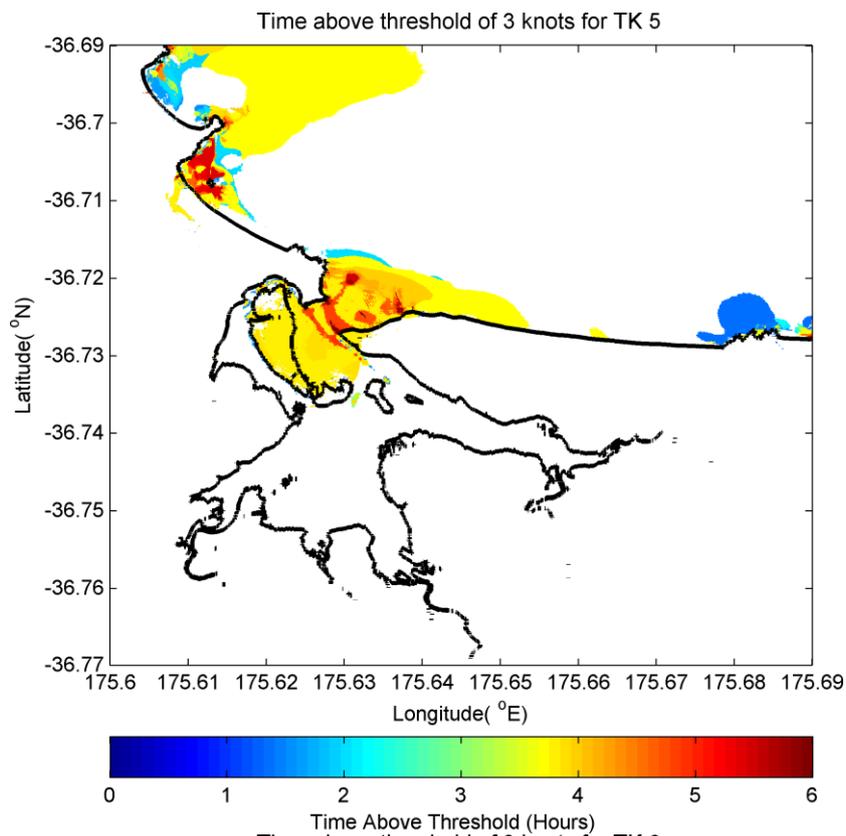


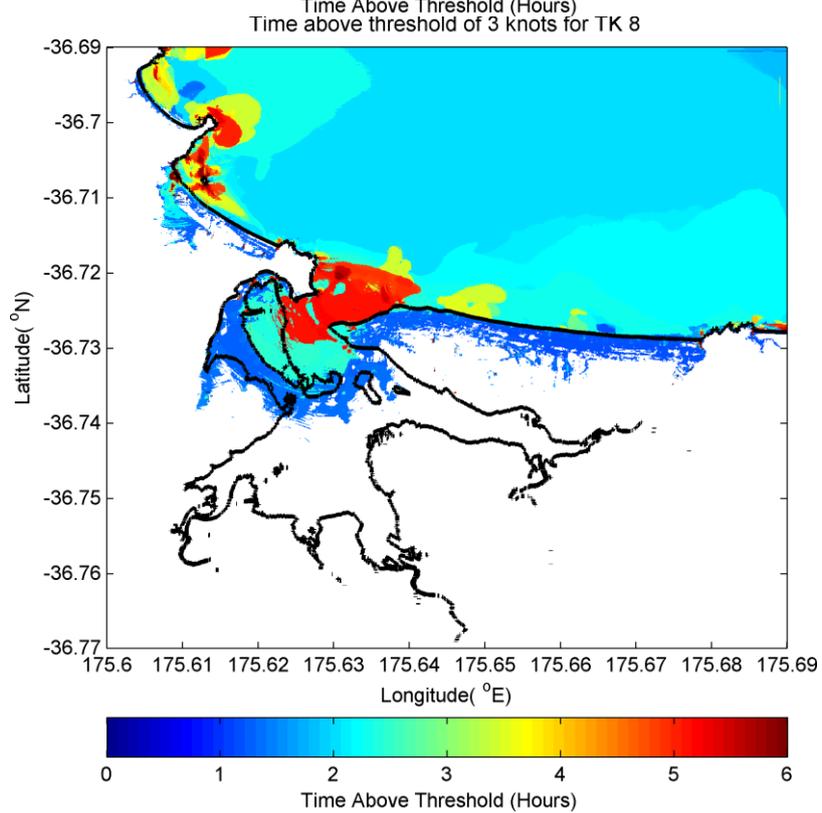
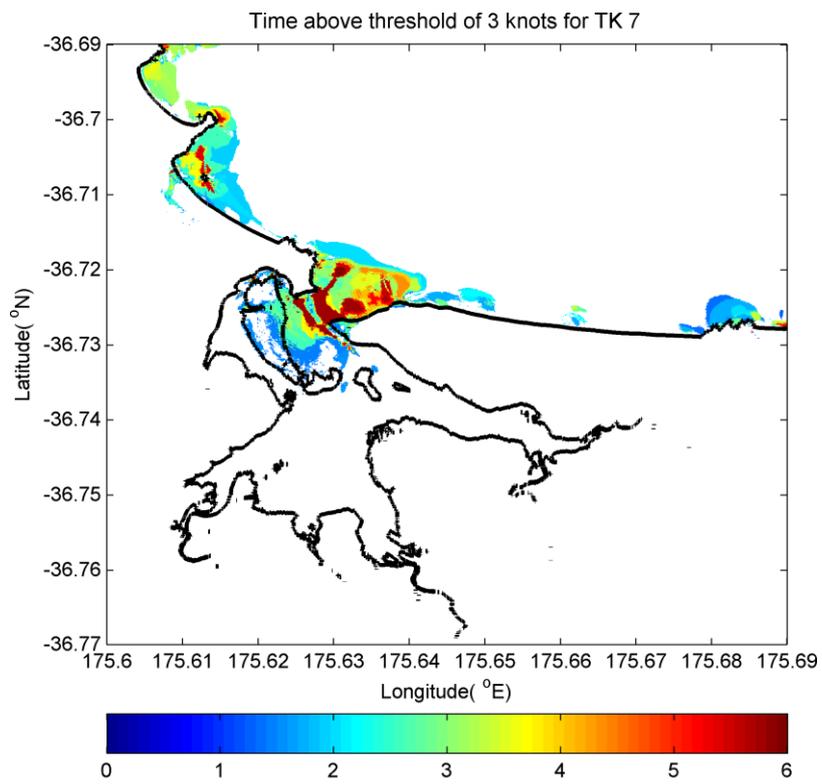


7 APPENDIX 7 – WHANGAPOUA: TK TRENCH CURRENT SPEED DURATION

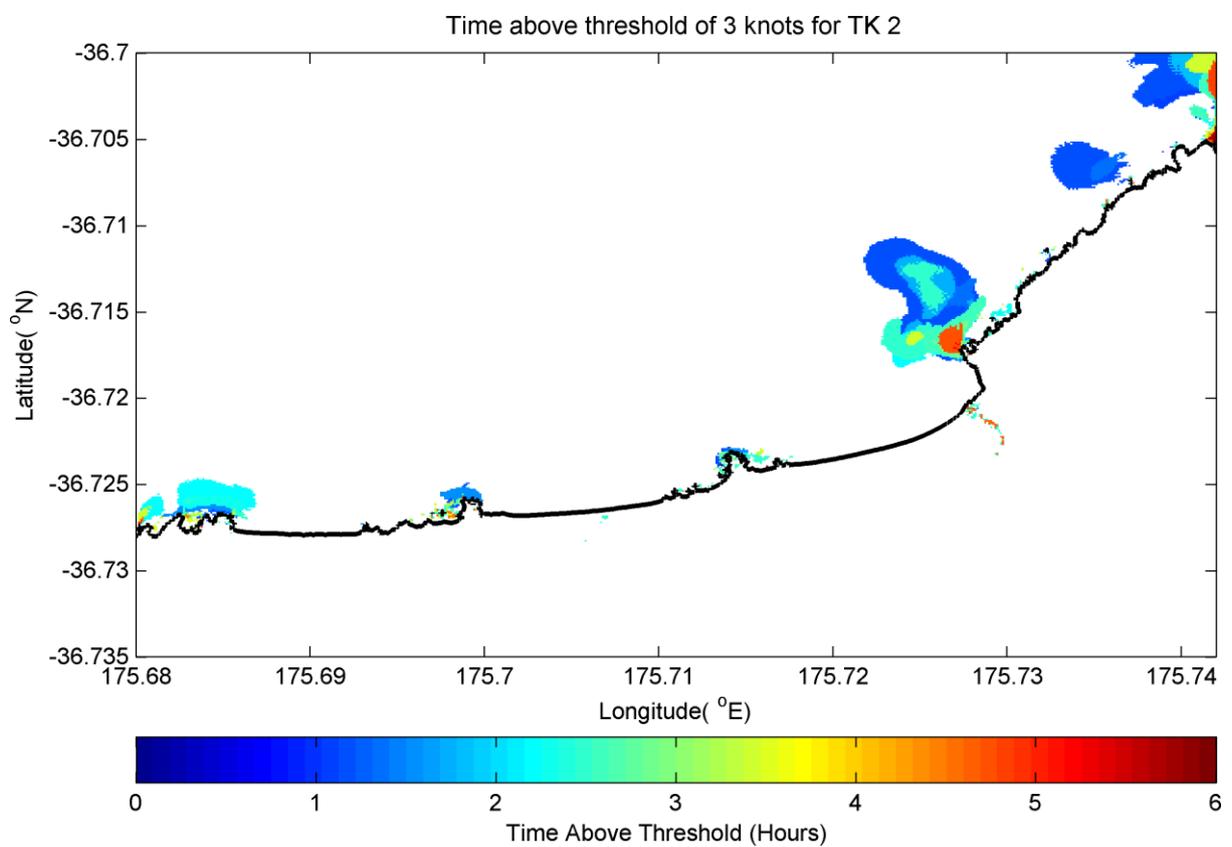
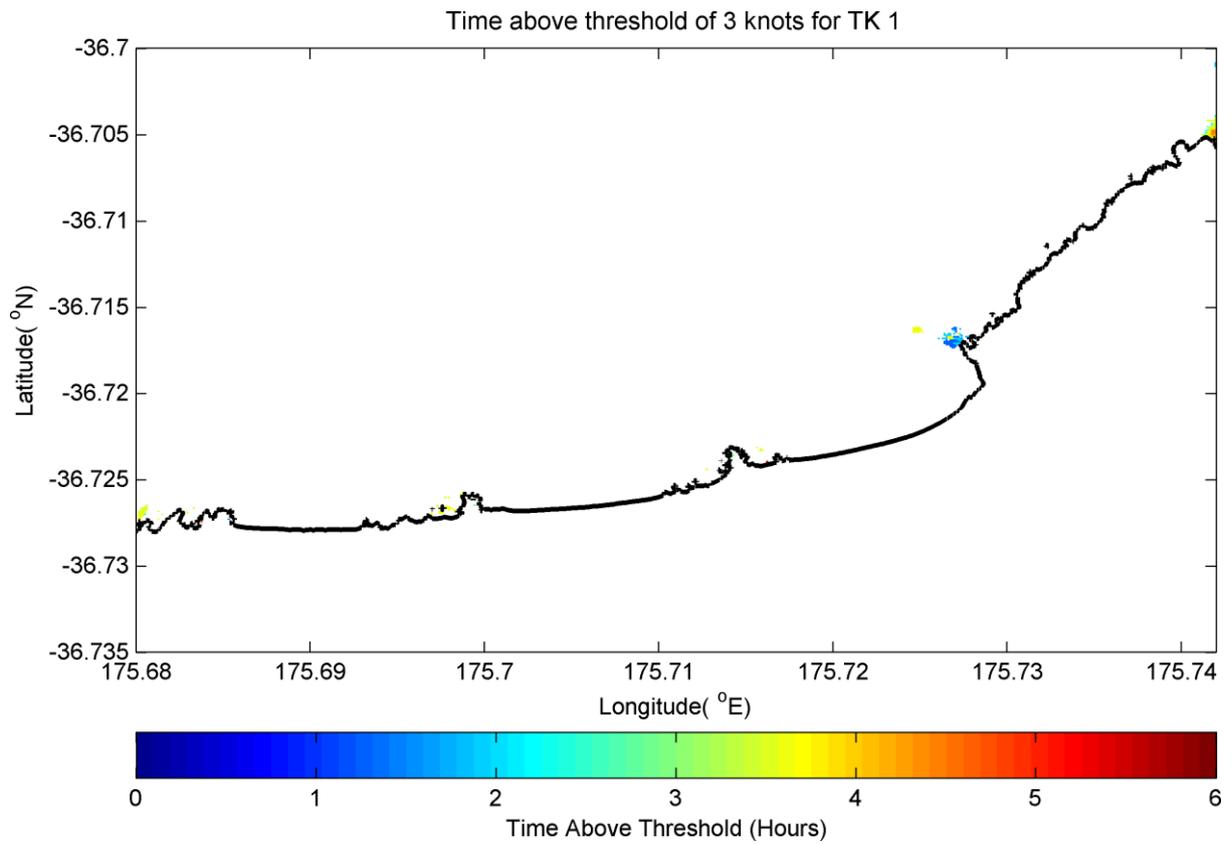


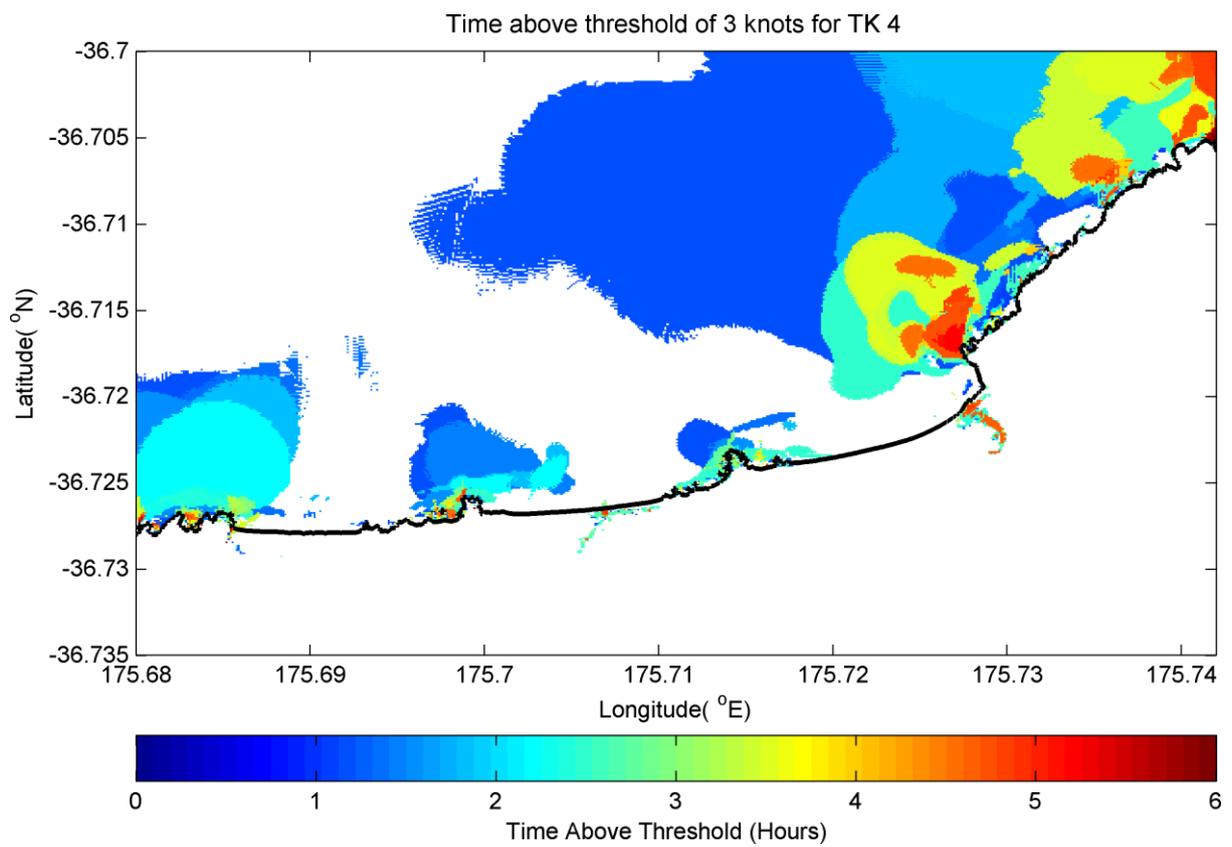
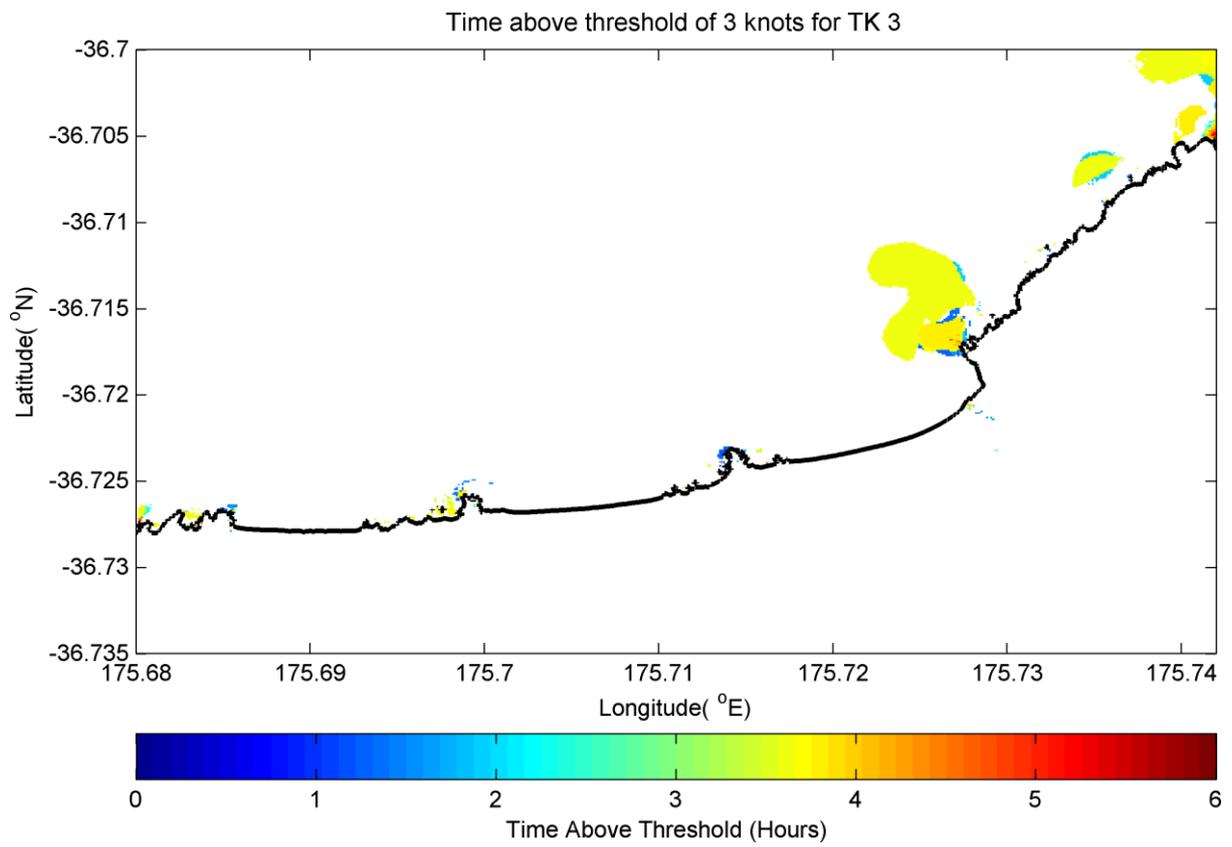


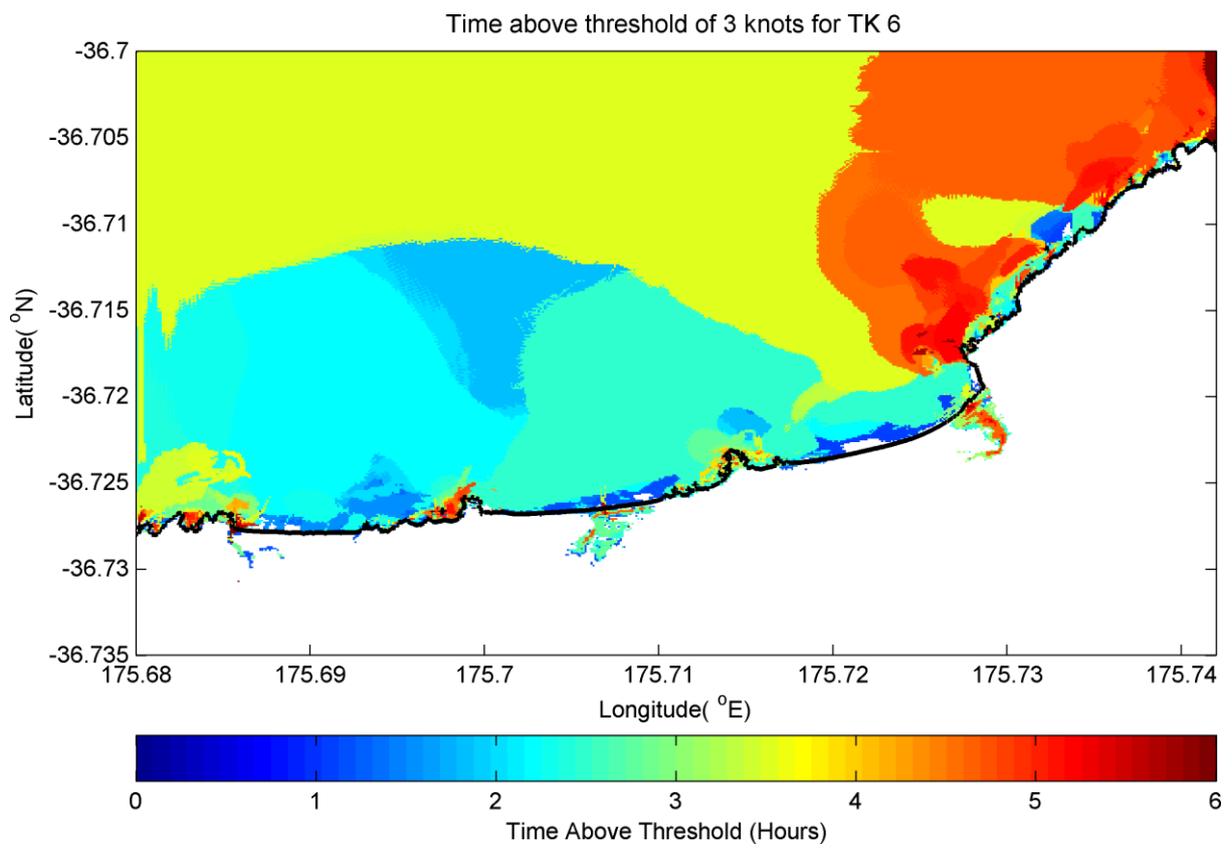
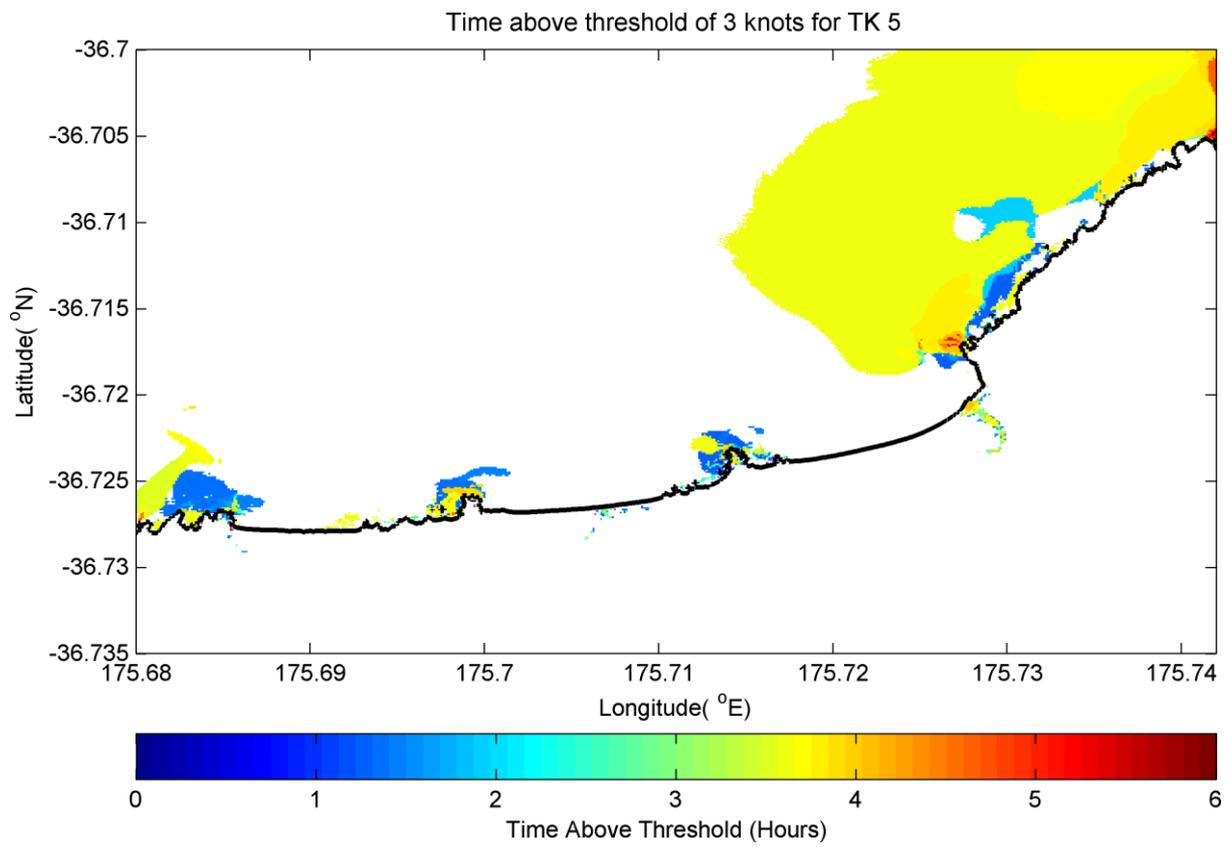




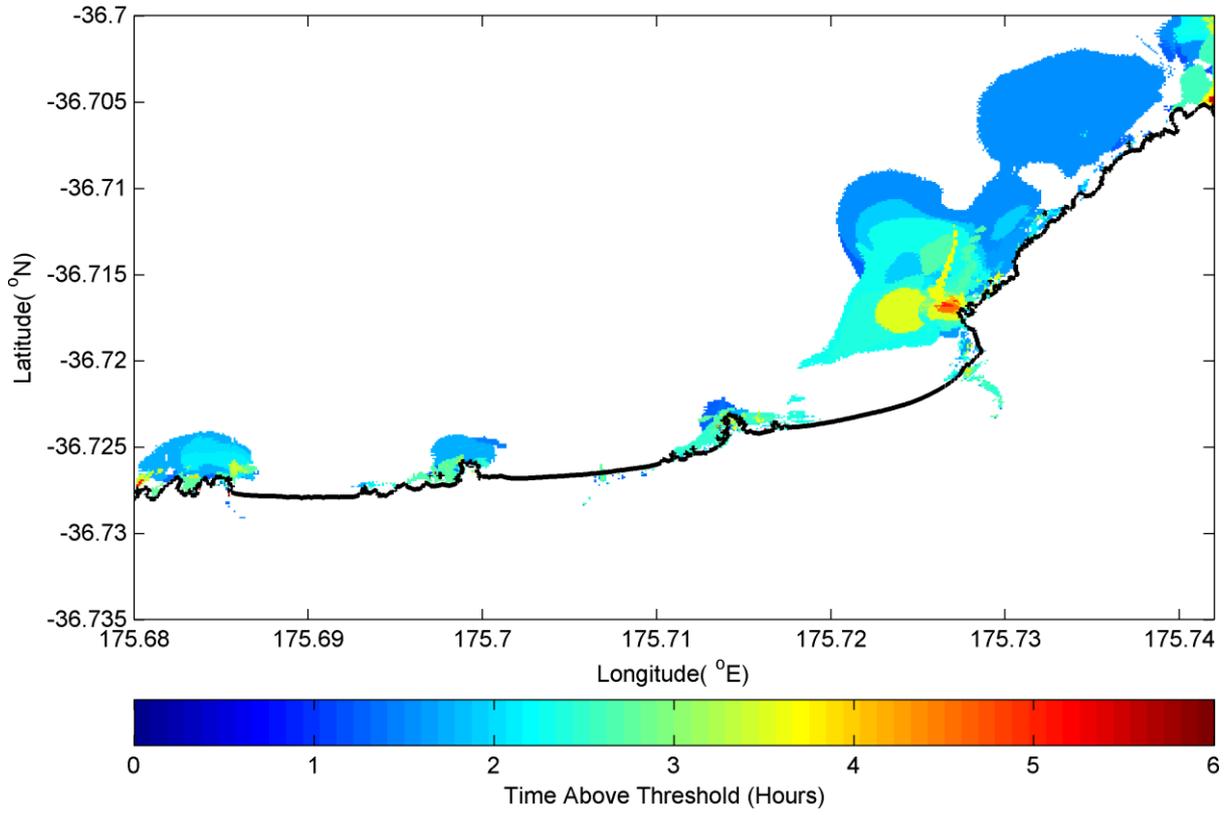
8 APPENDIX 8 – KUAOTUNU: TK TRENCH CURRENT SPEED DURATION



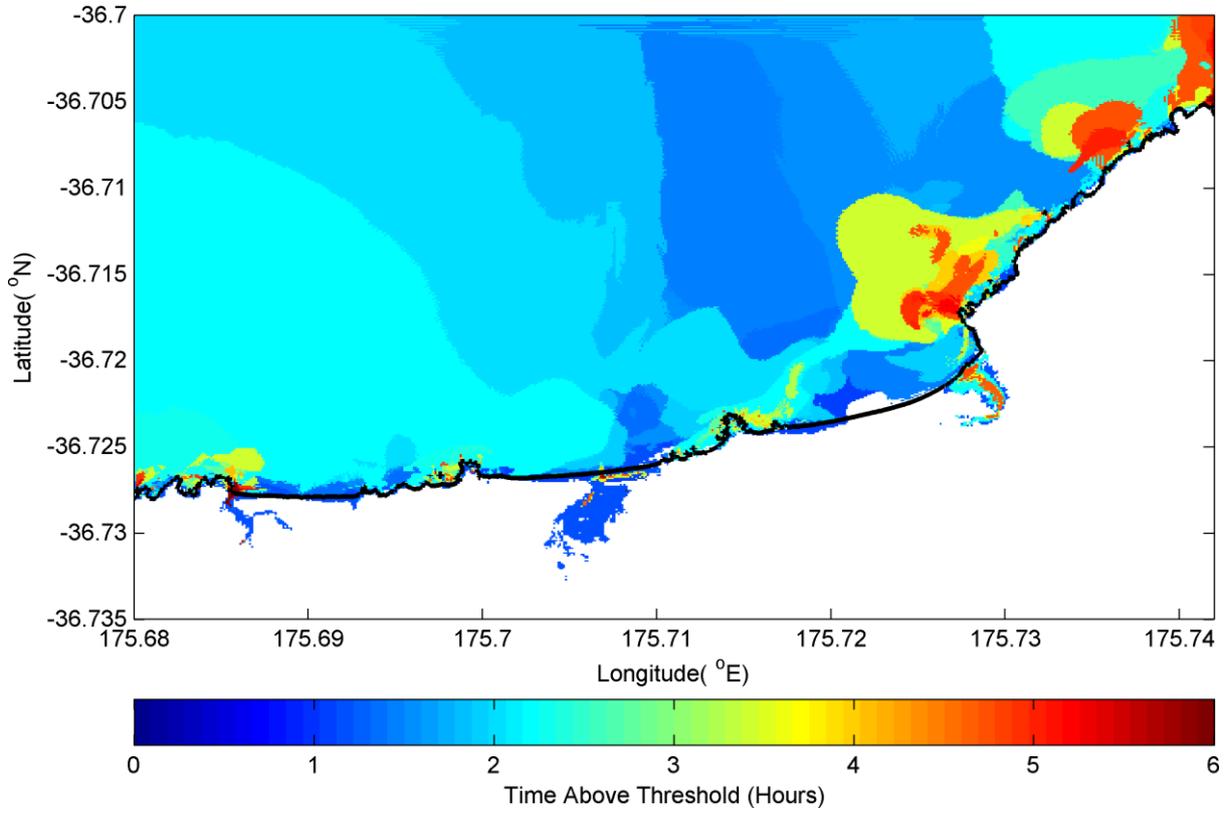




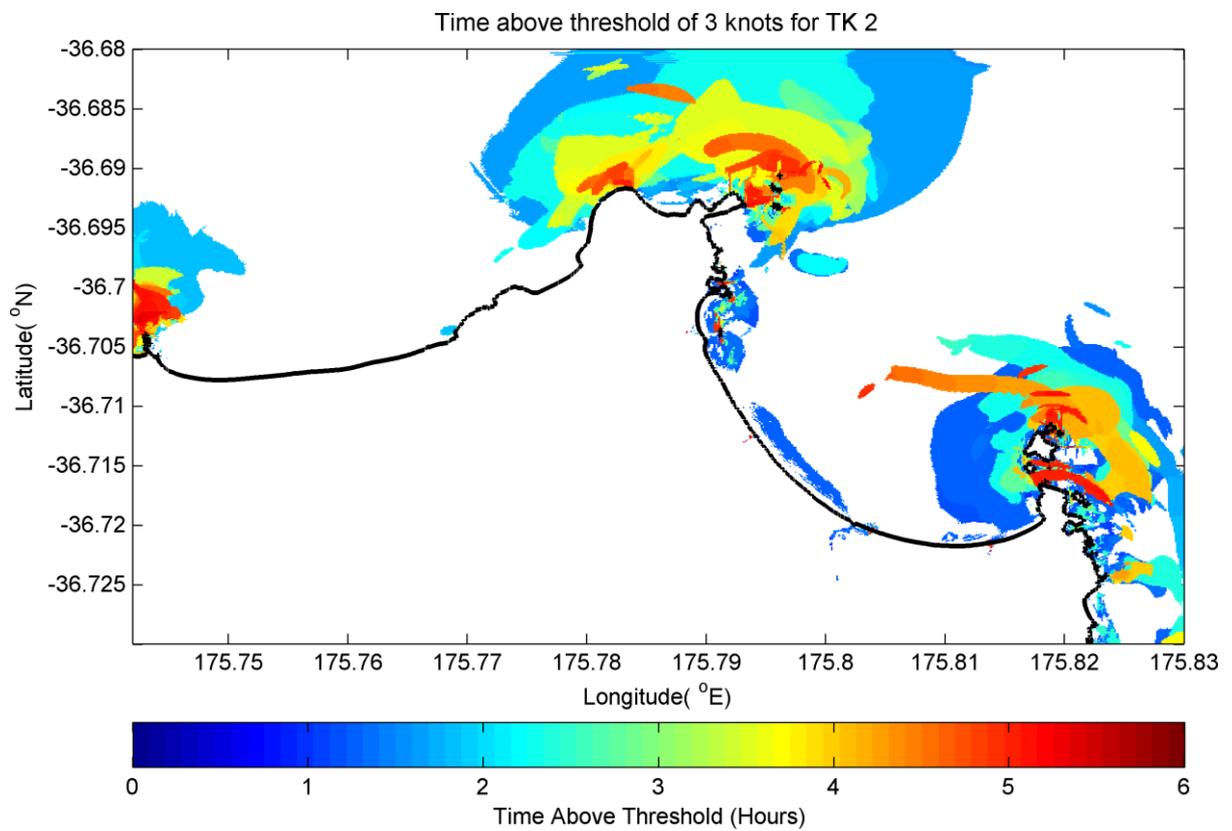
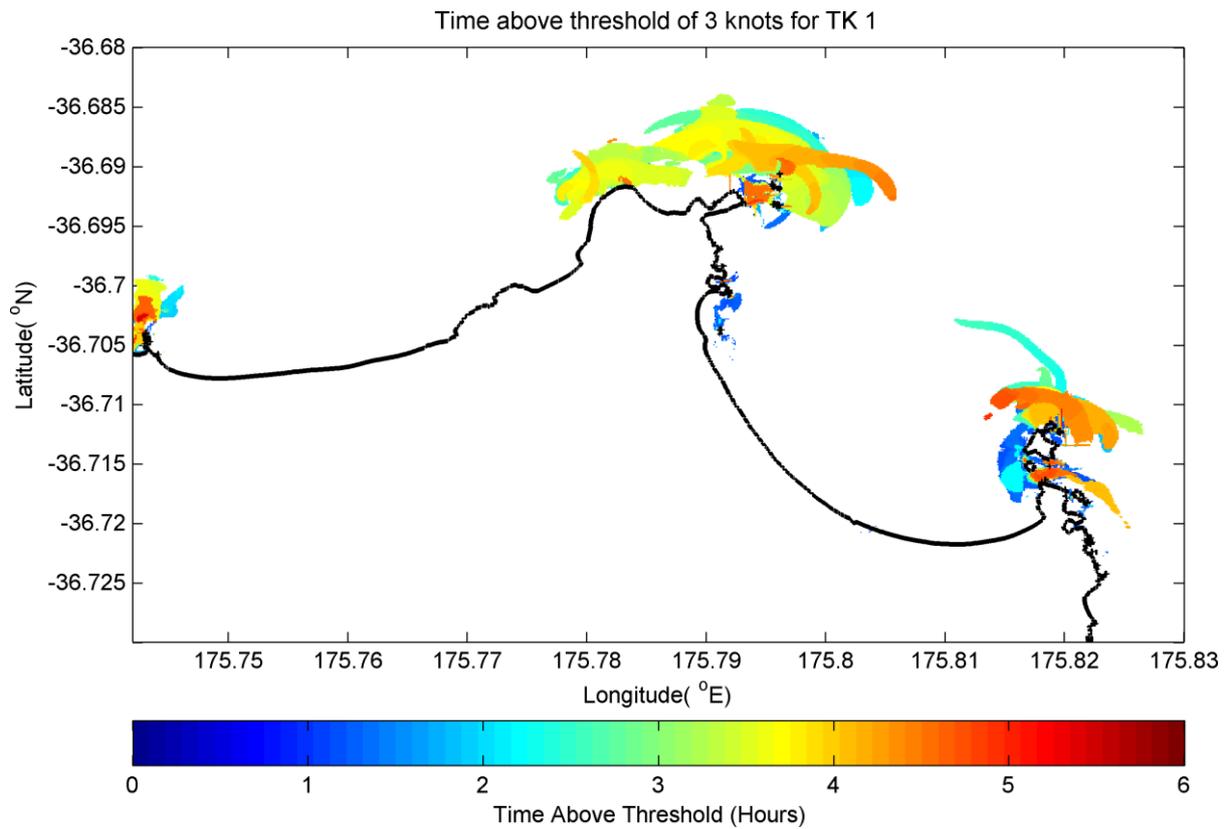
Time above threshold of 3 knots for TK 7

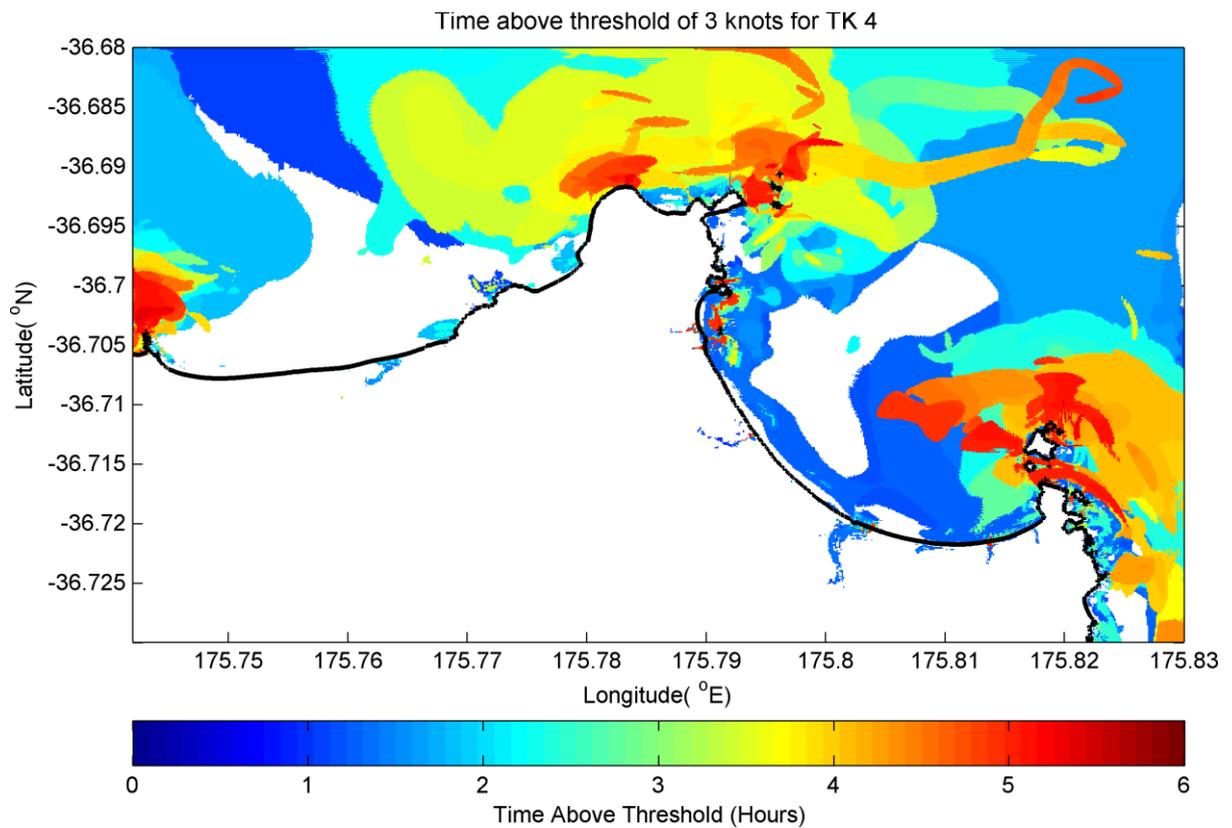
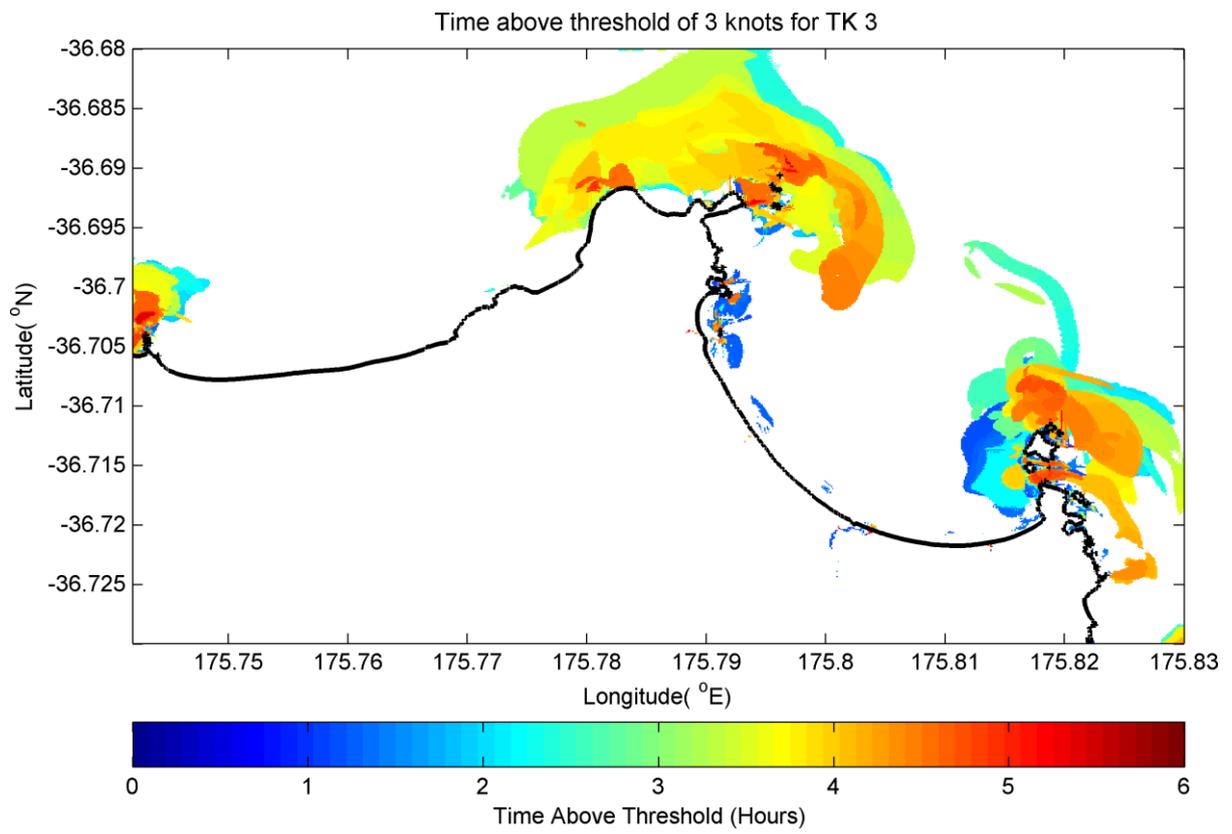


Time above threshold of 3 knots for TK 8

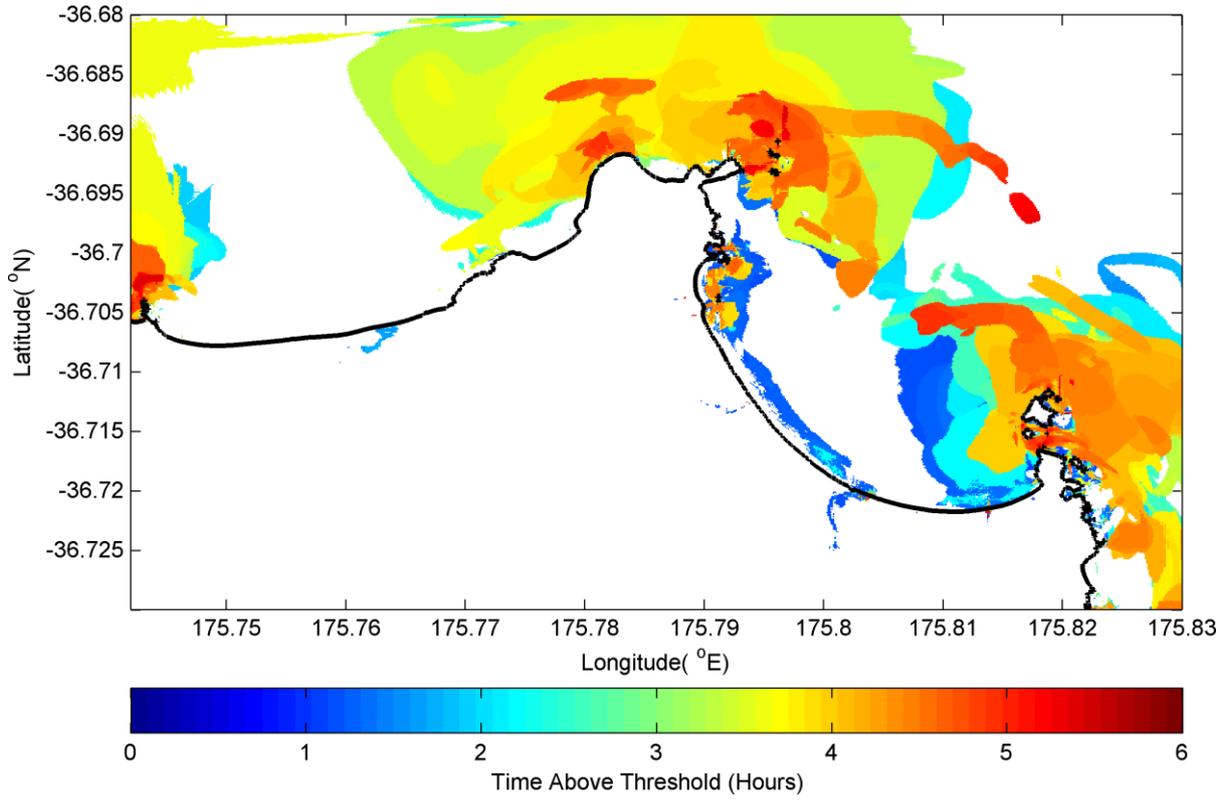


9 APPENDIX 9 – OPITO BAY: TK TRENCH CURRENT SPEED DURATION

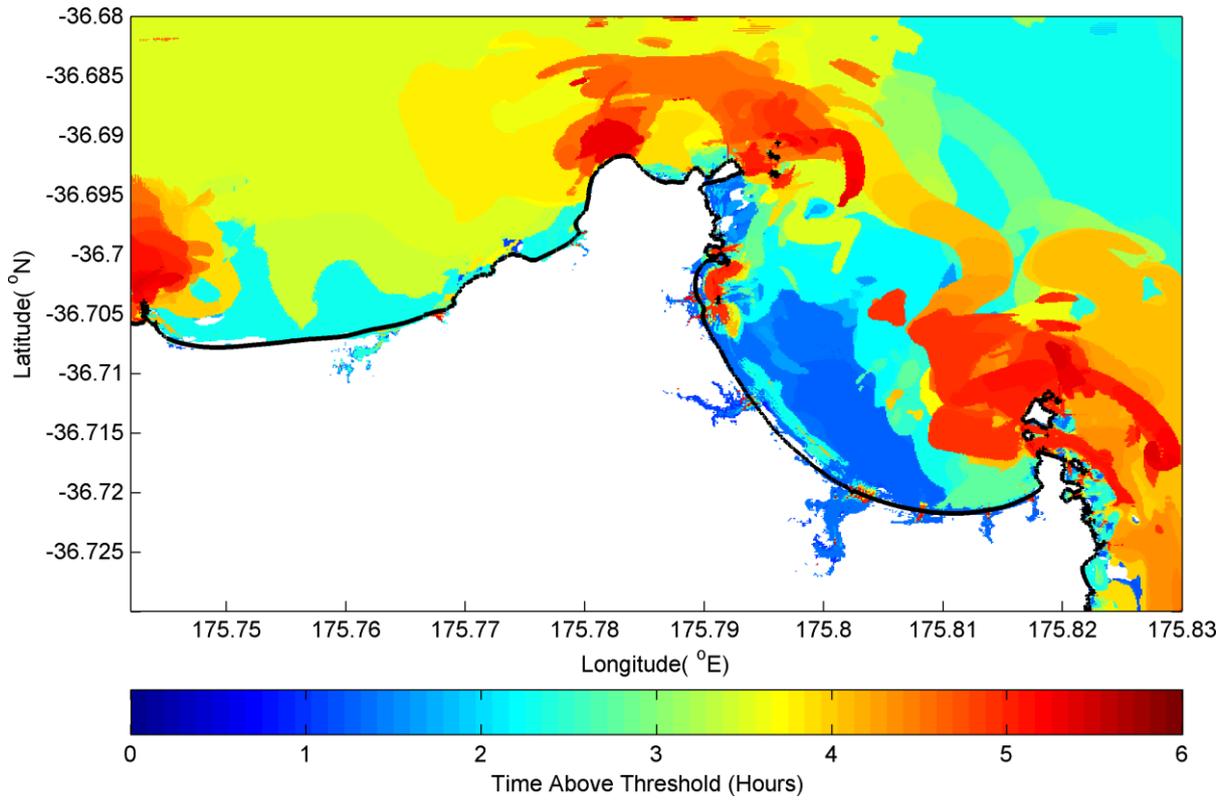


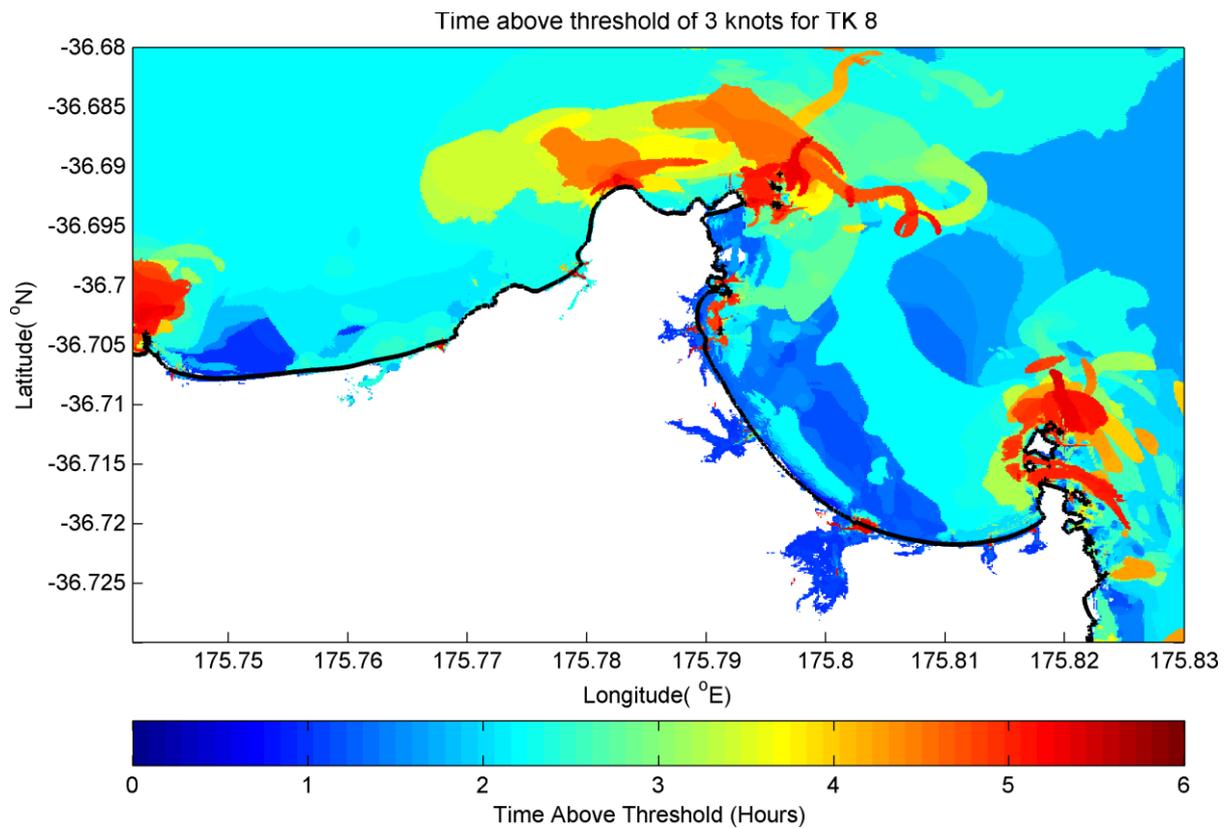
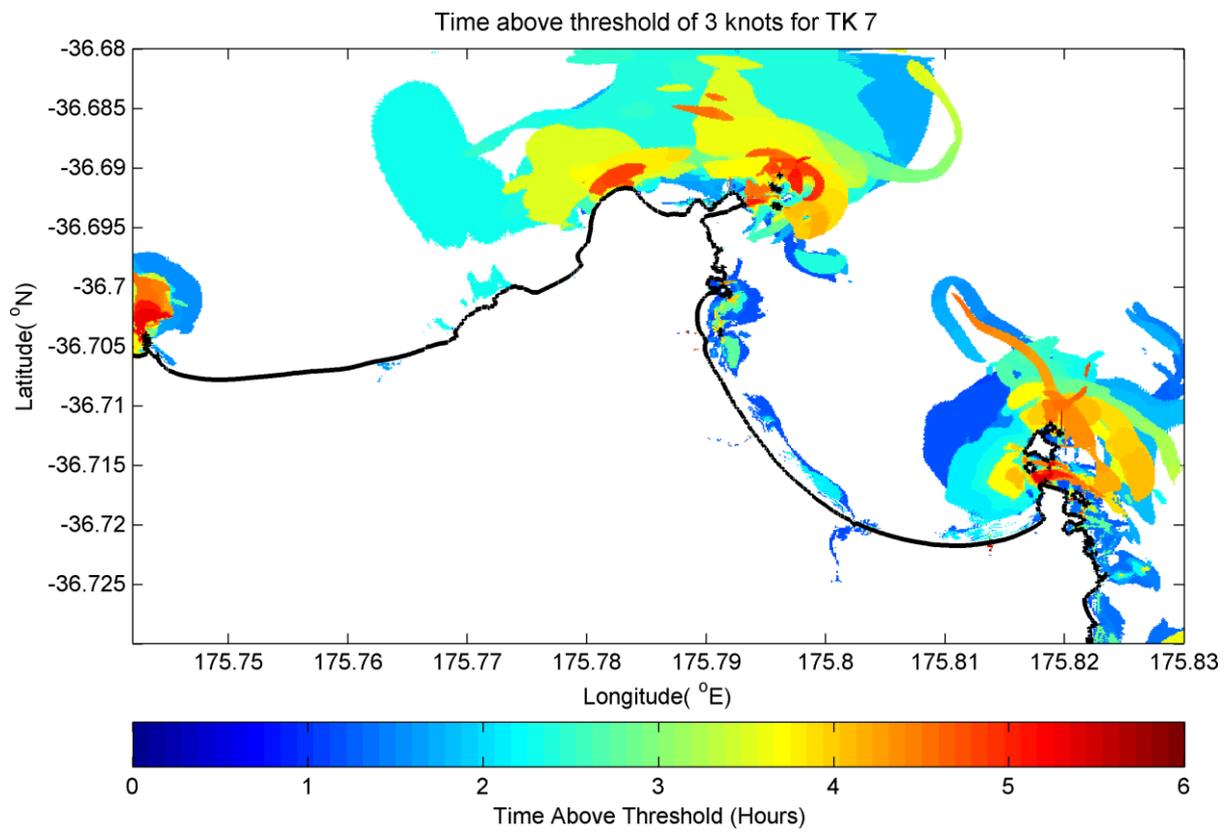


