T5.4-P20 Nuclear Pacific: An International Public Inquiry on French Nuclear Testing in French Polynesia

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Collaboration with:
Forensic Architecture
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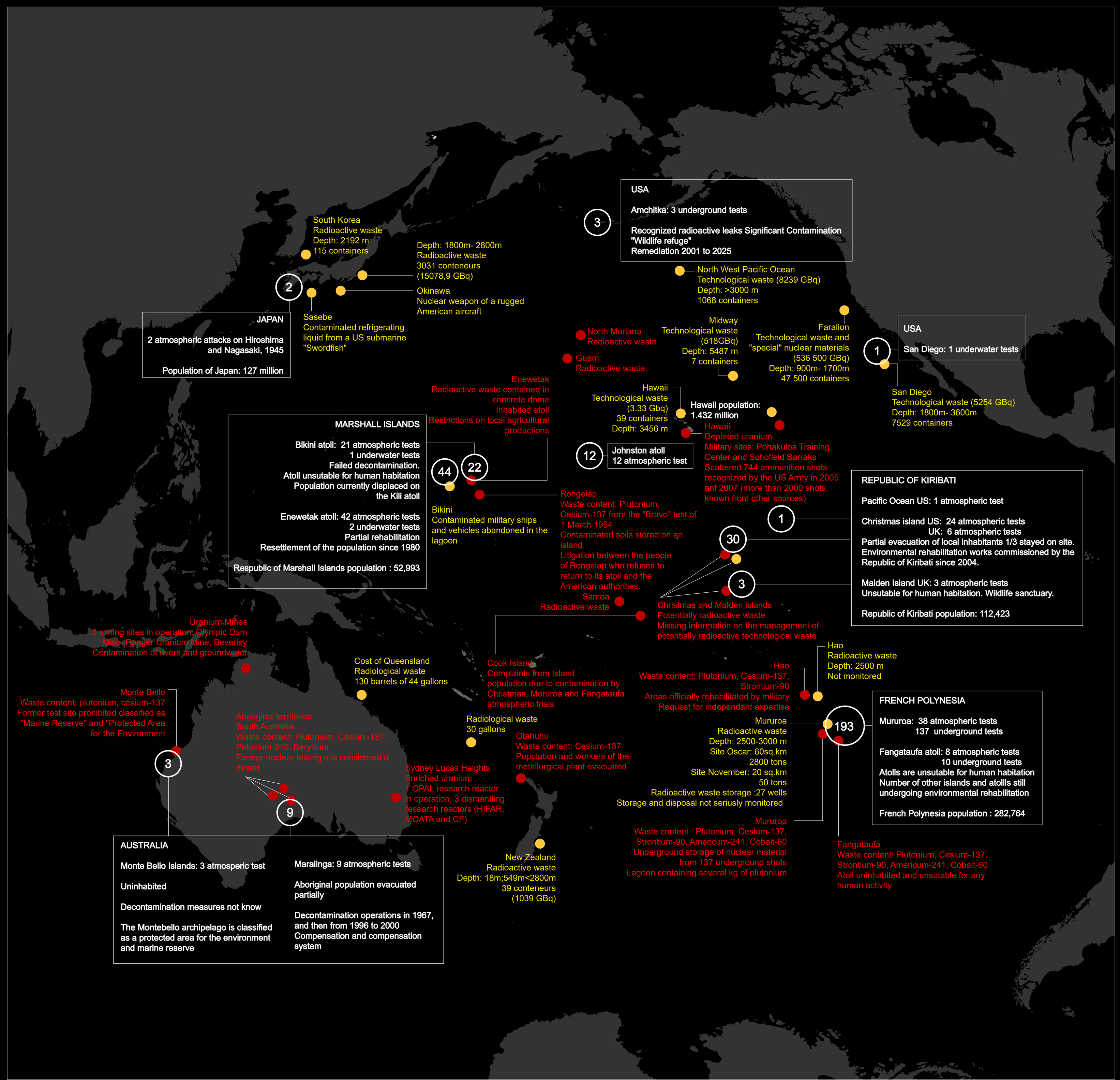
NUCLEAR PACIFIC

United States, France and Britain conducted over 315 tests in the Marshall Islands, French Polynesia, Kirimati, and Australia between the 1940s to the 1990s. The tests have left a legacy of ocean and land contamination, nuclear waste, displacement and intergenerational health impacts on island populations and workers employed in the nuclear industrial complex. While the United States recognizes the impact of their nuclear experiments in the Marshall Islands that resulted in an imperfect nuclear claims tribunal, France and the UK have yet to face any serious legal challenge in French Polynesia and Kirimati over victim compensation, land rights claims and environmental damage.

