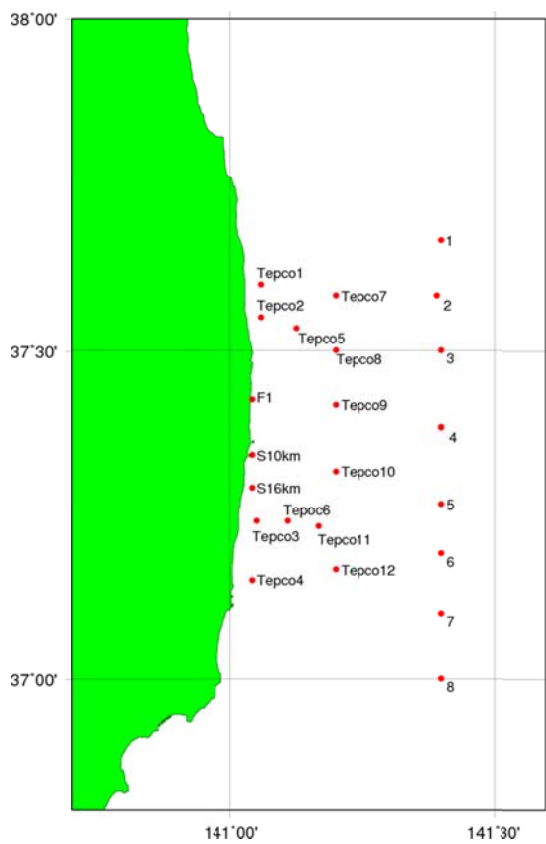
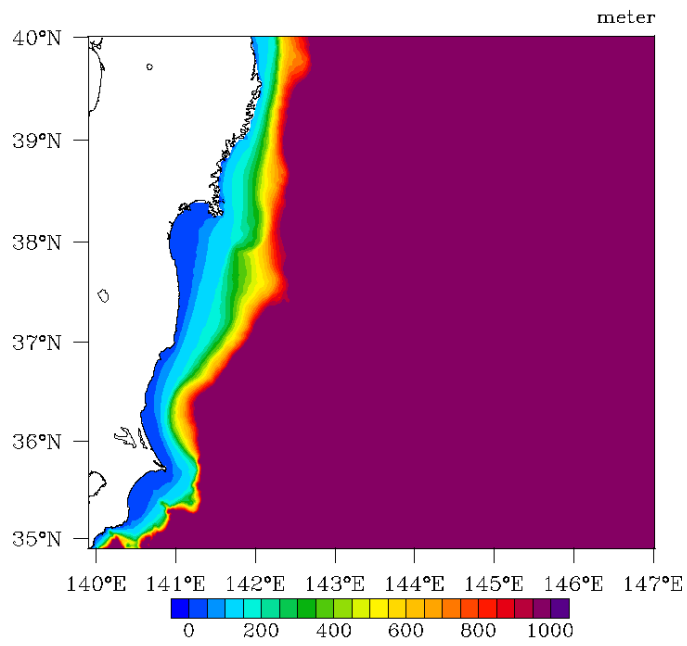