Time above threshold of 3 knots for TK 5



Time above threshold of 3 knots for TK 6

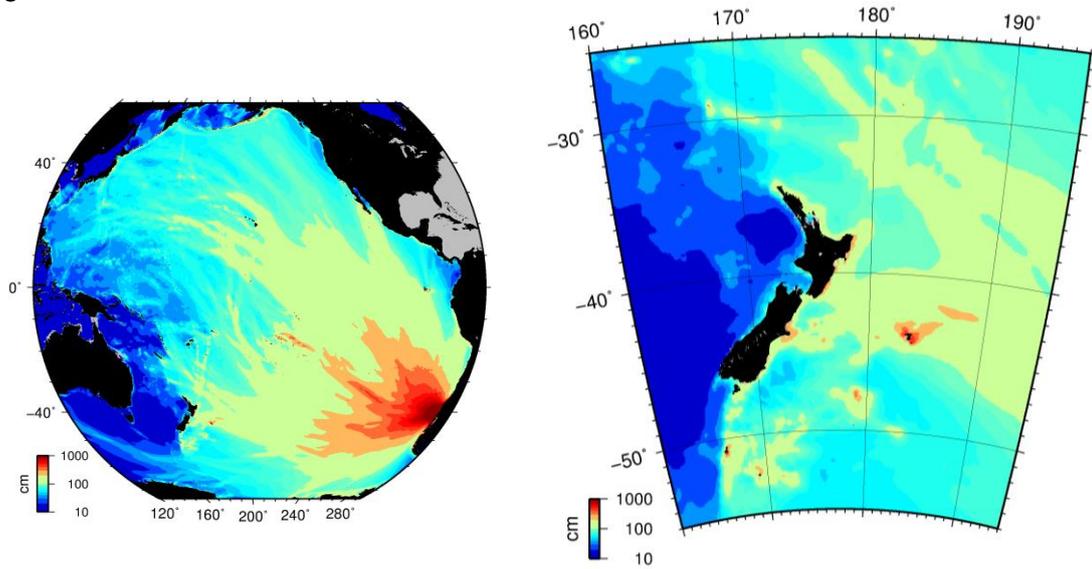




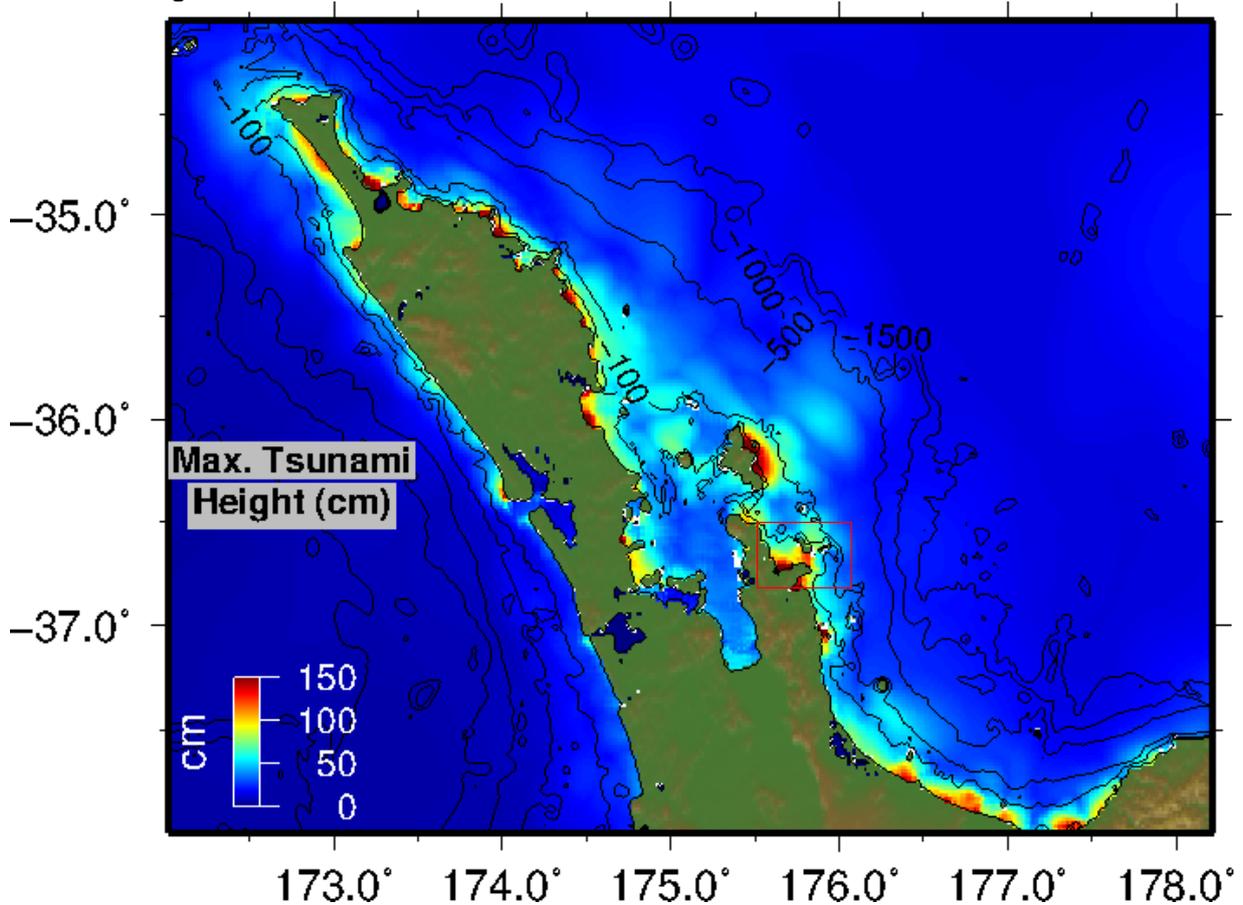
10 APPENDIX 10 – KENNEDY BAY: DISTANT SOURCE TSUNAMI

10.1 Valdivia, Chile 1960

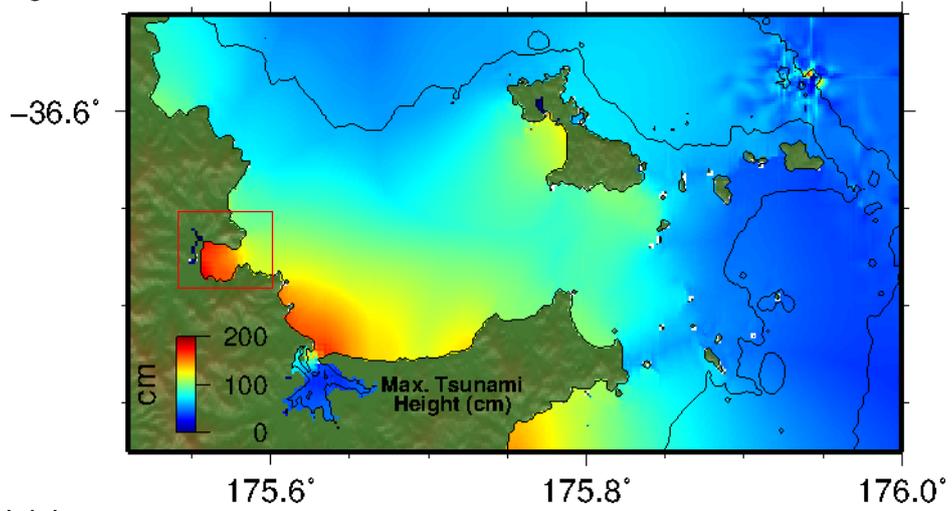
Propagation Model



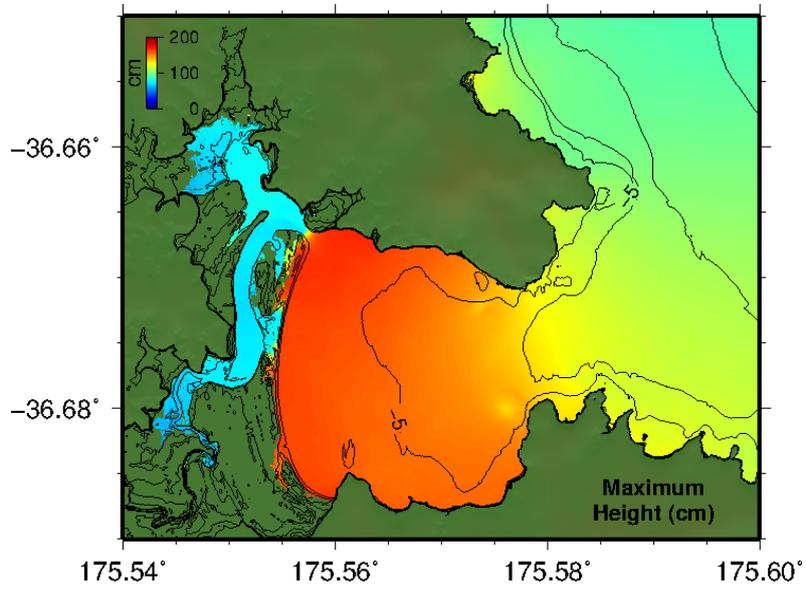
A Grid – Height



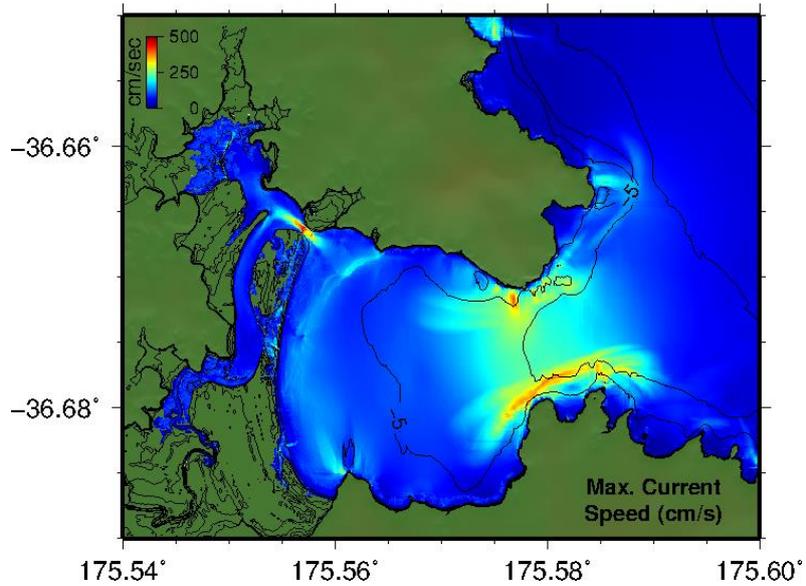
B Grid - Height



C Grid - Height

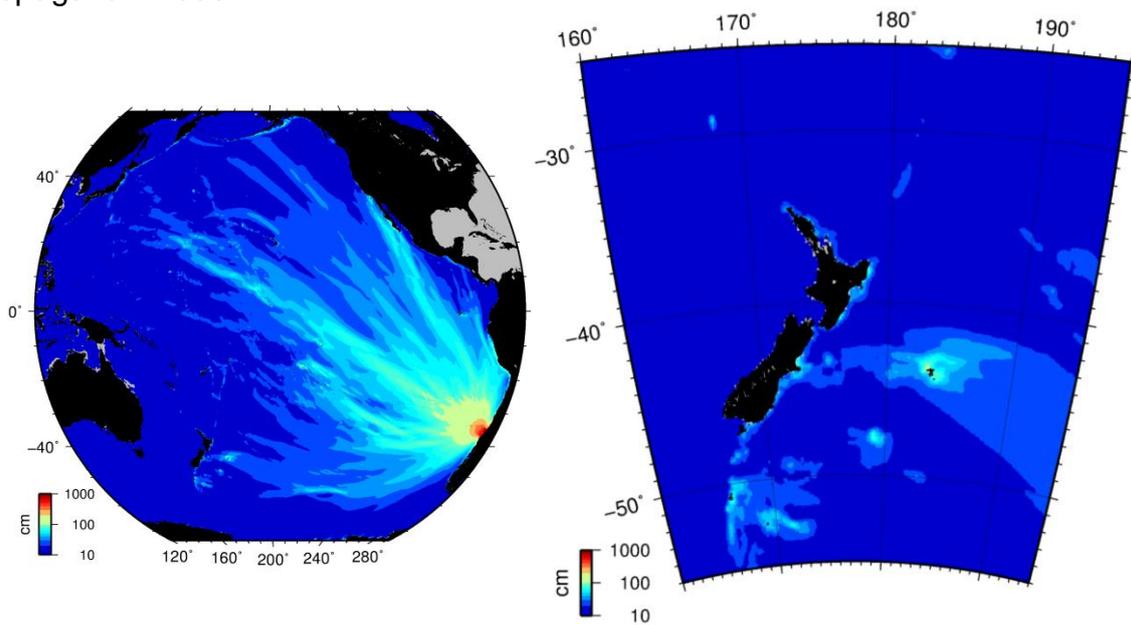


Current Speed

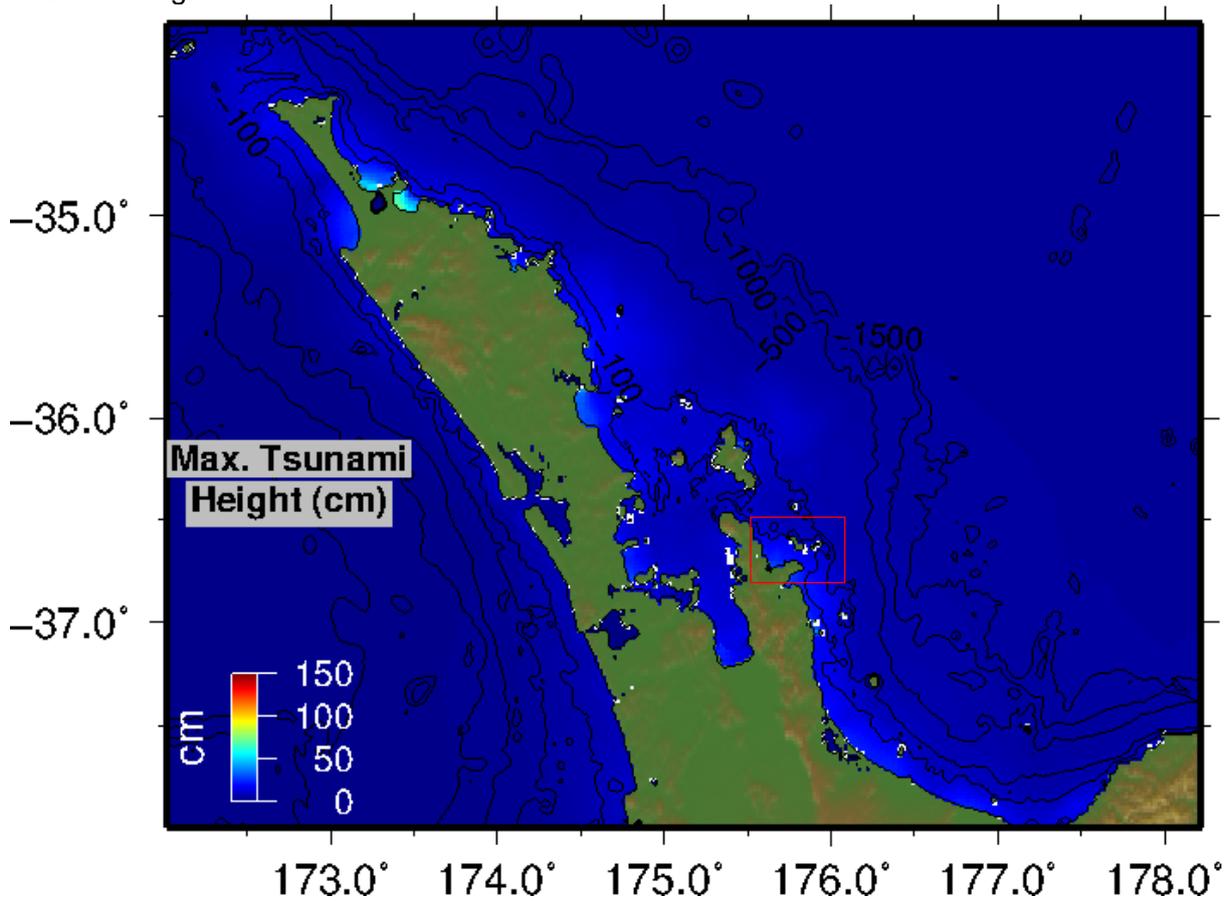


10.2 Maule, Chile 2010

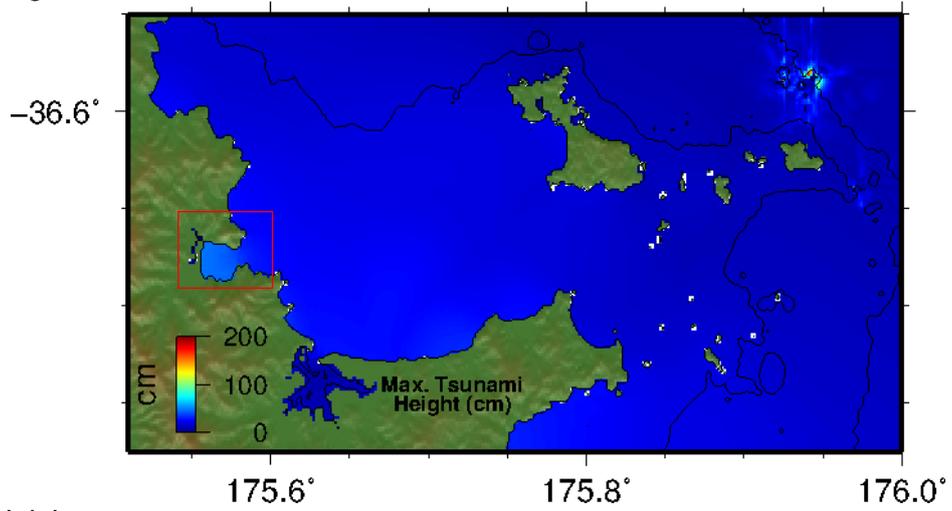
Propagation Model



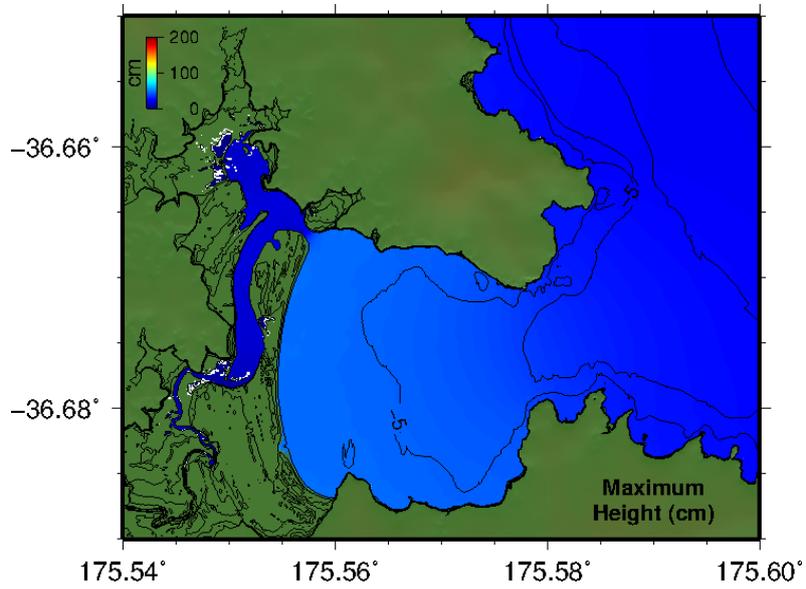
A Grid – Height



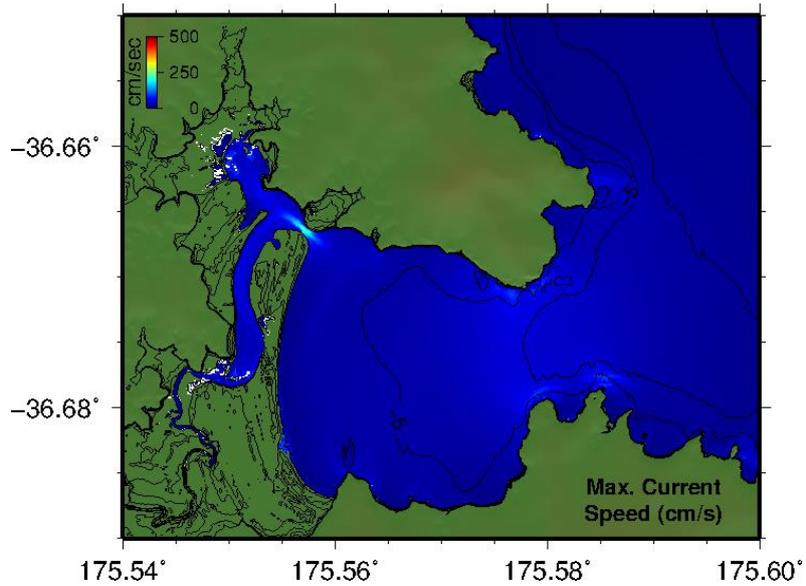
B Grid - Height



C Grid - Height

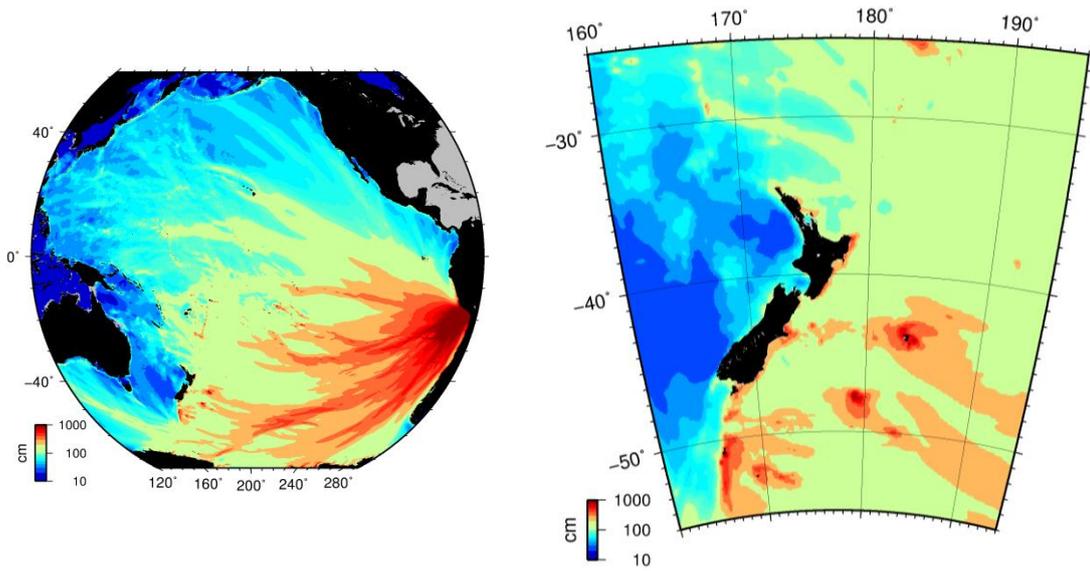


Current Speed

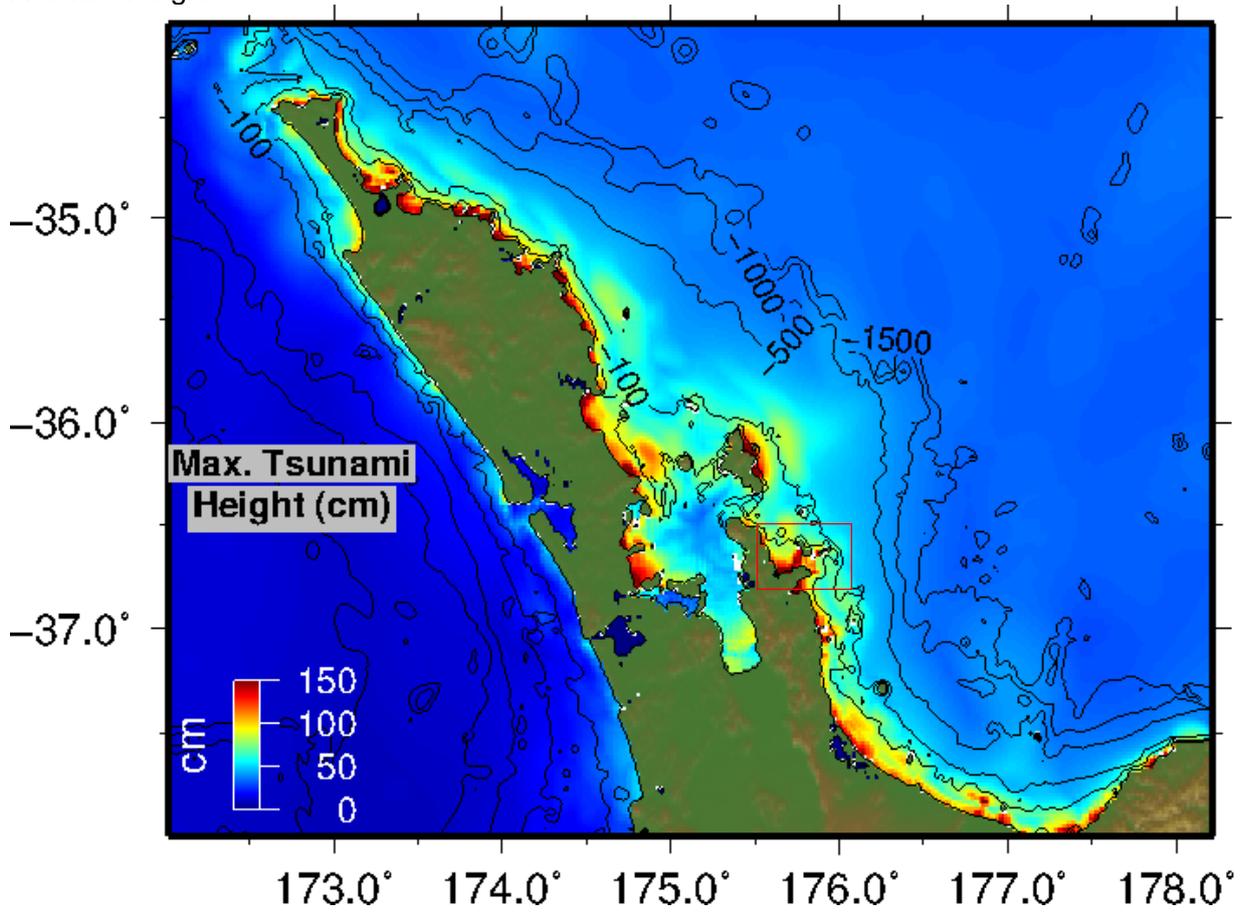


10.3 Arica, 1868

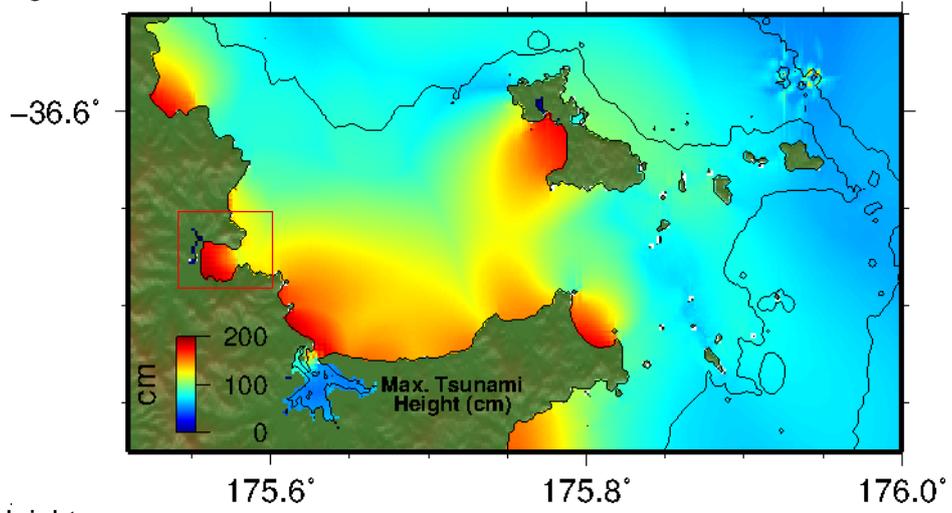
Propagation Model



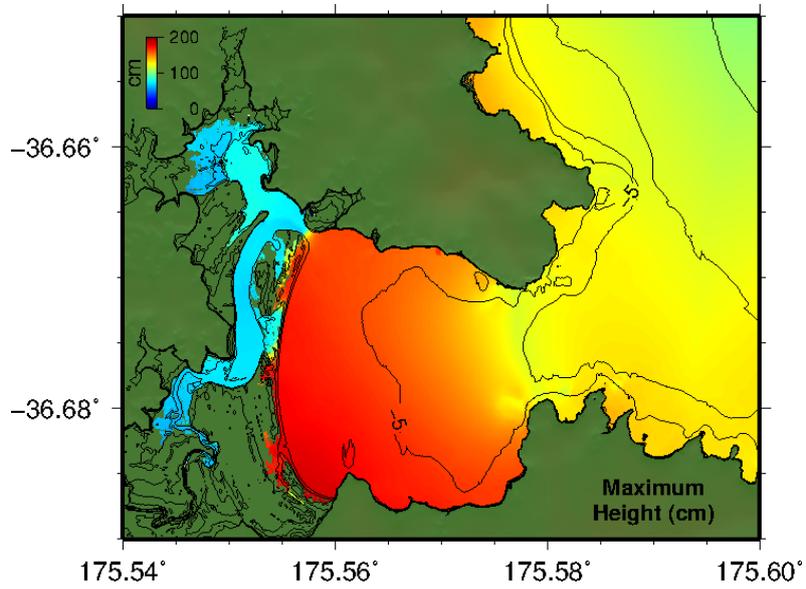
A Grid – Height



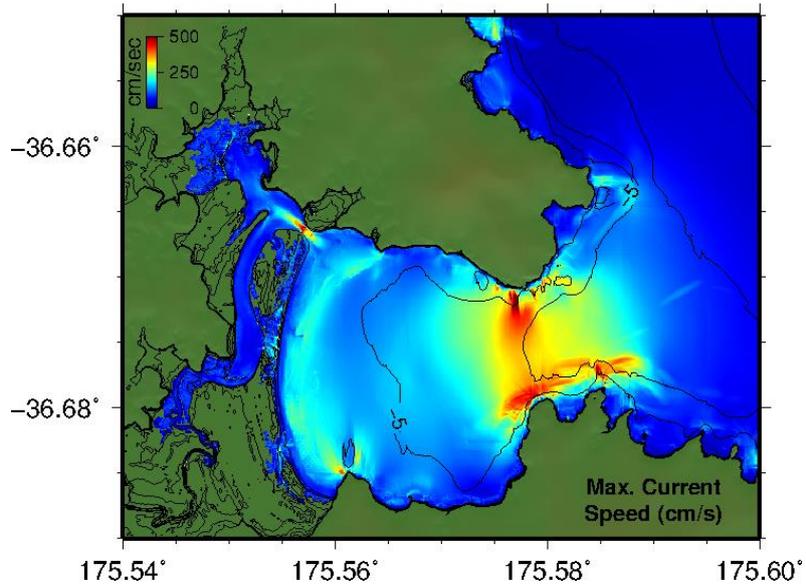
B Grid - Height



C Grid - Height

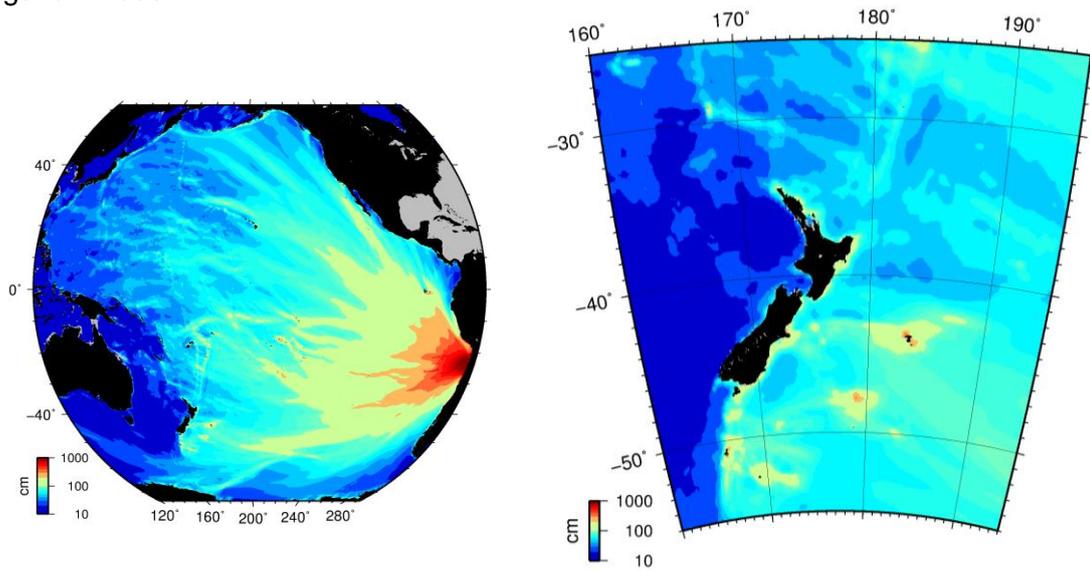


Current Speed

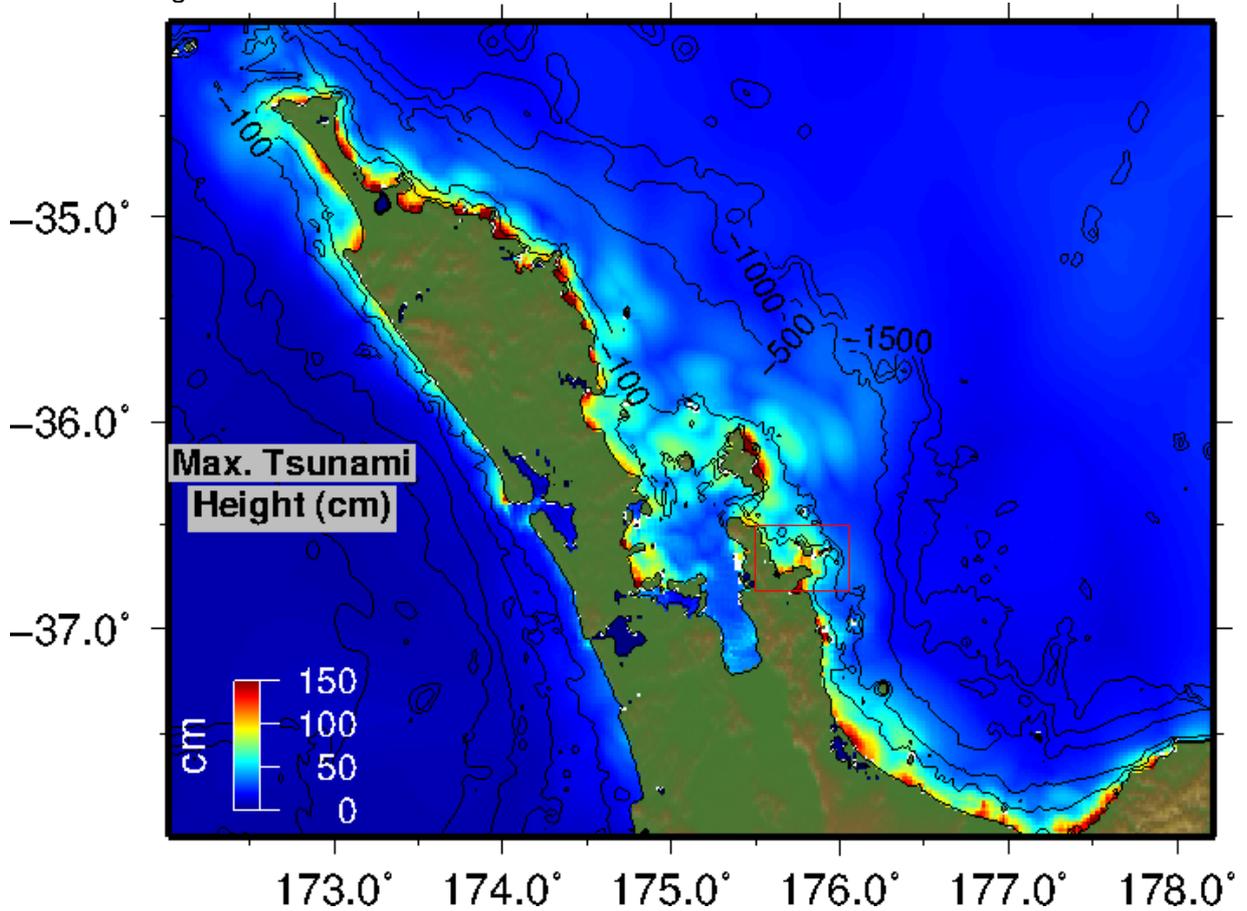


10.4 Chile North 1

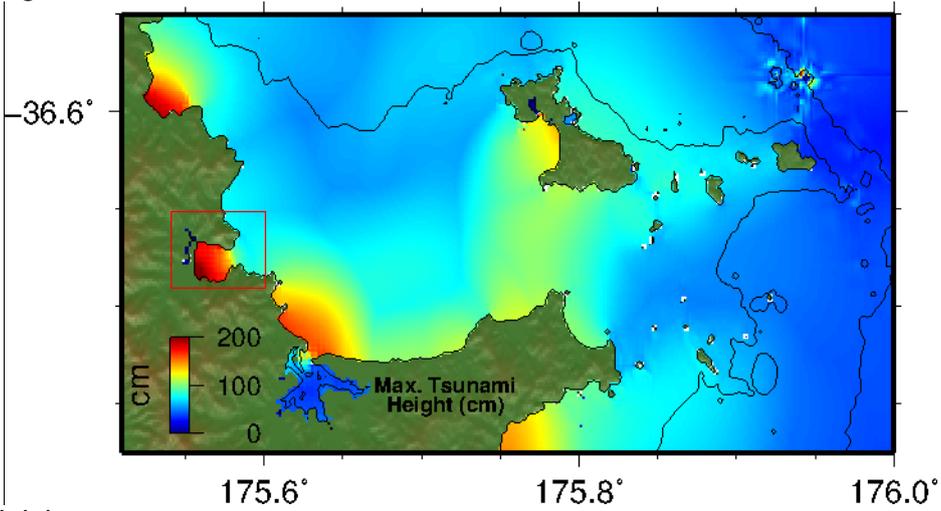
Propagation Model



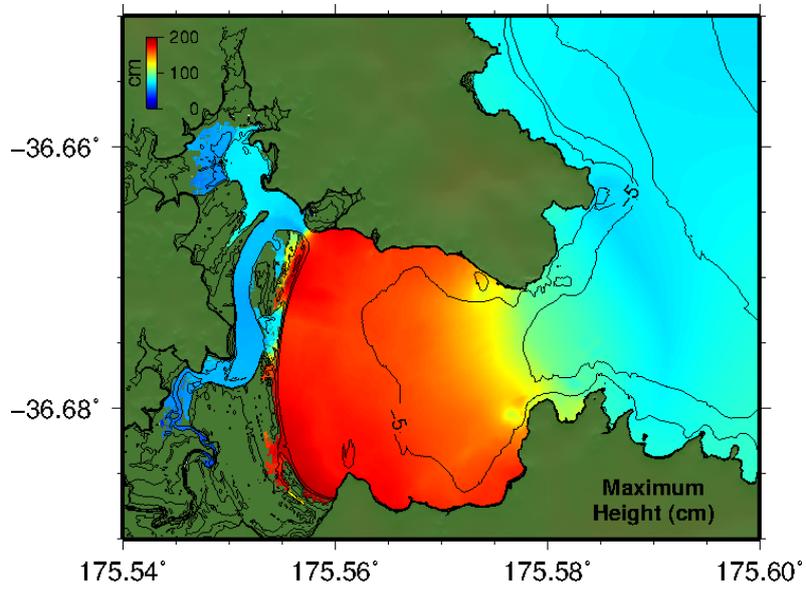
A Grid – Height



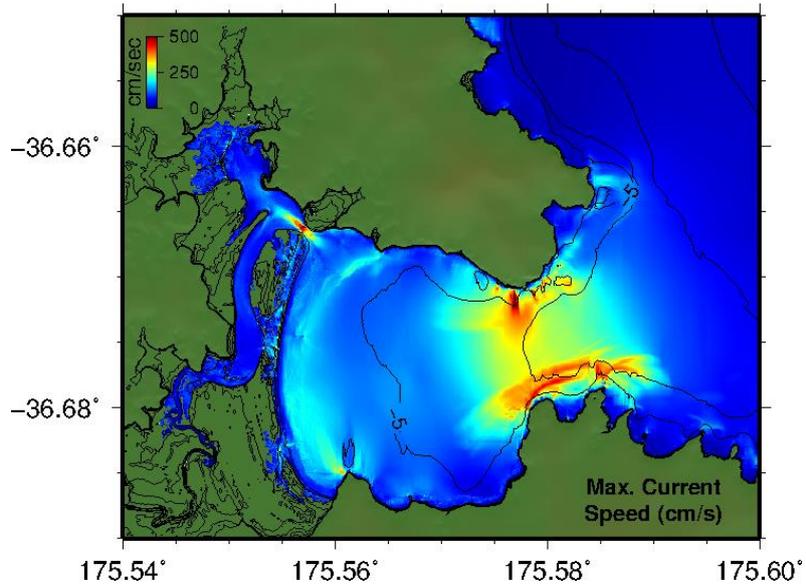
B Grid - Height



C Grid - Height

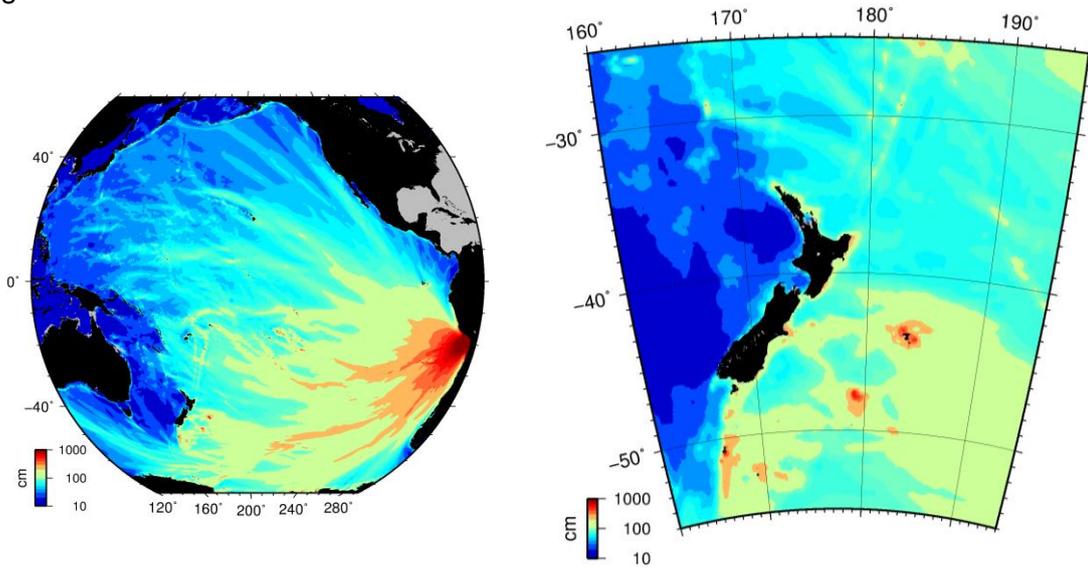


Current Speed

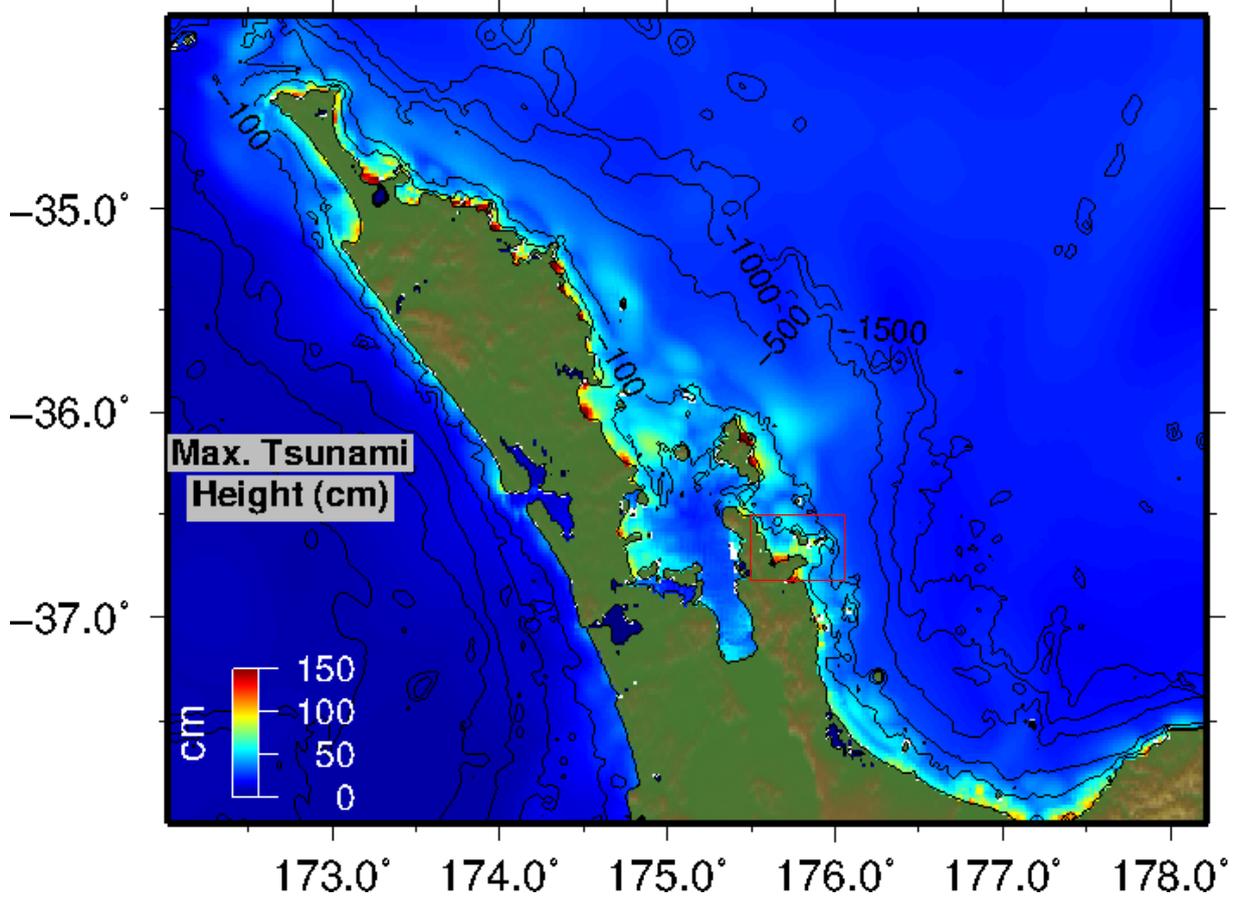


10.5 Chile North 2

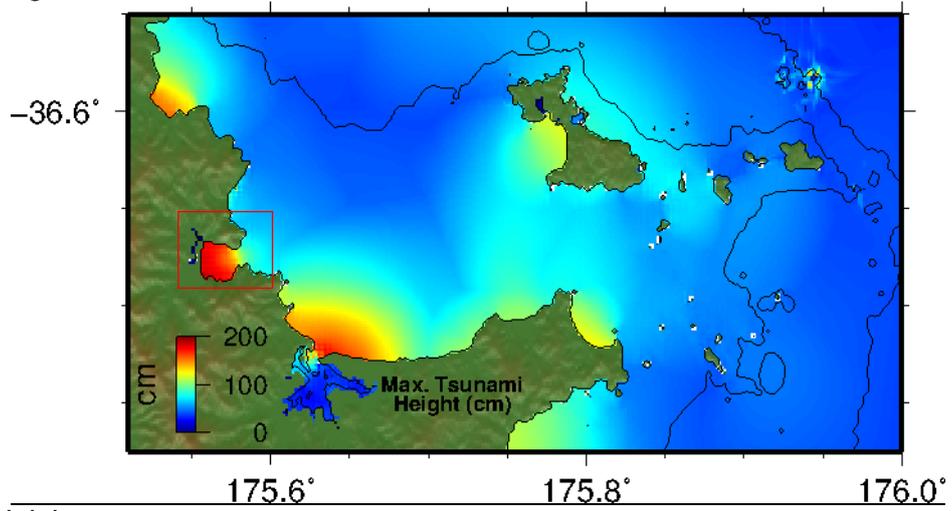
Propagation Model



