MSM Ocean and Sonardyne Join Forces on Tsunami Early Warning System

Metocean and environmental data measurement specialist MSM Ocean and marine technology company Sonardyne have agreed to team up on the supply of a complete solution for warning coastal communities of a tsunami. The two companies can now jointly provide at-risk coastal nations with a single source of supply of tsunami early warning systems.

The agreement combines MSM Ocean's expertise in oceanographic measurement buoys, onboard data processing and telecommunications with Sonardyne's highly precise deepwater pressure measurement and acoustic through-water telemetry capabilities. Together, these allow minute changes in deepwater pressure at the seafloor that indicate a tsunami to be reliably detected, triggering a direct alert to national emergency organizations via acoustic and satellite communications, all within seconds.

The tsunami early warning system is fully International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) compliant and can be deployed in areas of up to 7,000m water depth.

Through the teaming agreement, MSM Ocean and Sonardyne have also agreed to explore further possibilities for combining their technologies to support remotely connecting ocean scientists to their instruments on the seafloor via buoys.

Tonga Submarine Volcano Eruption

Sonardyne has been supplying integrated Bottom Pressure Recorders (BPRs) configured for deepwater tsunami detection to organizations around the world since 2007. Combining precise sensing, long-life batteries and reliable communications in one easy to deploy and recover instrument, they were developed following the devastating 2004 Indian Ocean tsunami. For the past decade, these BPRs have been integrated into MSM Ocean's buoy-based Tsunami Early Warning Systems, which have been successfully installed along the Pacific coast of South America.

This includes two systems deployed off Ecuador, which detected the January 15 tsunami caused by the Hunga-Tonga submarine volcano eruption, 10,000km away in the South Pacific. Alerts were raised by MSM Ocean's buoys with the National Tsunami Warning Center of Ecuador just 35 seconds after the wave was detected by Sonardyne's BPR.

Seafloor-to-surface-to-shore Solution

Cecile Zanette, CEO at MSM Ocean, explained: "Tsunamis present a threat to numerous coastal countries around the world. These are mostly located around the Pacific Ring of Fire but also in other areas that may be less present in our mind, such as Europe and the Caribbean. Reliable and available systems of detection and early warning are a key component in the complex equation to mitigate the risk to populations. And this is exactly such a system, field-proven, that we have developed combining Sonardyne's highly precise Bottom Pressure Recorder technology with our instrumented buoys' expertise."

Geraint West, head of science at Sonardyne, said: "We have been working closely with MSM Ocean for more than a decade and together we recognized the benefit of providing a fully integrated and supported seafloor-to-surface-to-shore solution. By formalizing our relationship, we can now offer a one-stop shop for this critical capability to a wider range of coastal communities. Organizations can now approach either company for their remote tsunami early warning system configured to match their exact needs."

MSM Ocean and Sonardyne have agreed to partner on tsunami early warning systems. (Courtesy: MSM Ocean)