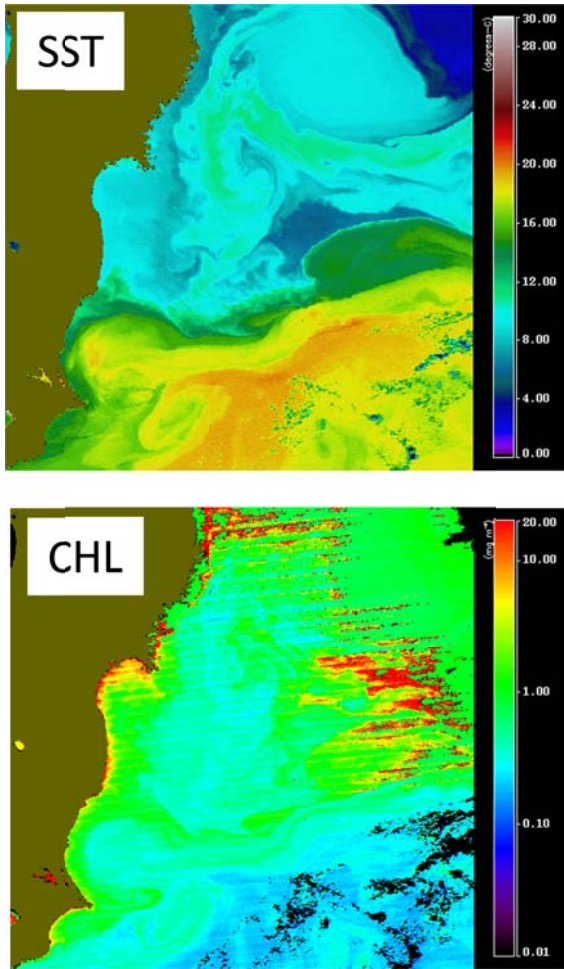
Supplimentary infromations



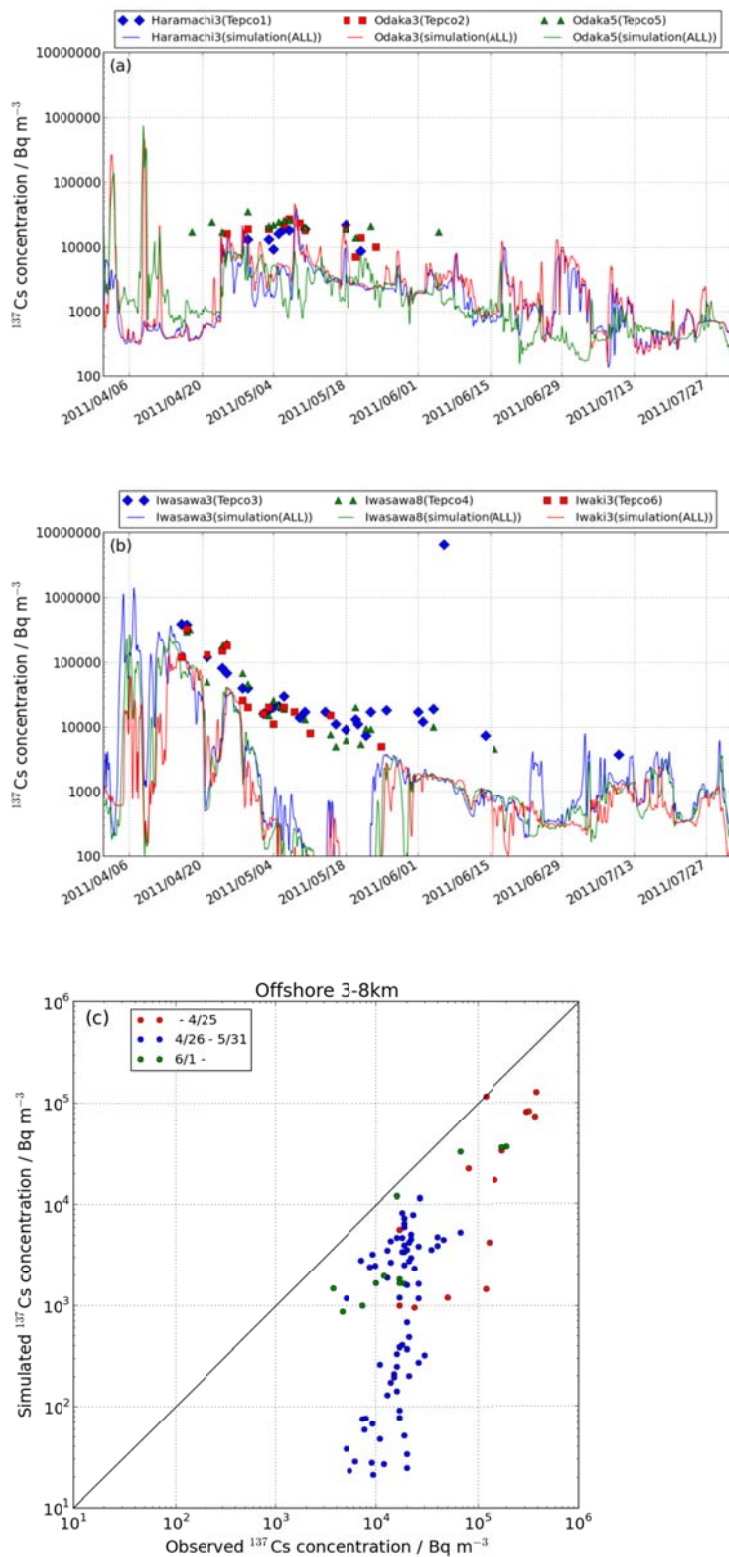
S-Fig. 1. Measuring points near shore



