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The postseismic gravity changes observed with GRACE satellite.

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There are several reports of the observations of gravity changes due to great earthquakes with data set of Gravity Recovery and Climate Experiment (GRACE) satellite, but only Release 02-04 data are used in them. I reanalyzed the co- and postseismic gravity changes due to the three M9 class earthquakes, the 2004 Sumatra-Andaman, 2010 Chile (Maule), and 2011 Tohoku-oki earthquake, using Release 05 data set. I found that the every gravity change due to a huge earthquake has three steps. The gravity decreases immediately at the moment a huge earthquake occurs, continues to decrease slowly for a few months, and increases slowly taking more than a year after decreasing. That is, postseismic gravity changes have short-term and long-term components. But the their mechanisms are not clear.