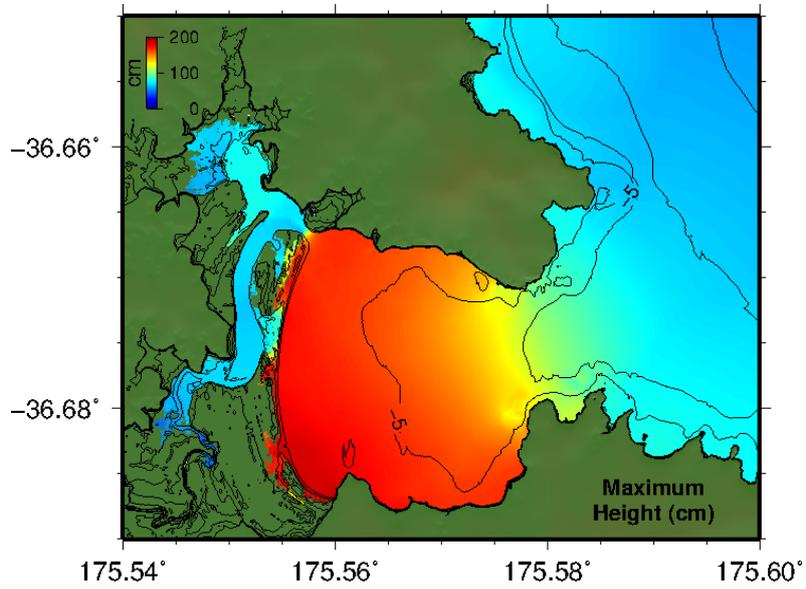
A Grid – Height



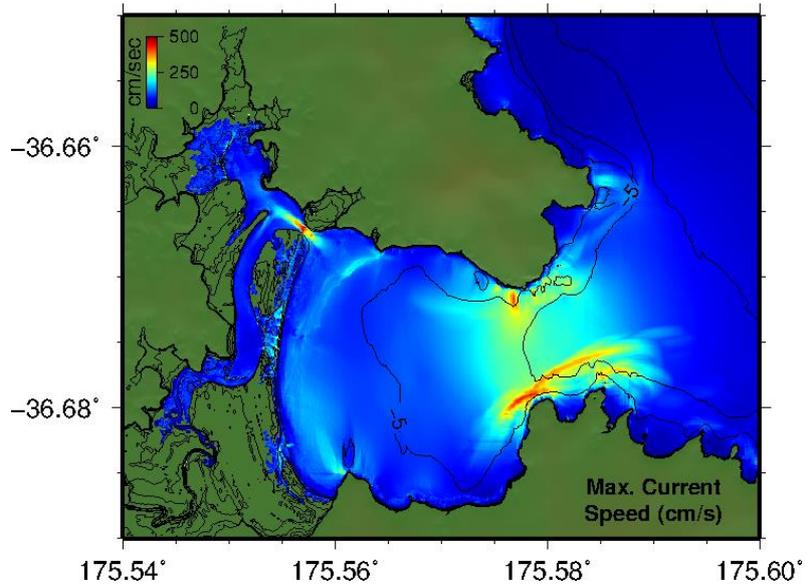
B Grid - Height



C Grid - Height

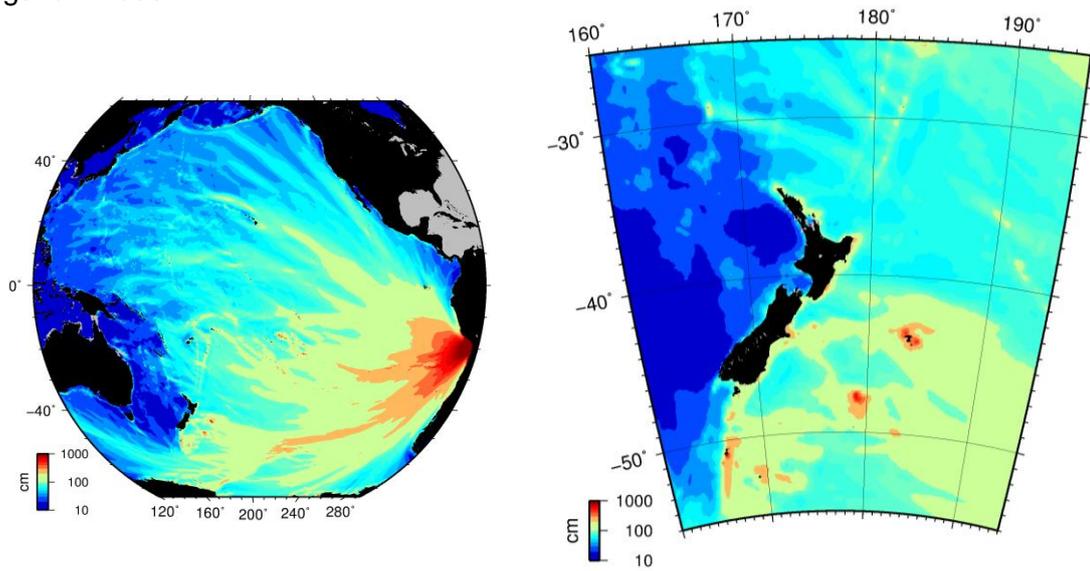


Current Speed

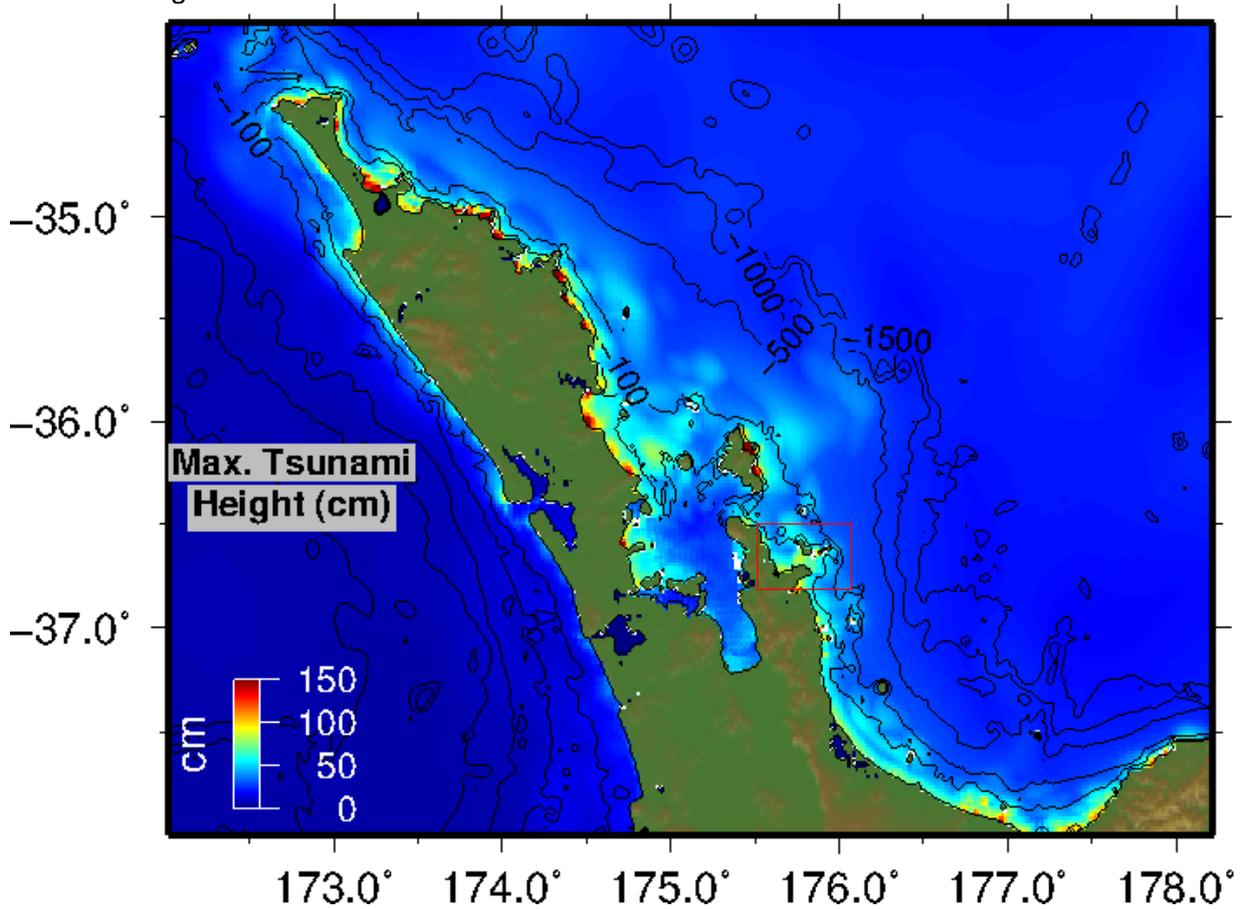


10.6 Chile North 3

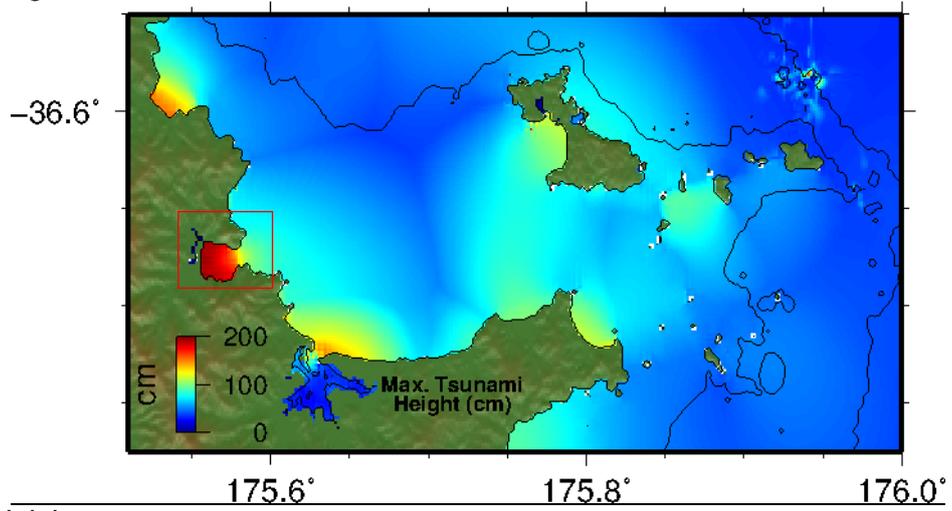
Propagation Model



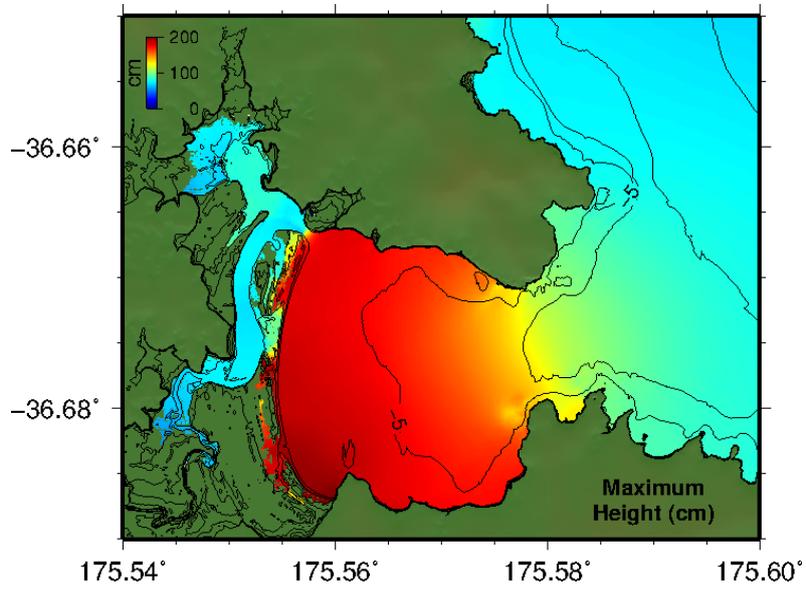
A Grid – Height



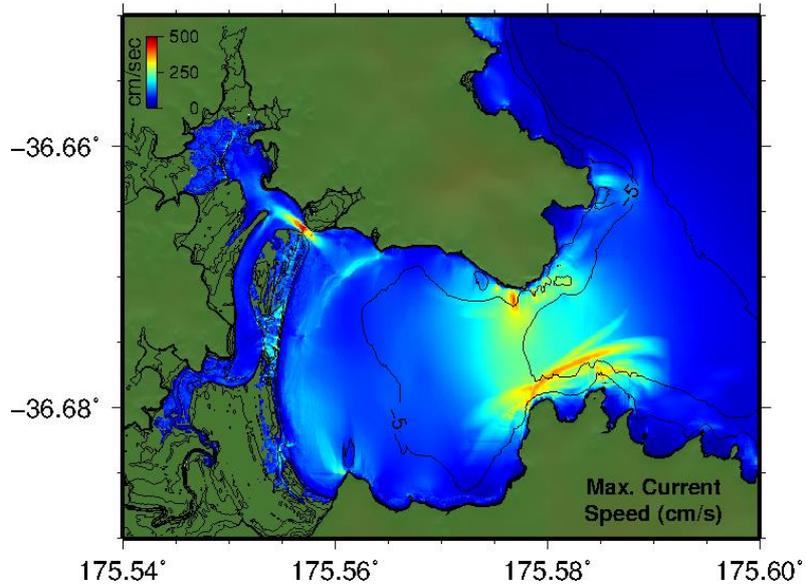
B Grid - Height



C Grid - Height

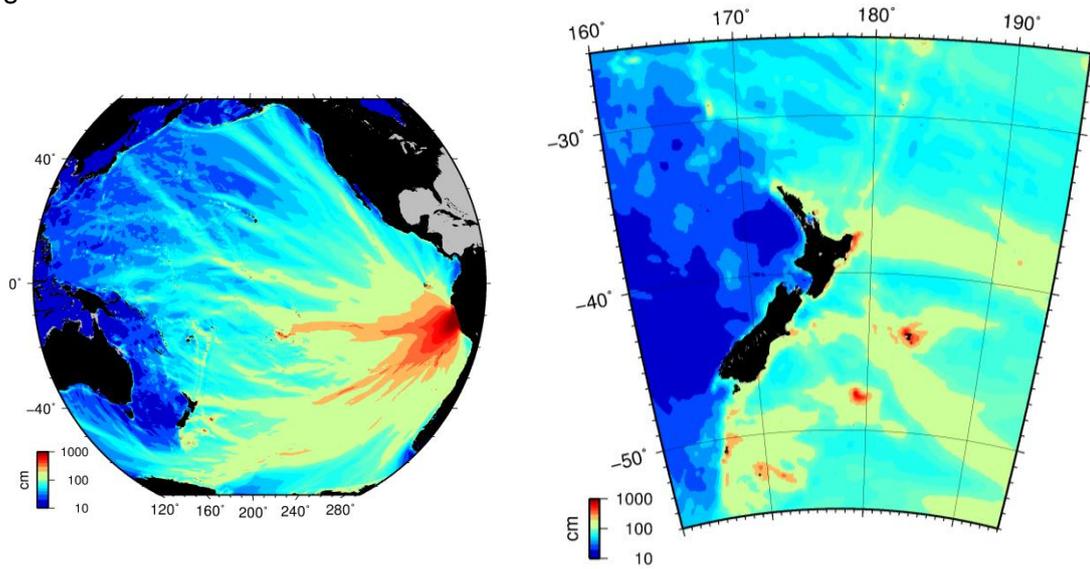


Current Speed

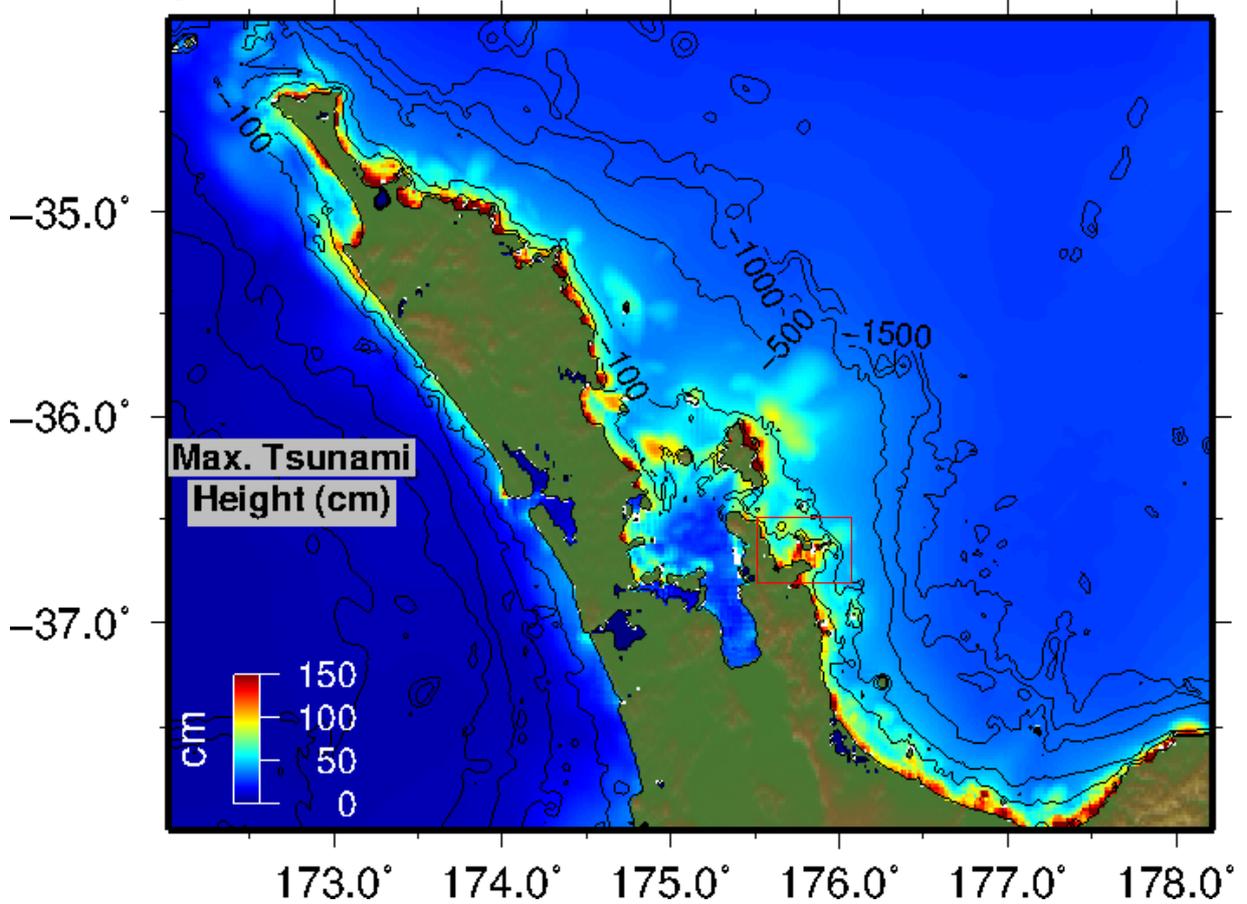


10.7 Central Peru

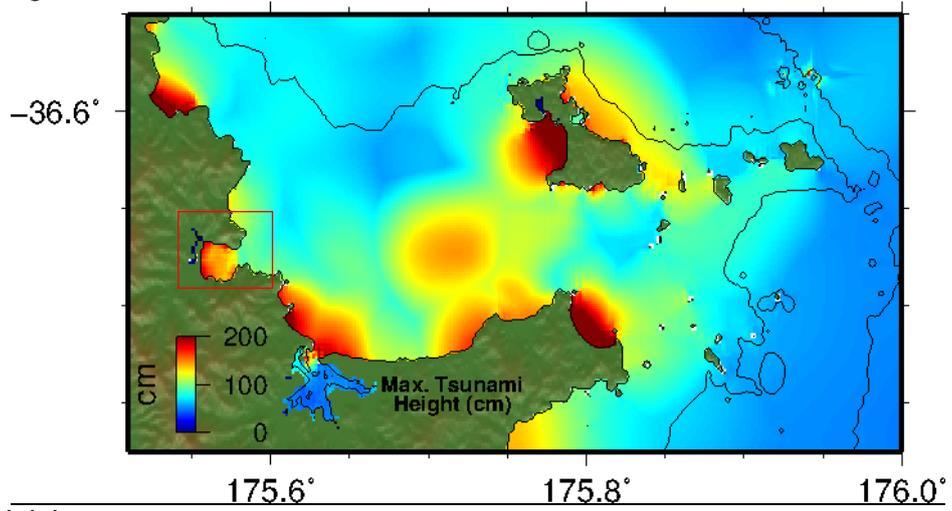
Propagation Model



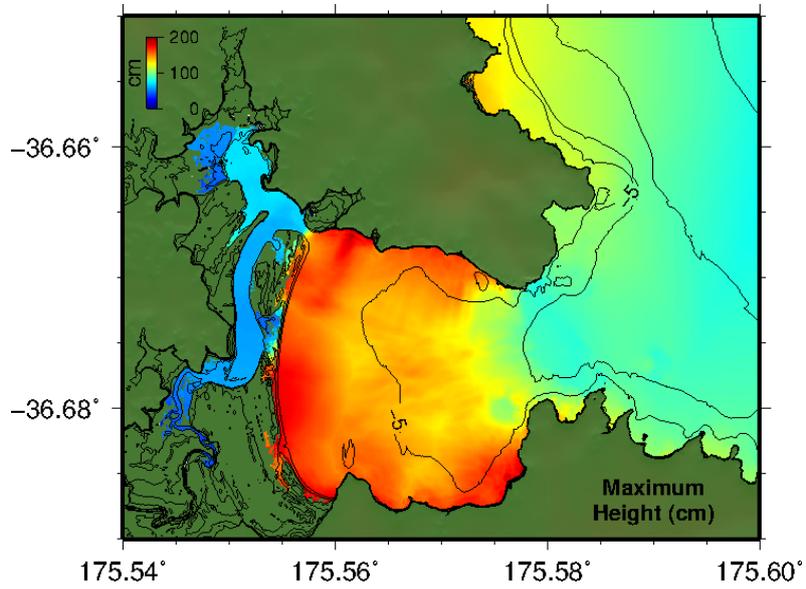
A Grid – Height



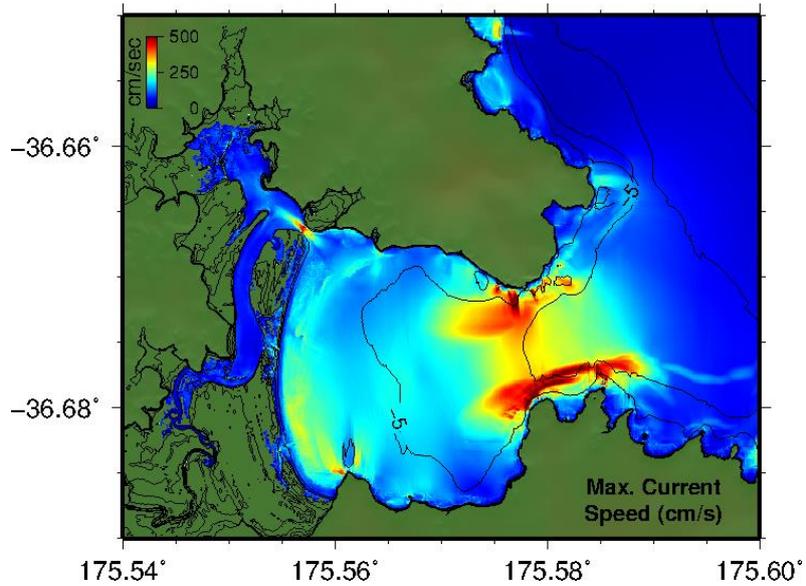
B Grid - Height



C Grid - Height



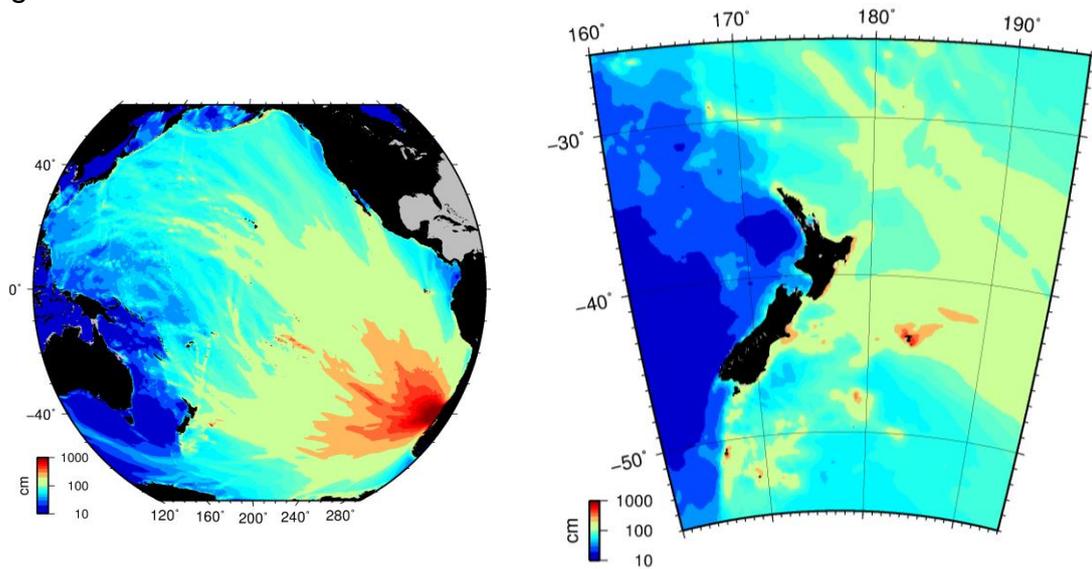
Current Speed



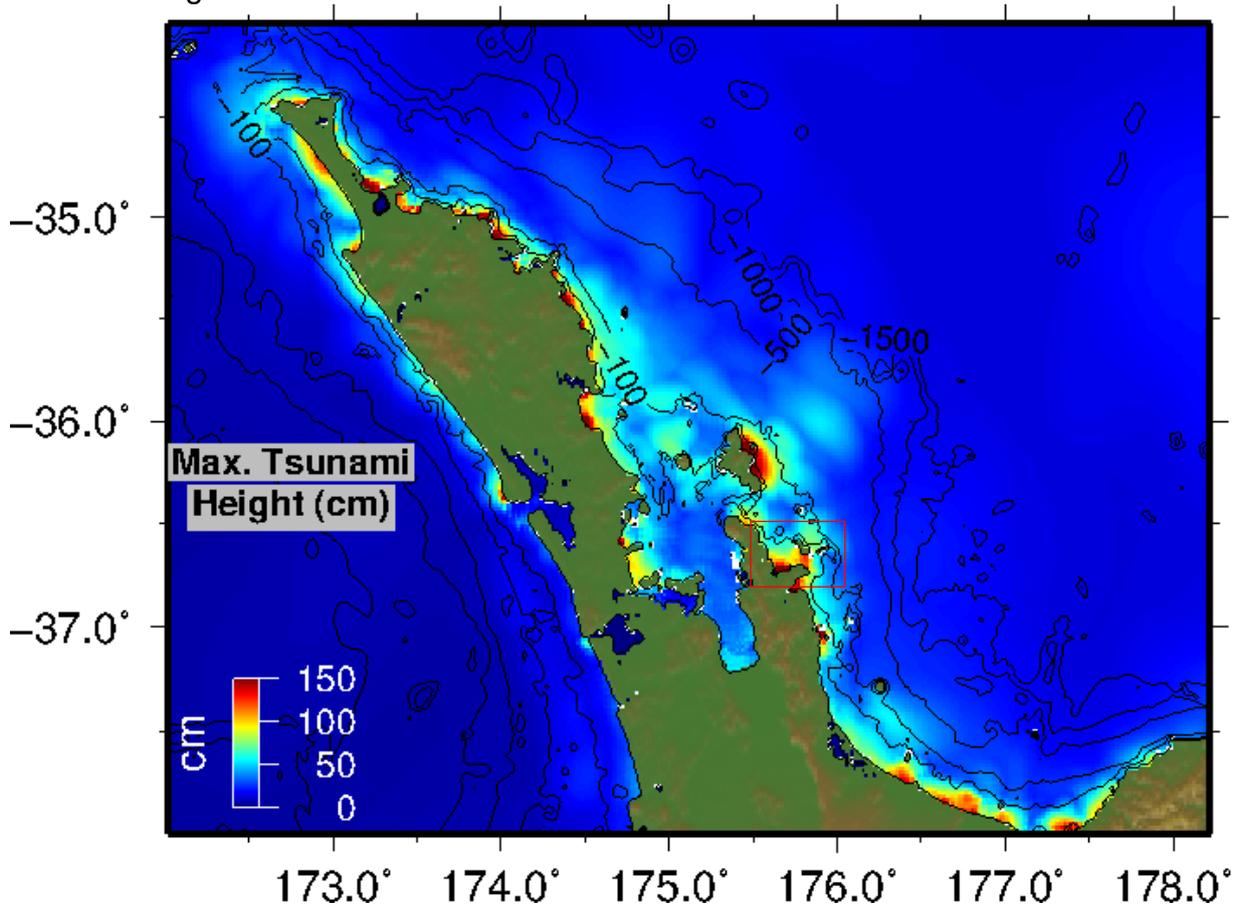
11 APPENDIX 11 – WHANGAPOUA: DISTANT SOURCE TSUNAMI

11.1 Valdivia, Chile 1960

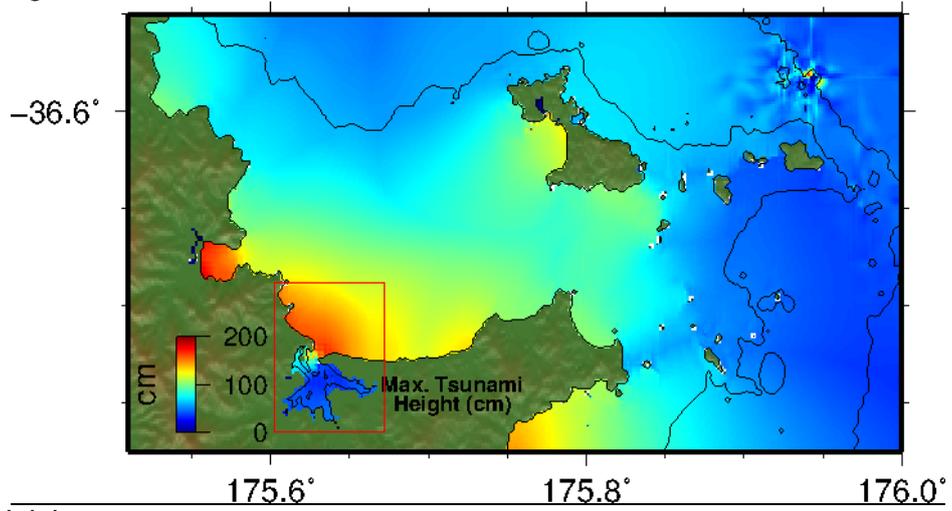
Propagation Model



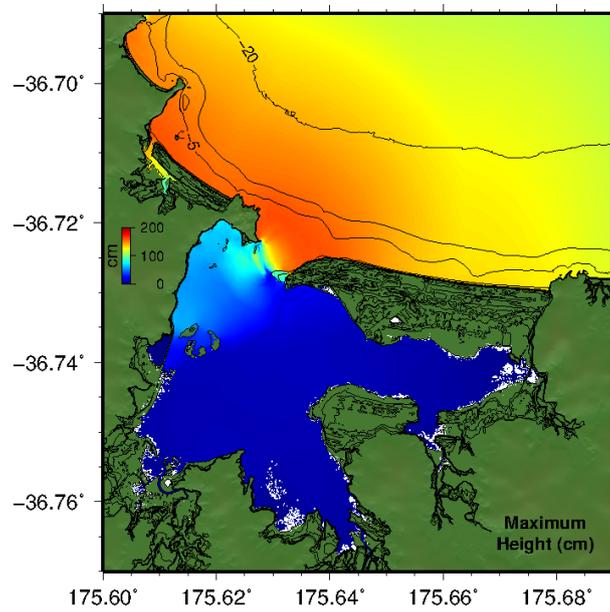
A Grid – Height



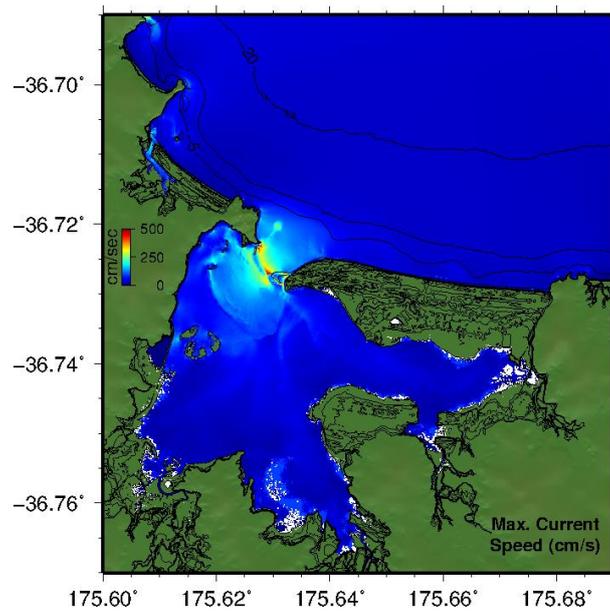
B Grid - Height



C Grid - Height

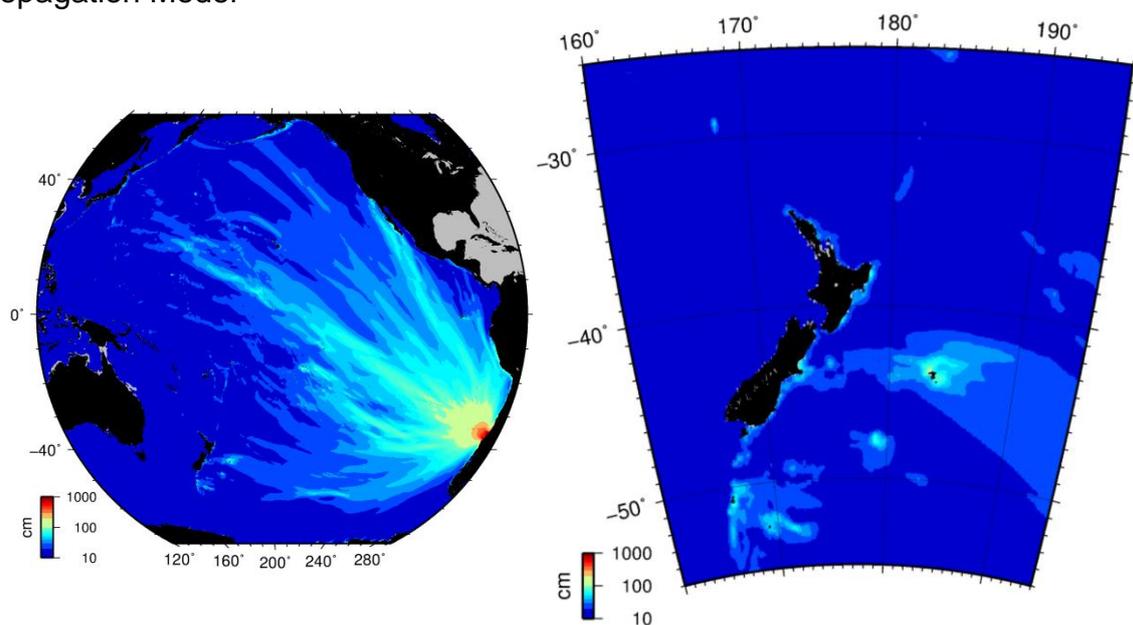


Current Speed

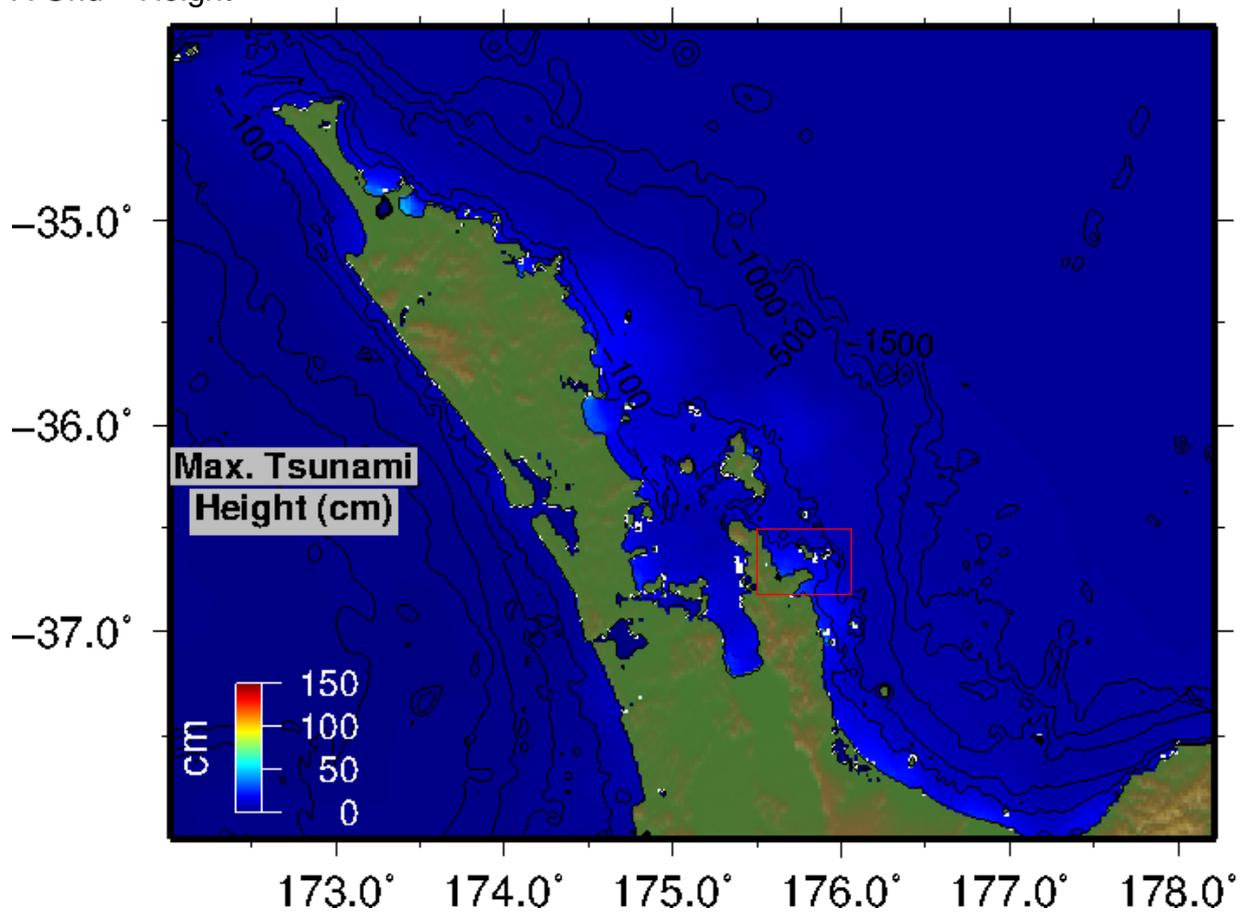


11.2 Maule, Chile 2010

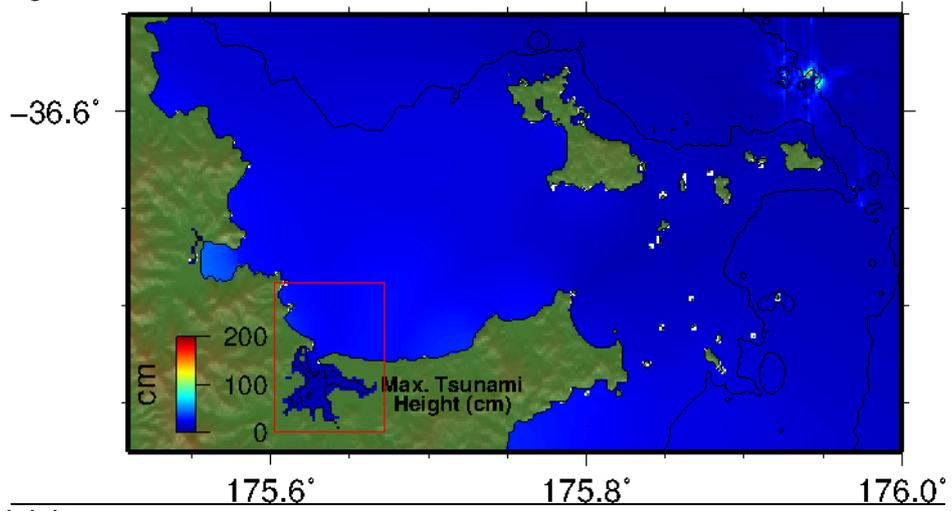
Propagation Model



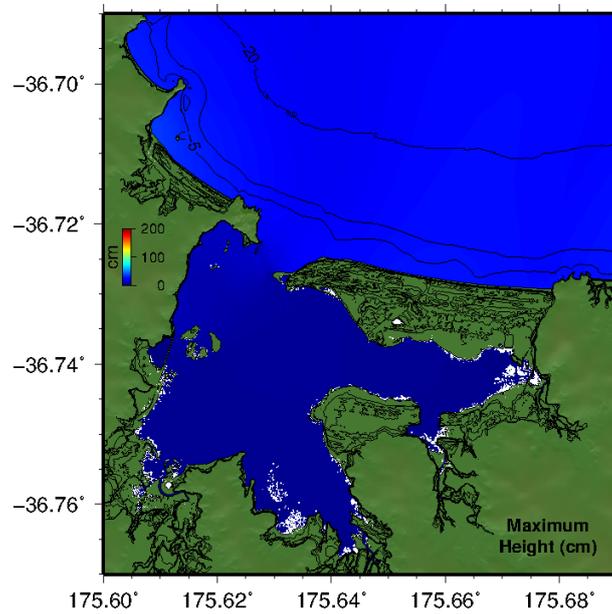
A Grid – Height



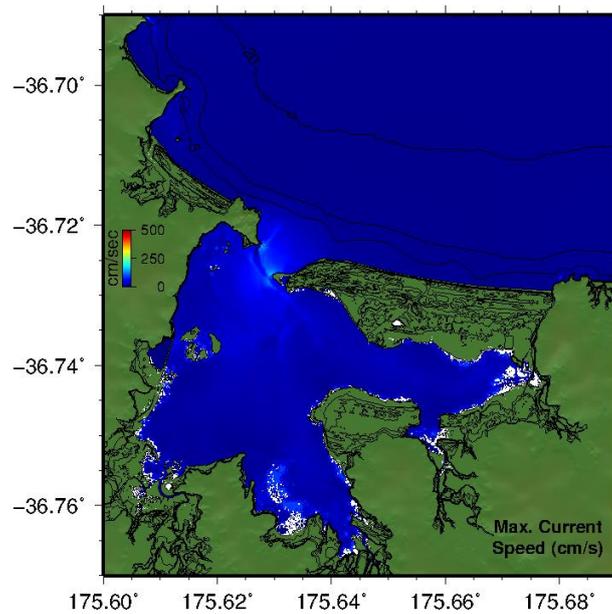
B Grid - Height



C Grid - Height

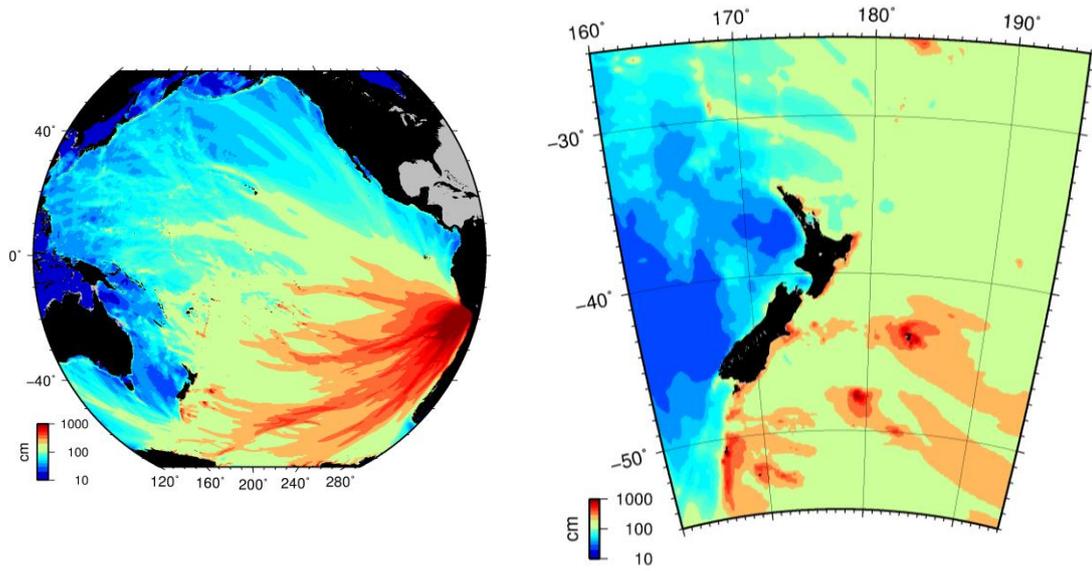


Current Speed

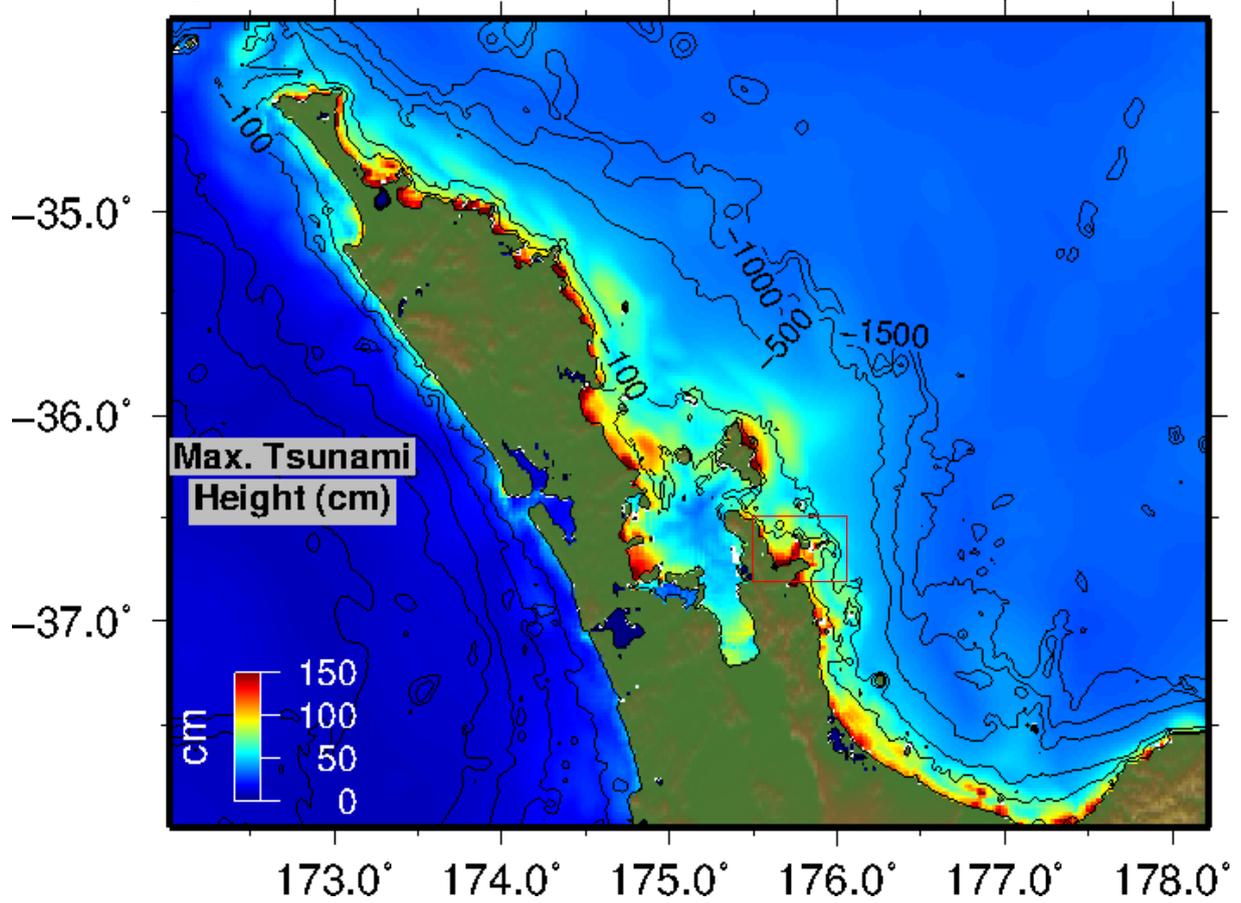


11.3 Arica, 1868

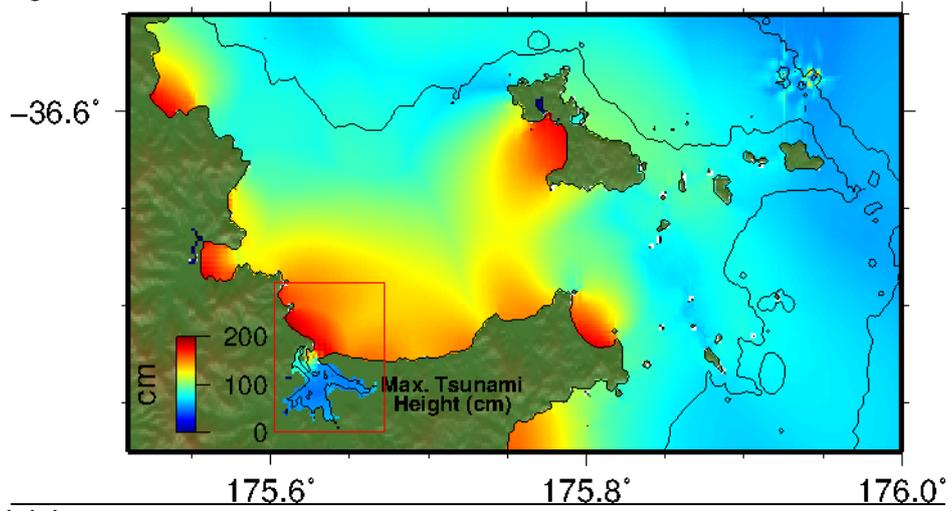