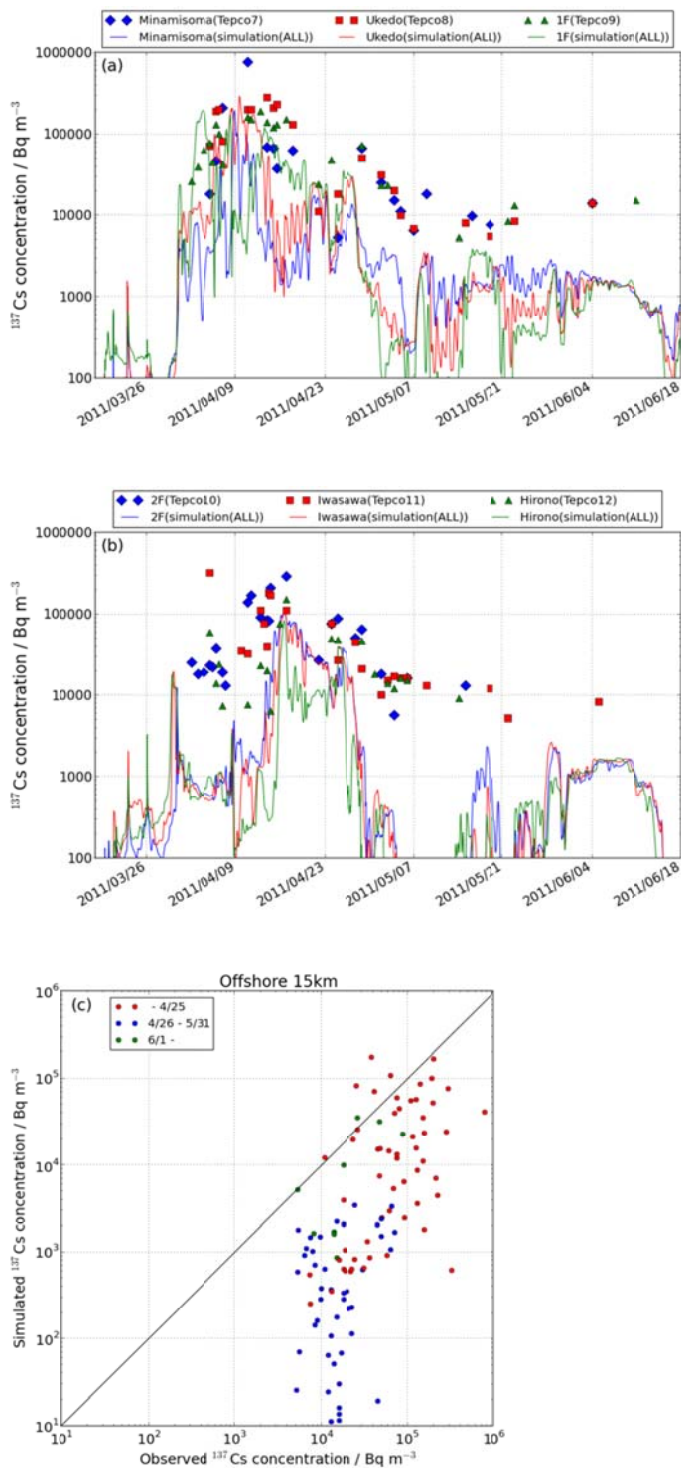
S-Fig. 2. Bottom topography in a Regional Ocean Model System. Maximum depth was set at 1000m in this model.



