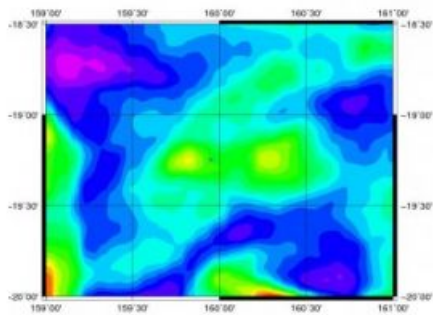


Sandy Island Mystery Solved 33 Years Ago



The 'ghost island', Sandy Island, is back in the spotlight today despite the fact that its mystery was definitively solved in 1979. During a recent survey of the tectonic evolution of the Coral Sea, the Australian research vessel *Southern Surveyor* found no land mass in the presumed position of Sandy Island.

The opposite would have been surprising, because in 1979, to put an end to the many doubts surrounding the existence of this island, SHOM commissioned several aerial reconnaissance missions with a Maritime Patrol Aircraft (Neptune P2H) of the Naval Air Force in New Caledonia, which concluded that the island did not exist. It was deleted from nautical publications via a notice to mariners in March 1979.

The position in question is located in the French exclusive economic zone between the Chesterfield Islands and New Caledonia and France is responsible for international mapping of the area at the largest scale (1:1.5 million) (INT chart 636 and ENC (Electronic Navigation Chart) FR273210).

The official charts meet the objectives of navigational safety and are carefully developed and updated under strict conditions. This example demonstrates once again the importance of using reliable, official information provided by hydrographic services. These services actively inventory all available information in their areas of responsibility and transcribe the data on nautical documents after critical analysis. Likewise, in accordance with the provisions of the Convention on the Law of the Sea on marine scientific research in sovereign waters, the data collected by the *Southern Surveyor* will be forwarded to SHOM and used to update the nautical charts.

The Pacific Ocean is vast and much remains to be learned about its bathymetry. Although it is possible that undetected seamounts may reach the surface, it is highly unlikely that existing islands –especially ones allegedly as big as Sandy Island (25km) – would be omitted from official charts now that satellite imagery is available.

Sandy Island was reported by a whaling ship in 1876. This mistake may have arisen due to a positioning error (in the 19th century, positioning at sea was inaccurate and sometimes random, often with errors in longitude. The presumed position of Sandy Island is located just east of the Bampton reefs, which do actually exist.) Or it may have been due to a misidentification (although Sandy Island does not exist as an island, an underwater volcano does exist at this position and the presence on the surface of floating volcanic residue may in some cases suggest the existence of a land mass).

Because bathymetry is likely to remain incomplete for many years given the extent of the ocean to survey from hydrographic vessels, other techniques such as satellite altimetry are used to detect seamounts. However, though this technique can effectively detect the presence of large seamounts, it cannot accurately determine their depth, and if the seamount is likely to constitute a hazard to surface or submarine navigation, it is necessary to conduct a hydrographic survey of the area. In 2008, SHOM analysed the altimetry data of the area where Sandy Island was allegedly located. The free air anomaly of 80mGal observed in the data indicates a high probability of the presence of a seamount, and a seamount was indeed found by the *Southern Surveyor*. This underwater mountain already appeared on the charts at a depth of 1,474m. It will be more accurately described based on the data from the *Southern Surveyor*.

The figure shows the free air anomaly detected by satellite altimetry (Sandwell and Smith model, V16.1, 2006). The presumed position of Sandy Island is represented by a black X and is located less than 15 km east of the main anomaly observed.