

REMEMBERING CASTLE BRAVO 69 YEARS LATER

By Ivana Nikolić Hughes | March 1, 2023



Castle Bravo Blast (Public Domain)

Castle Bravo is the largest nuclear weapon test the United States (US) ever conducted. It was a seminal event in the nuclear testing history of the Marshall Islands. It is also part of a shameful legacy for those of us who consider ourselves American. Today, the Marshallese people in the Marshall Islands and in diaspora, remember and commemorate Castle Bravo, an event that must never be forgotten.

The Bravo explosion took place on March 1, 1954 in the northern part of Bikini Atoll, one of 29 coral atolls in the Marshall Islands. The explosion yielded the energy equivalent of 15 Megatons (or about 33 billion pounds) of TNT, or 1000 Hiroshima bombs. The blast evaporated an island, forming a deep crater in the Bikini lagoon. The resulting mushroom cloud reached a height of 25 miles into the atmosphere and spread radioactive fallout throughout the atoll, across other Marshallese atolls, and around the world. For decades, the US government has claimed that Bravo was an accident, both because it was more powerful than expected and because the winds had changed, leading to significant radiation fallout on

populated atolls, like Rongelap. Recently declassified documents suggest that the claims of an accident are not truthful (see for example [here](#), courtesy of late Bill Graham via Giff Johnson).

Two communities have arguably been the most affected by Bravo: the Bikinians, who had moved out of their atoll in February of 1946 to make room for the US nuclear testing program, and the Rongelapese, who were living on the lush Rongelap Island, a mere 100 miles away, on that fateful day when radioactive fallout blanketed their islands and lagoon like snow. One could make the case that it is thanks to Bravo that Bikinians cannot return to live in their home islands more than 77 years after the US nuclear testing began. For the people of Rongelap, who similarly remain refugees in their own country, the loss of their land and culture is part of their history of suffering, which includes physical and mental health impacts stemming from the exposure to radiation in the aftermath of the Bravo test. By nightfall, many in the community, children in particular, were gravely ill with radiation poisoning. They were not evacuated until three days later and remain in exile nearly 69 years after Bravo.

It's not that people haven't tried to return home. After the testing program ended in 1958, the people of Bikini slowly attempted to reoccupy their lands in the late 1960s, only to leave again in 1978, when it became clear that staying meant continued exposure to large and unacceptable doses of radiation. Measurements made from 2015-2018 by a Columbia University research team that I was a part of suggest that Bikini is still not ready to *permanently* host a *multigenerational* community, absent an extensive cleanup effort. Note that I stress the word "permanent;" a brief visit to Bikini is fine, but living there 24/7, 365 days a year for many years, is not. Moreover, given that radiation impacts people differently by age and possibly even sex, resettlement of a community that includes young children and pregnant women can only follow a careful decontamination program. Hence the emphasis on the word multigenerational.

The situation is a bit more complicated in Rongelap Atoll, where our team found that radiological contamination on Rongelap Island, where people previously lived, has been largely, if not entirely, contained. But we also found disturbing evidence of high levels of external gamma radiation and high levels of plutonium in the soil in Naen, an island in the north of the Rongelap Atoll. Although the Rongelapese did not traditionally use Naen for their living quarters, they did use it – and other islands throughout the atoll – as a pantry island, where they collected food. The conditions in Naen and in other islands of the atoll need to be far better understood and potentially addressed, before a permanent and multigenerational community could return to Rongelap.

The focus here on Bikini and Rongelap is not to say that other atolls were not affected, just that these may have been the most affected. At the time of Bravo, people were also living in Alluk, Likiep, Utirik, and throughout the Marshall Islands. A comprehensive survey of current radiological conditions is desperately needed for the entire country, with an emphasis on atolls closest to the former testing sites. In 2017, the Columbia team was able to visit Utirik and we found little to no evidence of elevated levels of radiation. This is encouraging, although not definitive, as our measurements were limited in scope and number.

The Marshall Islands suffered 67 nuclear tests, which corresponded to 55% of the total energy yield of all US nuclear weapon tests. Bravo was the largest and the most devastating due to the fallout spread, but there were many other large (hydrogen bomb) tests. Several actually took place in the same part of the Bikini lagoon as Bravo, leading to a complex crater that today has a depth of ~50 m, and according to two Columbia studies, hosts a variety of radioactive contaminants (see [here](#) and [here](#)). The ocean is filling in this crater at a rate of about one foot per year (or one meter every three years), as if it knows that it must treat its own scars, with people seemingly not ready to heal them.

The legacy of Bravo must not be forgotten. Indeed, it must be recognized, understood, and properly addressed.

