This image shows a sequence of radar amplitude images that was acquired by the Agenzia Spaziale Italiana CosmoSkyMed satellite system. The images illustrate changes to the caldera area of Kīlauea Volcano that occurred between May 5 and July 16 at about 6:00 a.m. HST. The satellite transmits a radar signal at the surface and measures the strength of the return, with bright areas indicating a strong return and dark areas a weak return. Strong returns indicate rough surfaces or slopes that point back at the radar, while weak returns come from smooth surfaces or slopes angled away from the radar. Over time, expansion of the summit eruptive vent within Halemaʻumaʻu crater and the widening of Halemaʻumaʻu itself are obvious. Starting in late May, the development of several cracks outside Halemaʻumaʻu is clear, and inward slumping of a large portion of the western, southwestern, and northern crater rim begins. Much of this motion appears to be coincident with the small explosions from the summit that have taken place on a near daily basis since early June. The most recent radar scene, from July 16, shows continued motion along cracks over a broader area of the caldera floor, extending east of Halemaʻumaʻu. We expect this slumping to continue as long as the collapse events and overall subsidence persist.

For an animated gif version of these images, see: