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Nature of Science & Math: Zealandia

The article about Zealandia, published by NBC News, highlighted the recognition of an submerged landmass connecting New Zealand with Caldonia and smaller surrounding islands. The article included maps and graphics from the original publication in GSA Today, the scientific journal of the Geological Society of America. This article simplified the researched and focused on how the underwater land mass of Zealandia is elevated and separate from the surrounding ocean bed. In the original GSA publication, the geologists also referenced the difference in between the rocks found in the oceanic crust and plateaus, with the rocks found in the Zealandia continent.

The study of continents and rocks is a popular unit in elementary science. In fact, I teach about plate tectonics in 4th grade, and the rock cycle in 3rd grade. It nice that the NBC publication referred to the original research and referenced some of the historical studies around the discovery of continental boundaries, including the ancient supercontinent Gondwana.

NOS: Scientific knowledge is based on empirical evidence

Scientists are constantly trying to make sense of the world around them. In the article and research, scientists measured the heights and depth of the landmass surrounding New Zealand. They noticed that the sub-ocean area around New Zealand mostly existed around the

1000m-2000m depth before making a sudden drop to 3000m below sea-level. This was described in the article as an continent found under the ocean, which would be more visible if the oceans were drained.

NOS: Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena

The NBC article used maps and diagrams created by the researchers and published in the original article in GSA Today. These maps helped to illustrated the dramatic change in depth between Zealandia and the ocean floor. With the aid of of the color coded key, it is shown that Zealandia (yellow) is found at a depth of 2000 meters below sea-level, and then drops to the ocean floor (blue) at a depth of 3000 meters below sea-level.

NOS: Science Addresses Questions about the Natural and Material World

This article is certainly a study of some of our simplest scientific questions: How did we get here? What am I looking at? In the early days of geology, scientists had many theories about our how our continents and landmasses came to be in their current configurations. Like Marie Tharp studies sonar charts of the Atlantic Ocean, the article cited depth and elevation data to provide quantifiable evidence of the movement of continents.

CC Math: Use appropriate tools strategically

Since this is an article of the recognition of a submerged continent, it first relied on the basic notion that continents rise above the oceanic crust. The article clearly communicated this idea with maps and the description of Zealandia revealing itself as a mountain-like formation if

the oceans were drained. In the maps, elevation is noted with a color-coded key with measurements both above and below sea-level in the thousand-meter ranges.

CC Math: Model with mathematics

The color-coded maps were essential to the visualization of depth and elevation of Zealandia when compared with the surrounding sea floor. The key indicated that Zealandia appears to be a mountain-scape where only the peaks appear above sea-level.

CC Math: Look for and express regularity in repeated reasoning

The article consistently looks to math and science as indicators that Zealandia is recognizable as a continental landmass and separate from the ocean. The use of multiple elevation and depth maps, and the visualization of a draining ocean help to support the idea that Zealandia falls under the definition of a continent.

Melvin, D. (2017, February 18). Scientists Say They've Discovered a Hidden Continent Under New Zealand. Retrieved February 21, 2017, from http://www.nbcnews.com/news/world/scientists-say-they-ve-discovered-hidden-continent-under-new-zealand-n722796

Nick Mortimer1, Hamish J. Campbell (2017, March/April) Zealandia: Earth's Hidden Continent. GSA Today. Volume 27, Issue 3. Retrieved October 12, 2018 from http://www.geosociety.org/gsatoday/archive/27/3/article/GSATG321A.1.htm