Propagation Model



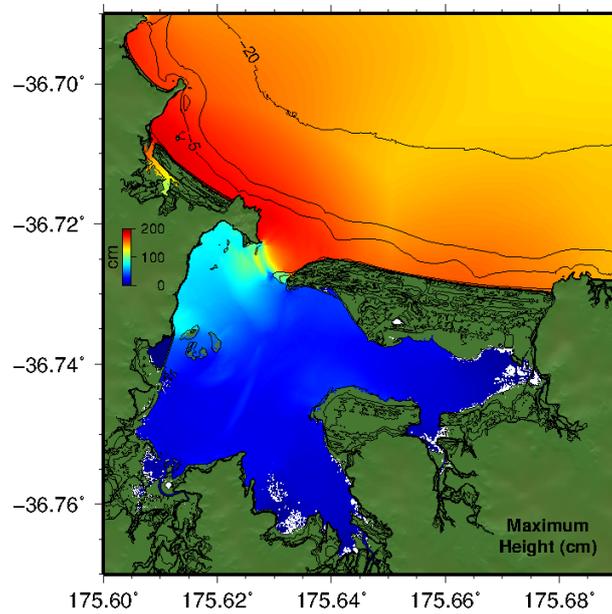
A Grid – Height



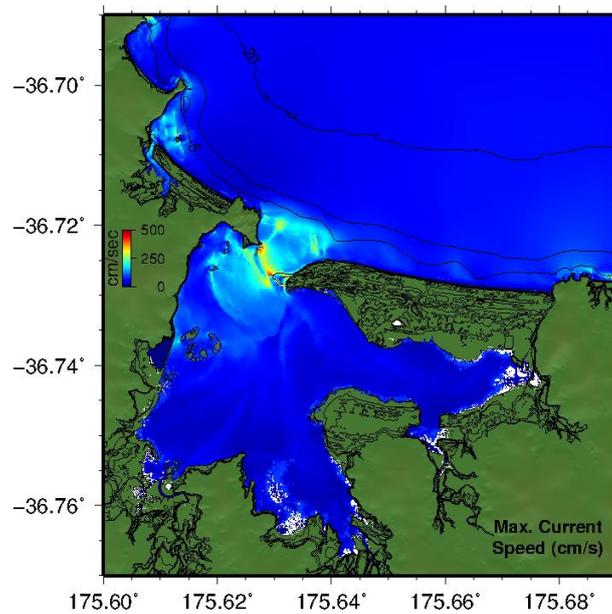
B Grid - Height



C Grid - Height

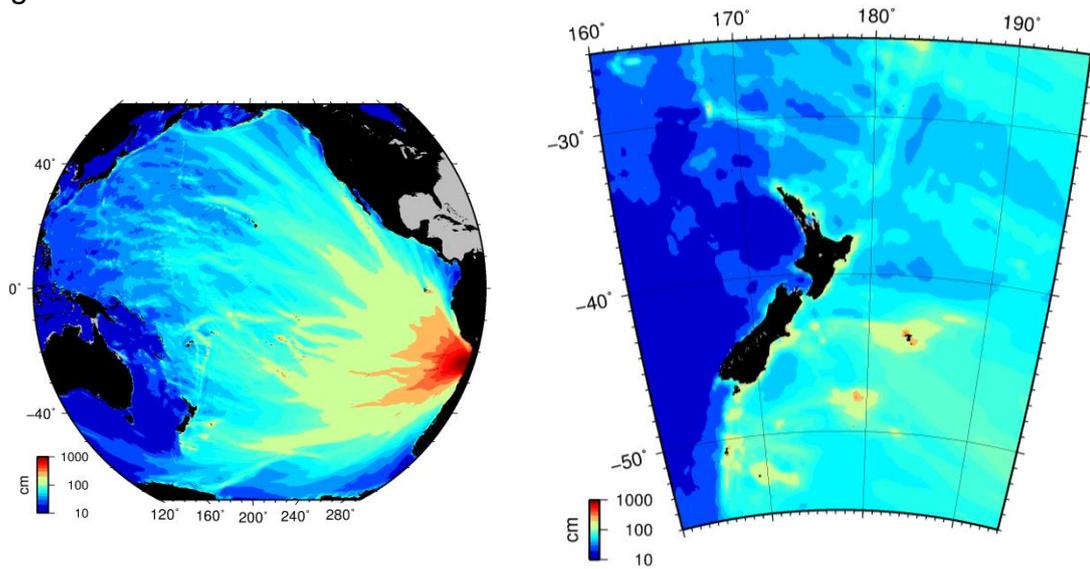


Current Speed

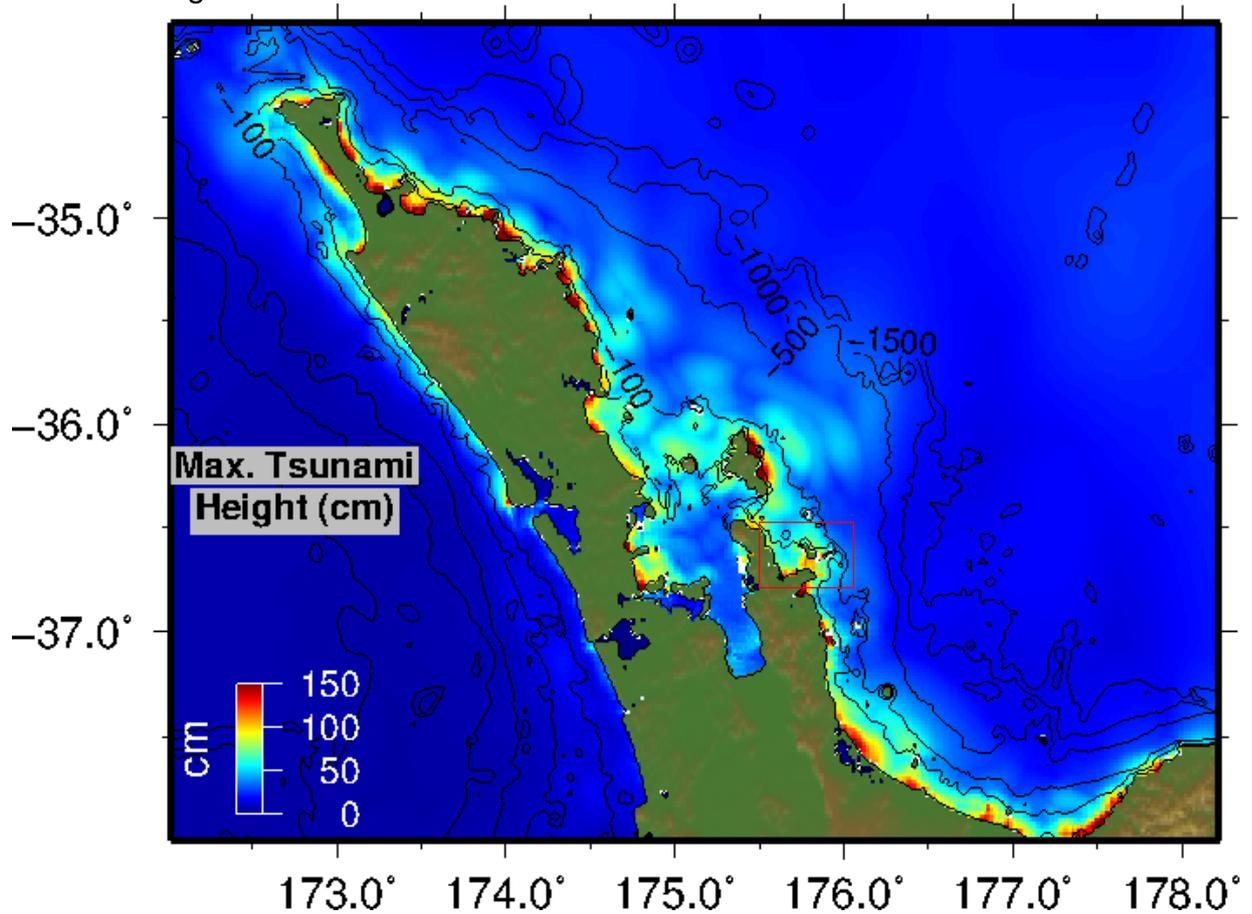


11.4 Chile North 1

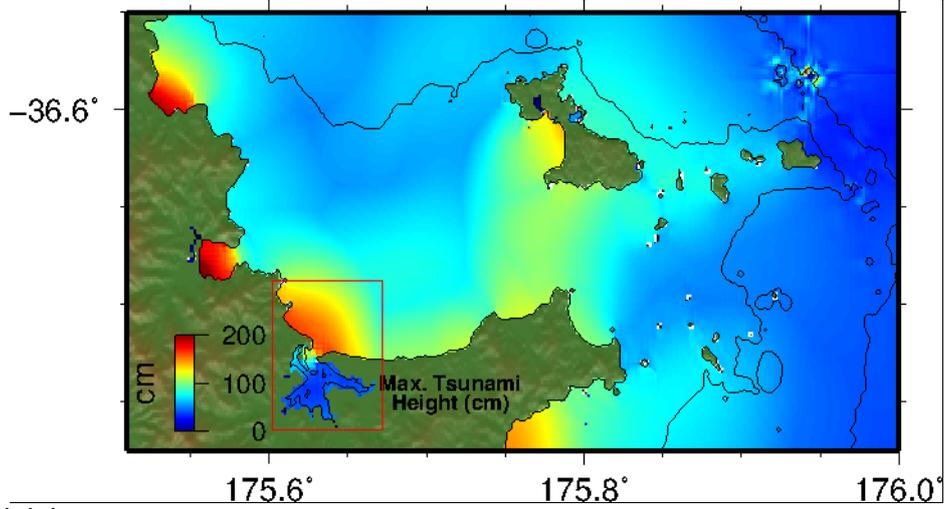
Propagation Model



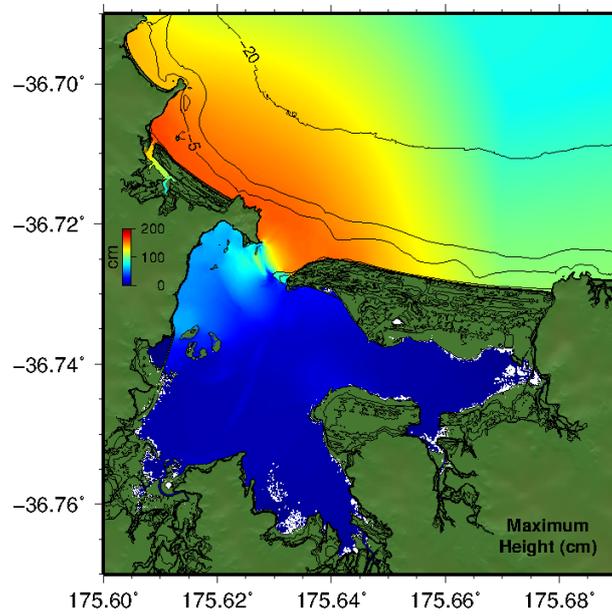
A Grid – Height



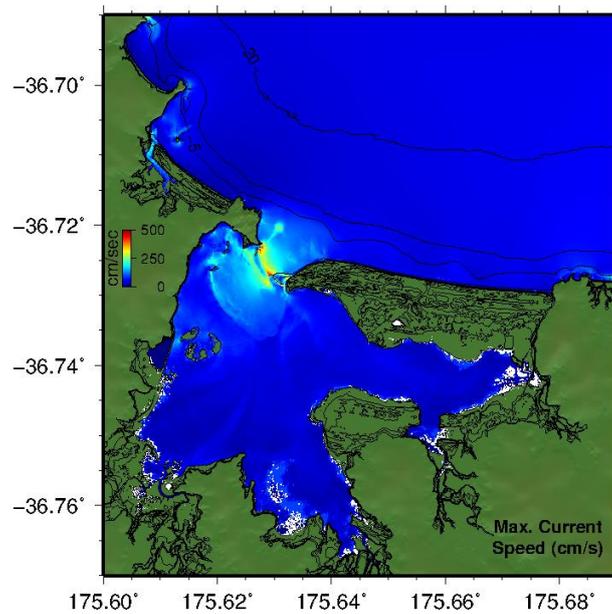
B Grid - Height



C Grid - Height

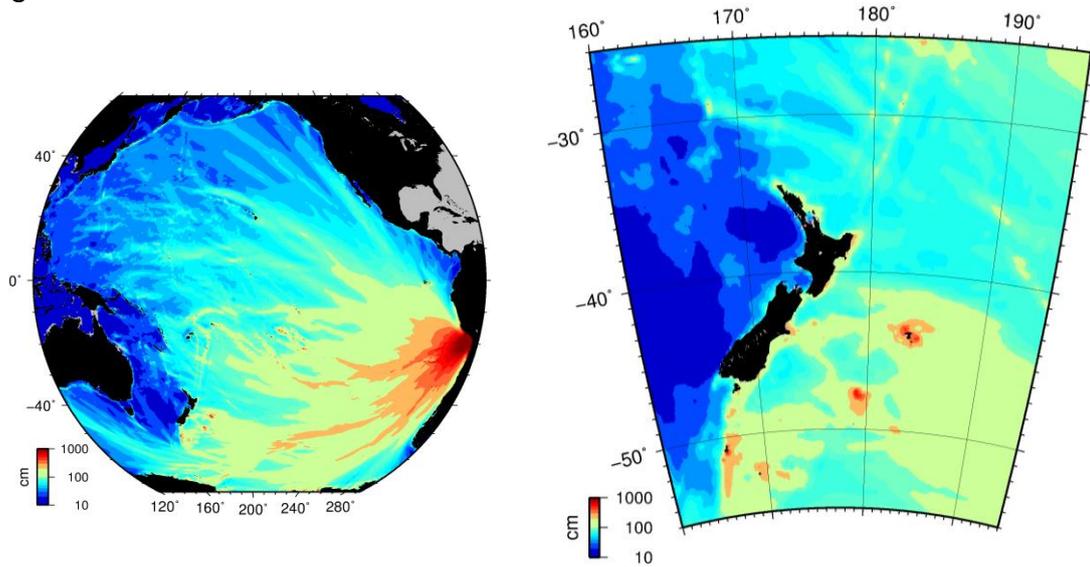


Current Speed

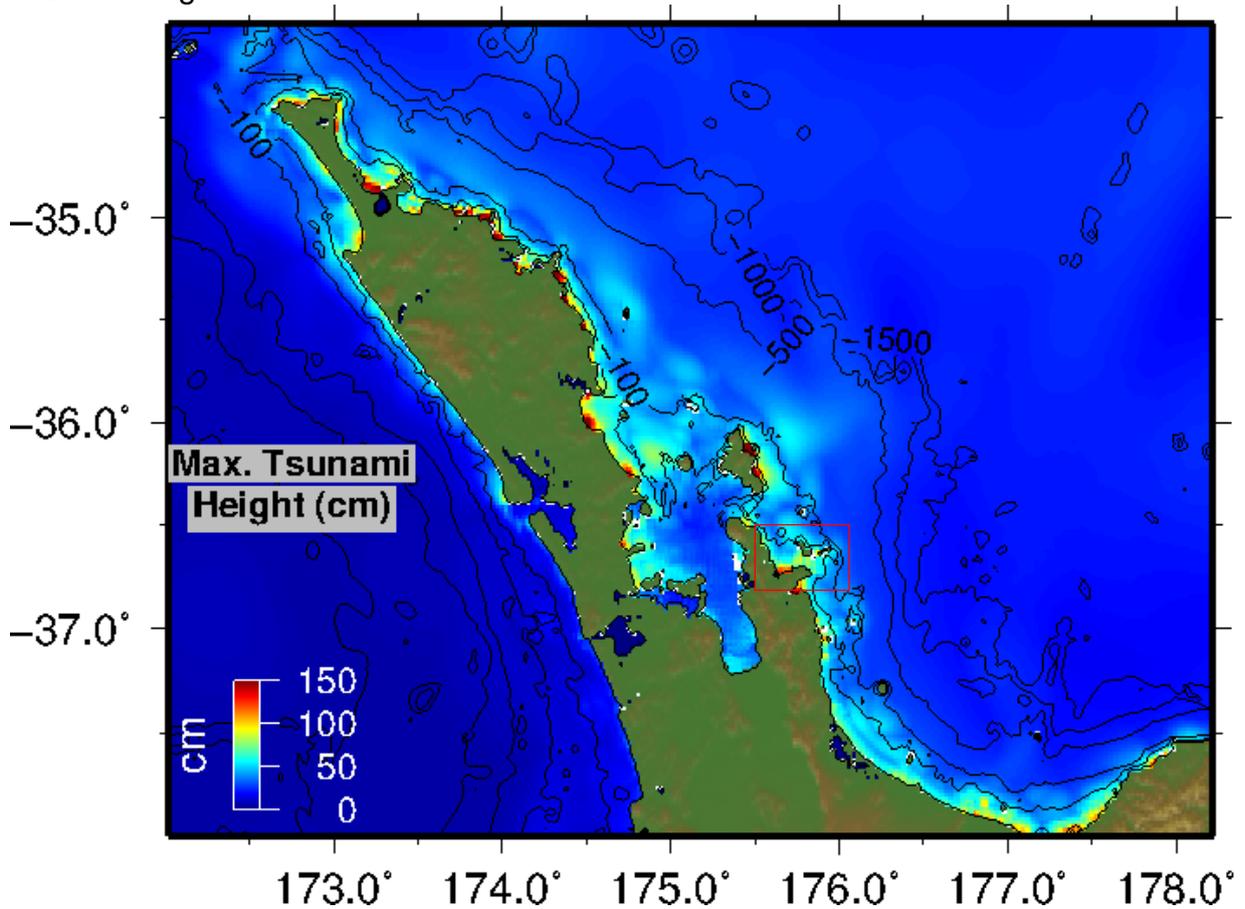


11.5 Chile North 2

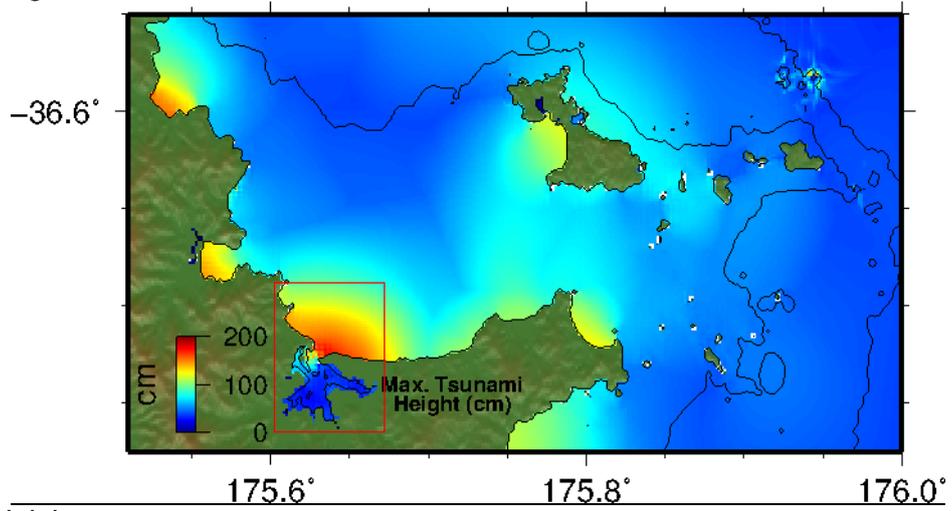
Propagation Model



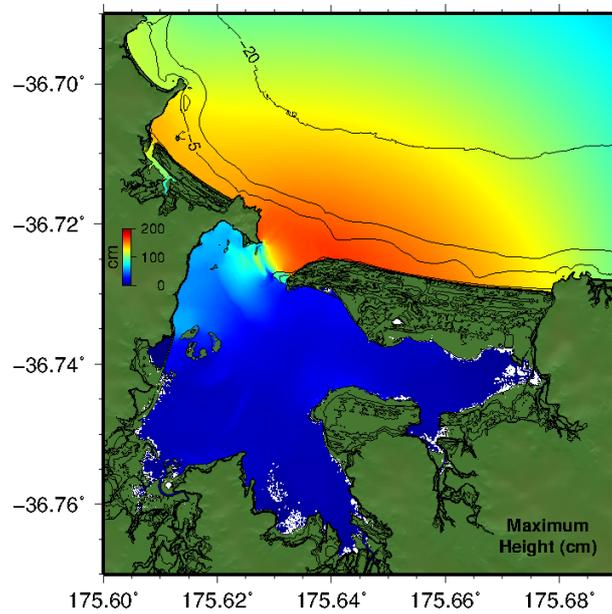
A Grid - Height



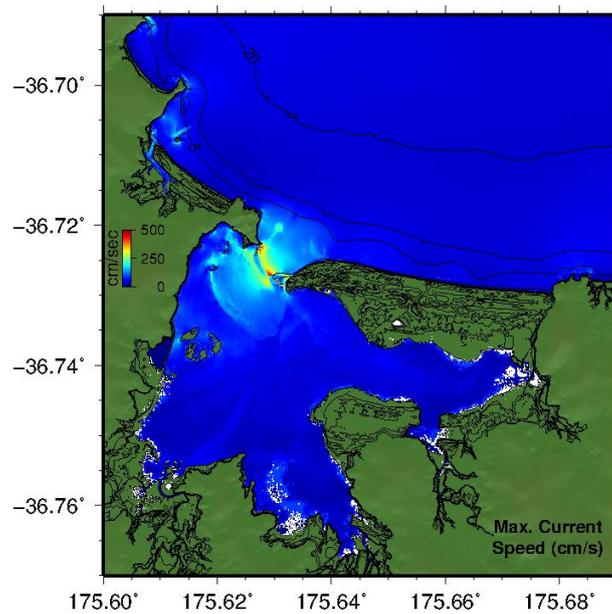
B Grid - Height



C Grid - Height

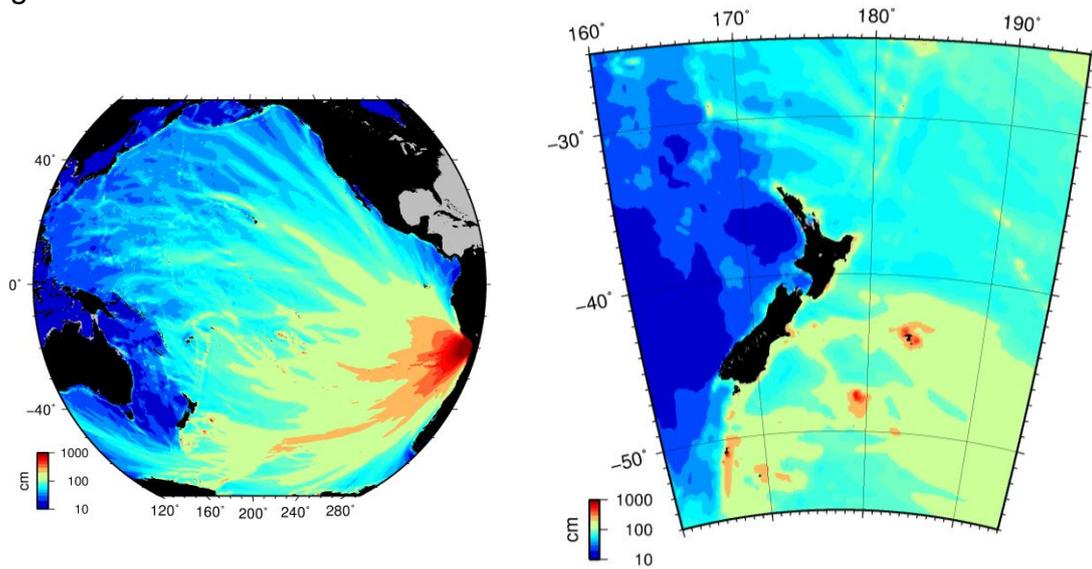


Current Speed

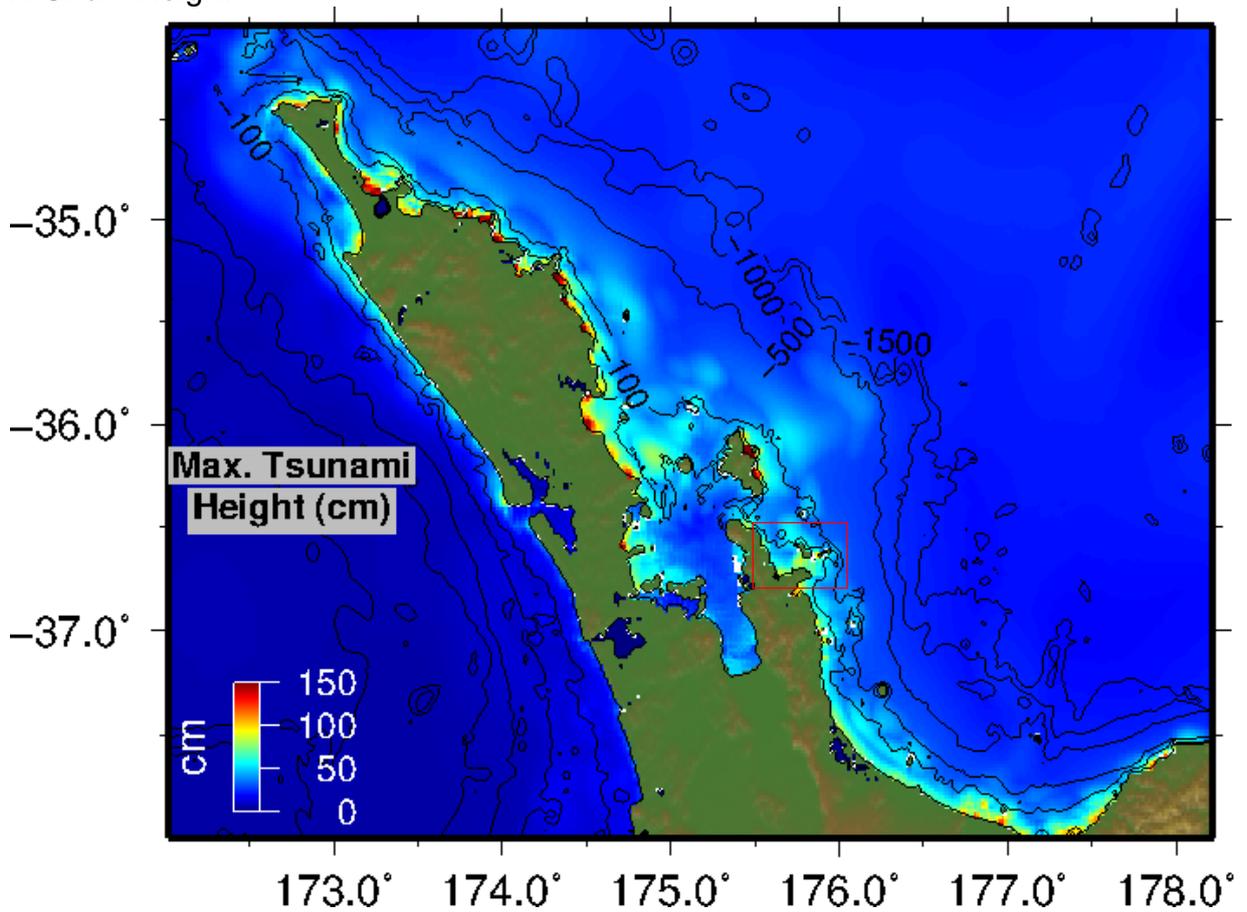


11.6 Chile North 3

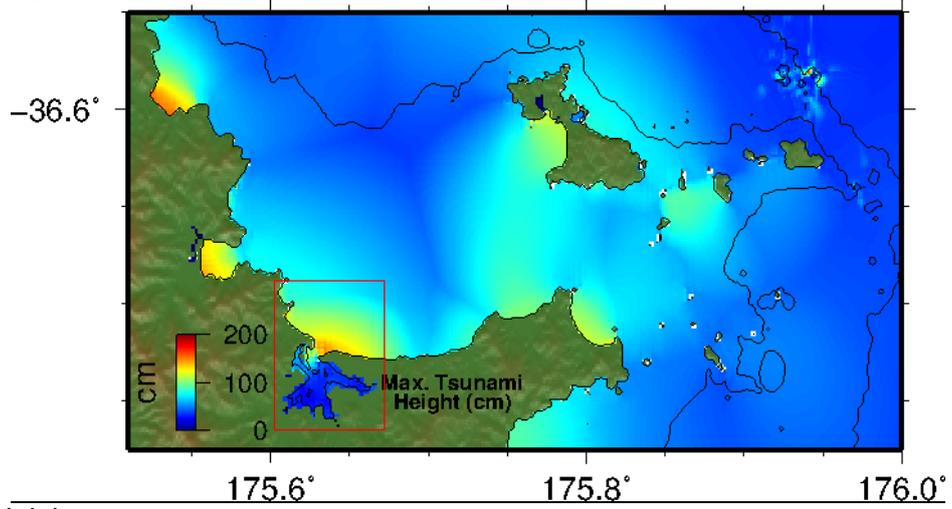
Propagation Model



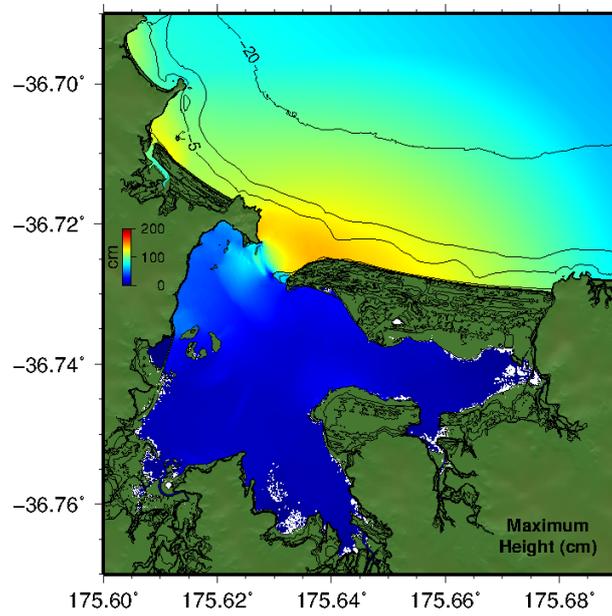
A Grid – Height



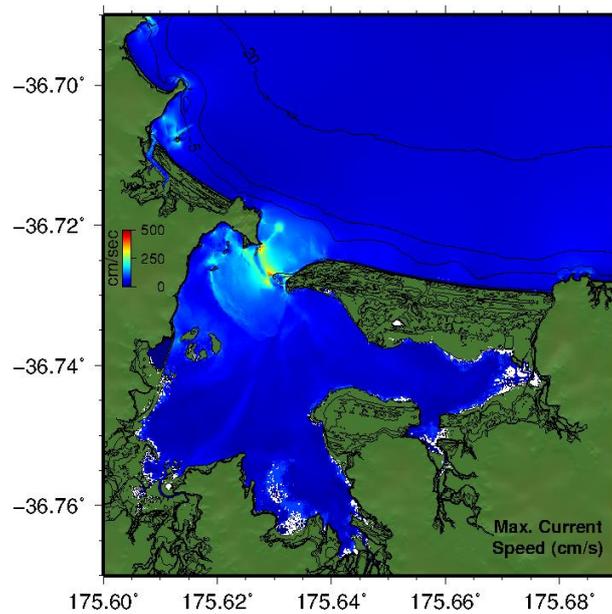
B Grid - Height



C Grid - Height

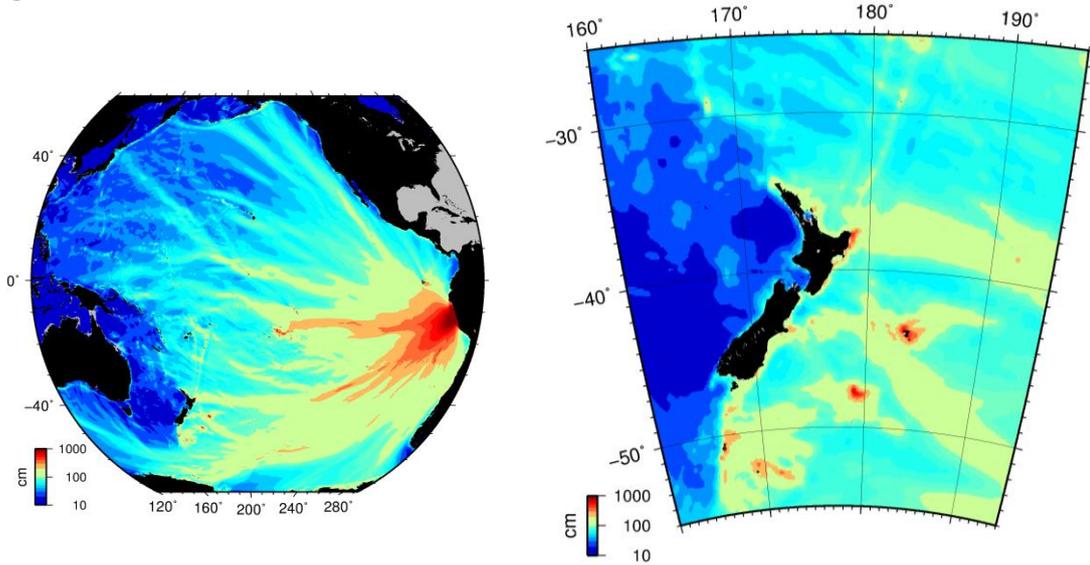


Current Speed

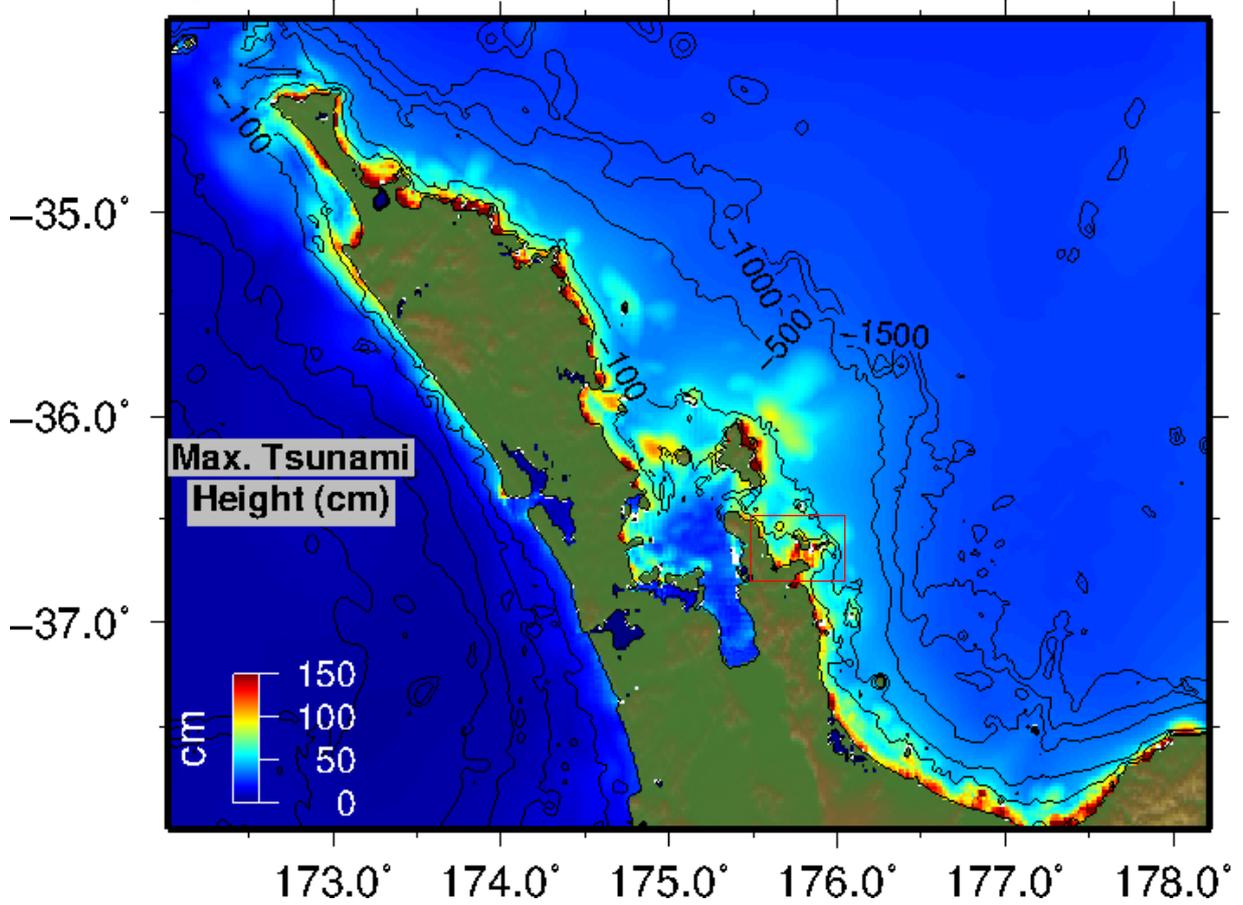


11.7 Central Peru

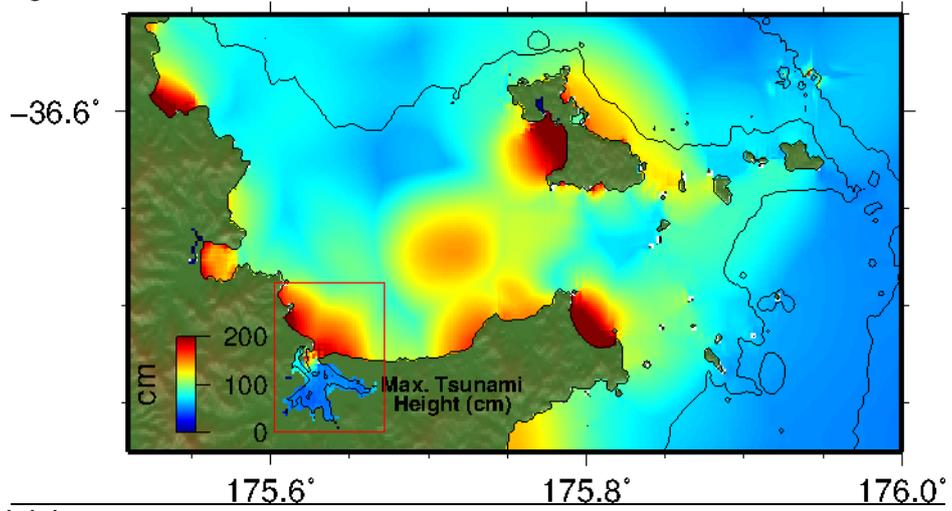
Propagation Model



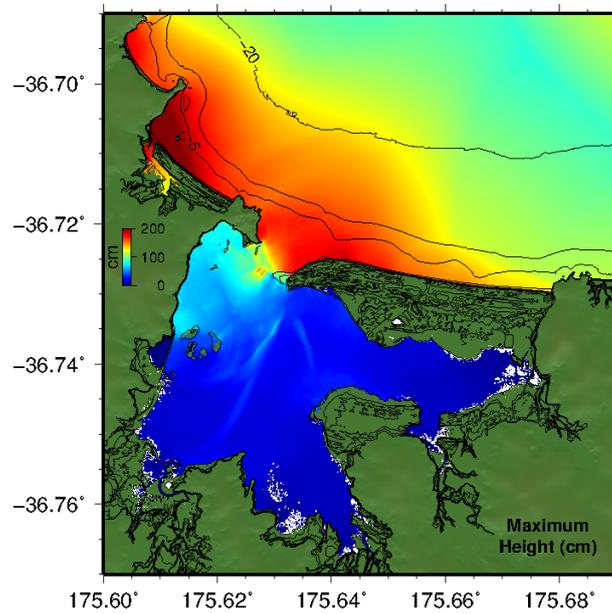
A Grid – Height



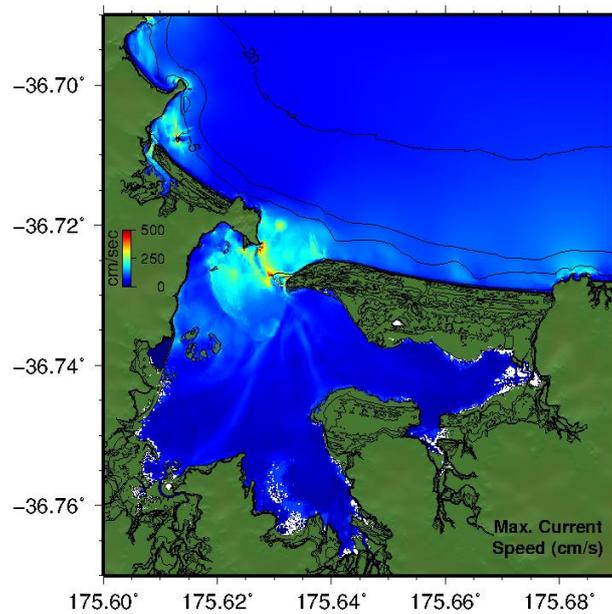
B Grid - Height



C Grid - Height



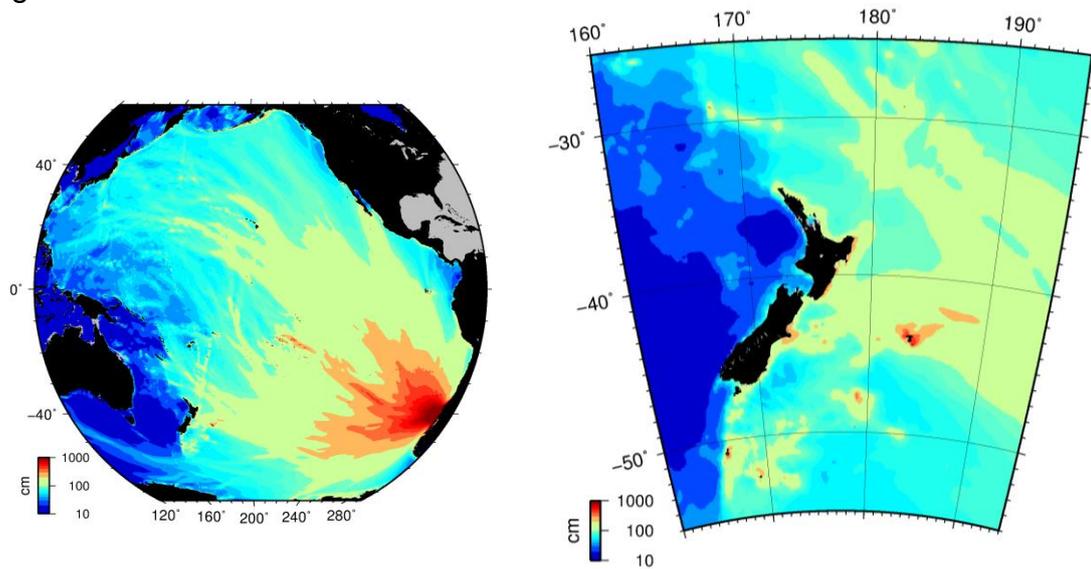
Current Speed



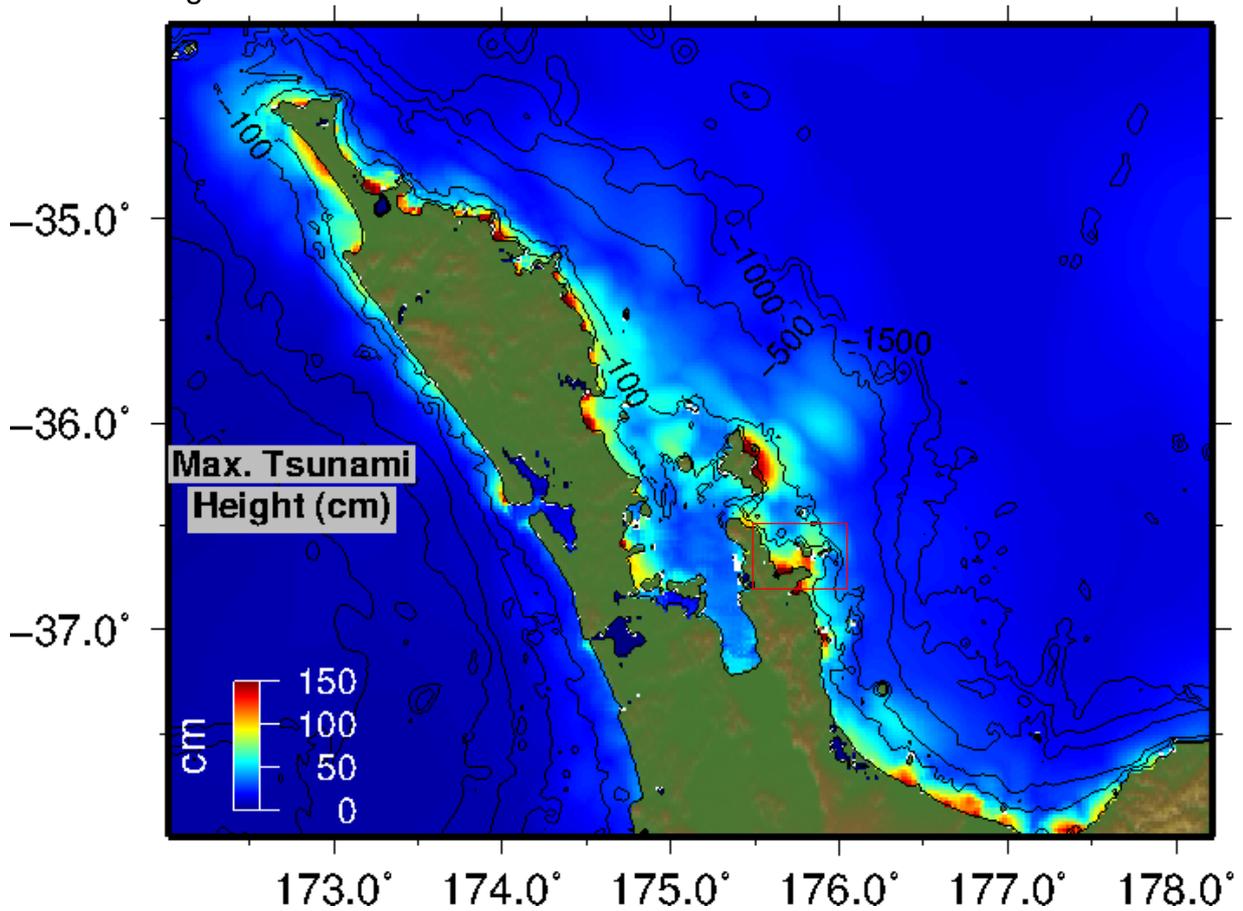
12 APPENDIX 12 – KUAOTUNU: DISTANT SOURCE TSUNAMI

