The tsunami on 26 December 2004 has become one of Thailand's severe geological disasters. Historically, tsunami with huge damages to people have never been reported in Thailand, therefore, no particular concerns in studying tsunami were taken into account, especially in term of geological investigation. This paper is the first report on post tsunami investigation, aiming to gain analysis in the most current evidence left by a tsunami. Our team has been investigating the effect of tsunami just the day after it hit the land on 26 December 2004. We had planned urgently to collect physical tsunami records systematically. As a result, just 10 minutes standstill of tsunami, the shoreline areas have changed physically and biologically. We have found the effects e.g. the area of tsunami inundation, maximum run-up, shoreline changes, tsunami sedimentation and some biological disturbances. This report is aimed to sum up useful scientific data, specially physical and biological issues in order to make more scientific sense for further protection, restoration and reclamation plans.