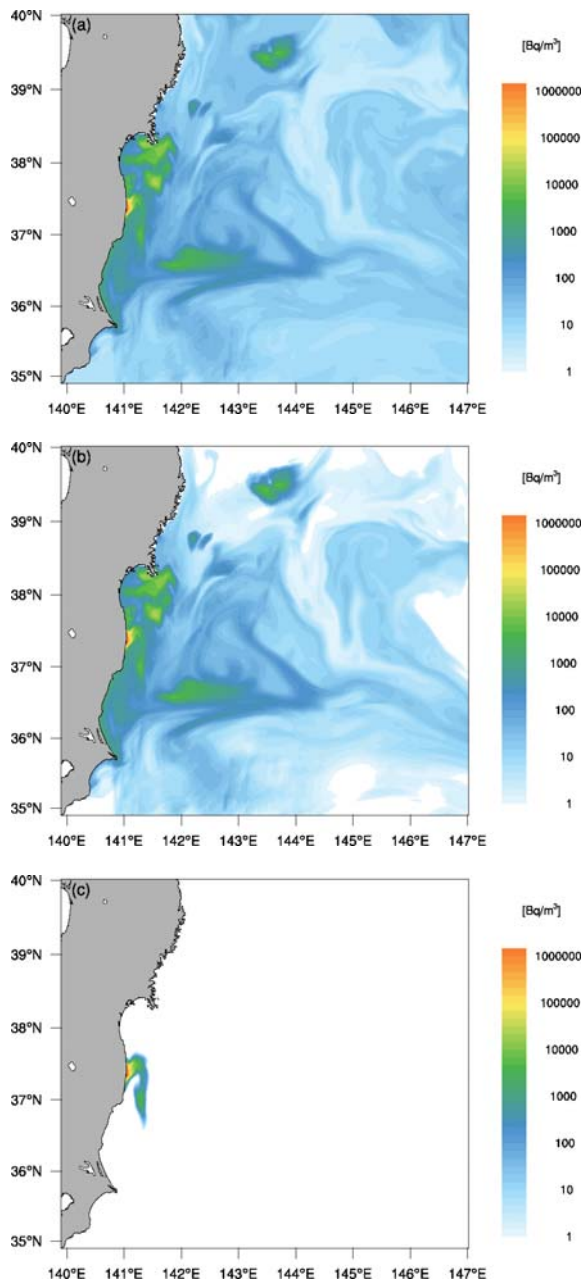
S-Fig. 3. Satellite image of sea surface temperature and chlorophyll a concentration at 14 April 2011.



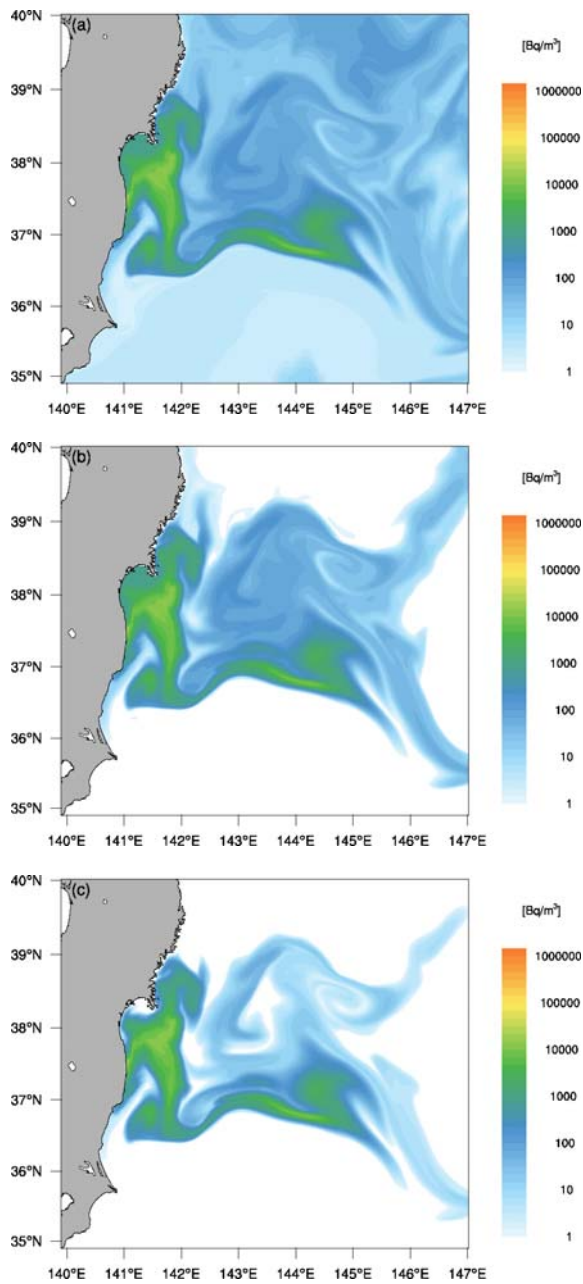
S-Fig. 4. (a) Measured ^{137}Cs activities (Bq m $^{-3}$) and simulated ^{137}Cs activities (ALL scenario) at 3-8 km offshore at the north and (b) at the south. (c) Scatter plot between daily mean measured activities and simulated activities.



