A megathrust earthquake of magnitude 8.8 occurred off the central coast of Chile on 27 February 2010. The tsunami generated by this earthquake left extensive damage along the pacific coast of Chile. After the event occurred, we conducted a post-tsunami field survey, focusing on the measurements of tsunami run-up height, flow depth, extent of inundation zone, structural damage inspection, and collecting eyewitness accounts. In total, we measured tsunami heights and flow depths at approximately 150 points along the coast of Chile. Also, combined with the post-tsunami field survey results, we conducted the inspection of high-resolution satellite images acquired in Talcahuano and Dichato to assess the impact of tsunami disaster.