12.1 Valdivia, Chile 1960

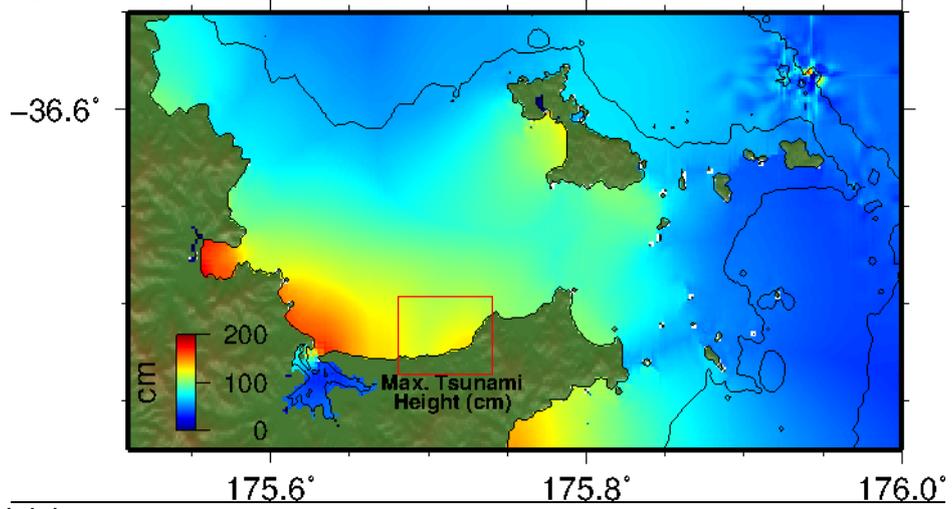
Propagation Model



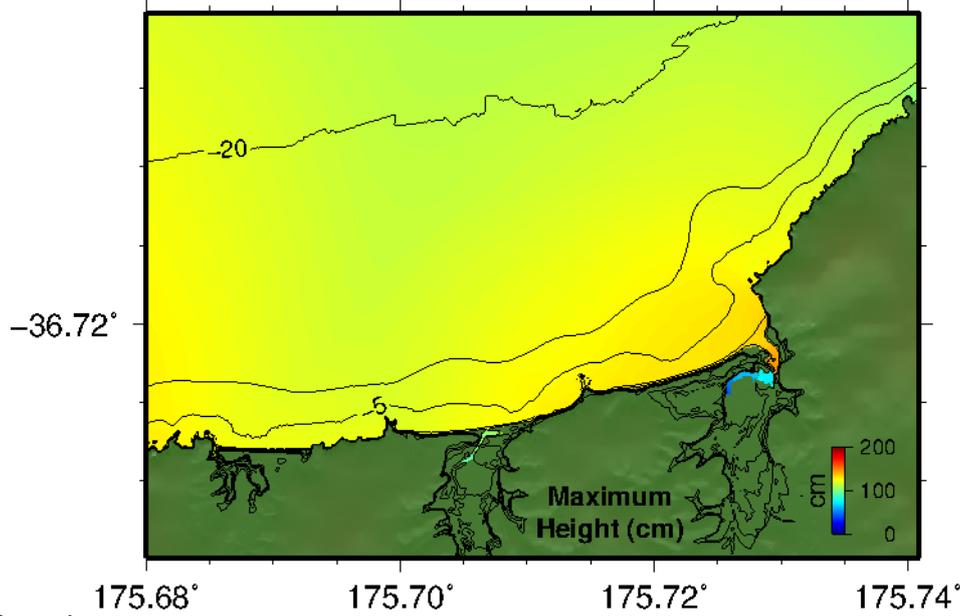
A Grid – Height



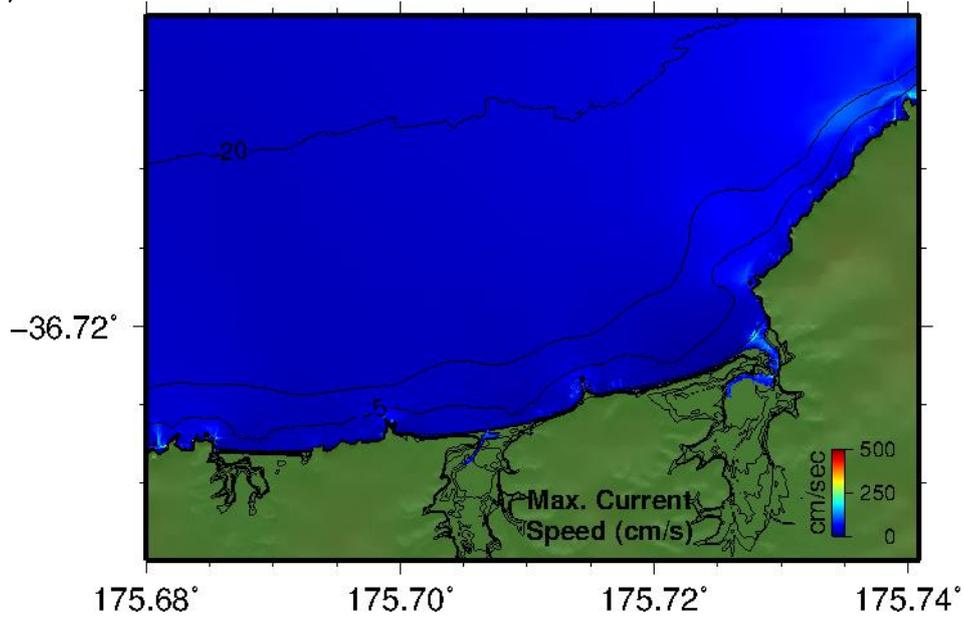
B Grid - Height



C Grid - Height

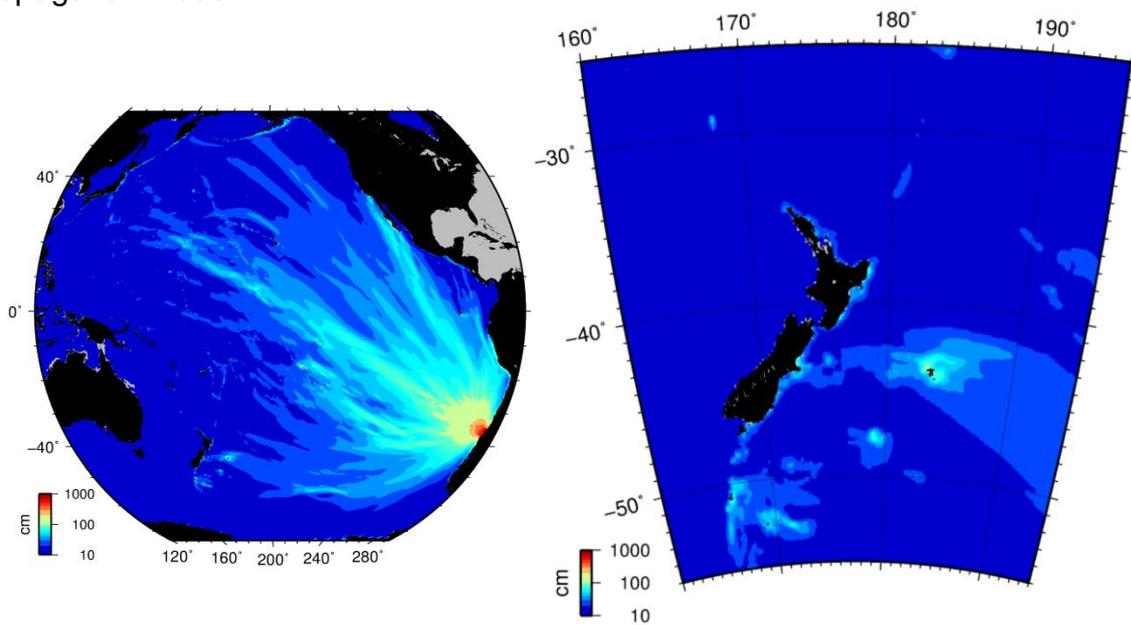


Current Speed

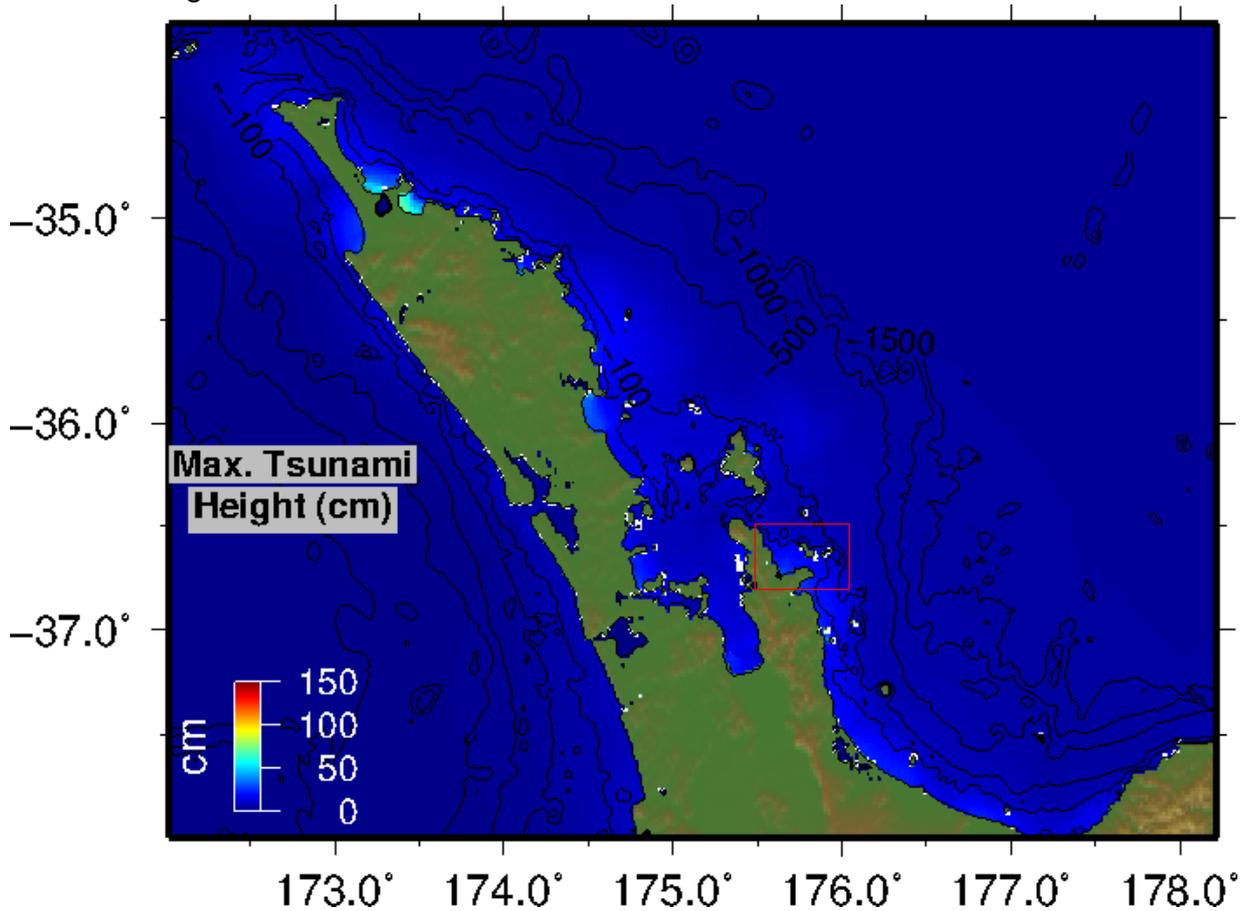


12.2 Maule, Chile 2010

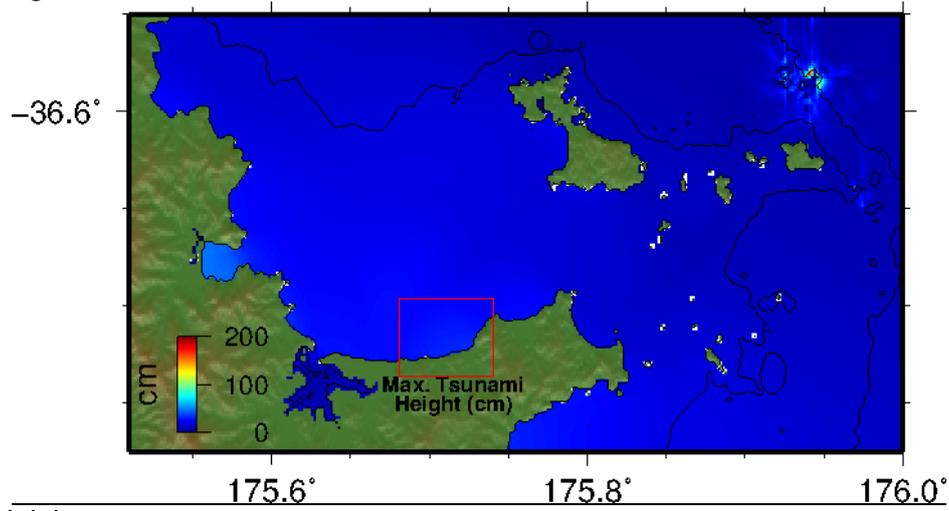
Propagation Model



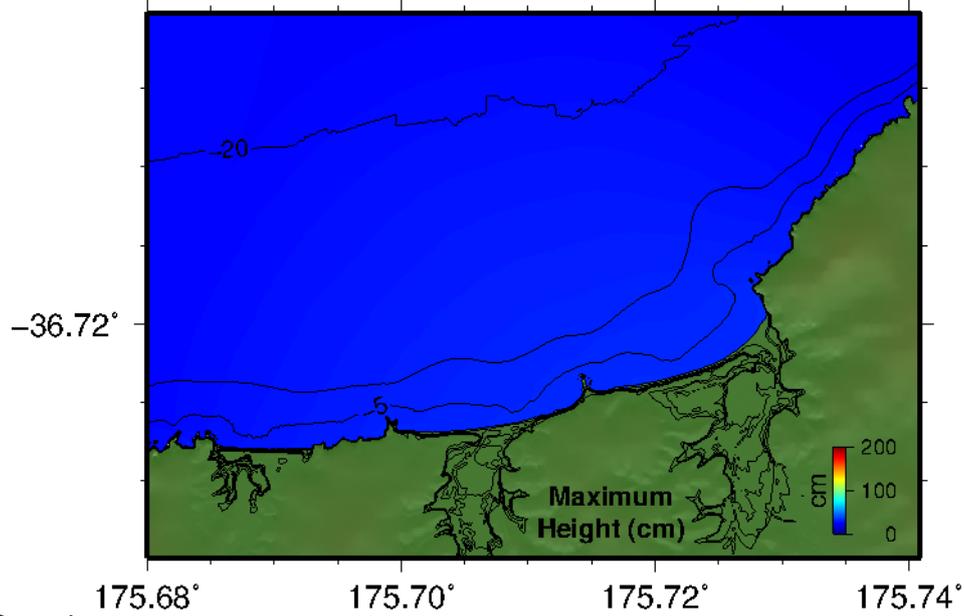
A Grid – Height



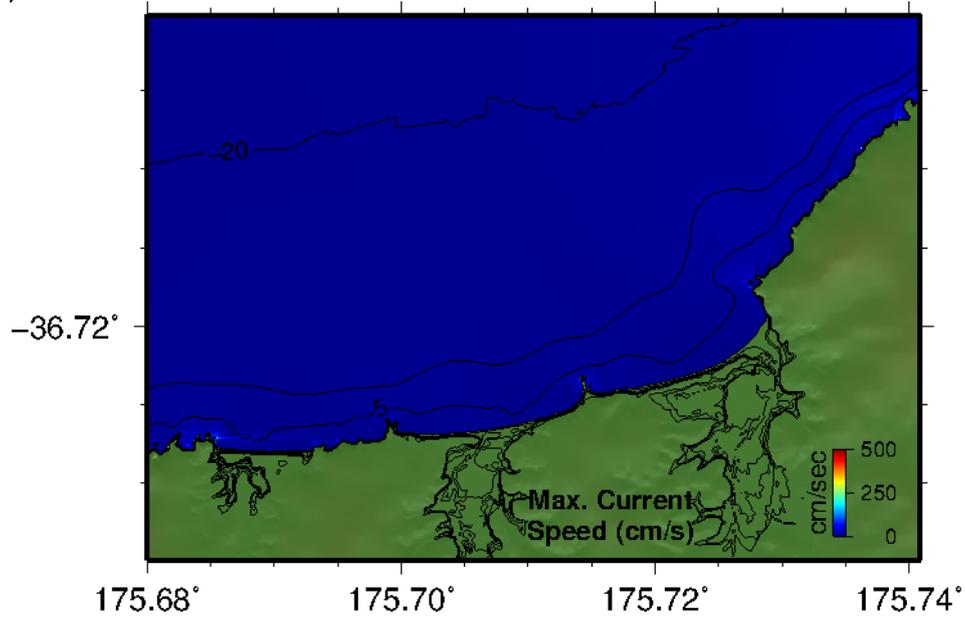
B Grid - Height



C Grid - Height

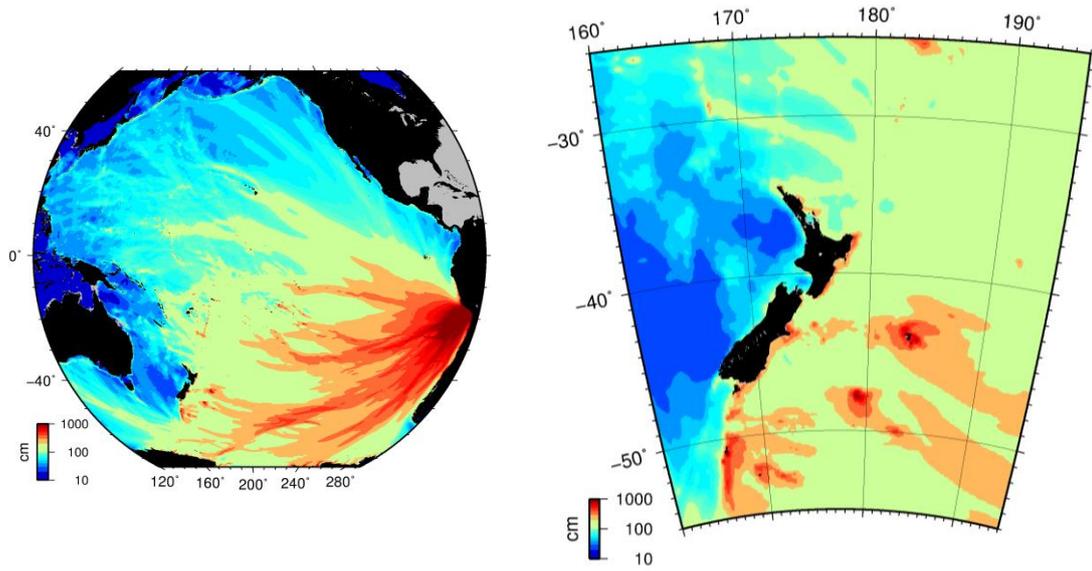


Current Speed

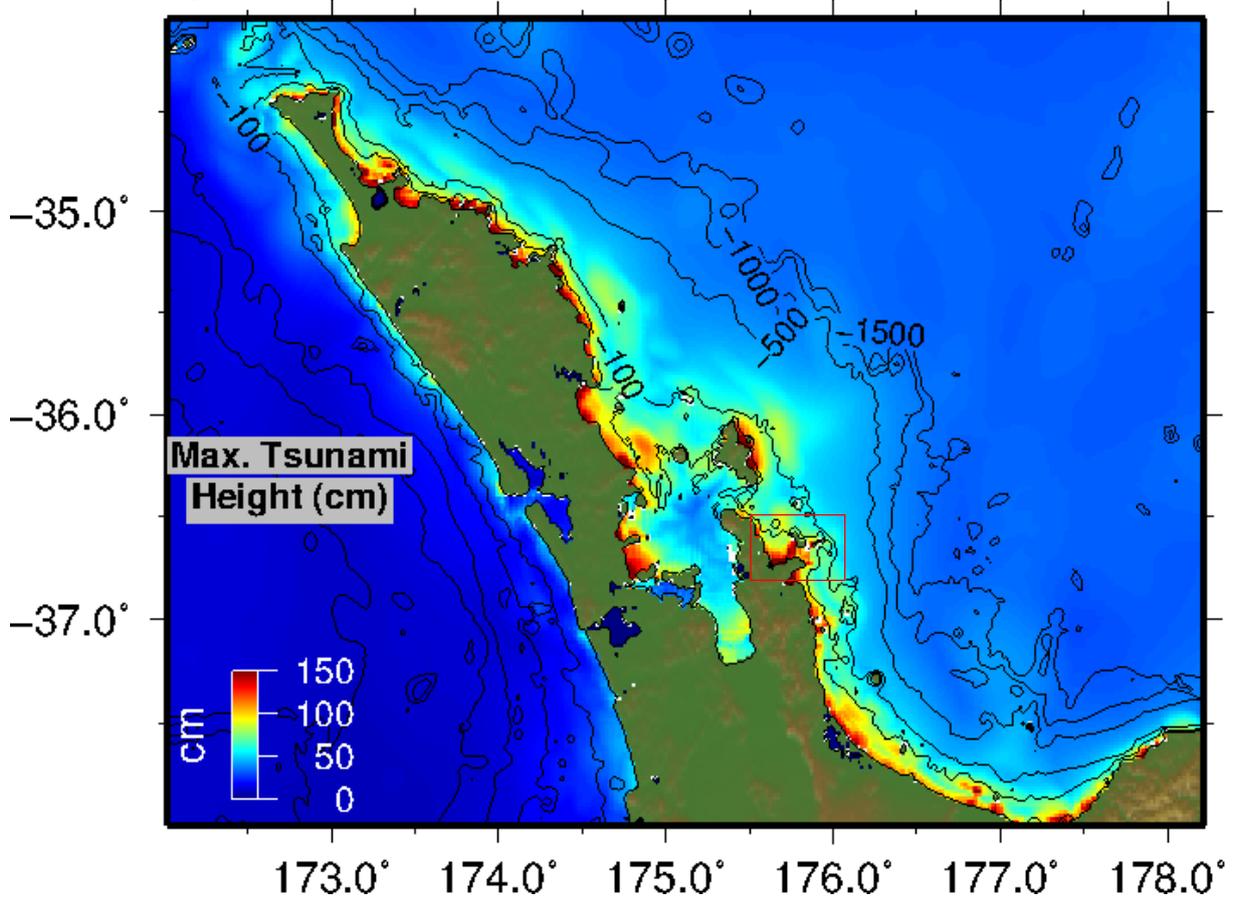


12.3 Arica, 1868

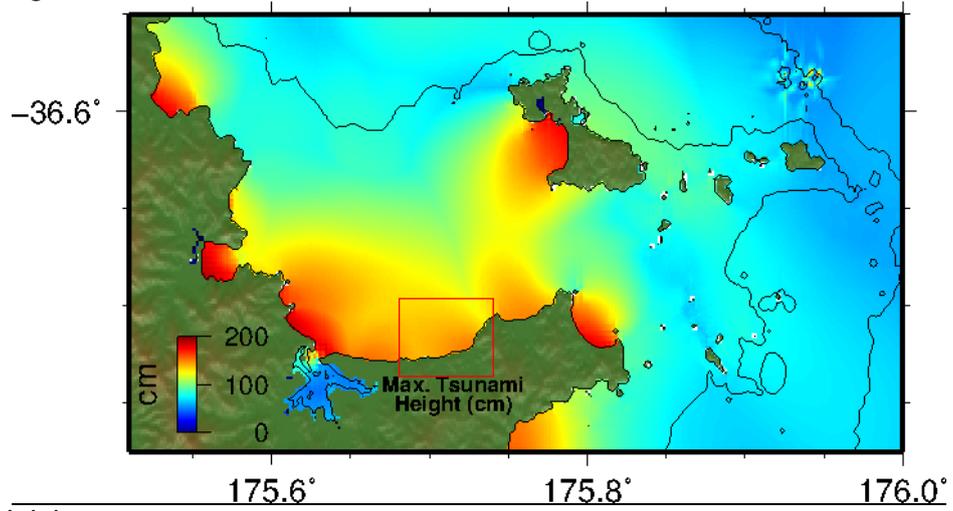
Propagation Model



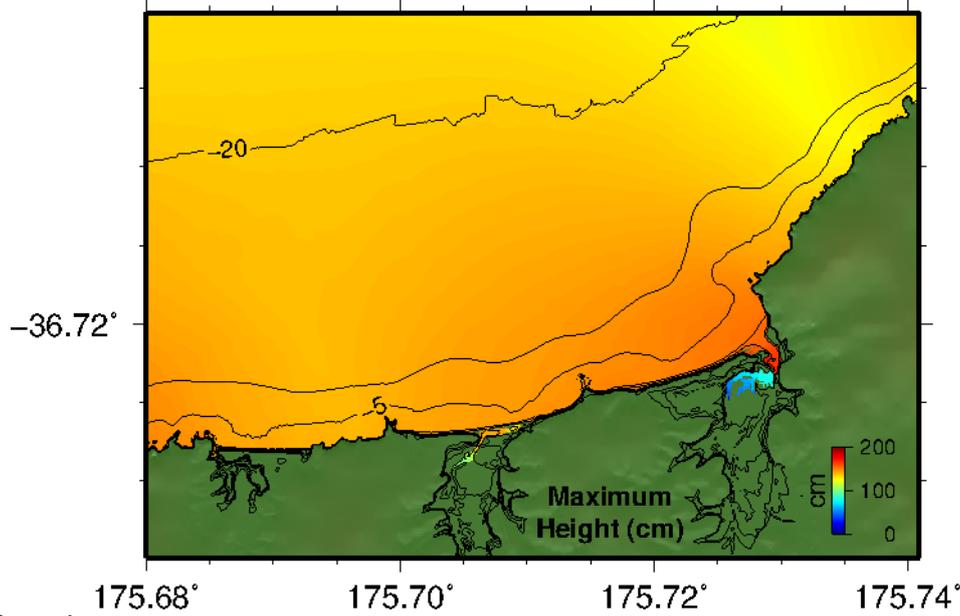
A Grid – Height



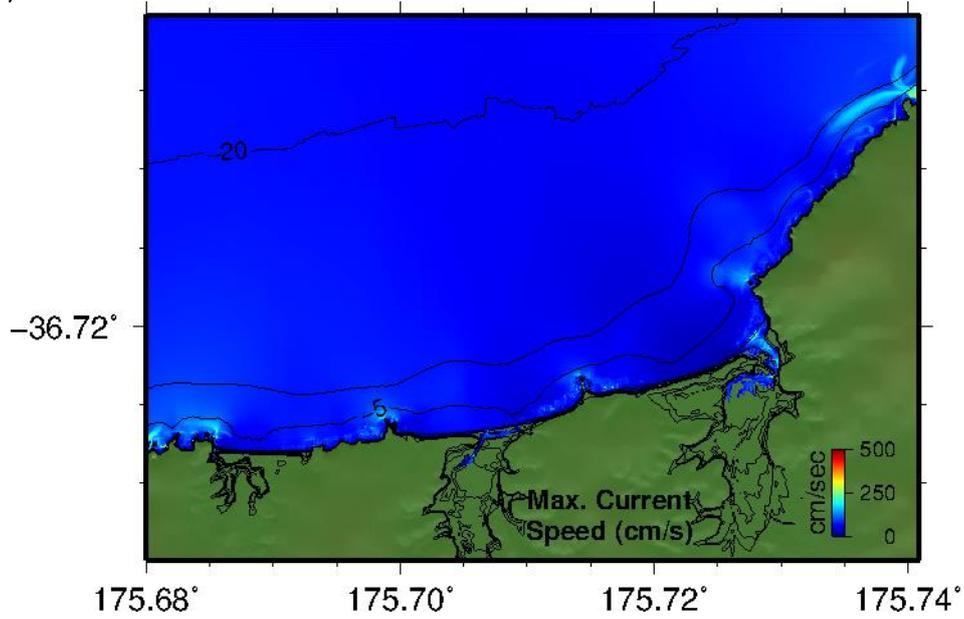
B Grid - Height



C Grid - Height

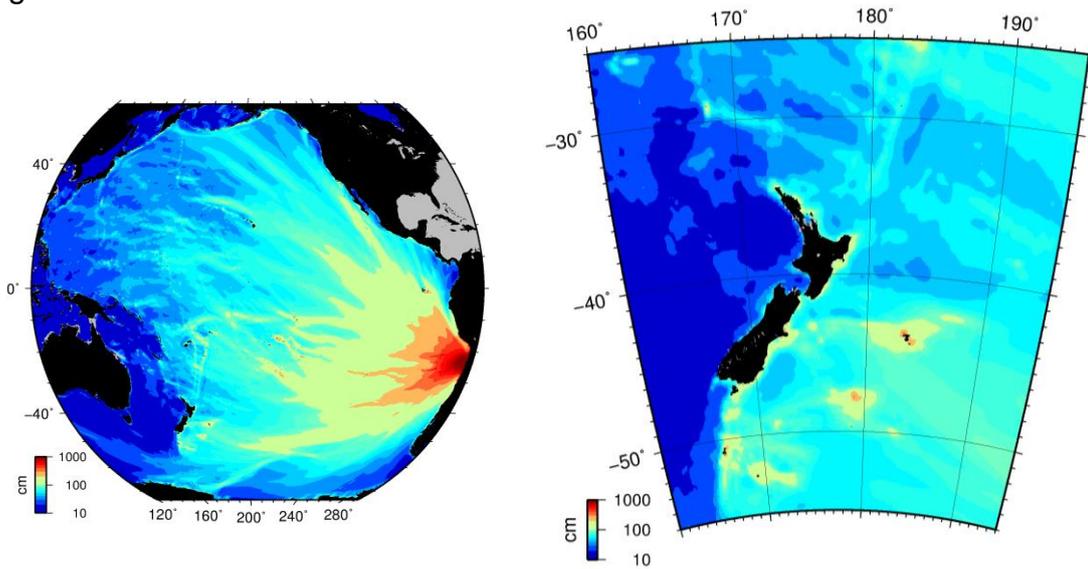


Current Speed

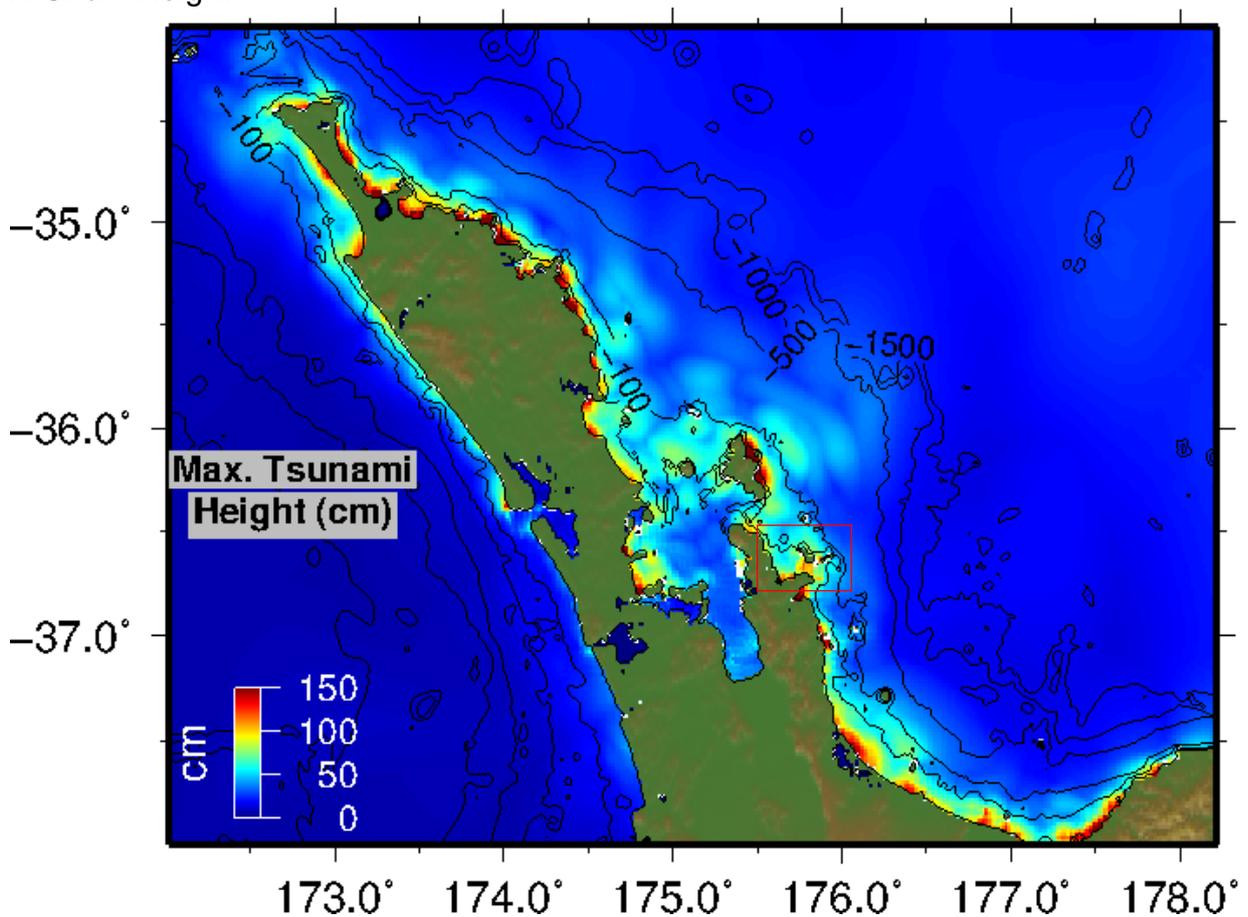


12.4 Chile North 1

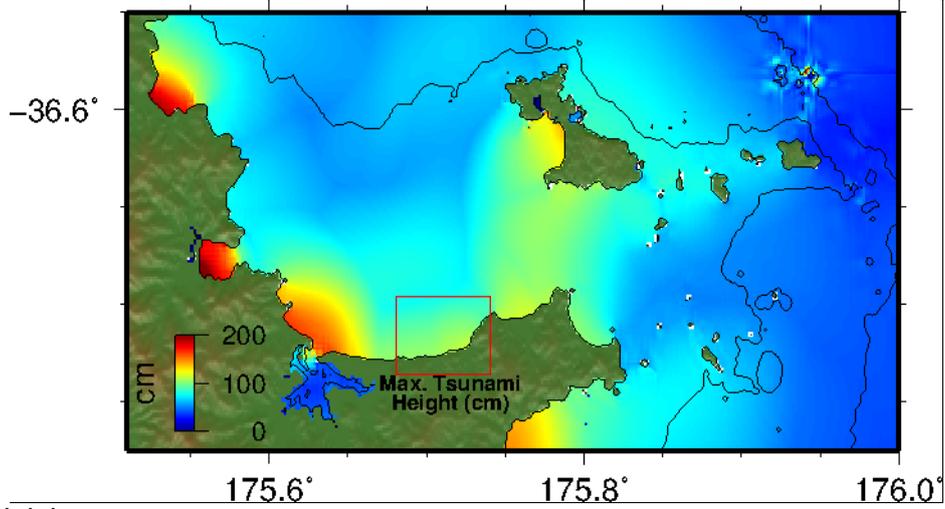
Propagation Model



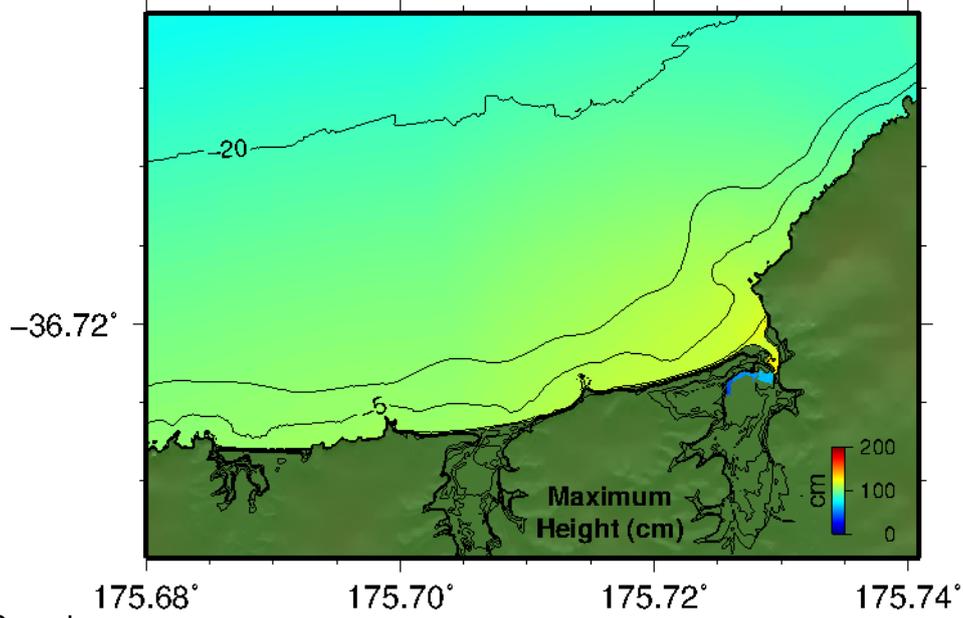
A Grid – Height



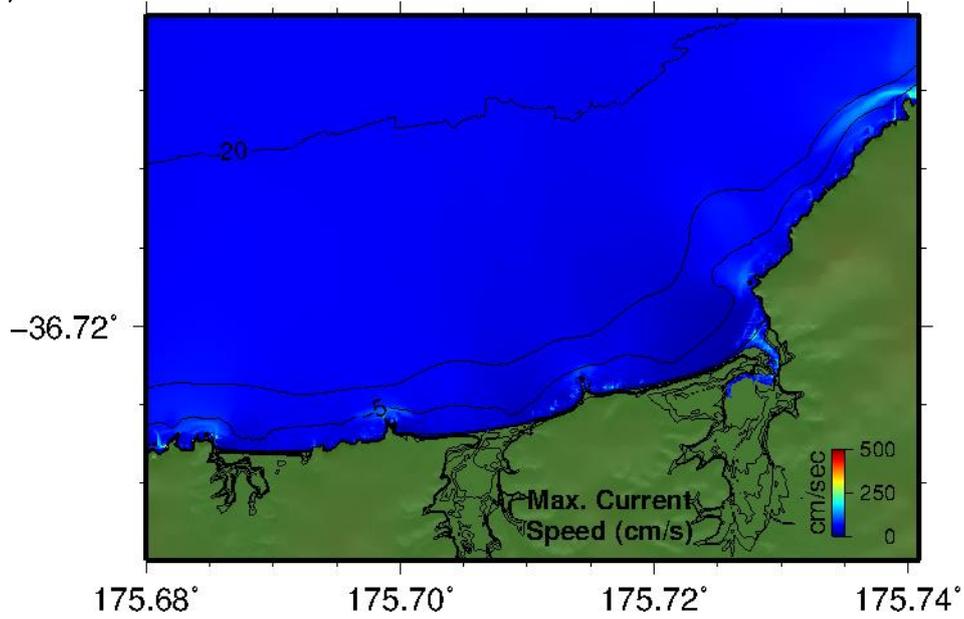
B Grid - Height



C Grid - Height

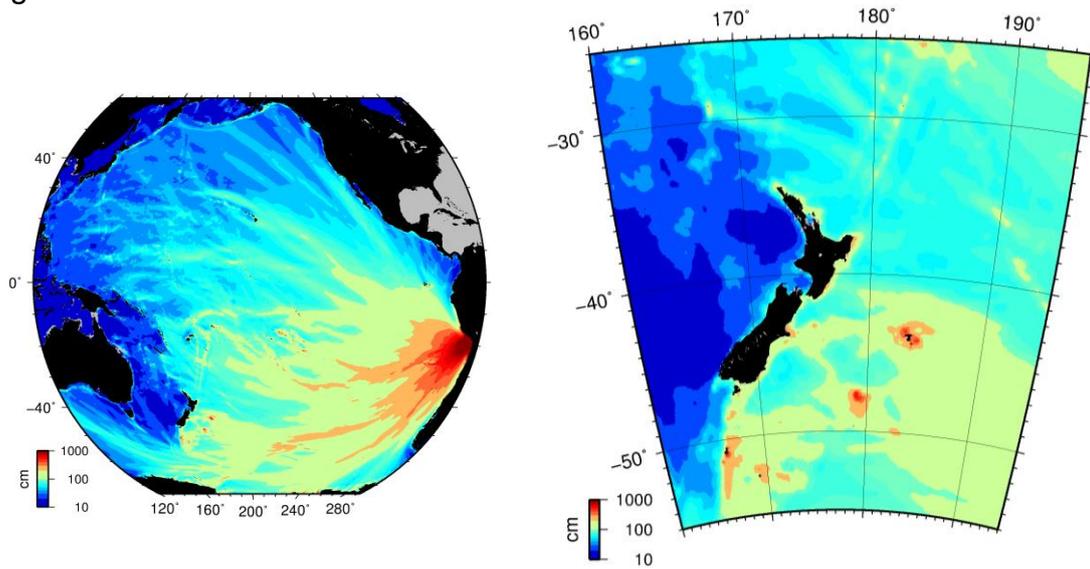


Current Speed

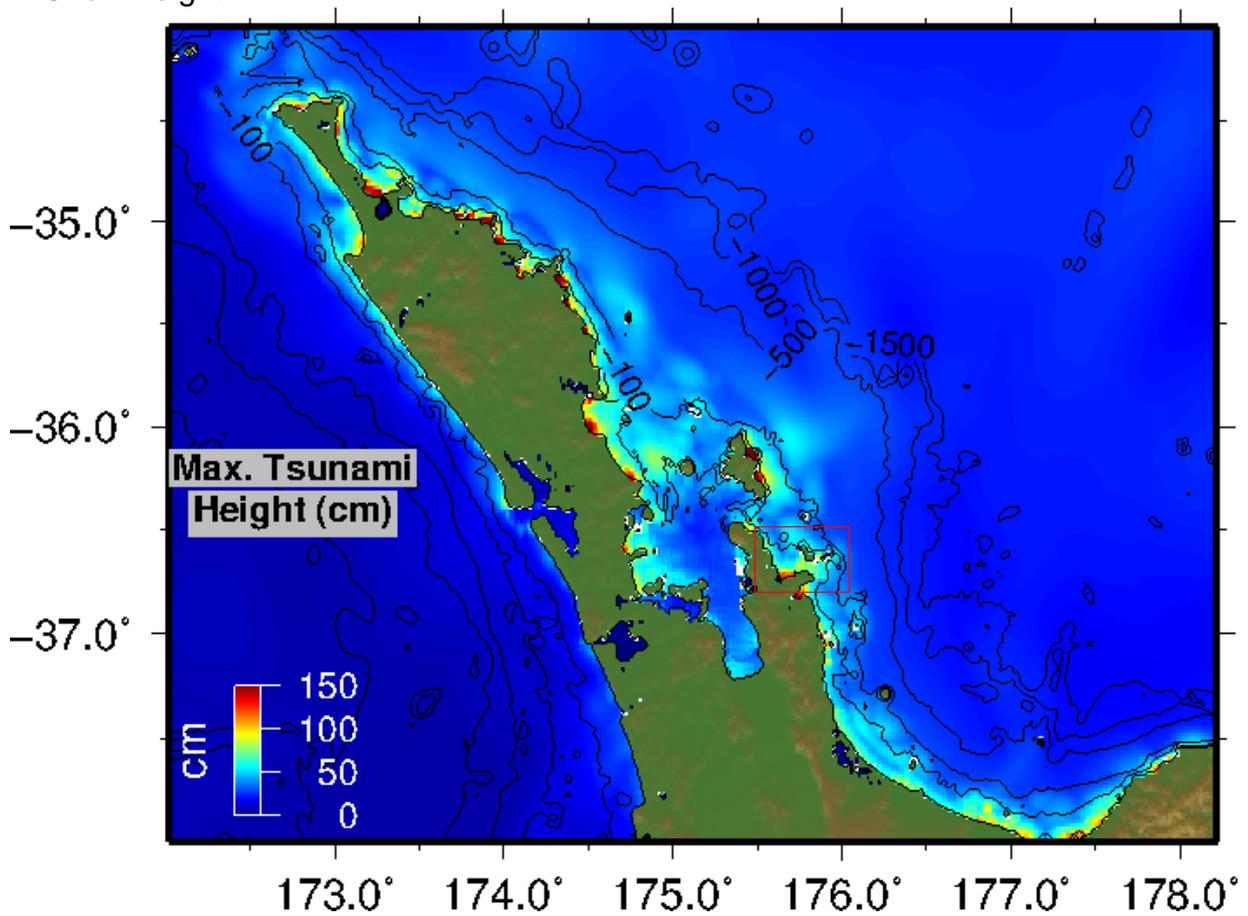


12.5 Chile North 2

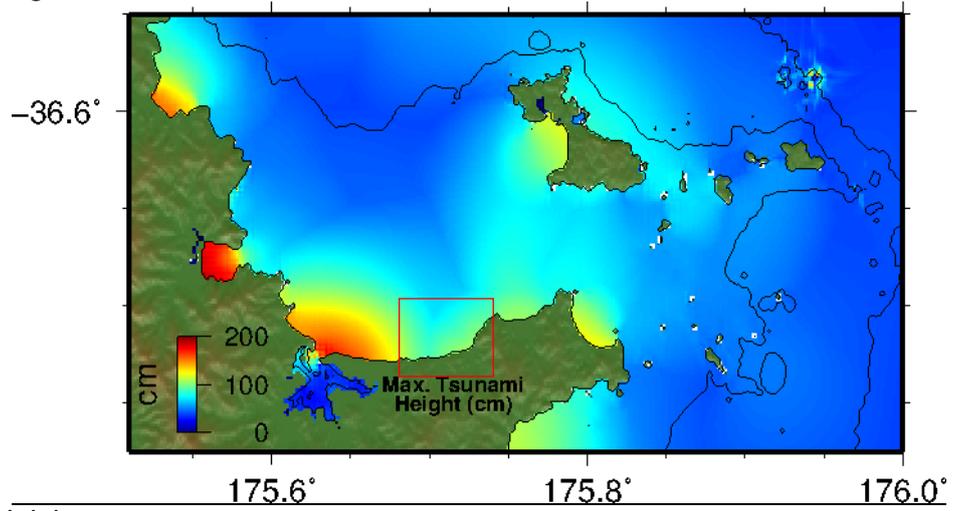
Propagation Model



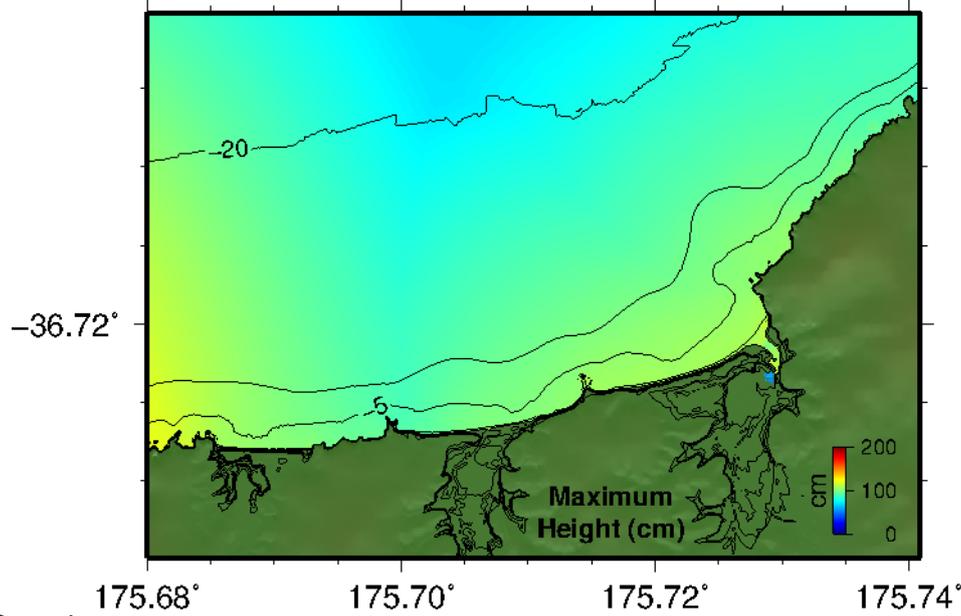
A Grid - Height



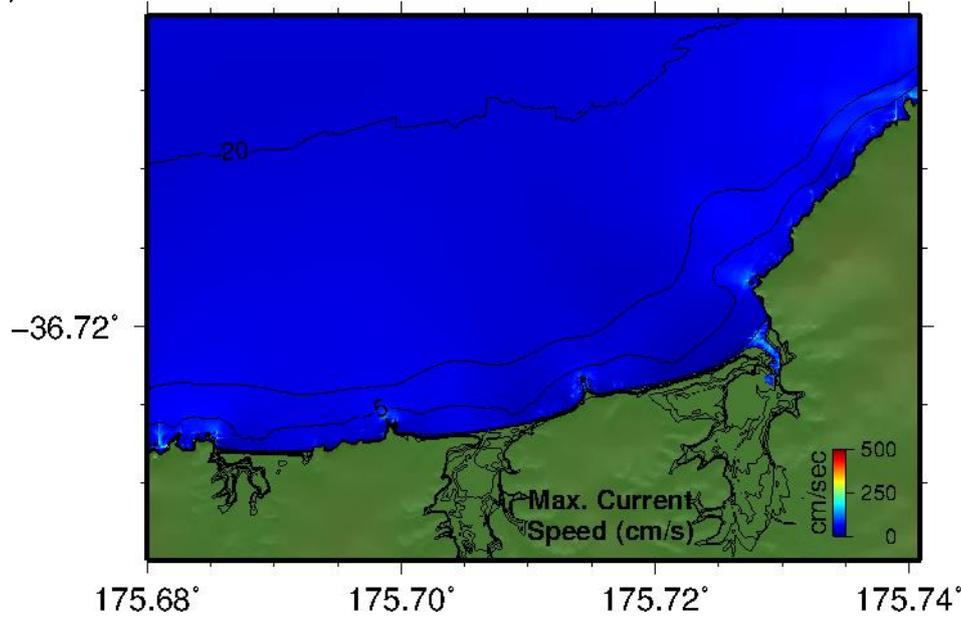
B Grid - Height



C Grid - Height

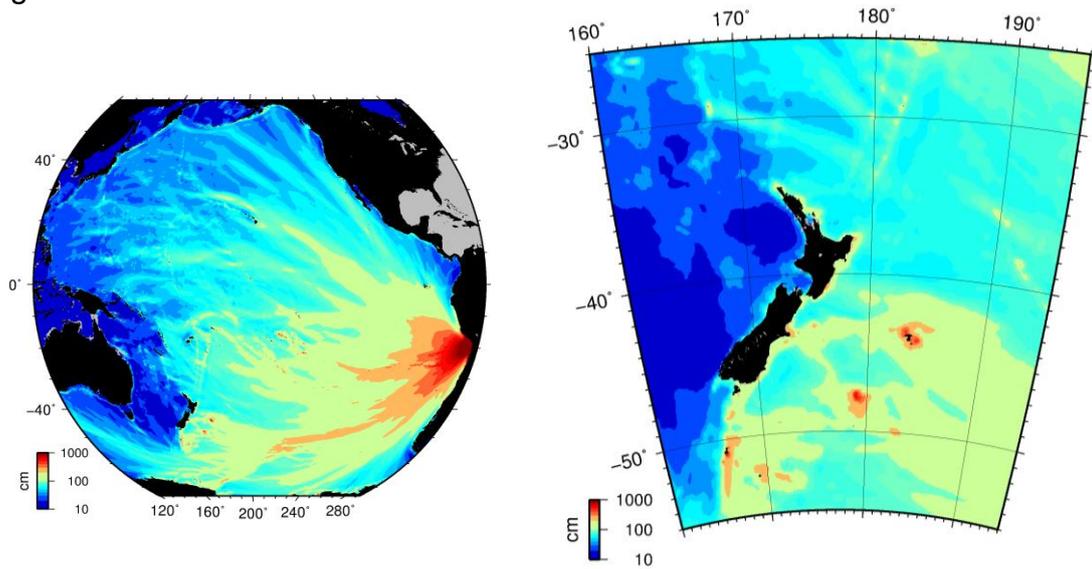


Current Speed

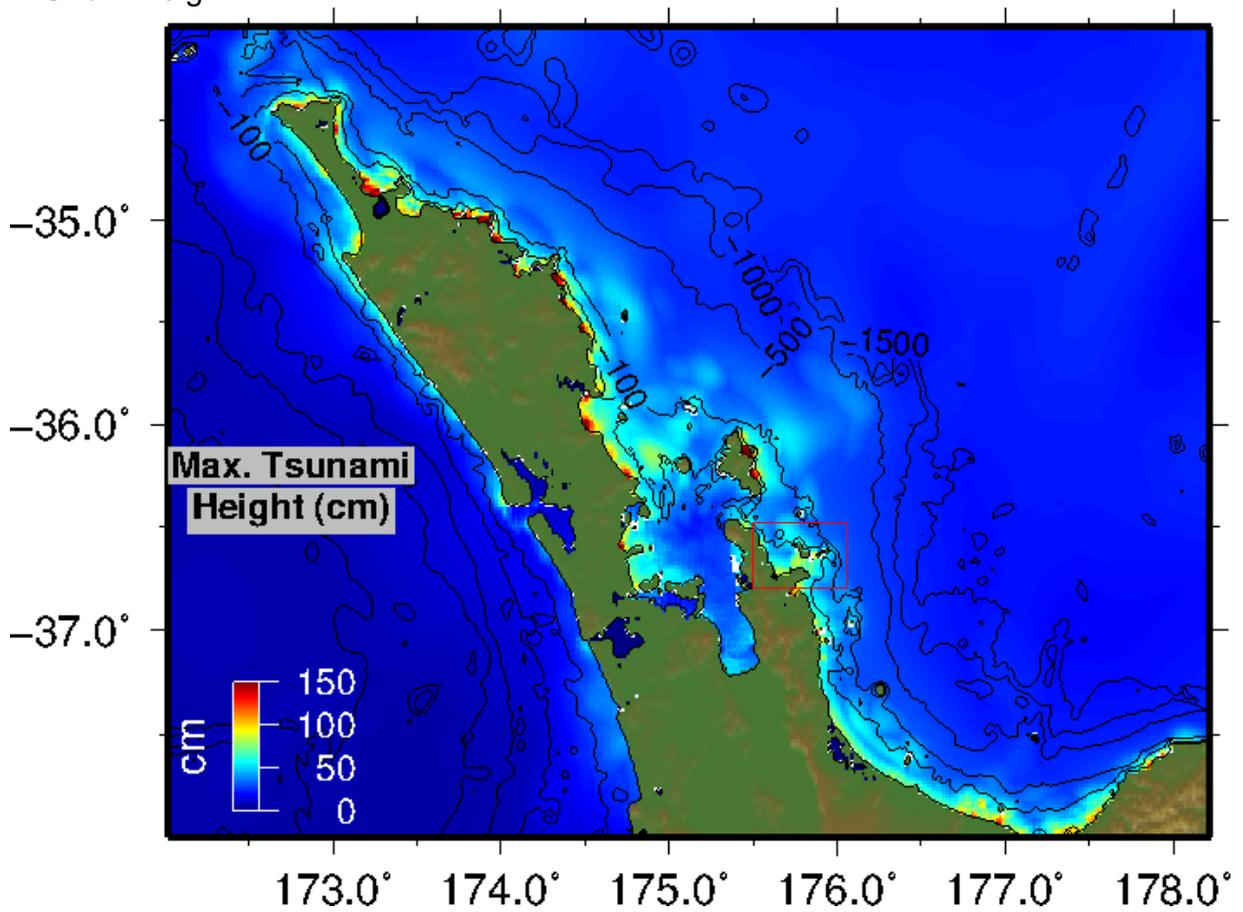


12.6 Chile North 3

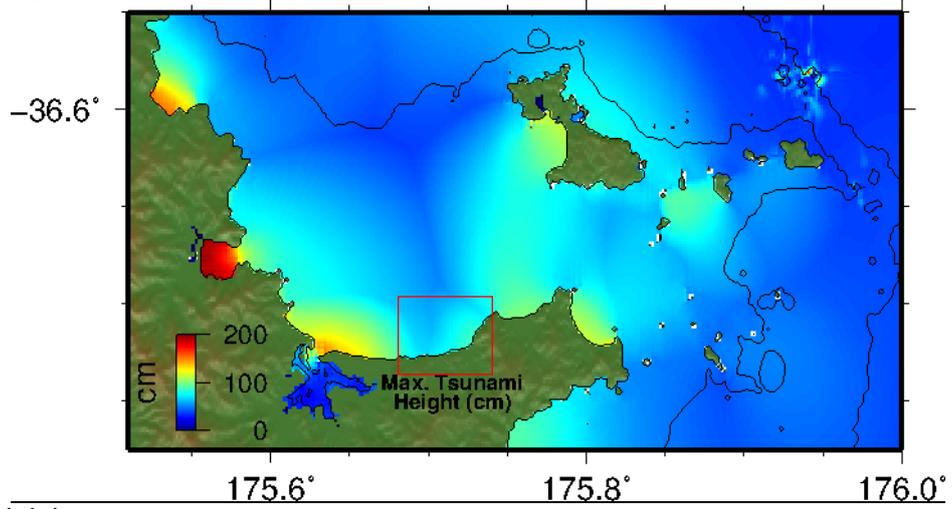
Propagation Model



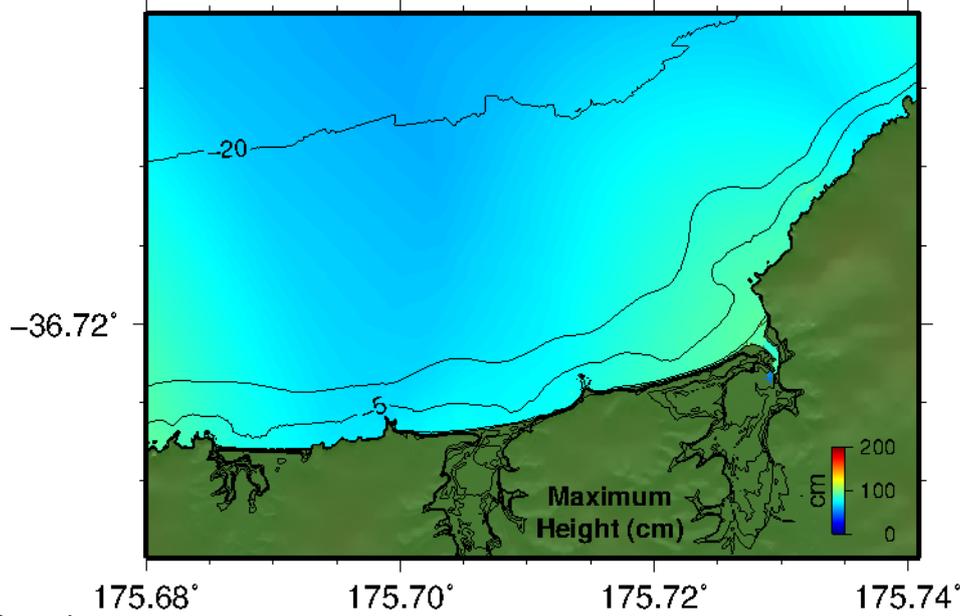
A Grid – Height



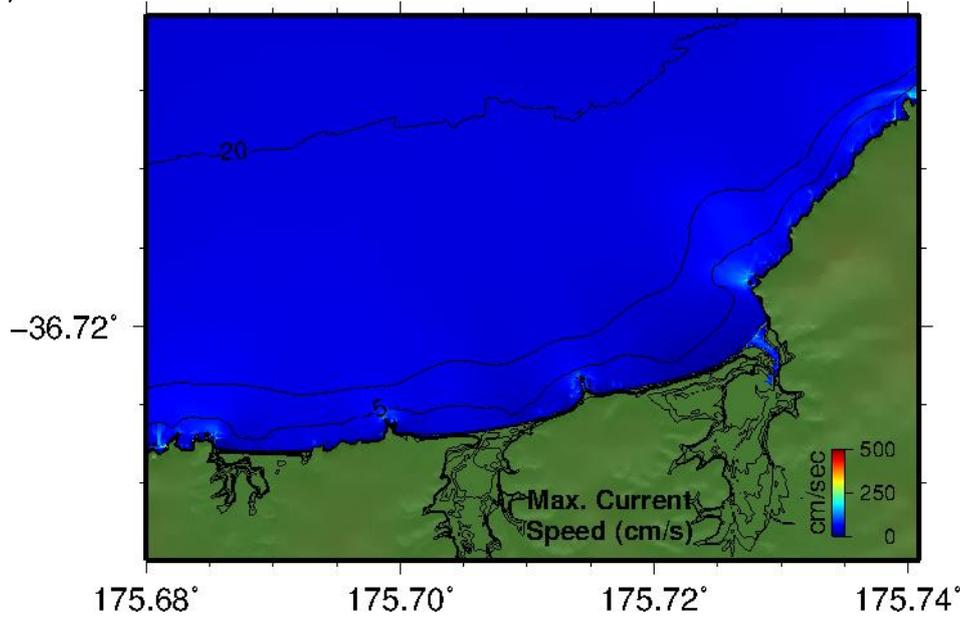
B Grid - Height



C Grid - Height

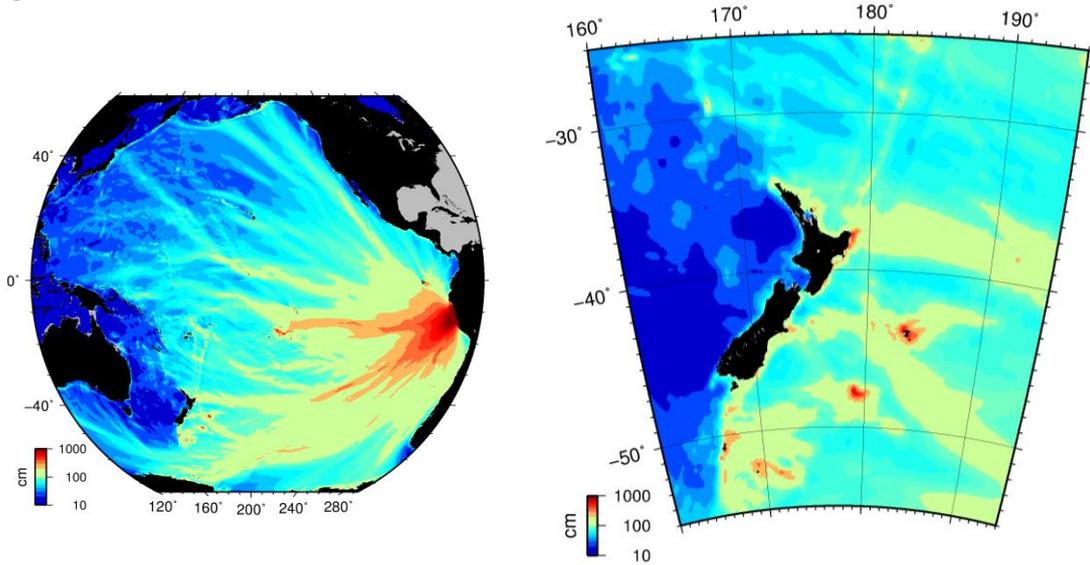


Current Speed

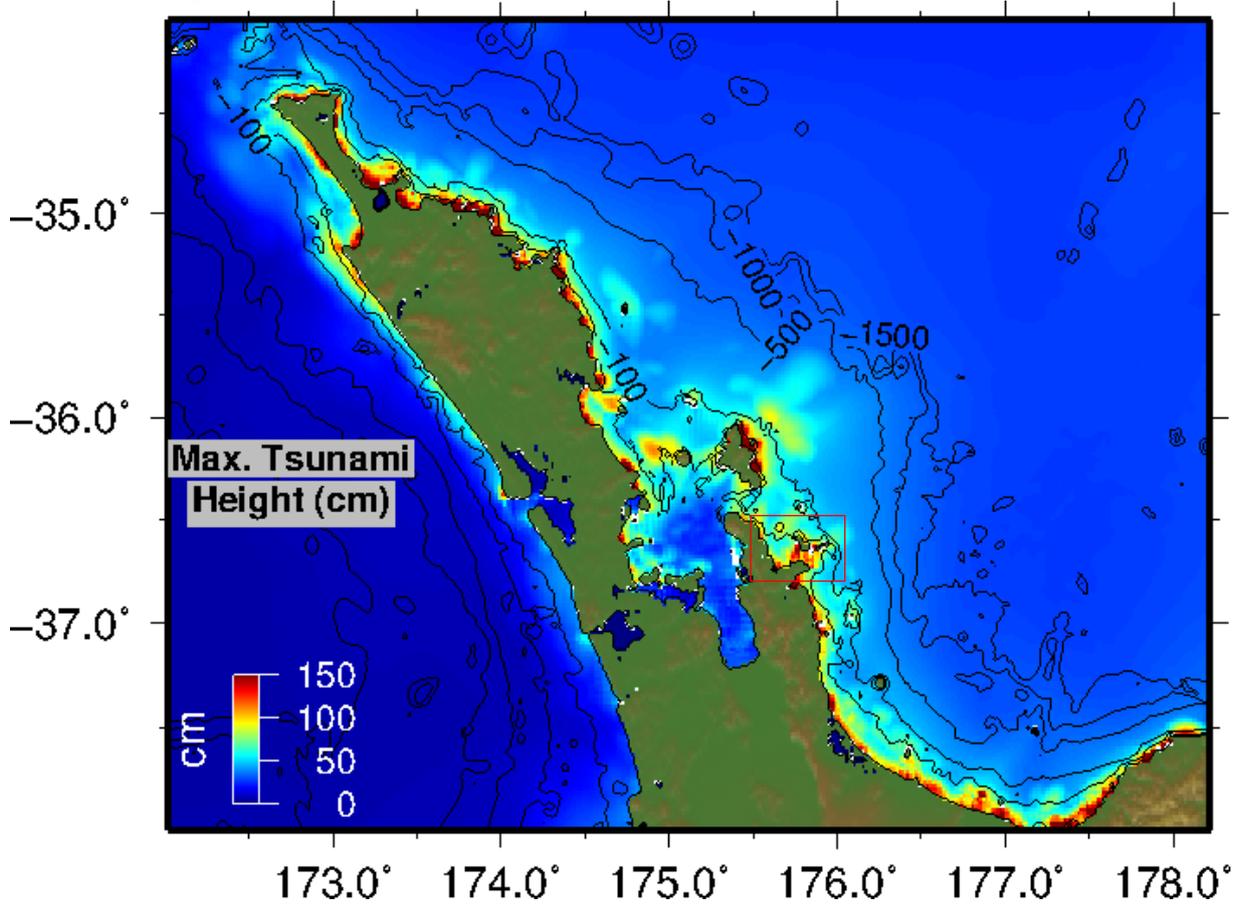


12.7 Central Peru

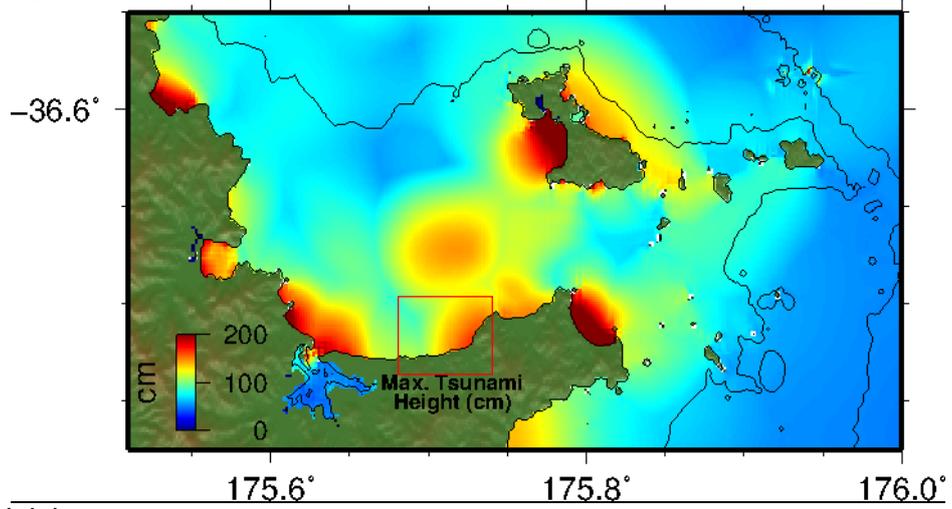
Propagation Model



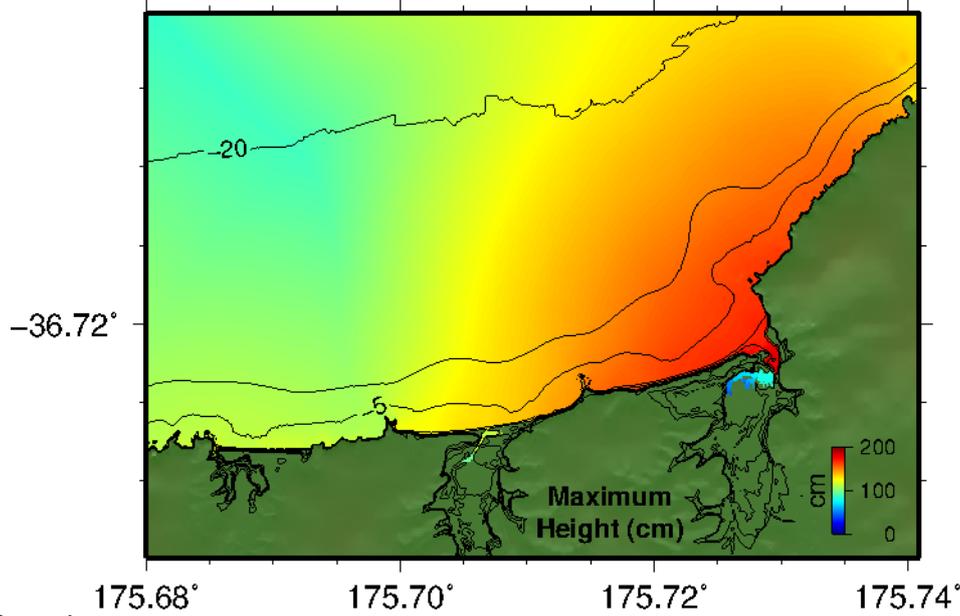
A Grid – Height



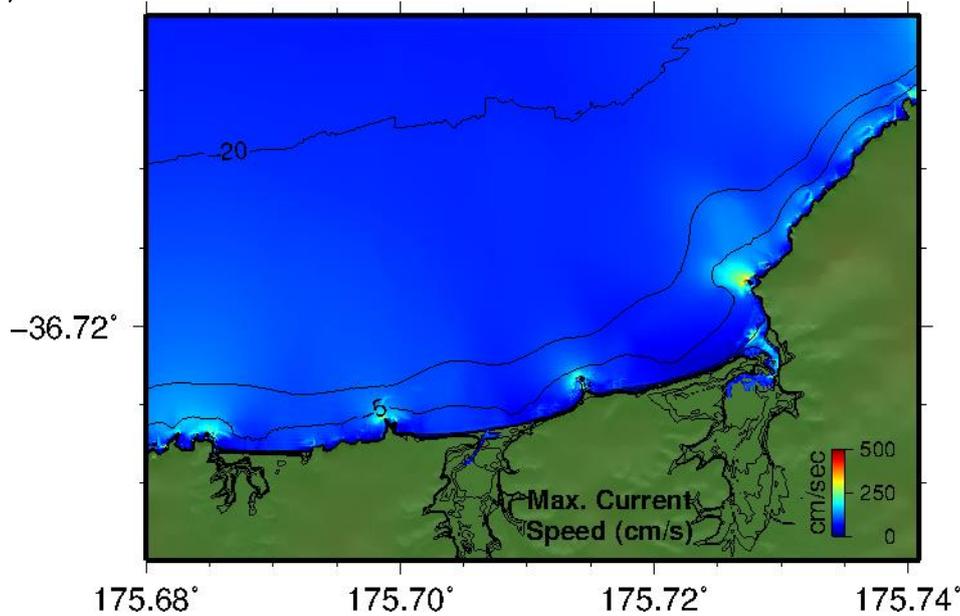
B Grid - Height



C Grid - Height



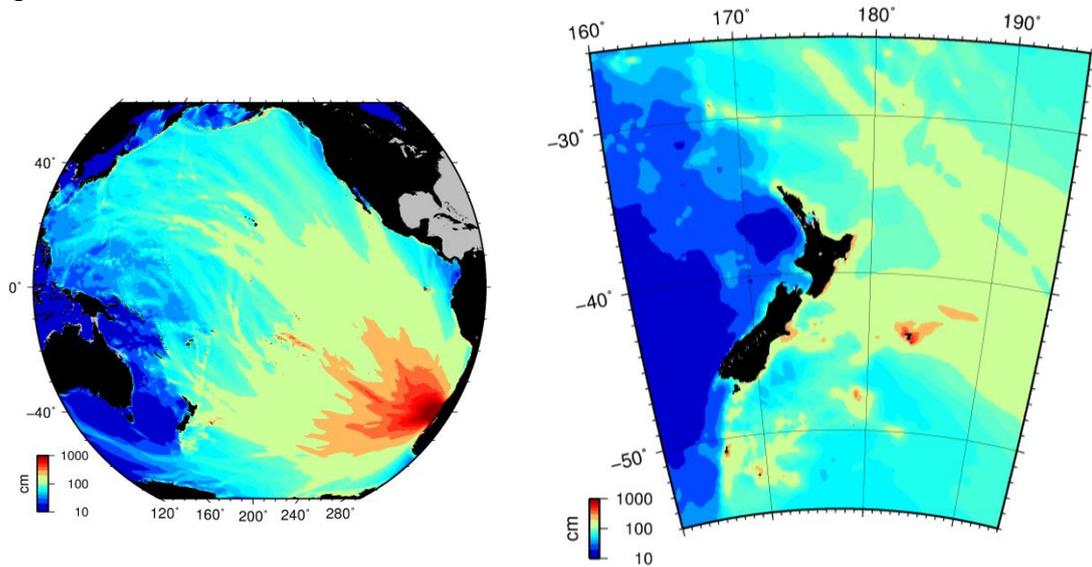
Current Speed



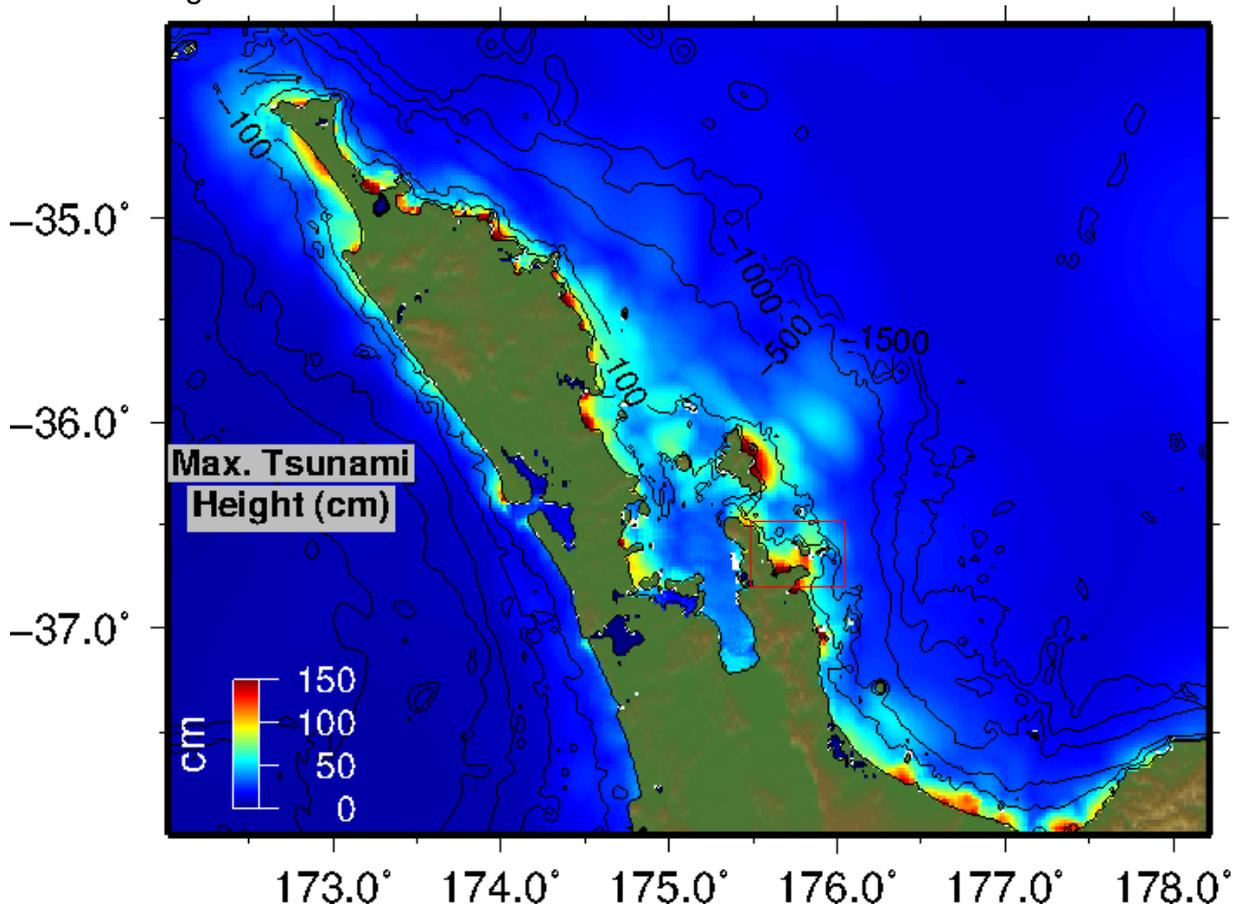
13 APPENDIX 13 – OPITO BAY: FAR-FIELD SOURCE TSUNAMI