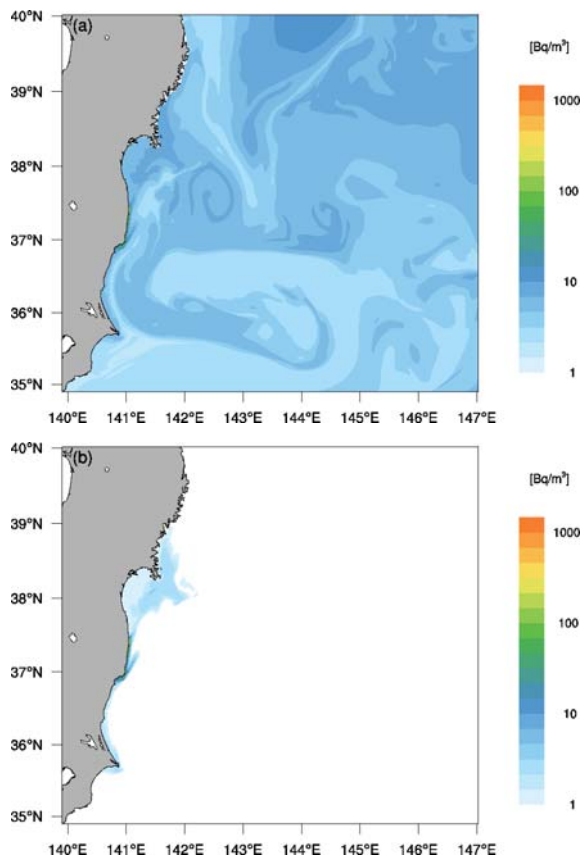
S-Fig. 5. (a) Measured ^{137}Cs activities (Bq m $^{-3}$) and simulated ^{137}Cs activities (ALL scenario) at 15 km offshore at the north and (b) at the south. (c) Scatter plot between daily mean measured activities and simulated activities.



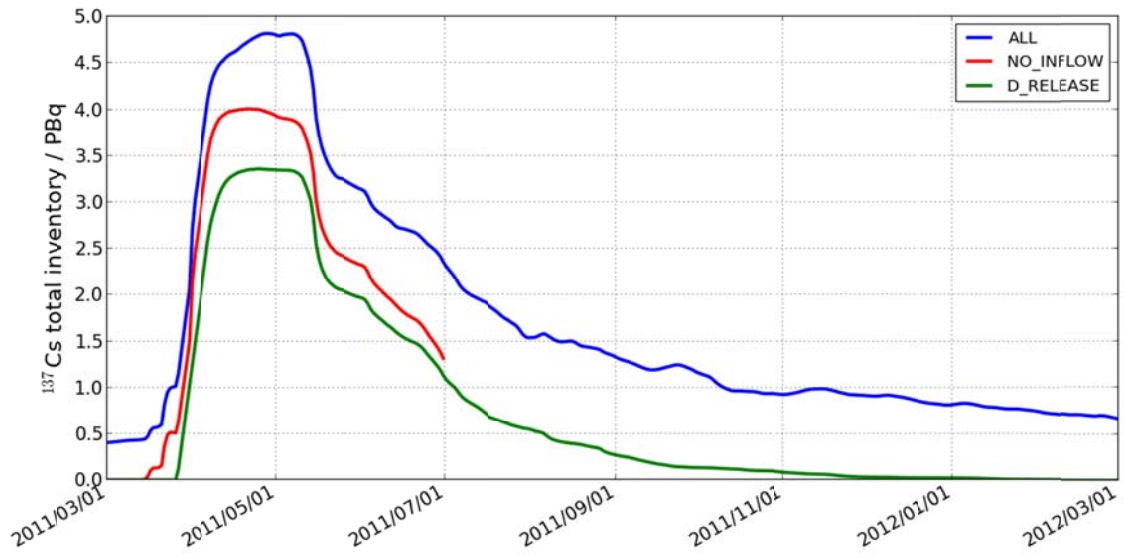
S-Fig. 6 Simulated ^{137}Cs activities (Bq m^{-3}) in surface waters at 1 April 2011 ((a) ALL scenario, (b) NO_INFLOW scenario, and (c) D_RELEASE scenario)



S-Fig. 7 Simulated ^{137}Cs activities (Bq m^{-3}) in surface waters at 1 May 2011 ((a) ALL scenario, (b) NO_INFLOW scenario, and (c) D_RELEASE scenario)



S-Fig. 8 Simulated ^{137}Cs activities (Bq m^{-3}) in surface waters at 29 February 2011 ((a) ALL scenario, and (b) D_RELEASE scenario)



S-Fig. 9 Simulated total inventories of ^{137}Cs activities (PBq) in a model domain for ALL scenario, NO_INFLOW scenario, and D_RELEASE scenario