13.1 Valdivia, Chile 1960

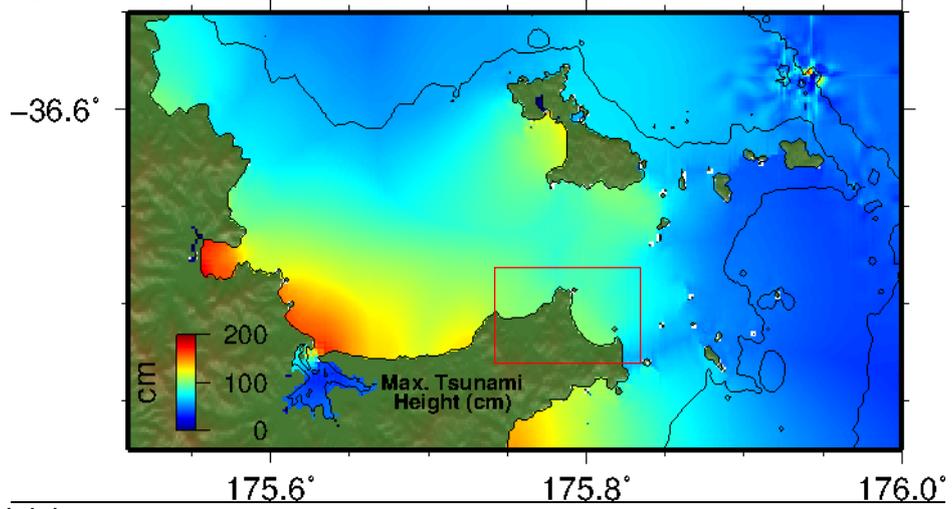
Propagation Model



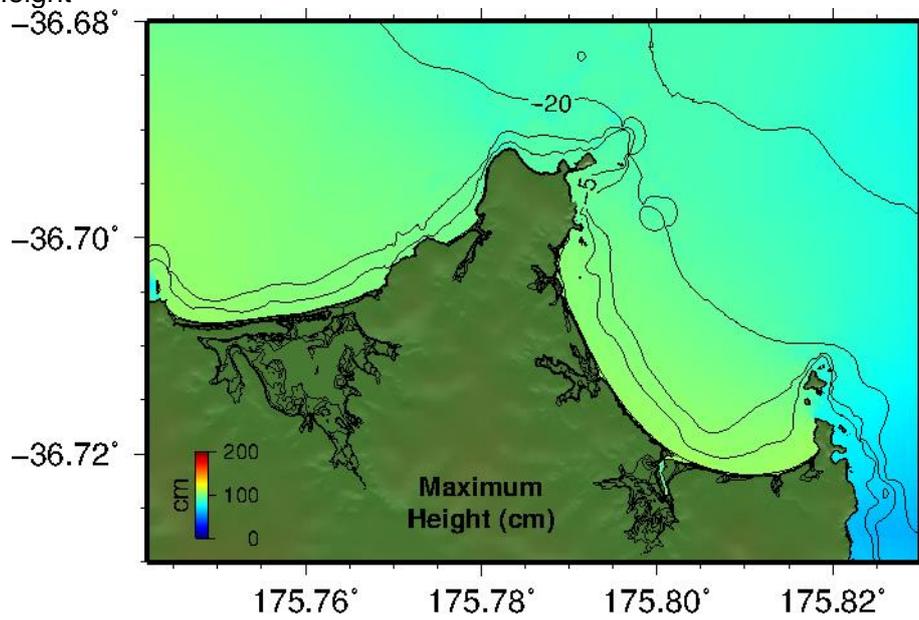
A Grid – Height



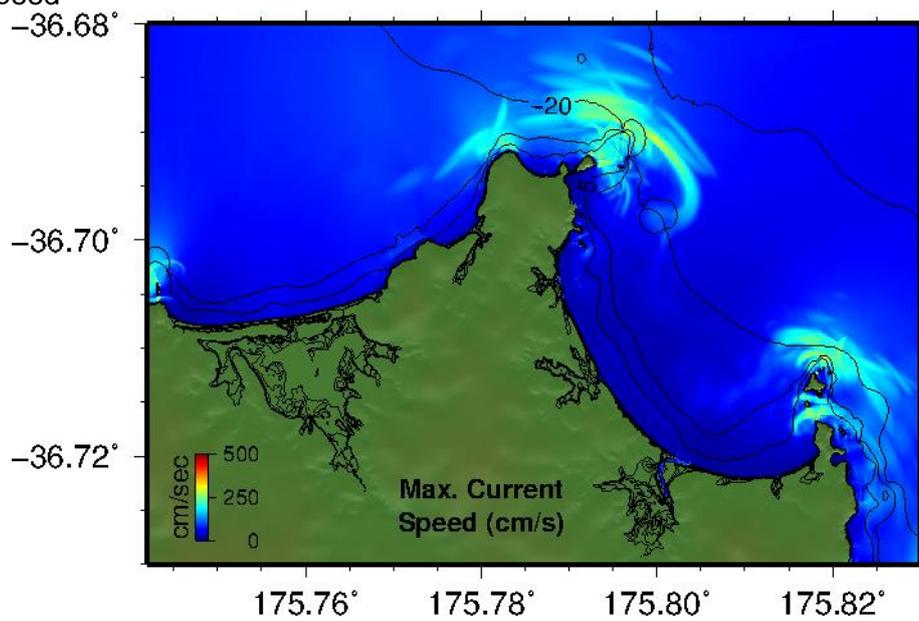
B Grid - Height



C Grid - Height

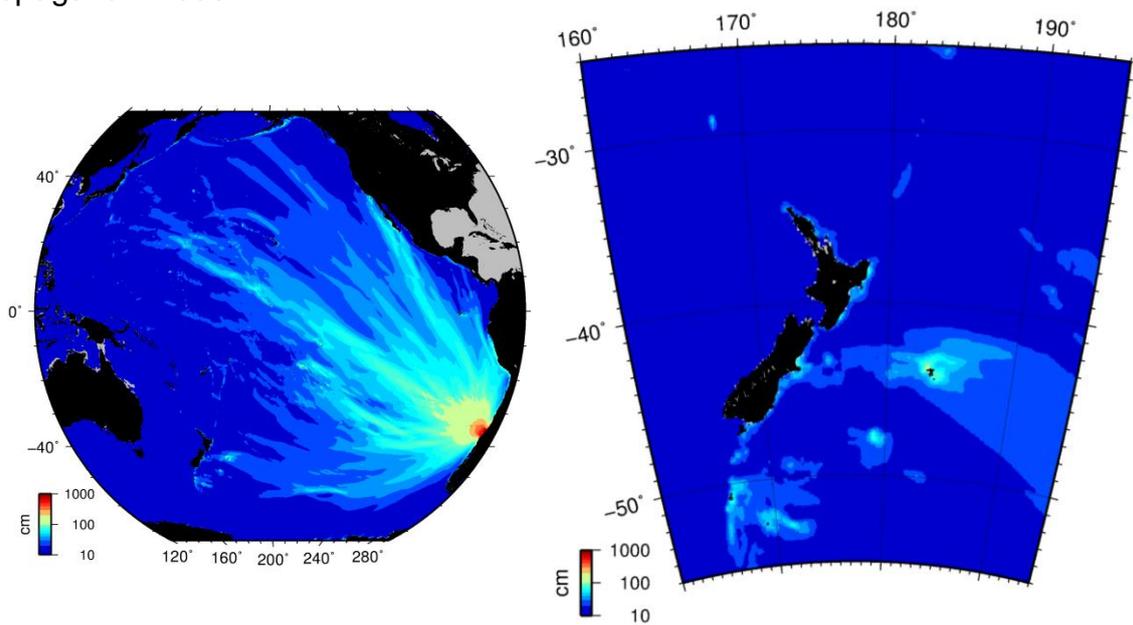


Current Speed

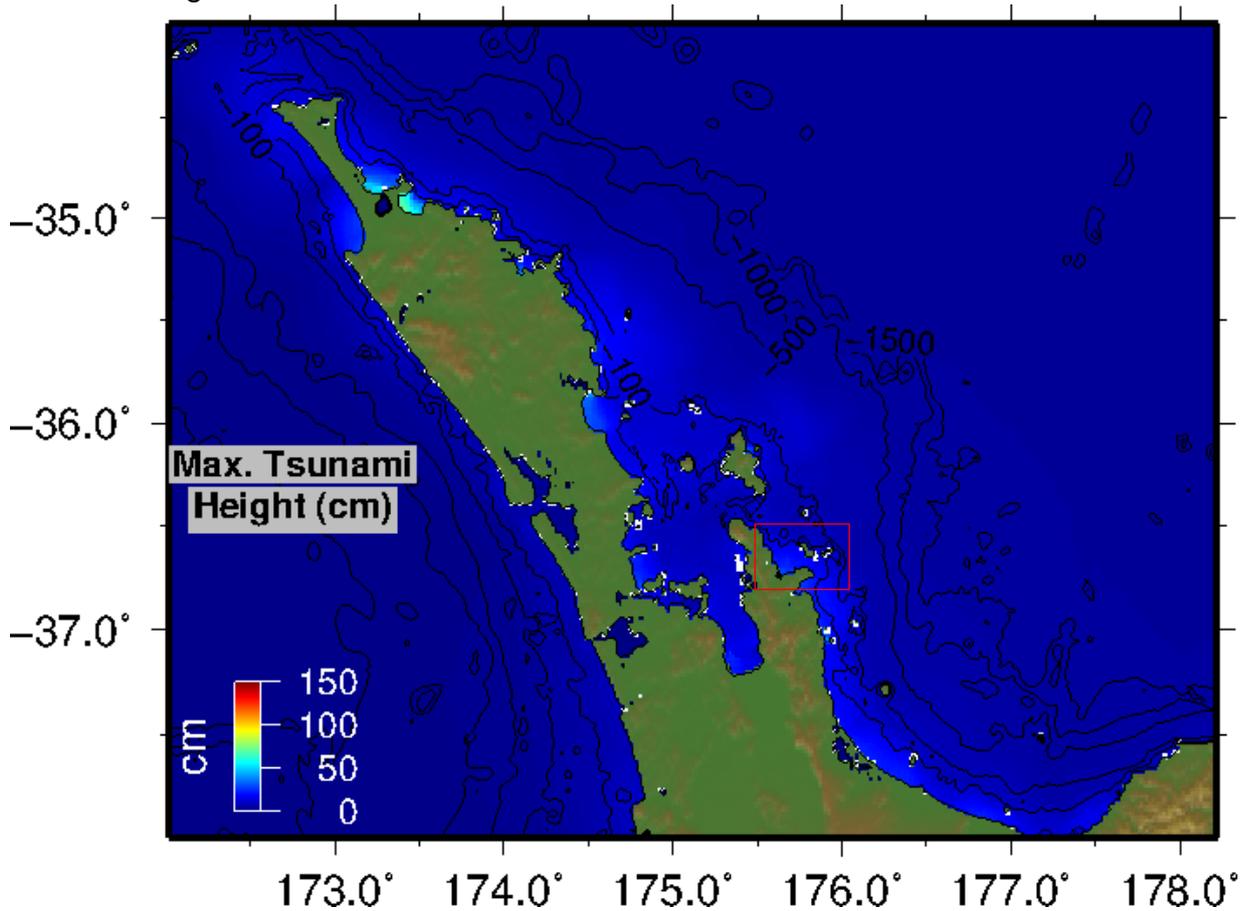


13.2 Maule, Chile 2010

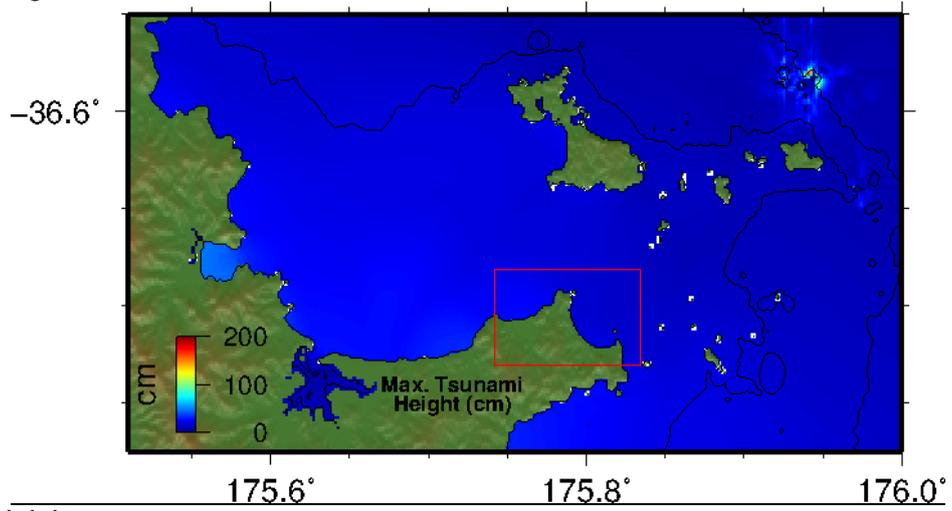
Propagation Model



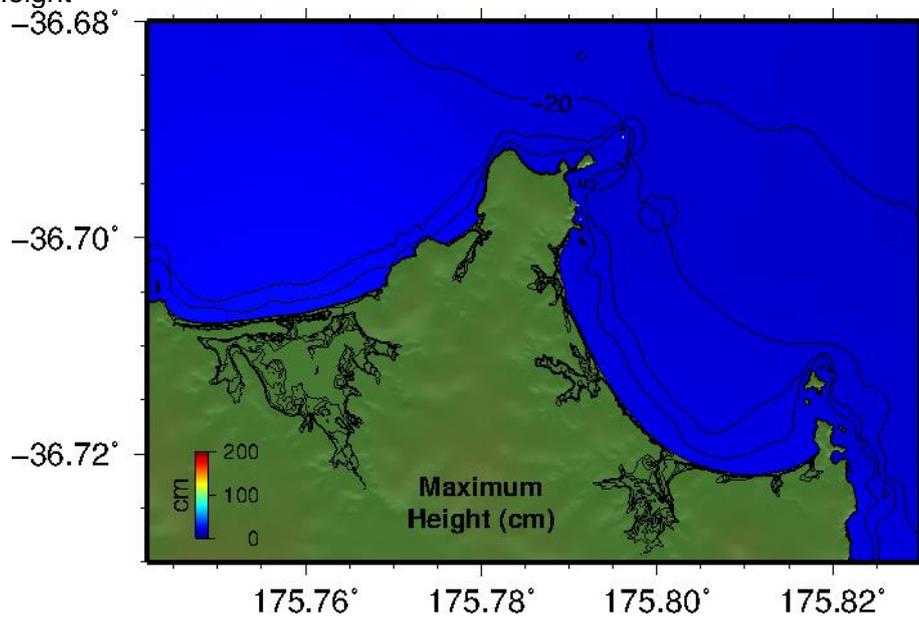
A Grid – Height



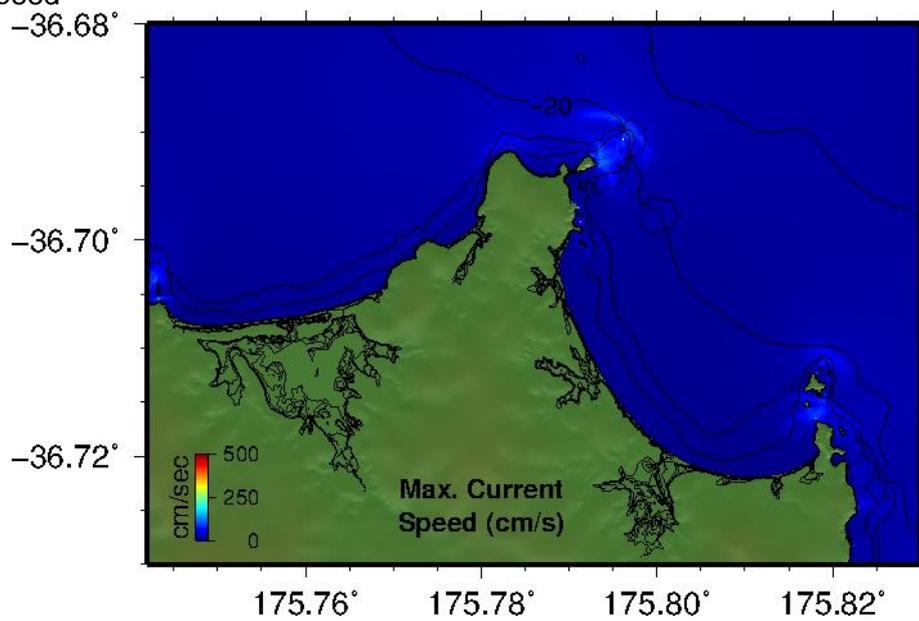
B Grid - Height



C Grid - Height

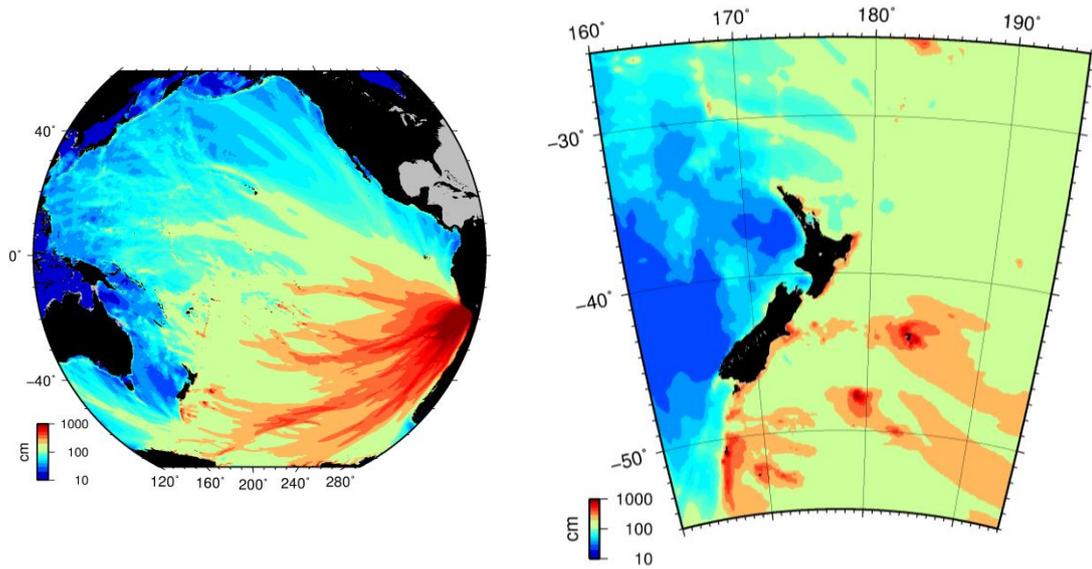


Current Speed

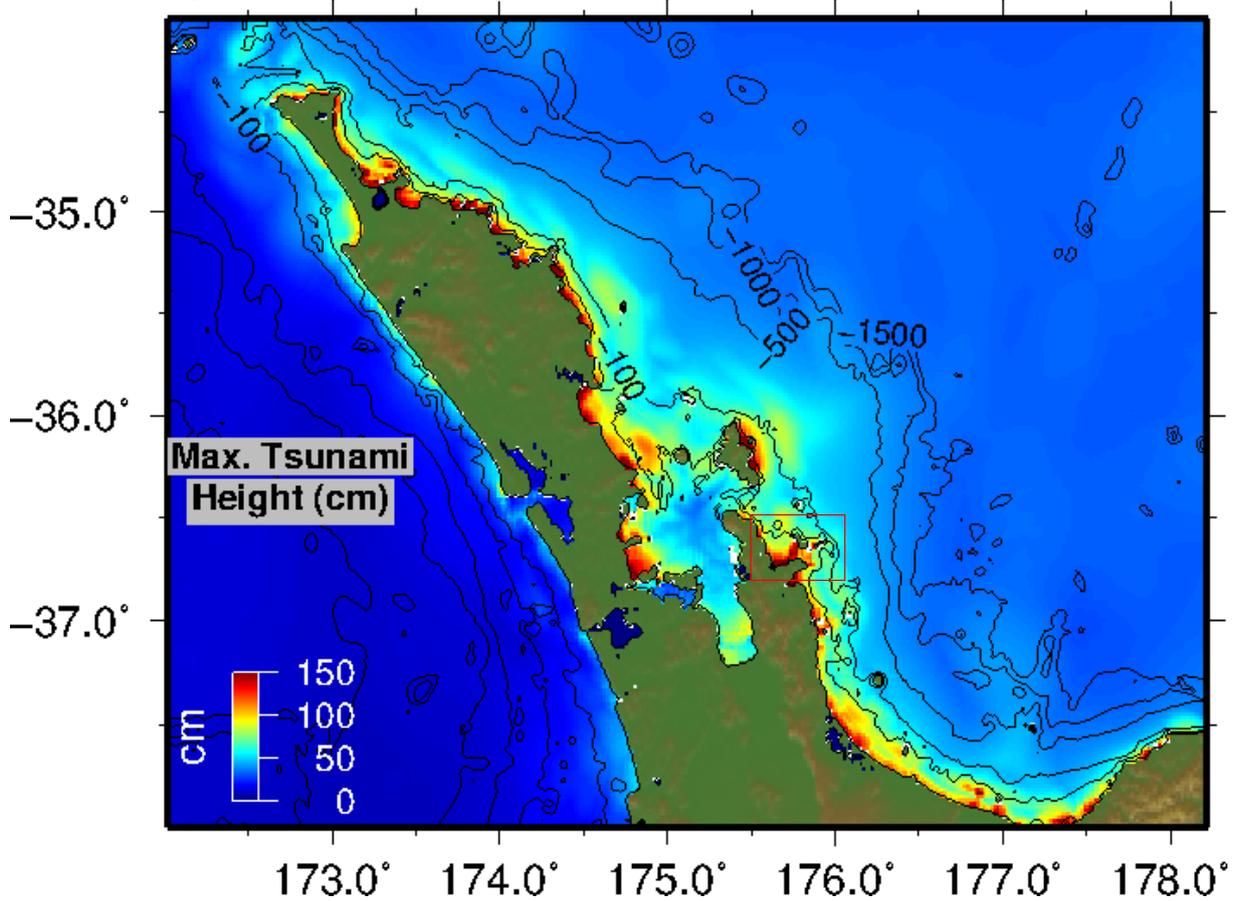


13.3 Arica, 1868

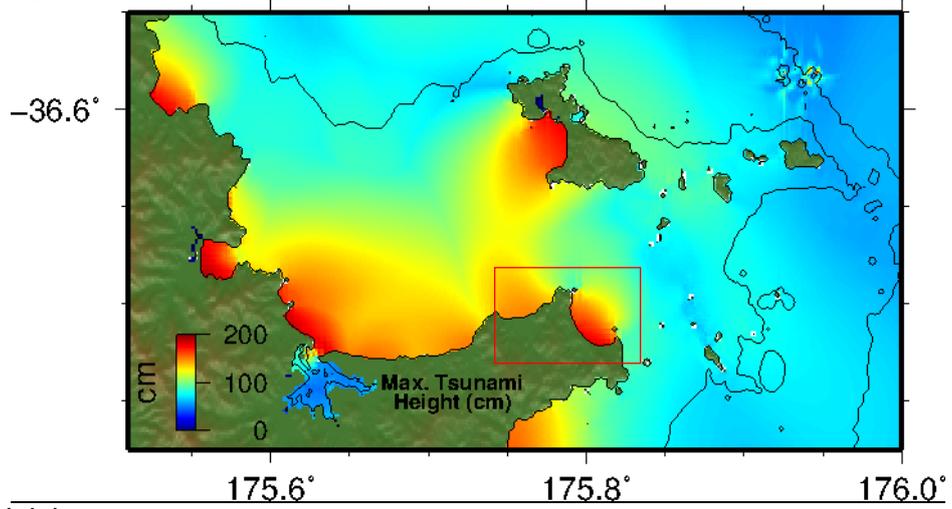
Propagation Model



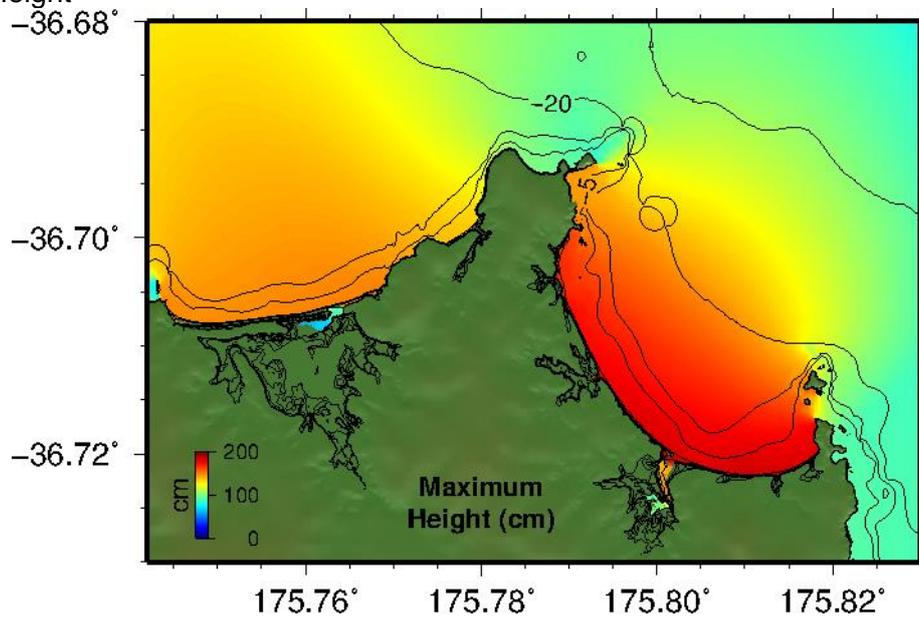
A Grid – Height



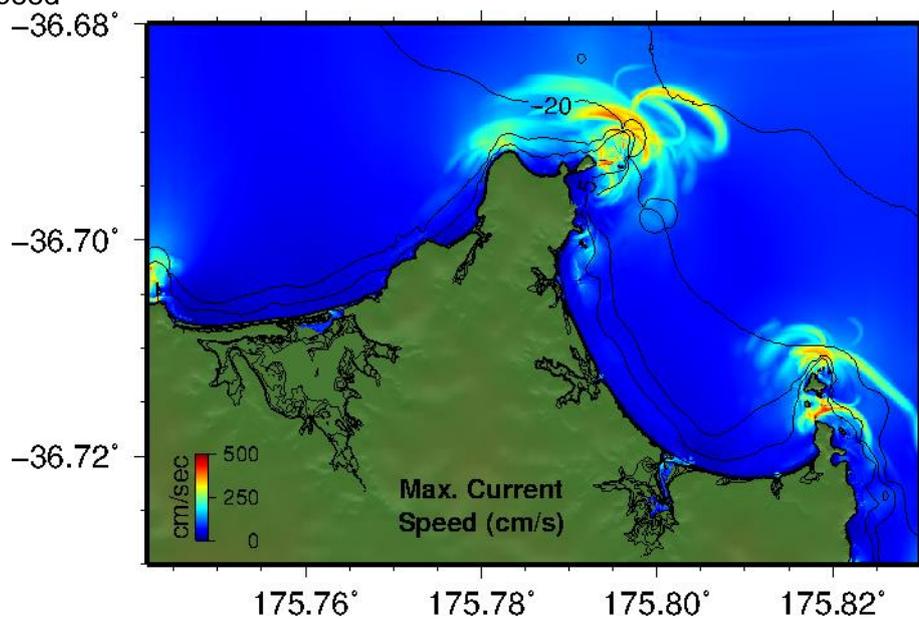
B Grid - Height



C Grid - Height

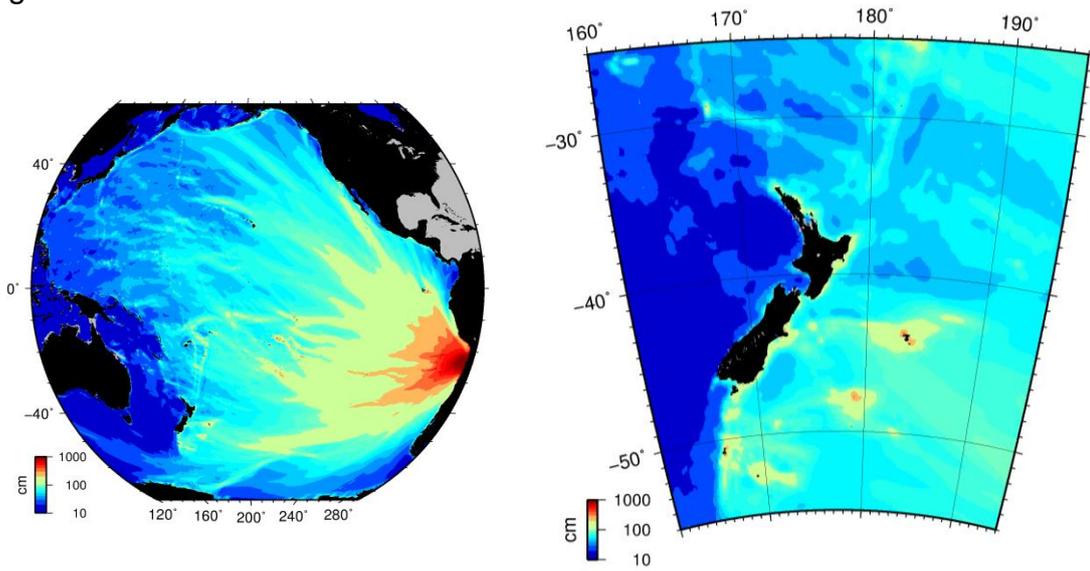


Current Speed

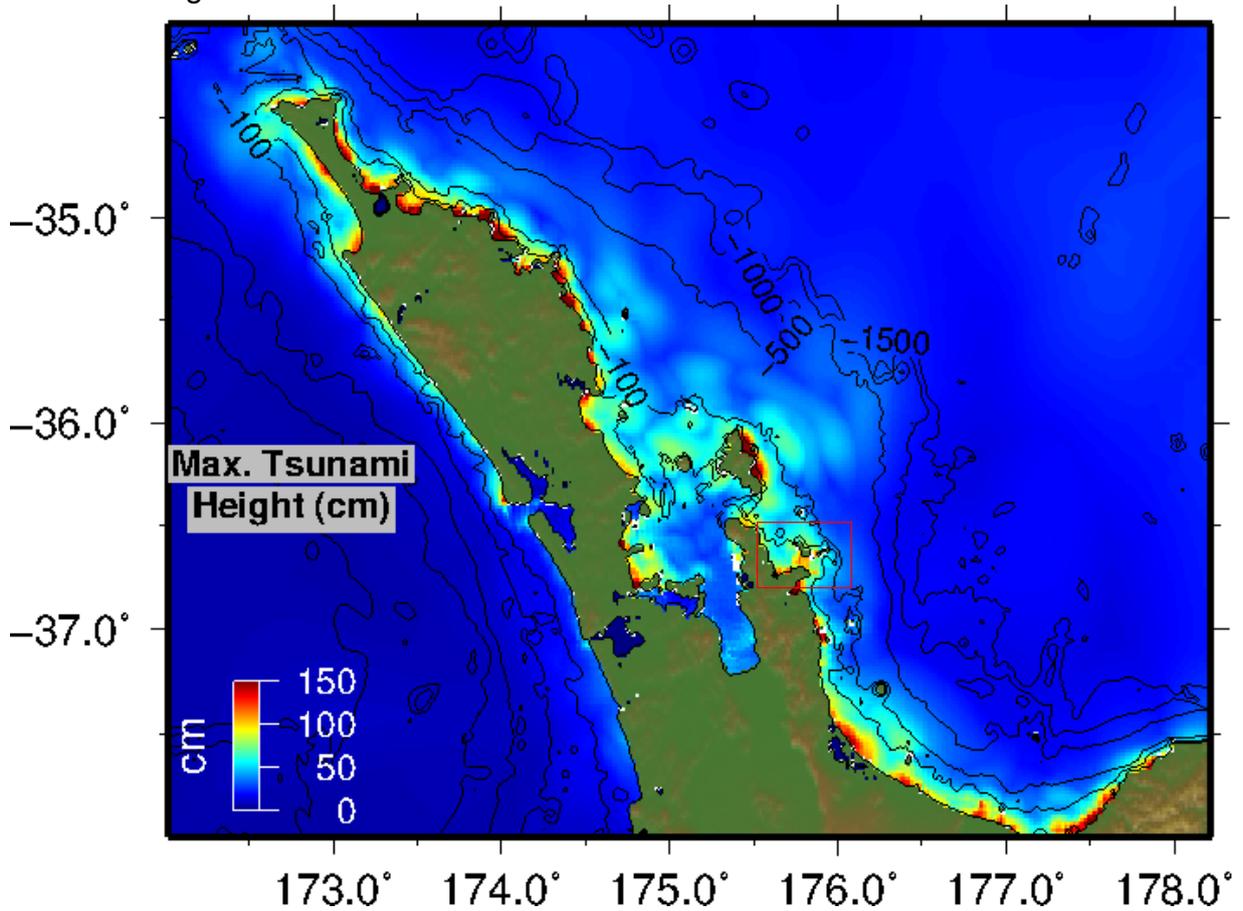


13.4 Chile North 1

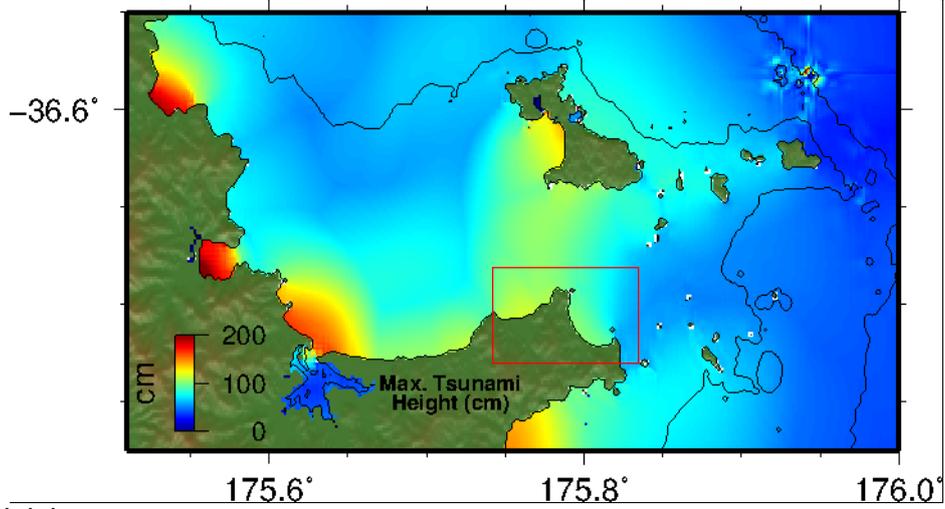
Propagation Model



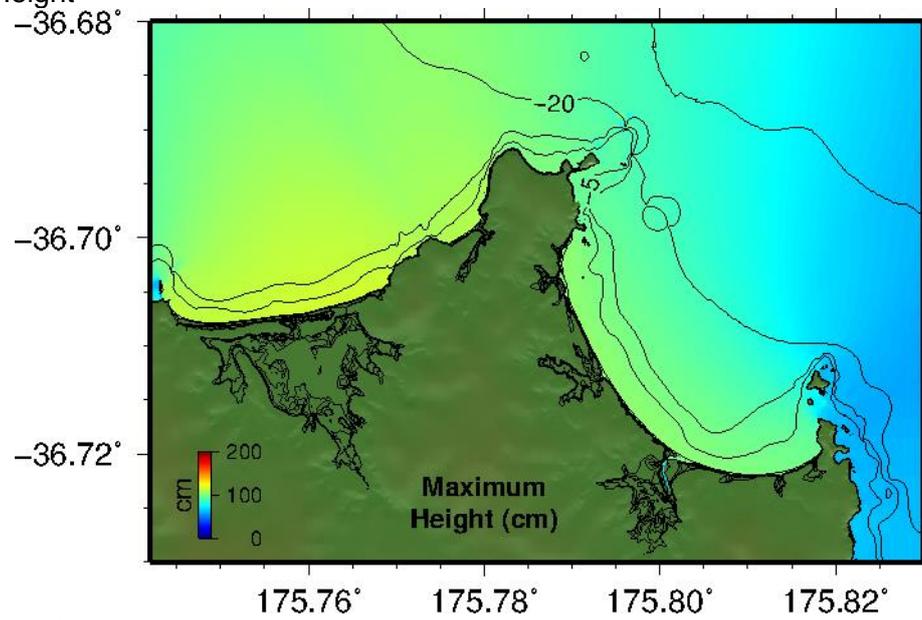
A Grid – Height



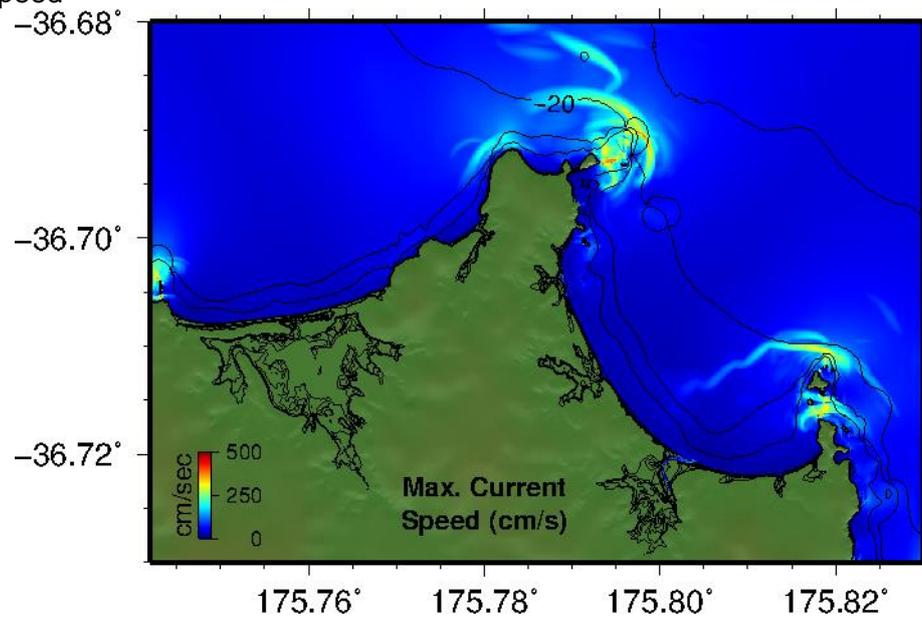
B Grid - Height



C Grid - Height

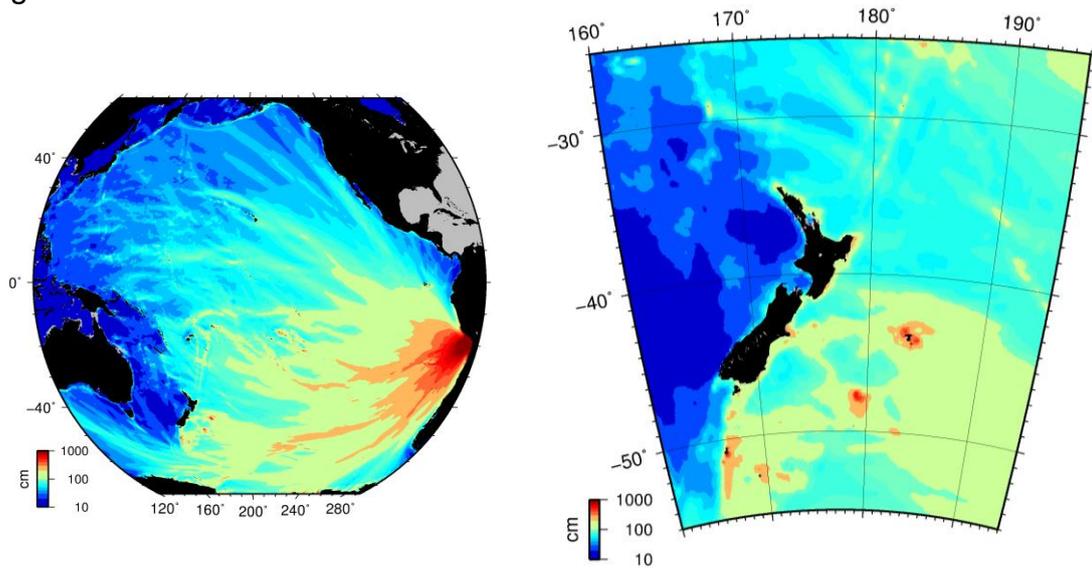


Current Speed

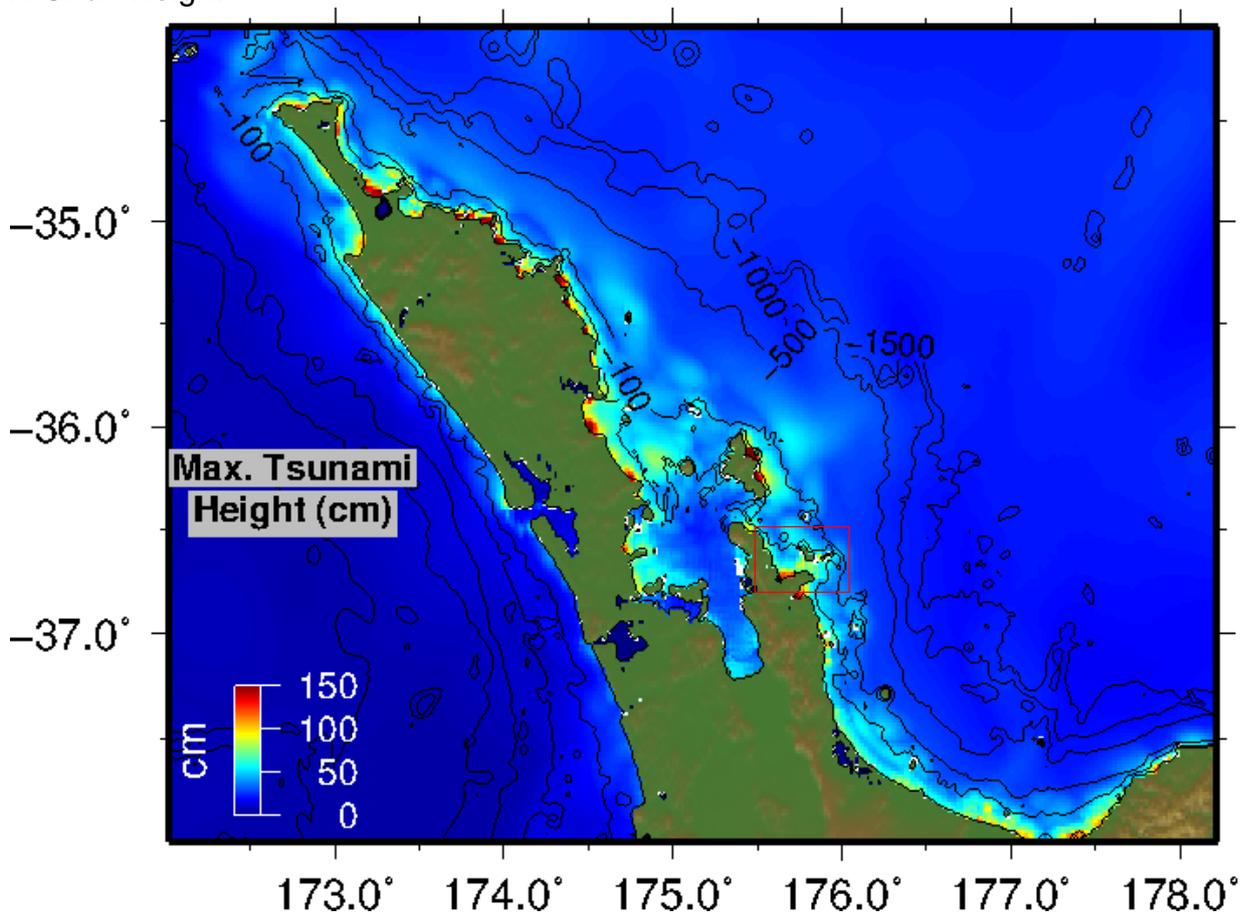


13.5 Chile North 2

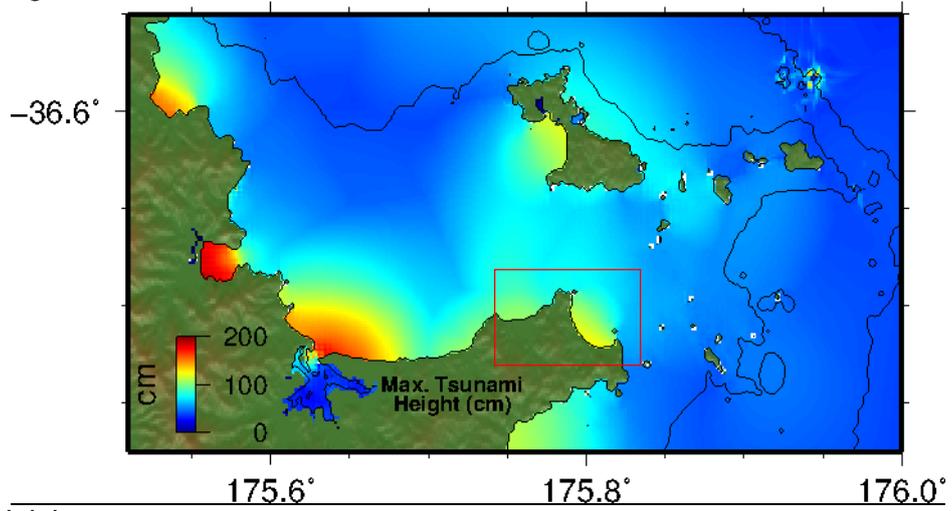
Propagation Model



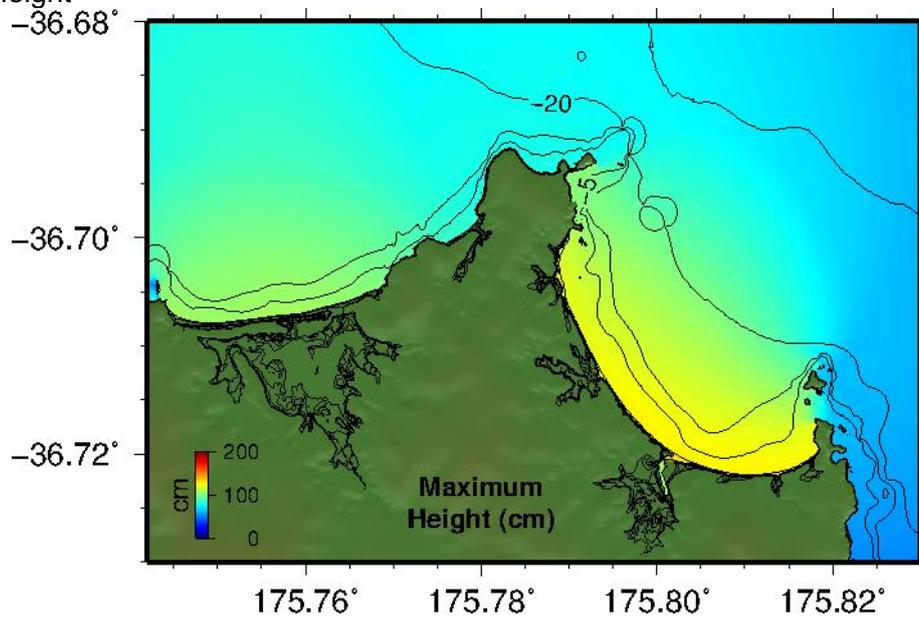
A Grid - Height



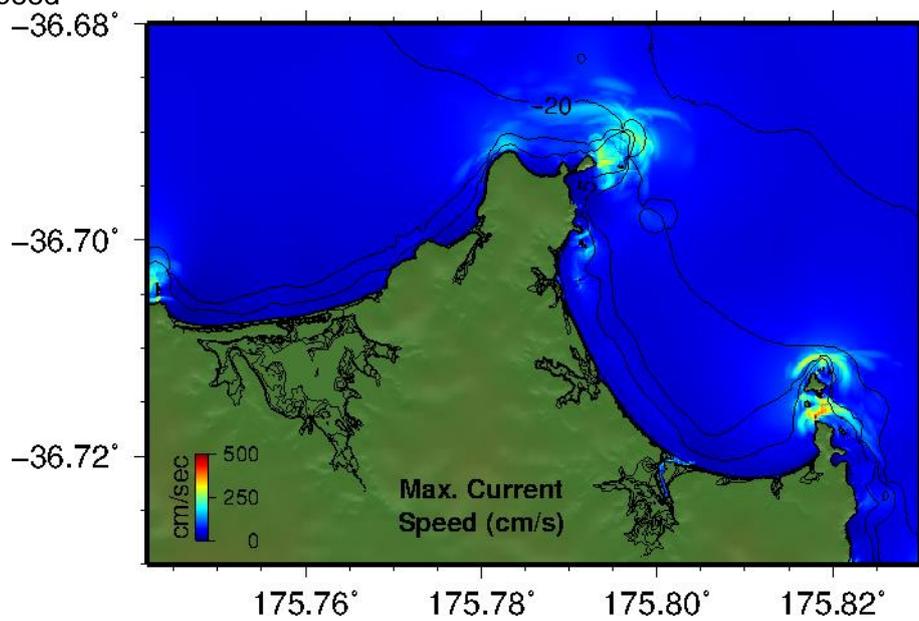
B Grid - Height



C Grid - Height

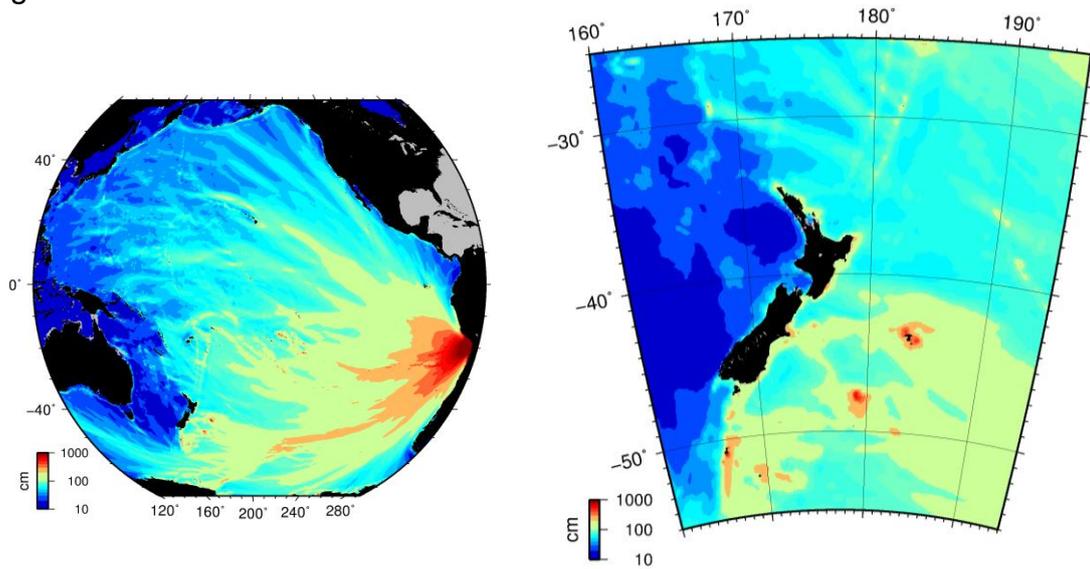


Current Speed

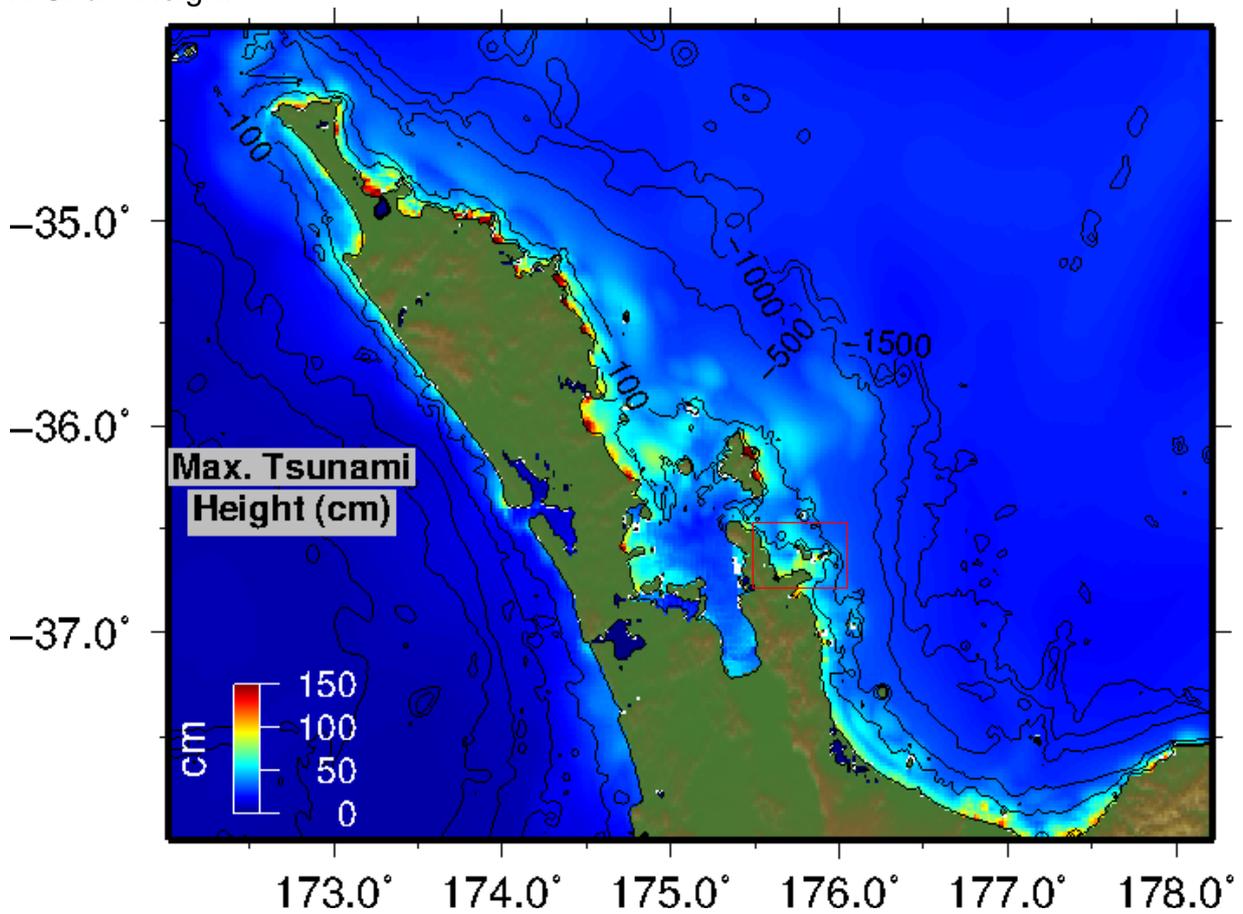


13.6 Chile North 3

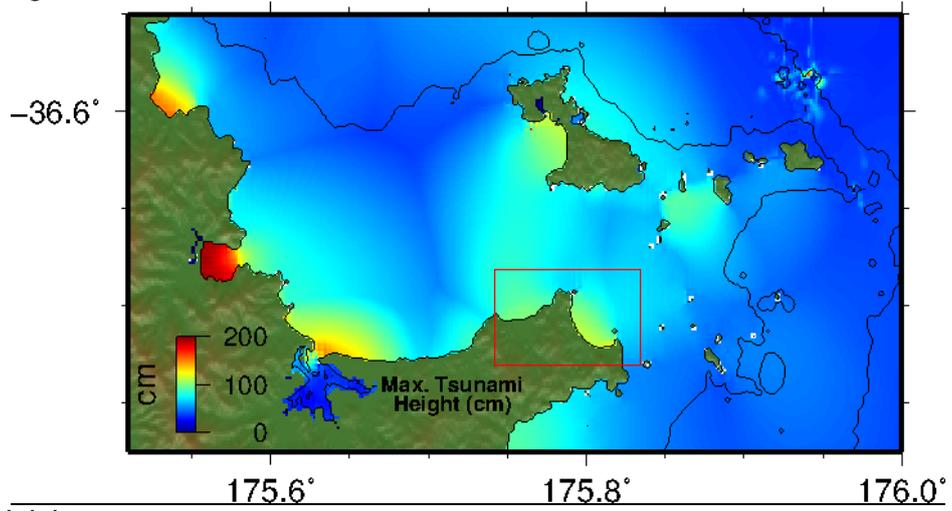
Propagation Model



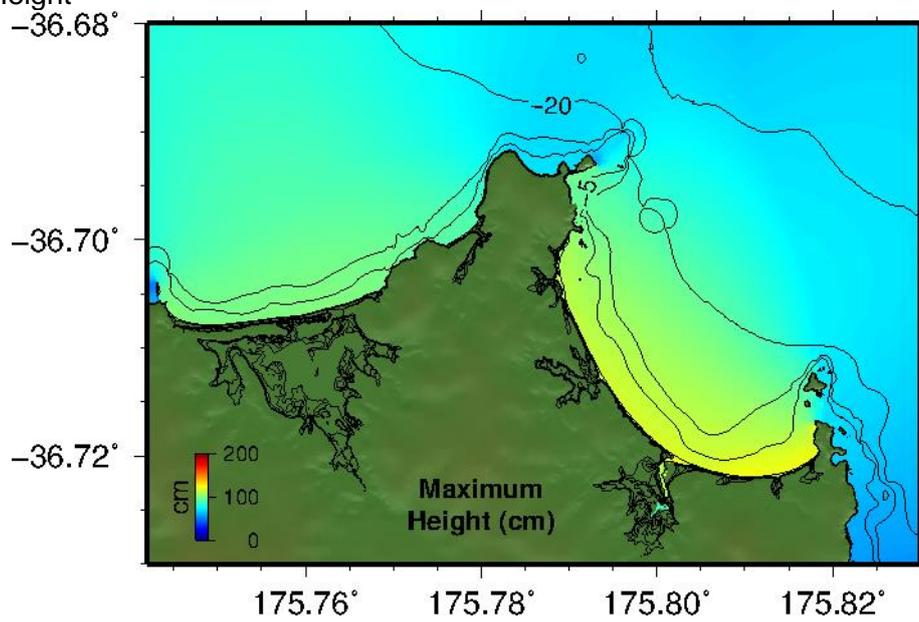
A Grid – Height



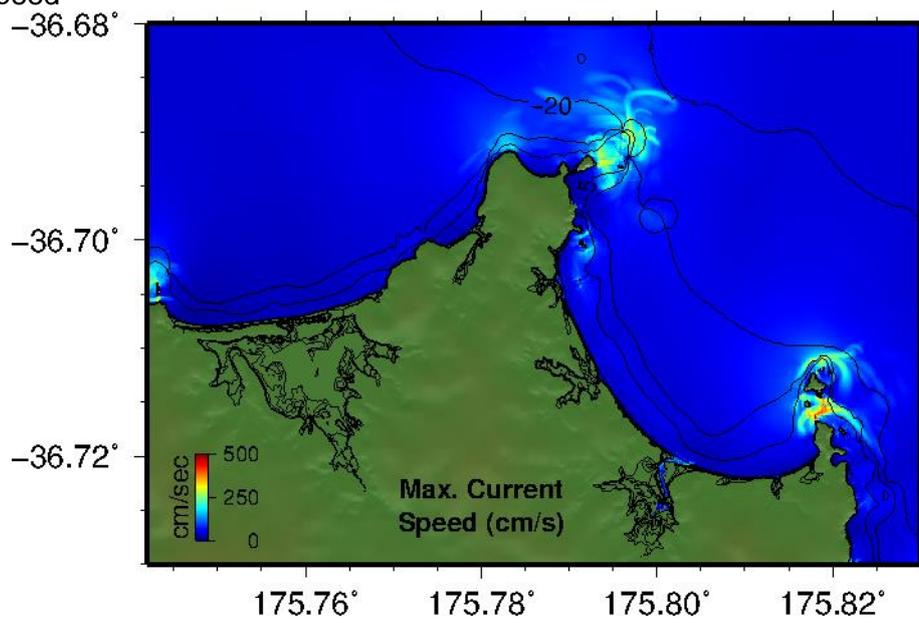
B Grid - Height



C Grid - Height

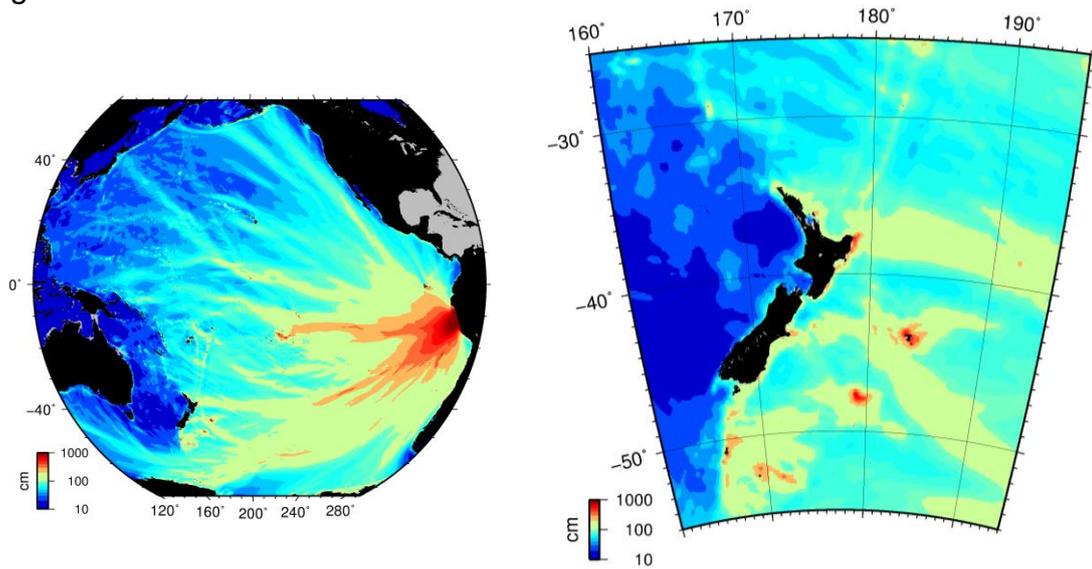


Current Speed

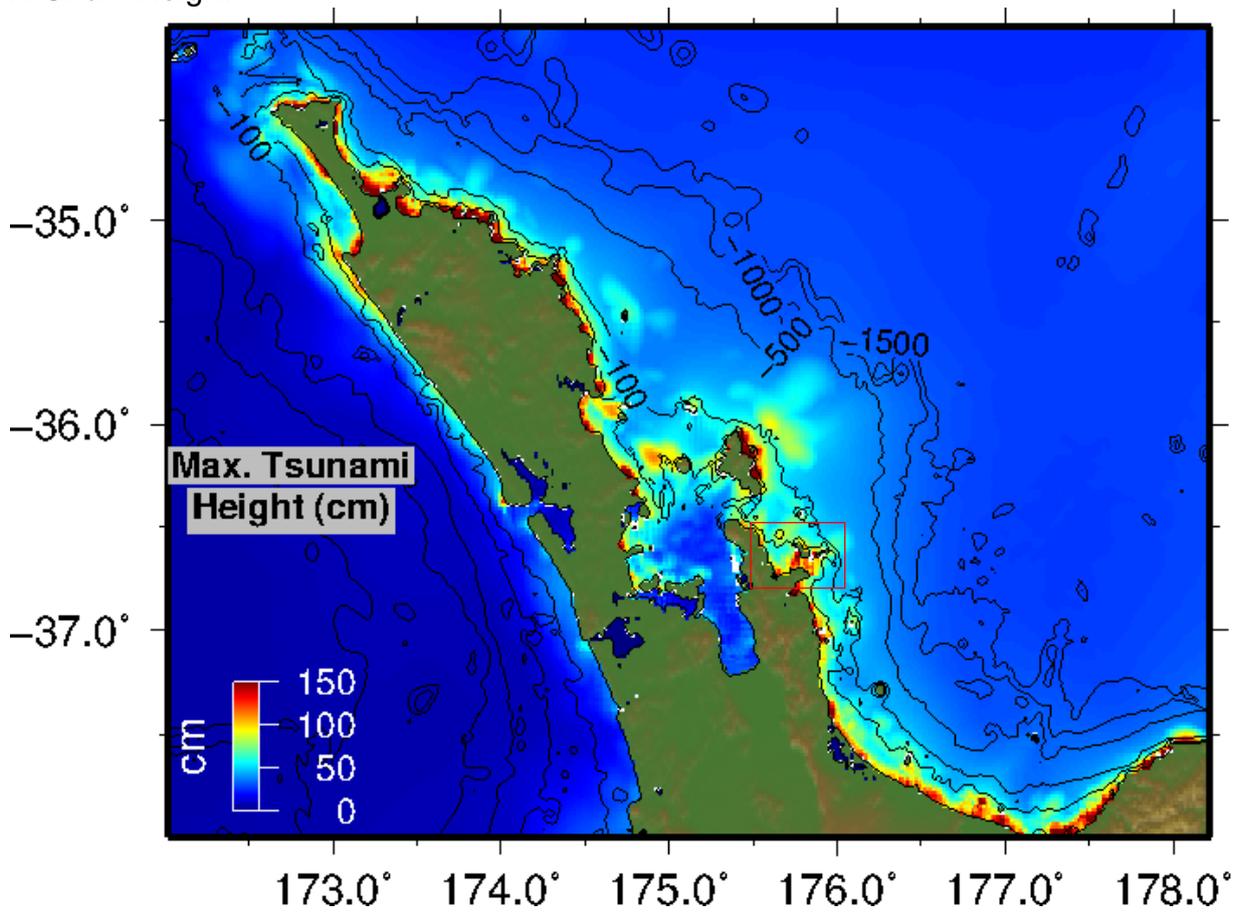


13.7 Central Peru

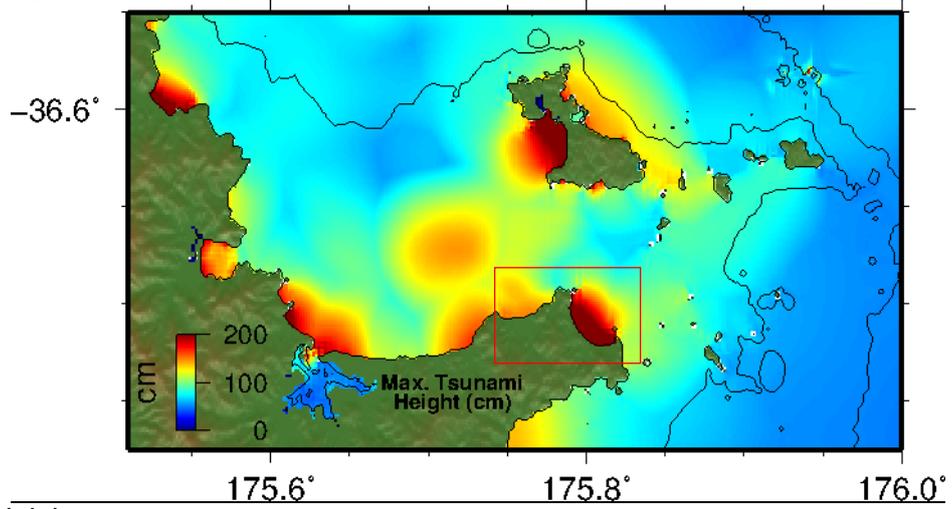
Propagation Model



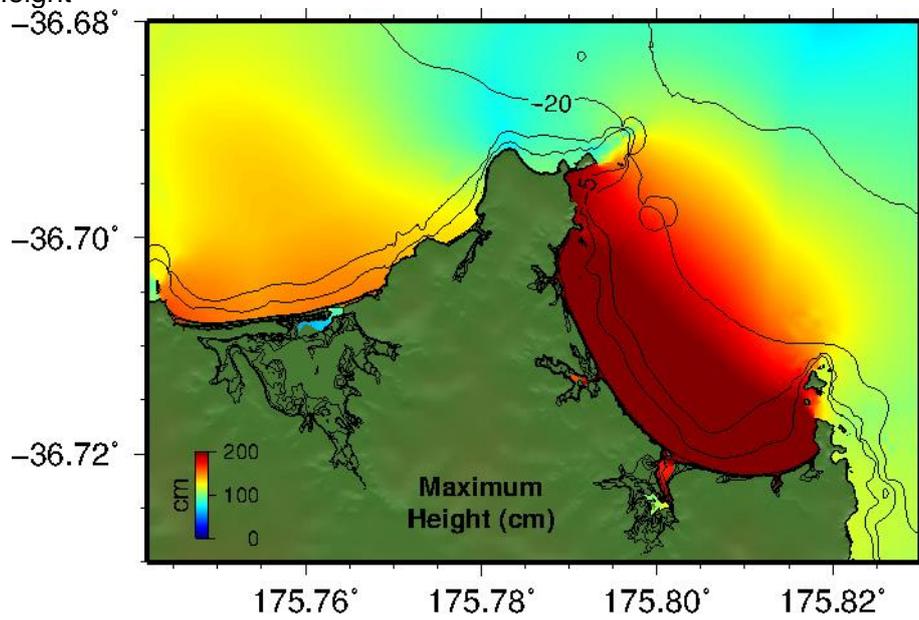
A Grid – Height



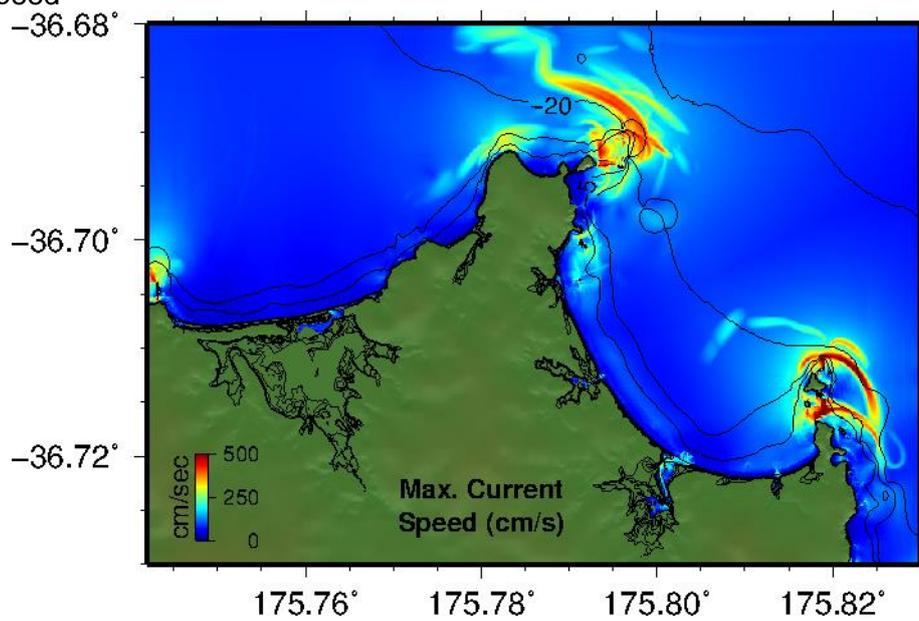
B Grid - Height



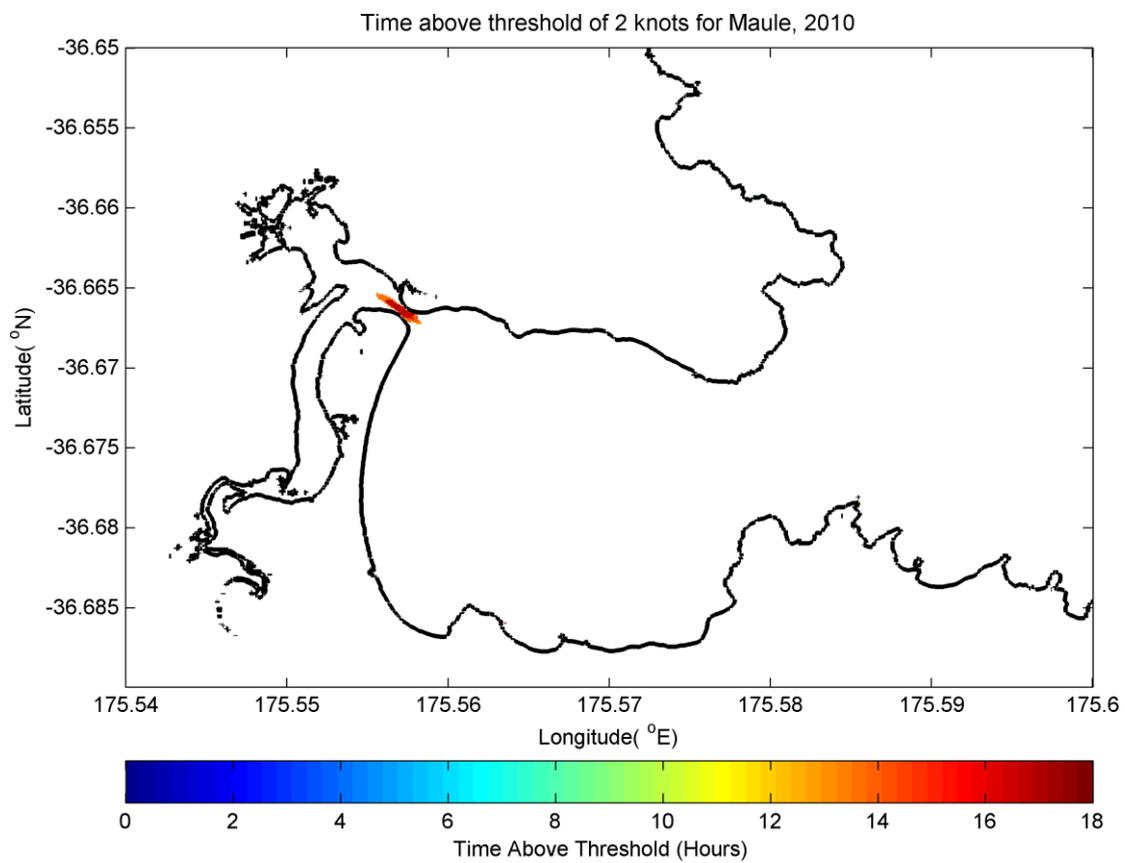
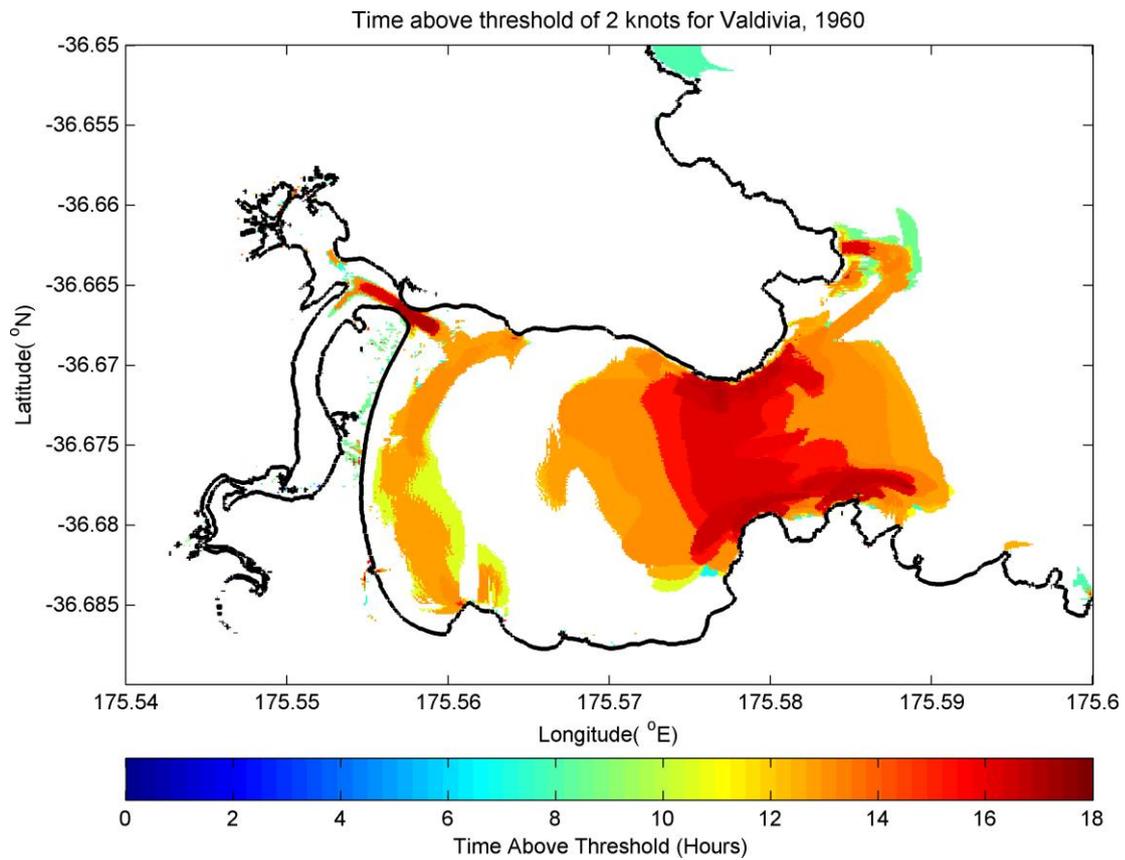
C Grid - Height



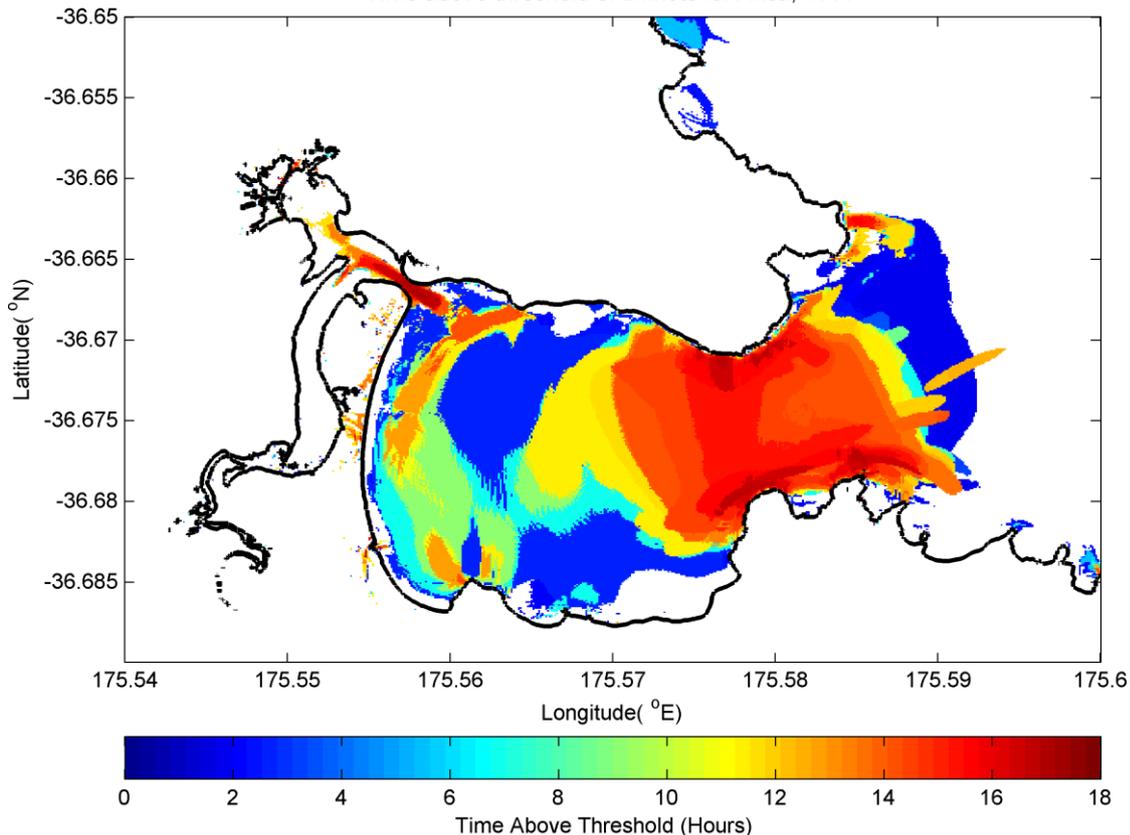
Current Speed



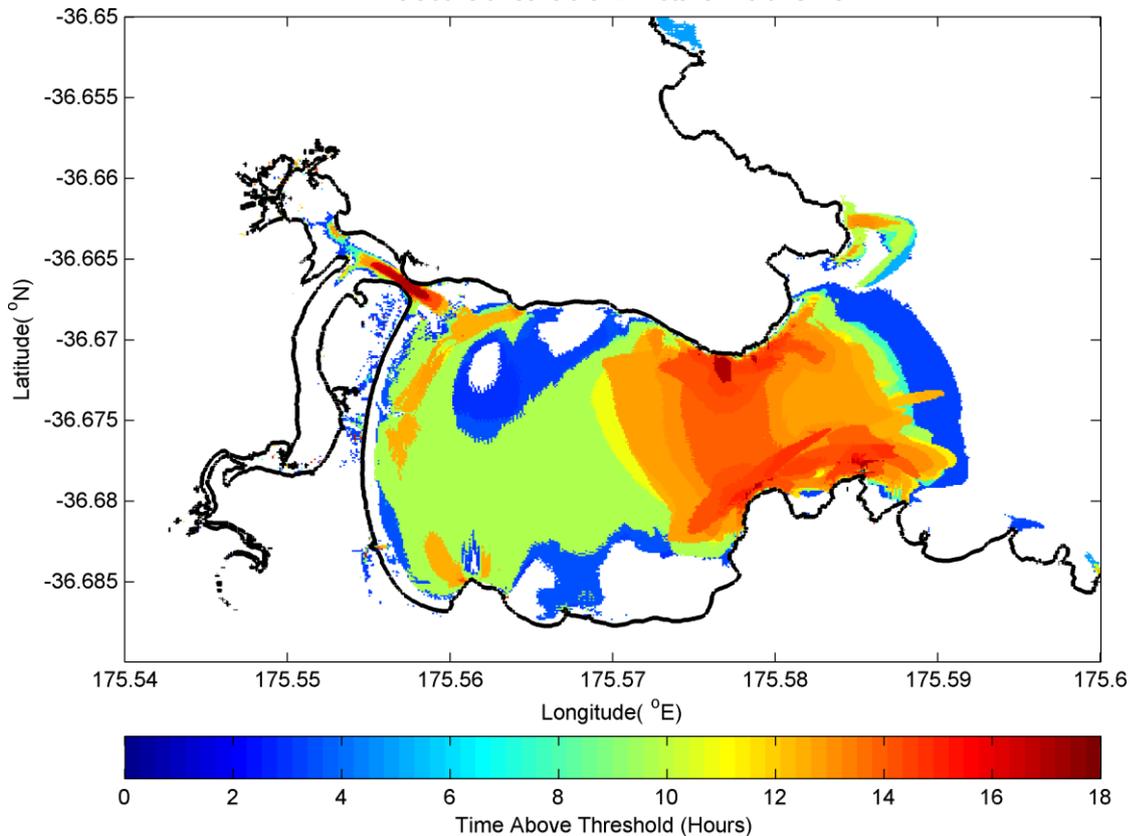
14 APPENDIX 14 – KENNEDY BAY: DISTANT SOURCE CURRENT SPEED DURATION

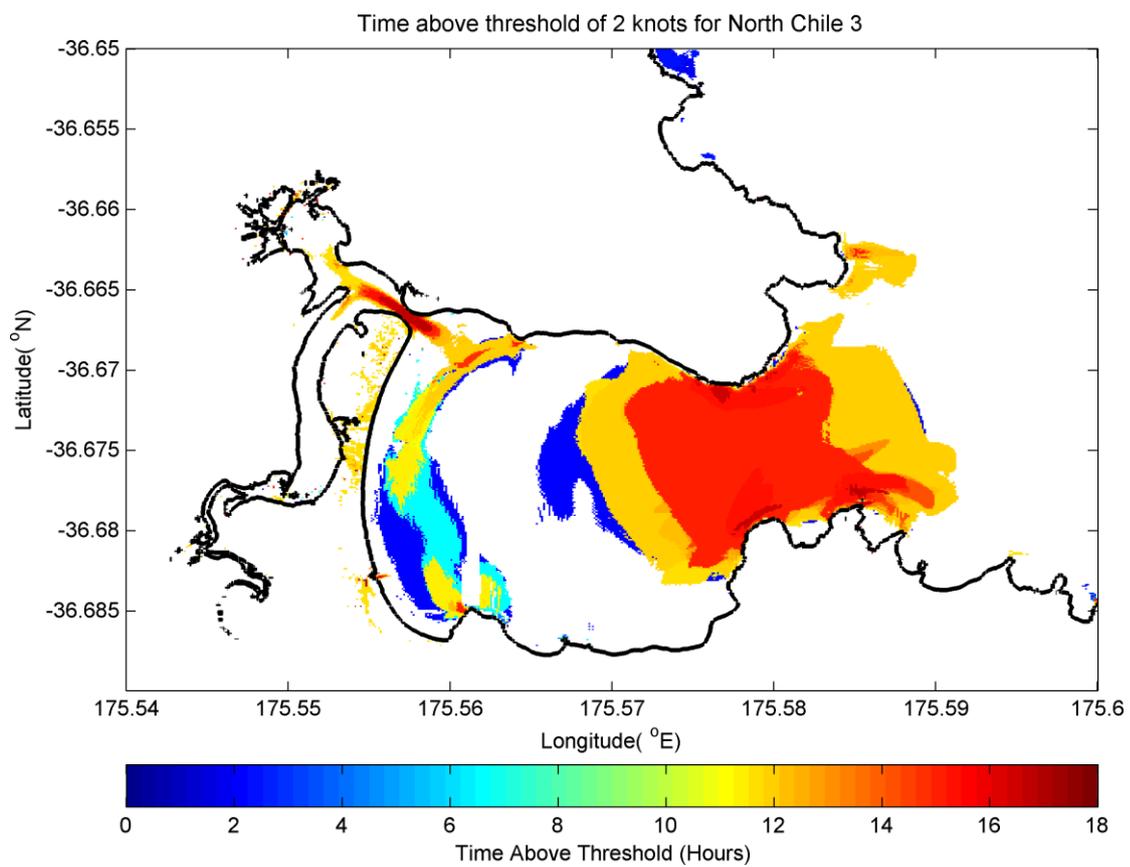
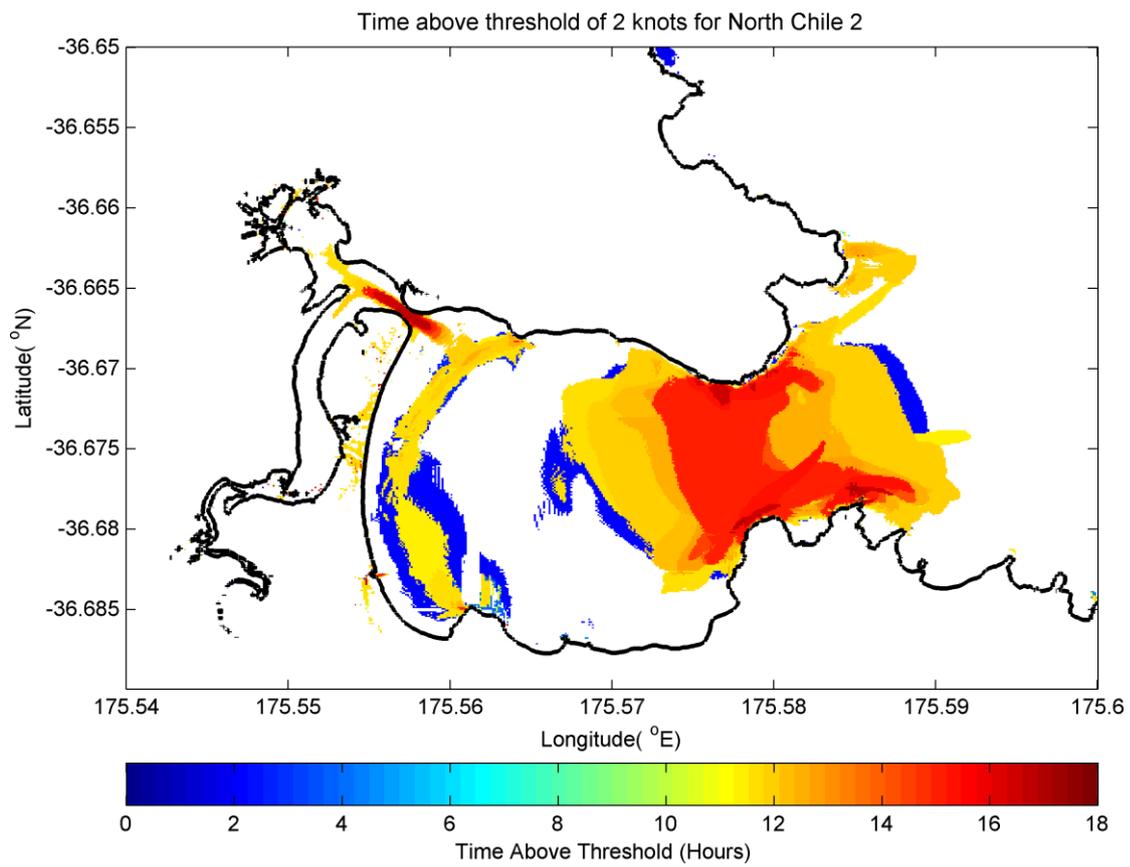


Time above threshold of 2 knots for Arica, 1868

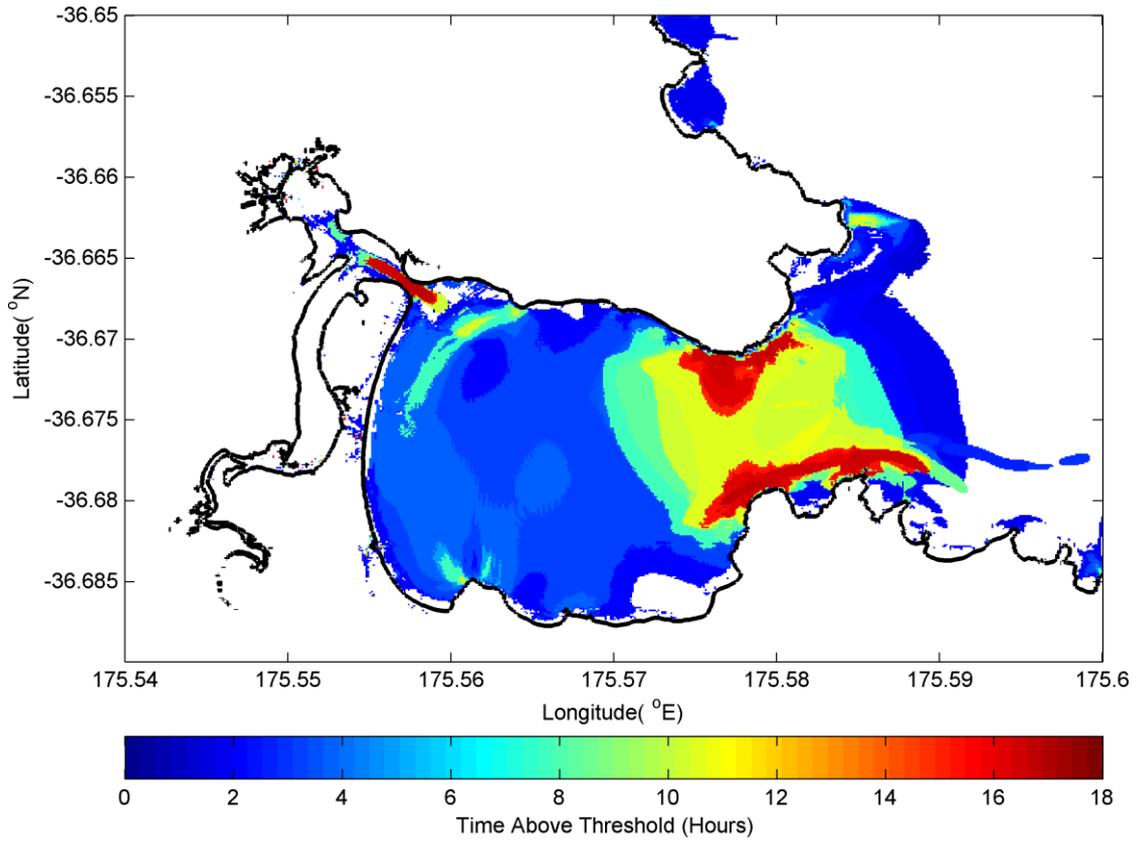


Time above threshold of 2 knots for North Chile 1

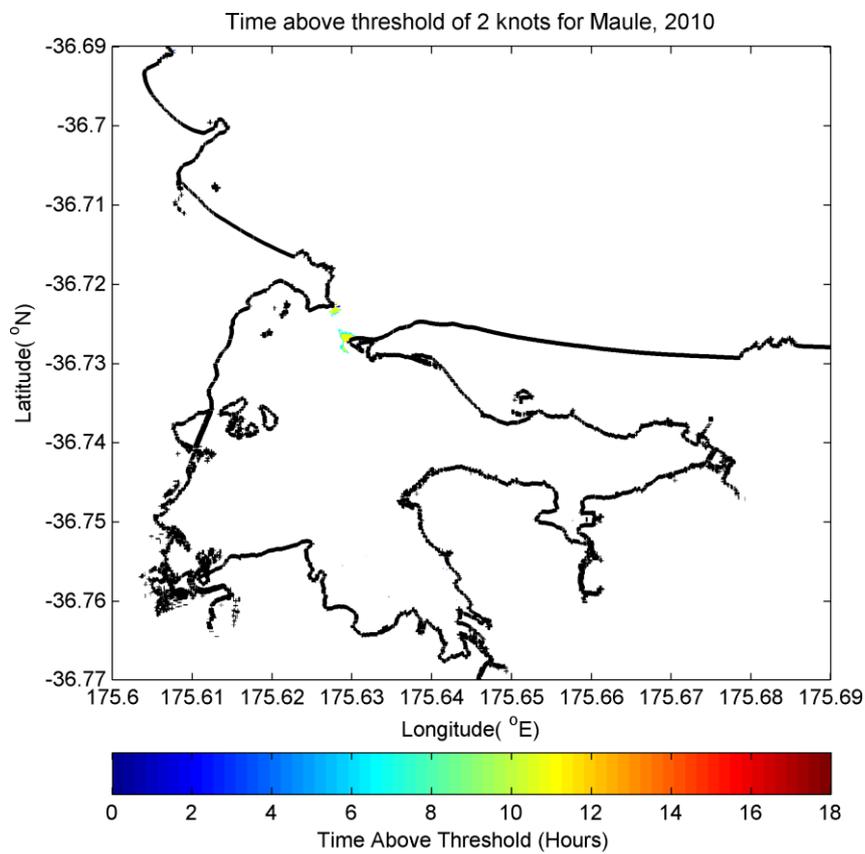
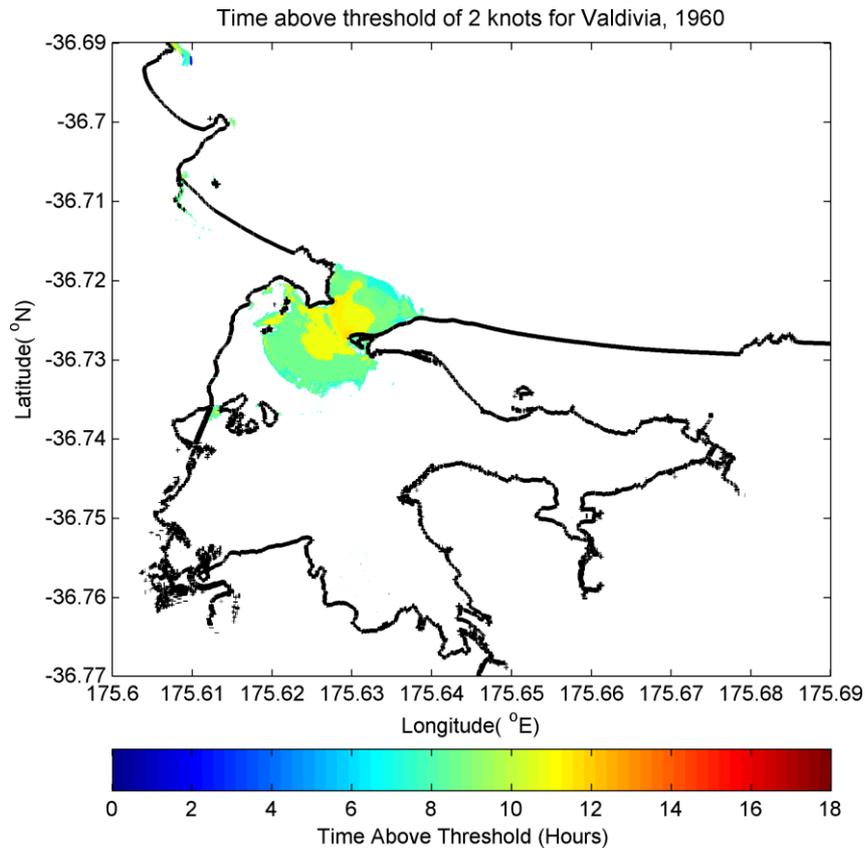


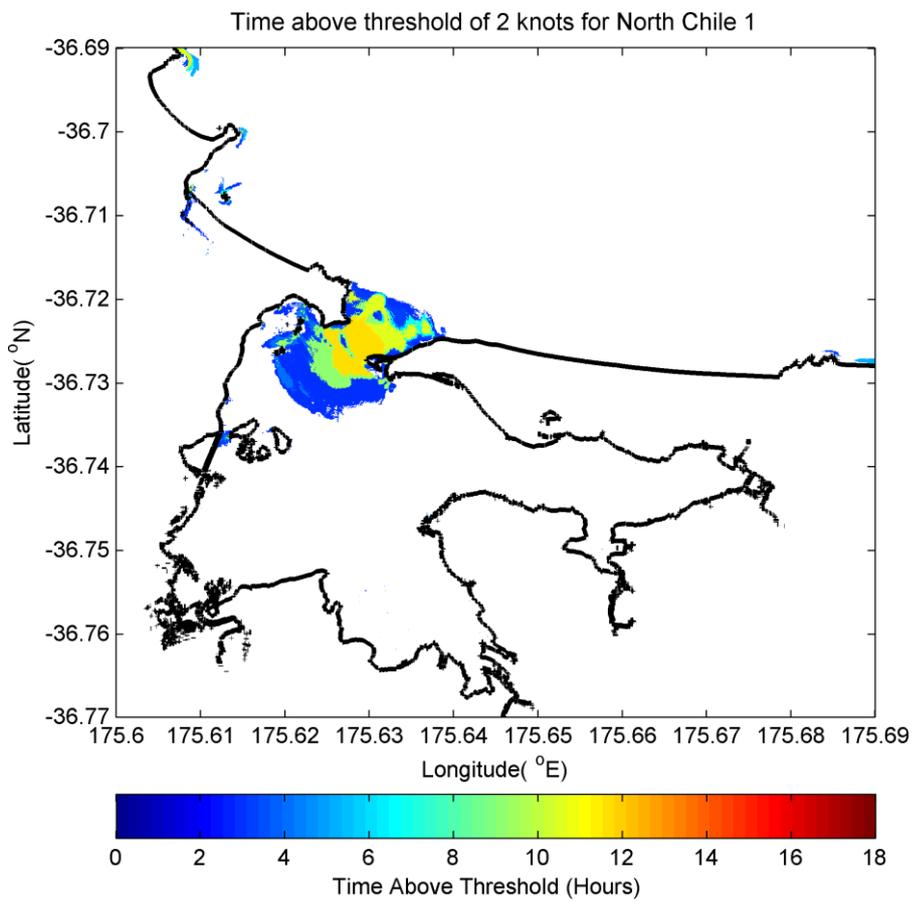
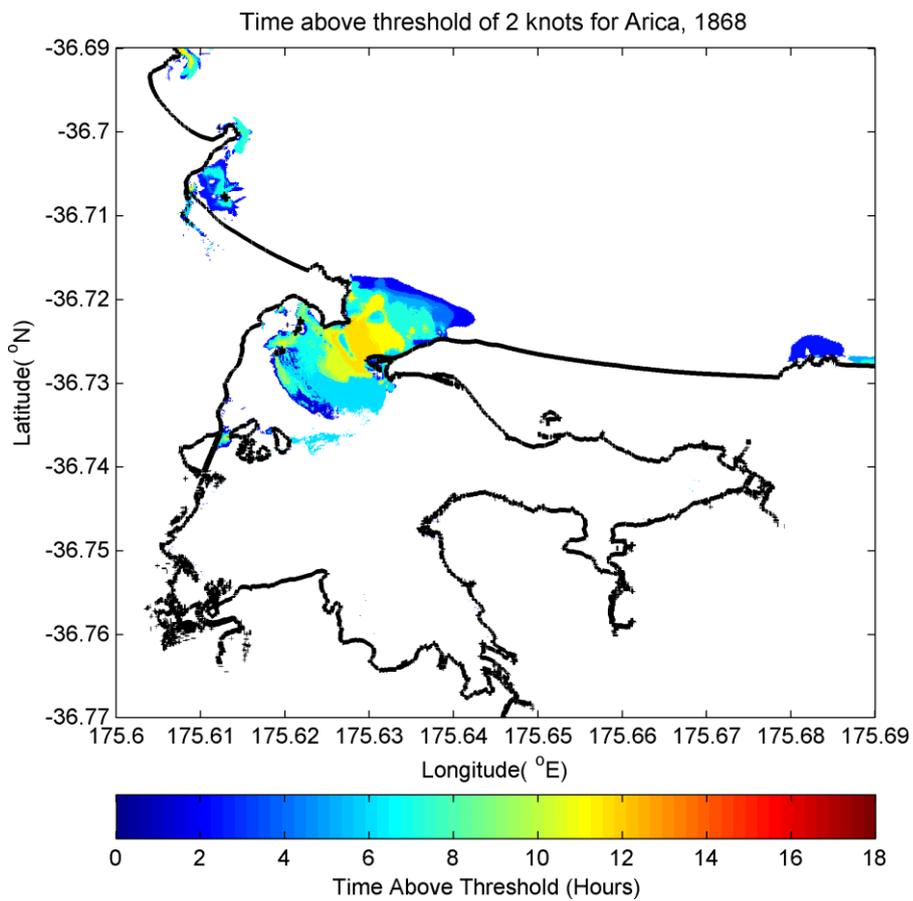


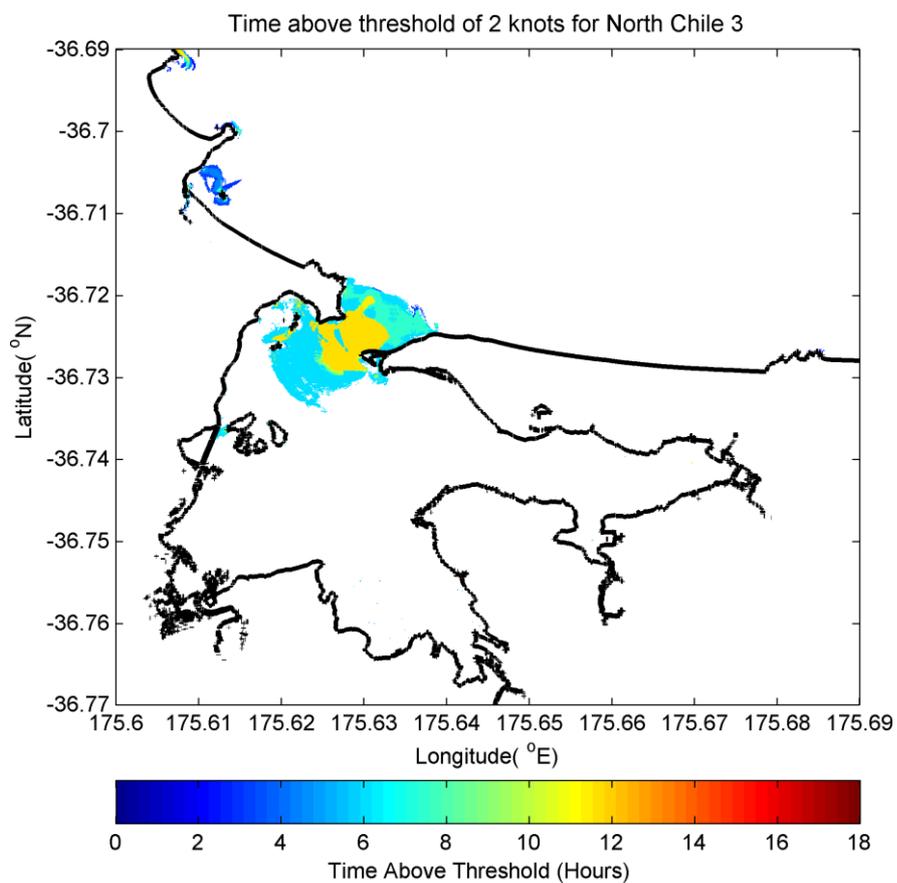
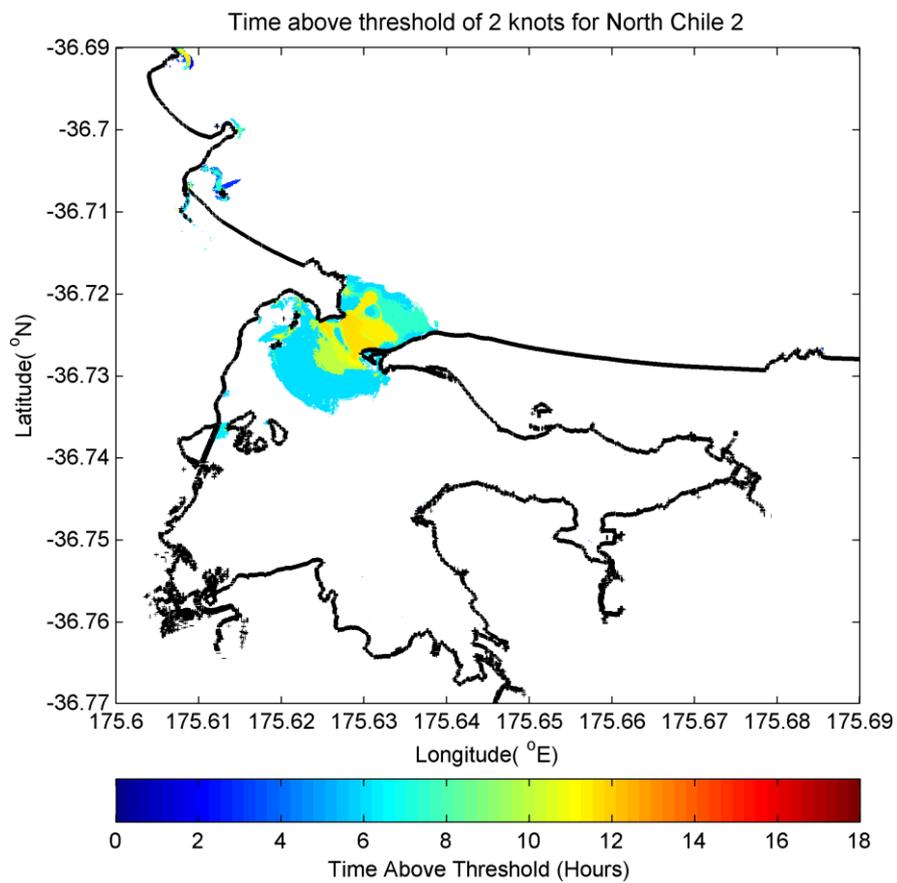
Time above threshold of 2 knots for Central Peru



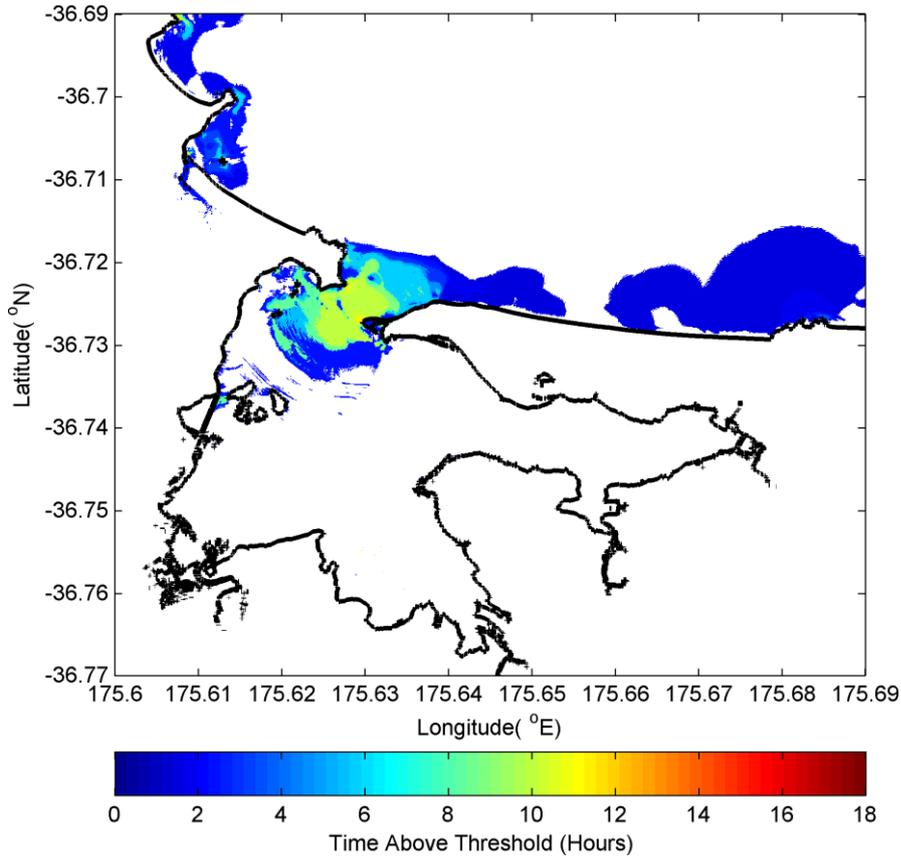
15 APPENDIX 15 – WHANGAPOUA: DISTANT SOURCE CURRENT SPEED DURATION



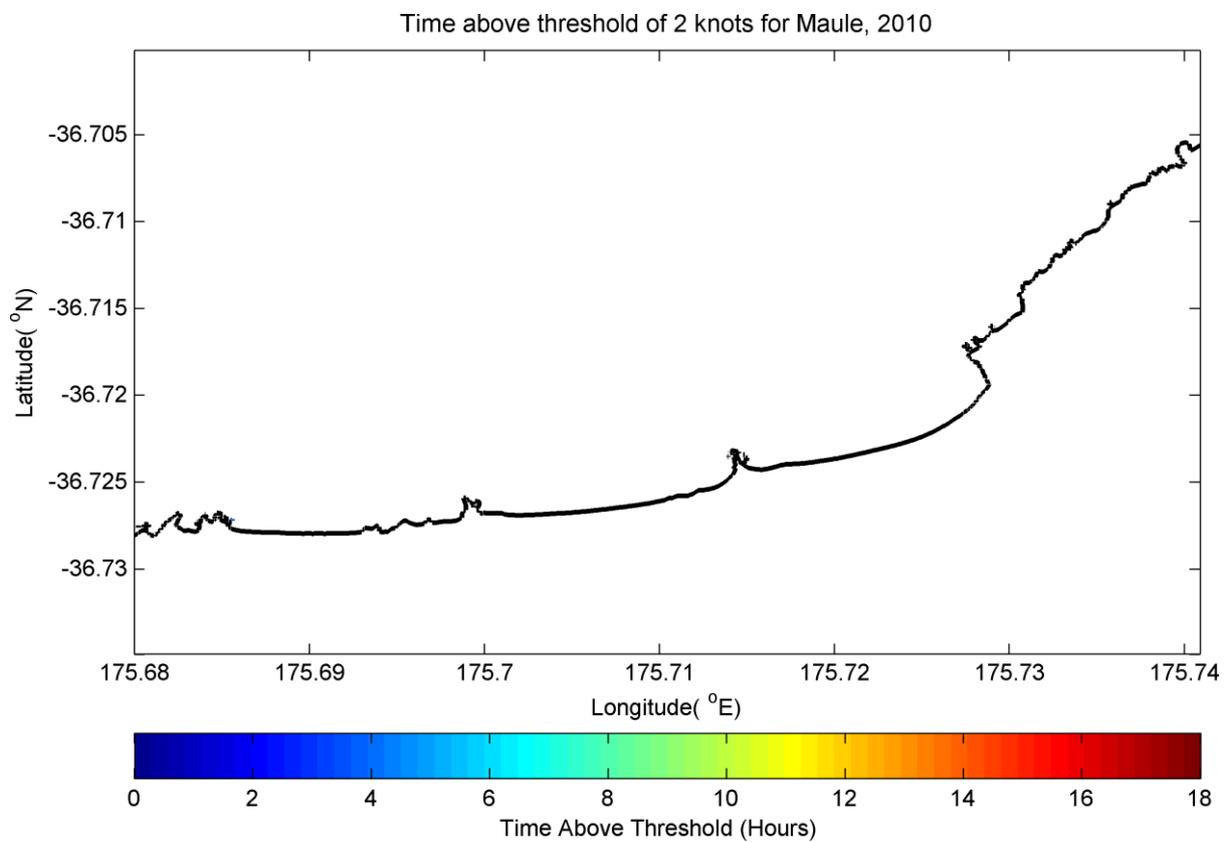
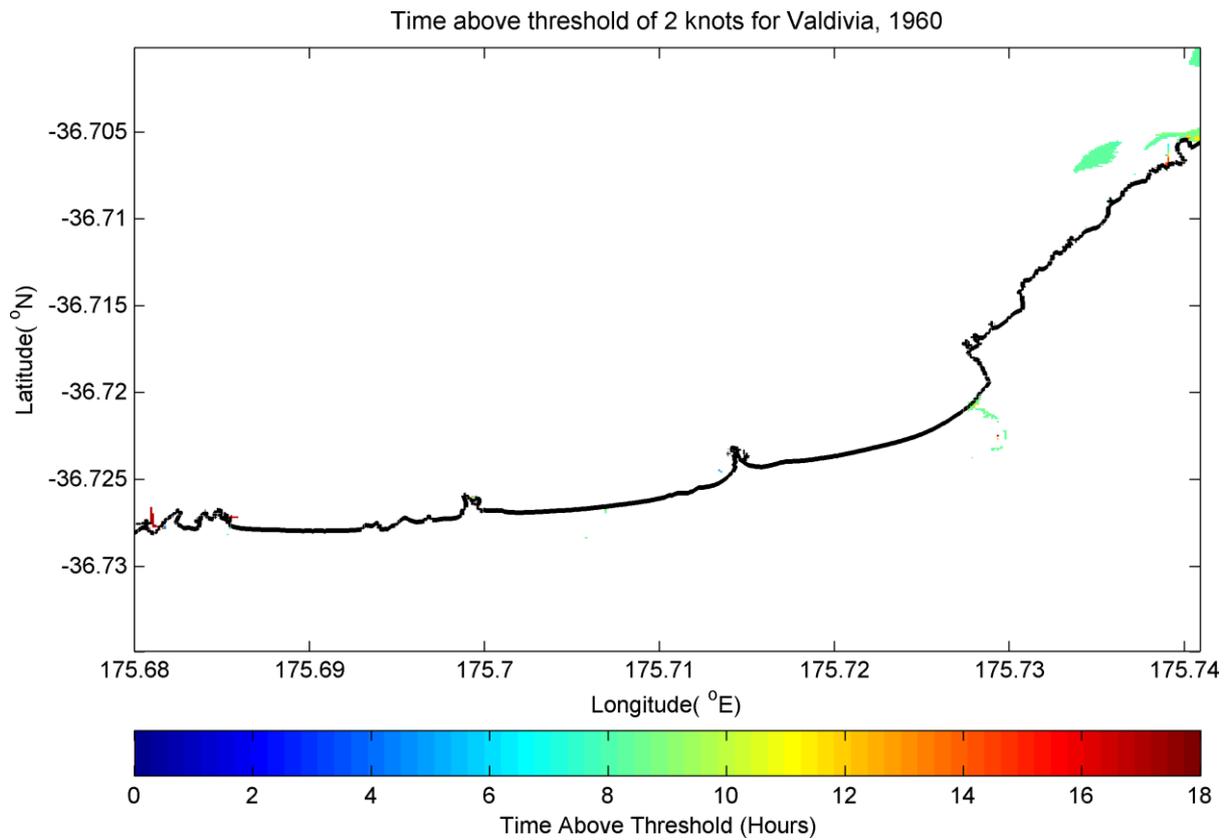




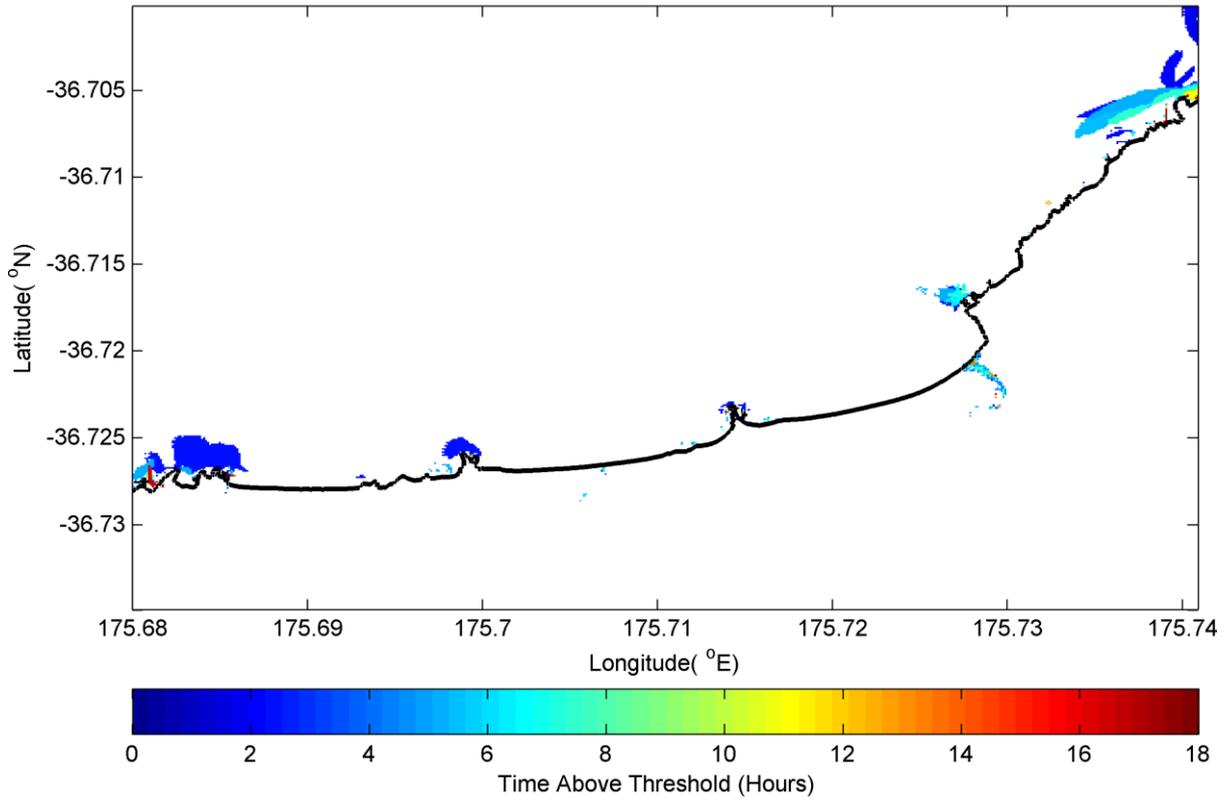
Time above threshold of 2 knots for Central Peru



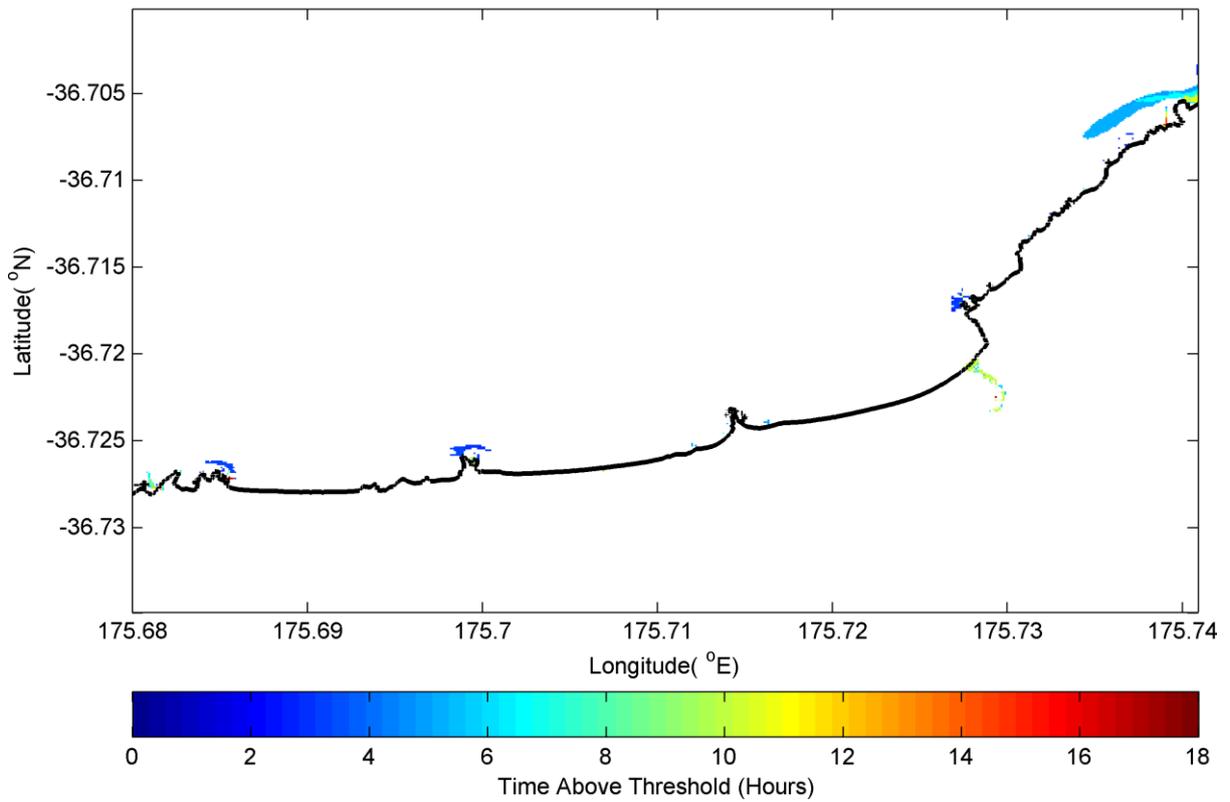
16 APPENDIX 16 – KUAOTUNU: DISTANT SOURCE CURRENT SPEED DURATION



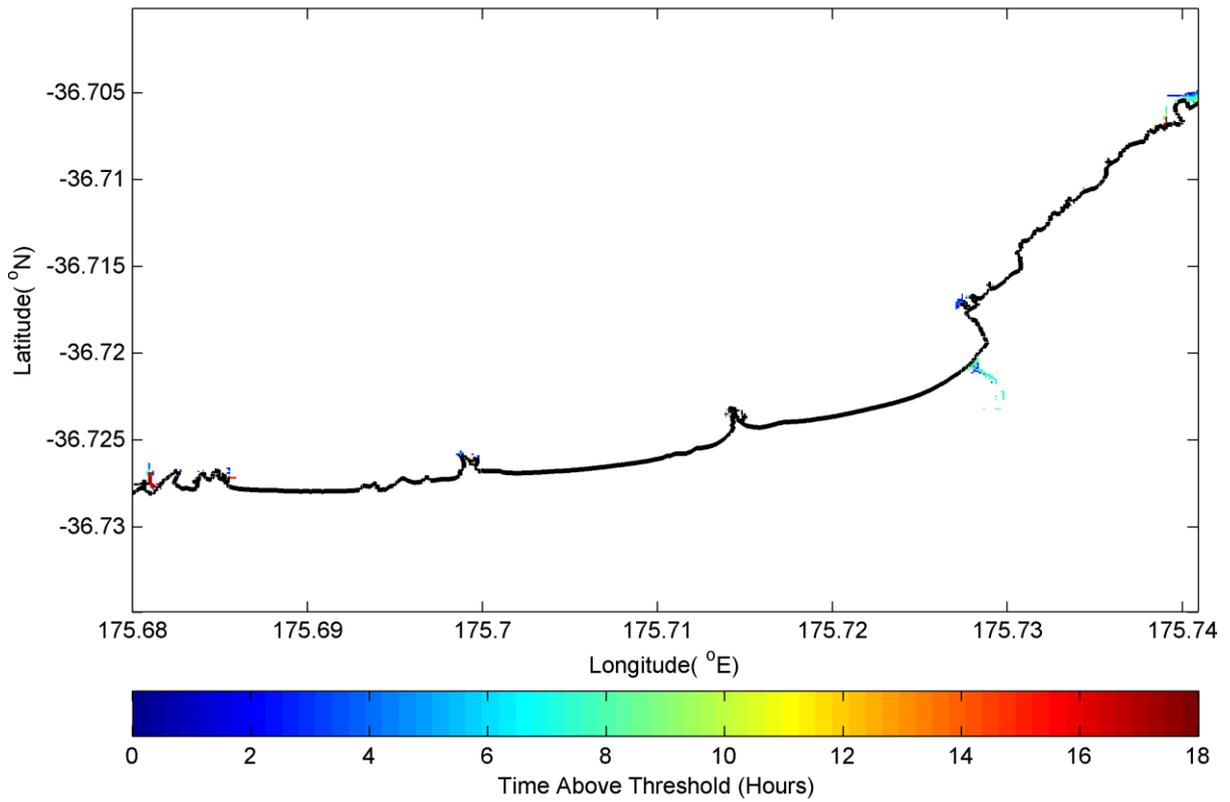
Time above threshold of 2 knots for Arica, 1868



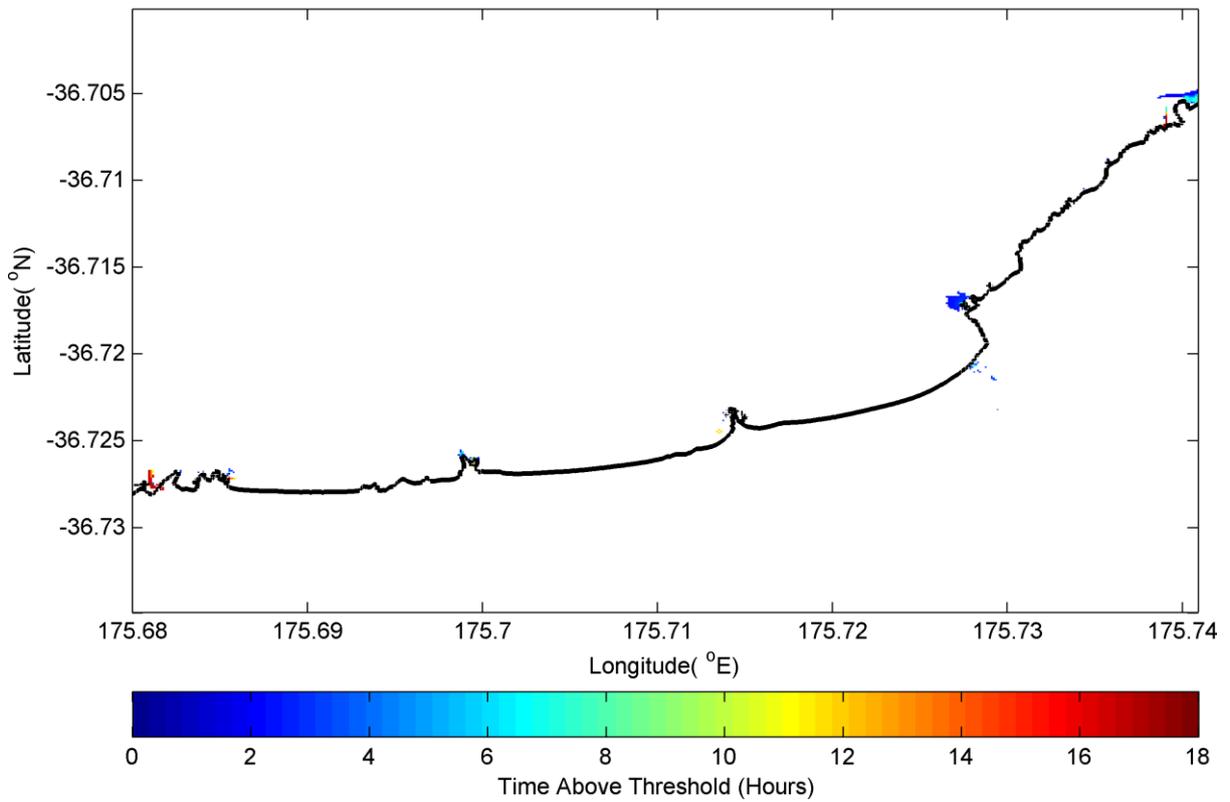
Time above threshold of 2 knots for North Chile 1



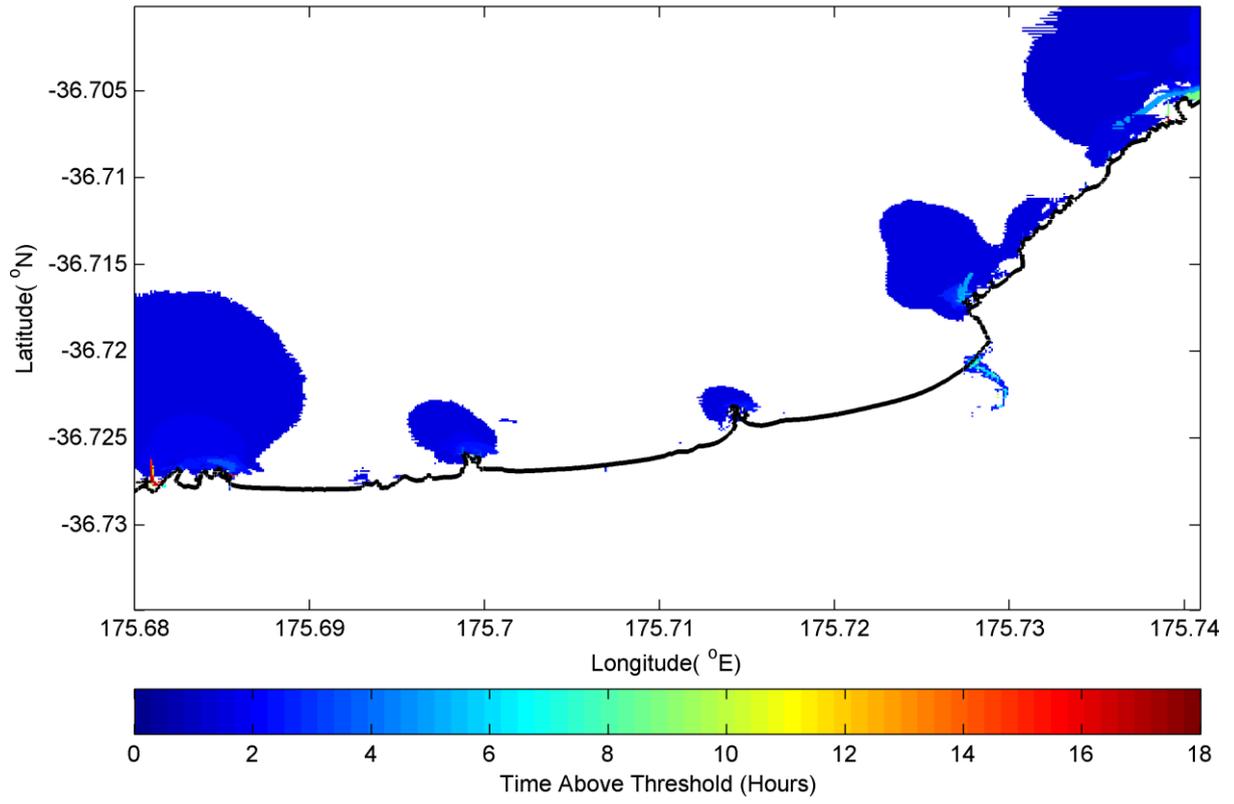
Time above threshold of 2 knots for North Chile 2



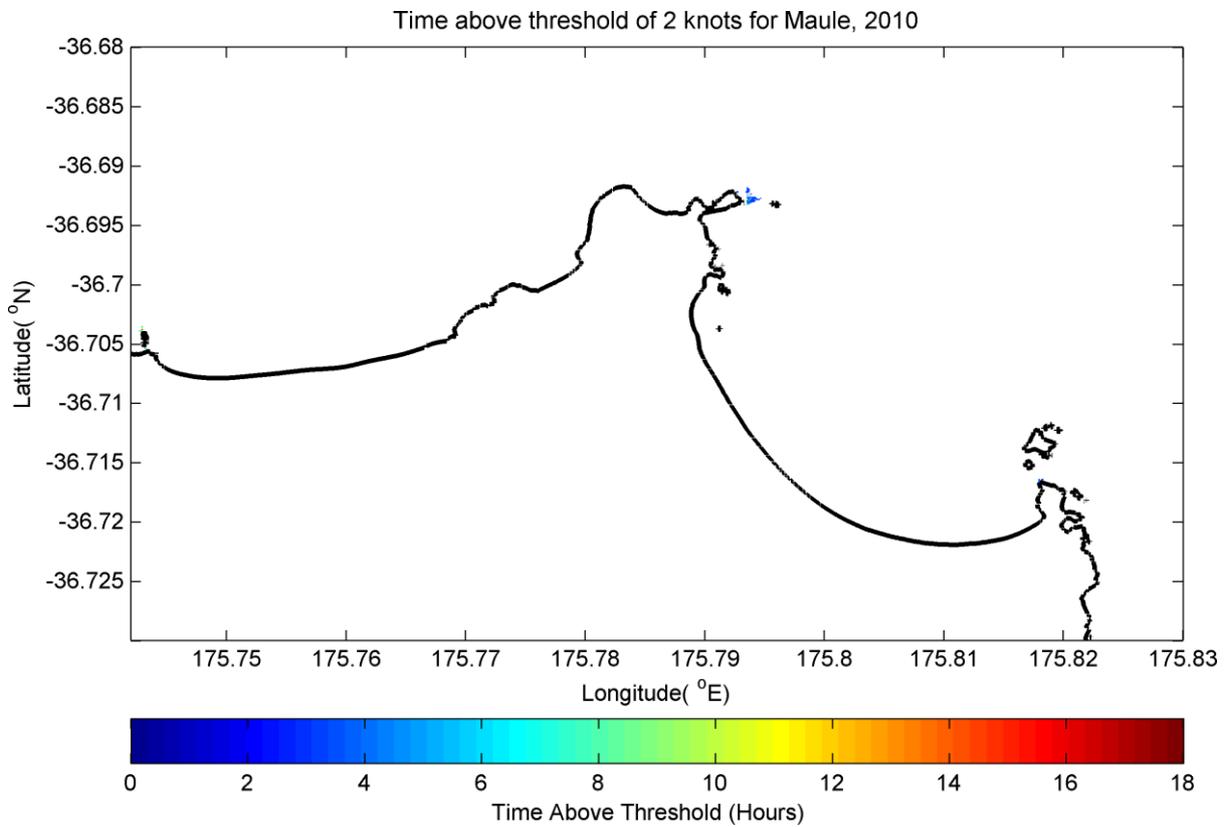
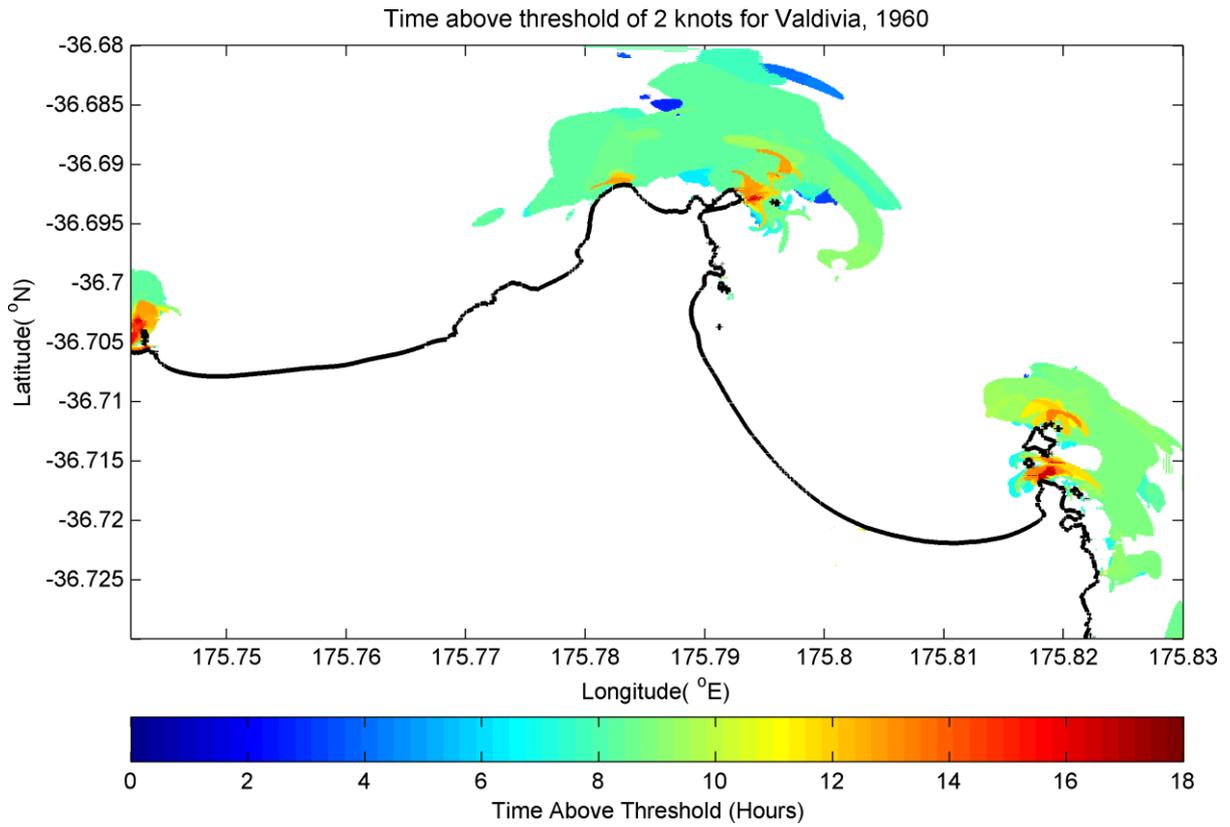
Time above threshold of 2 knots for North Chile 3

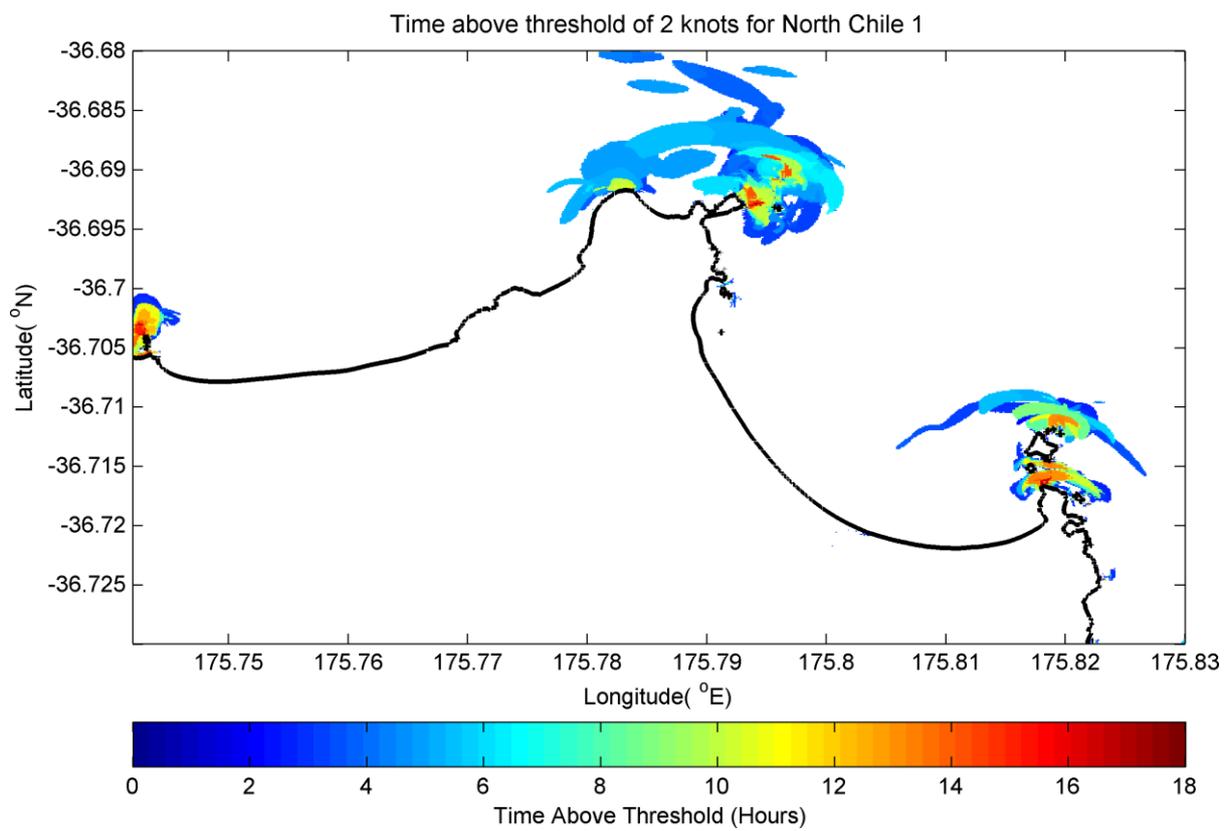
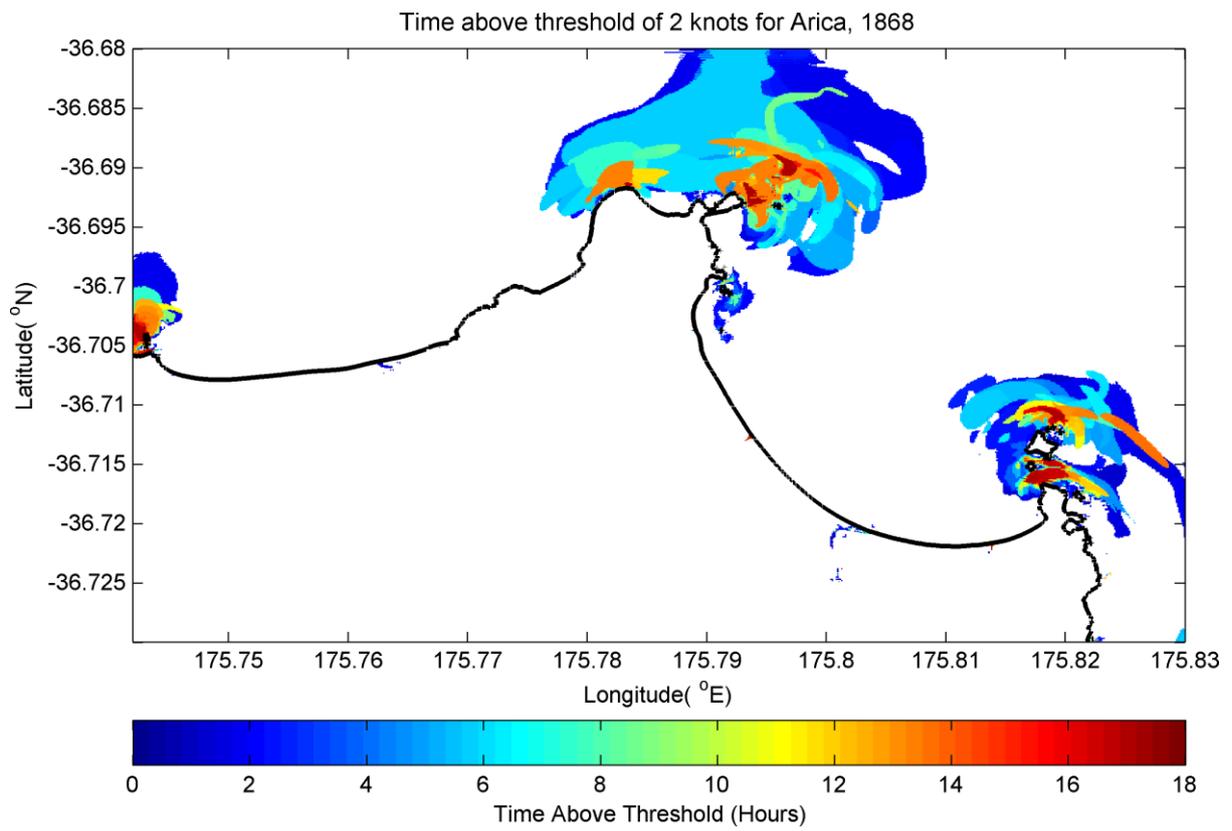


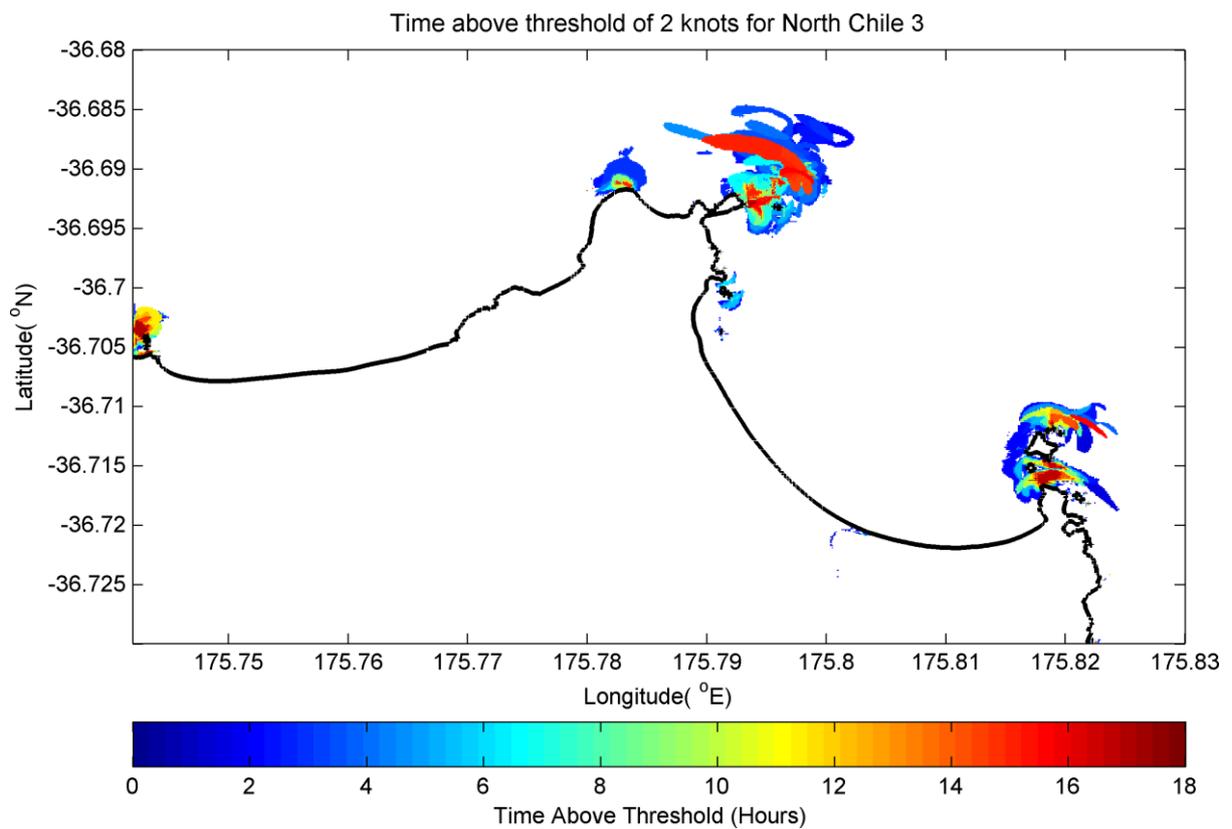
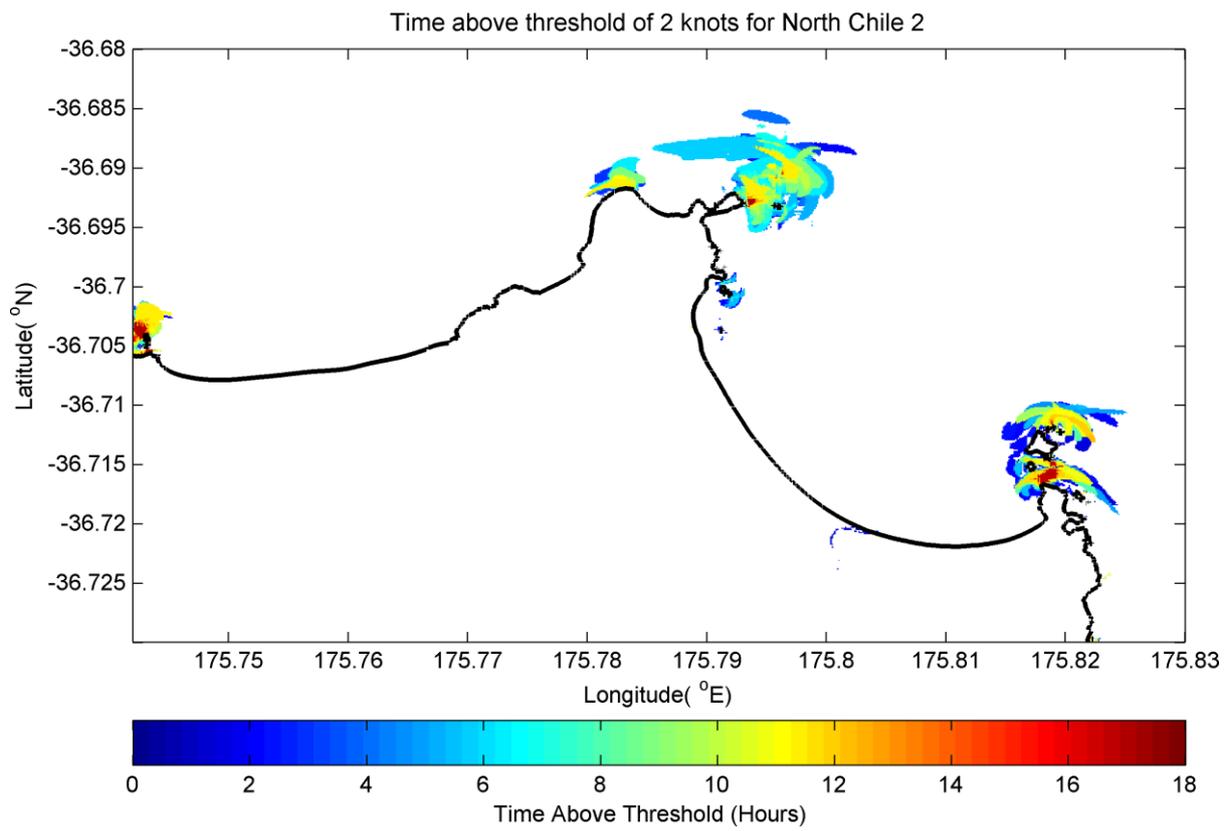
Time above threshold of 2 knots for Central Peru



17 APPENDIX 17 – OPITO BAY: DISTANT SOURCE CURRENT SPEED DURATION







Time above threshold of 2 knots for Central Peru