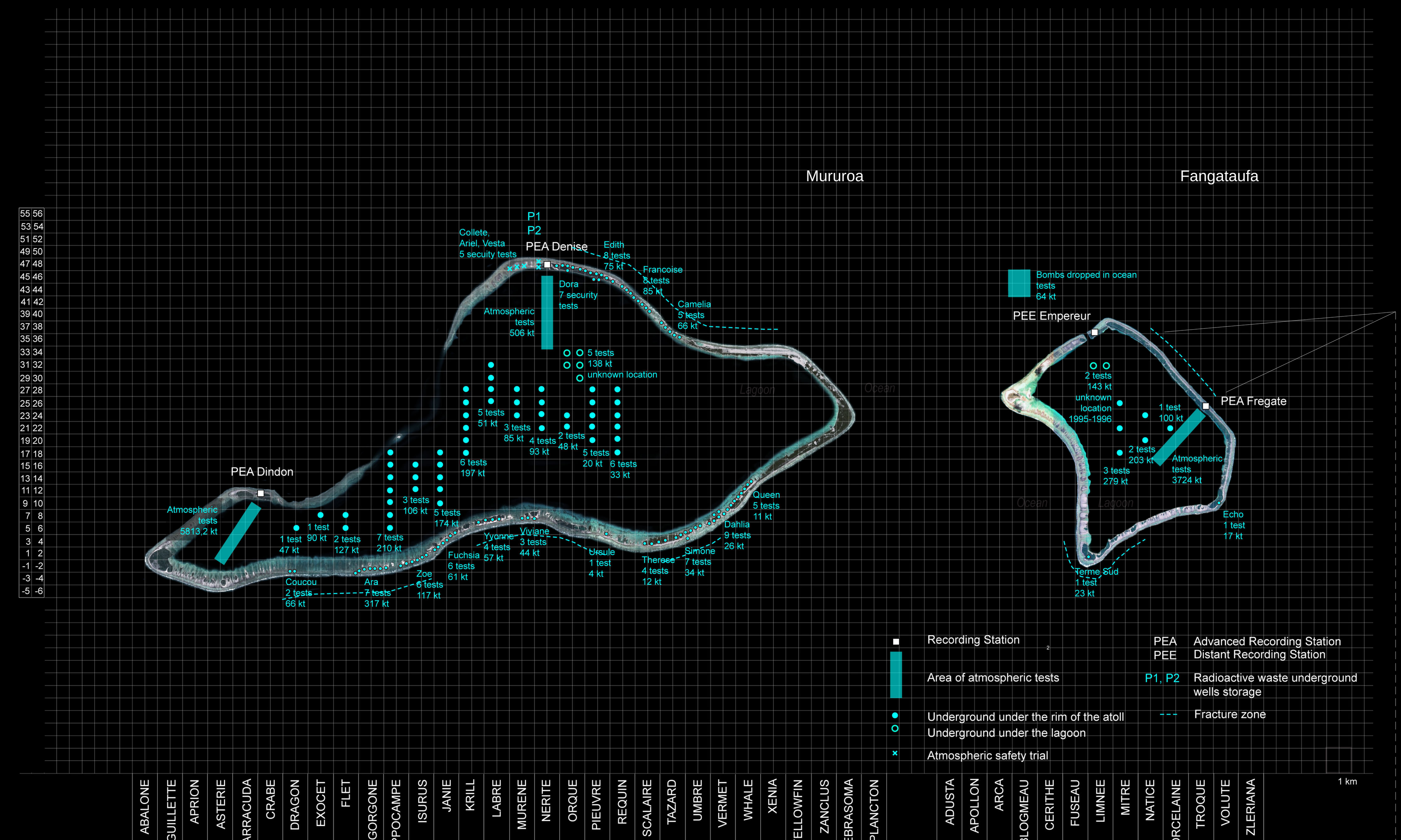


ENVIRONMENTAL IMPACTS OF NUCLEAR POLLUTION IN THE PACIFIC REGION
(Map based on data provided by Bruno Barillot)

30 Number and location of nuclear tests
Radioactive waste on land
Radioactive waste in the sea

INVESTIGATION: MURUROA AND FANGATAUFA ATOLL

France conducted atmospheric and underground nuclear weapons tests on and under the atoll of Mururoa and Fangataufa in the Tuamotu Archipelago in French Polynesia between 1966 and 1996. Forty four atmospheric tests were carried out between 1966 and 1974, seventy eight underground tests between 1975 and 1986 and further underground tests between 1995 and 1998. The atolls lie in the easternmost part of the territory of French Polynesia and around 1000 kilometres from it's capital Papeete in Tahiti. In the aftermath, the aerial testing deposited radioactive fallout over the entire territory of French Polynesia. The two nuclear test sites have sites have become waste sites with former boreholes used as waste depositories. It is argued that underground tests in the two atolls have led to the leaching of radioactive material into the surrounding marine environment. Nongovernmental groups claim that lasting damage has been made to the stability of the atolls as a result of the underground tests.



ENVIRONMENTAL IMPACTS OF NUCLEAR TESTING

Atmospheric tests 1966- 1974
(41 tests, total yield 10Mt)

Barge shooting was performed 3 meters above the level of the lagoon. As a result the water, corals and sediments of the lagoon were dragged in the explosion causing heavy contamination.

Atmospheric safety trials 1966- 1974
(5 tests)

During five atmospheric safety trials a virtually complete nuclear core, mounted on a tower a few metres high, was blown apart by the conventional explosive trigger of a nuclear weapon in such a way that little or no fission energy was released. However, when the bomb crashed to the ground its contents, plutonium in particular were dispersed. These tests resulted in large plutonium contamination. Several kilograms of plutonium remain on a coral sand bank near "Colette" on Mururoa atoll.

Underground tests under the rim and the lagoon
1975-1996 (147 tests, total yield 3.2Mt)

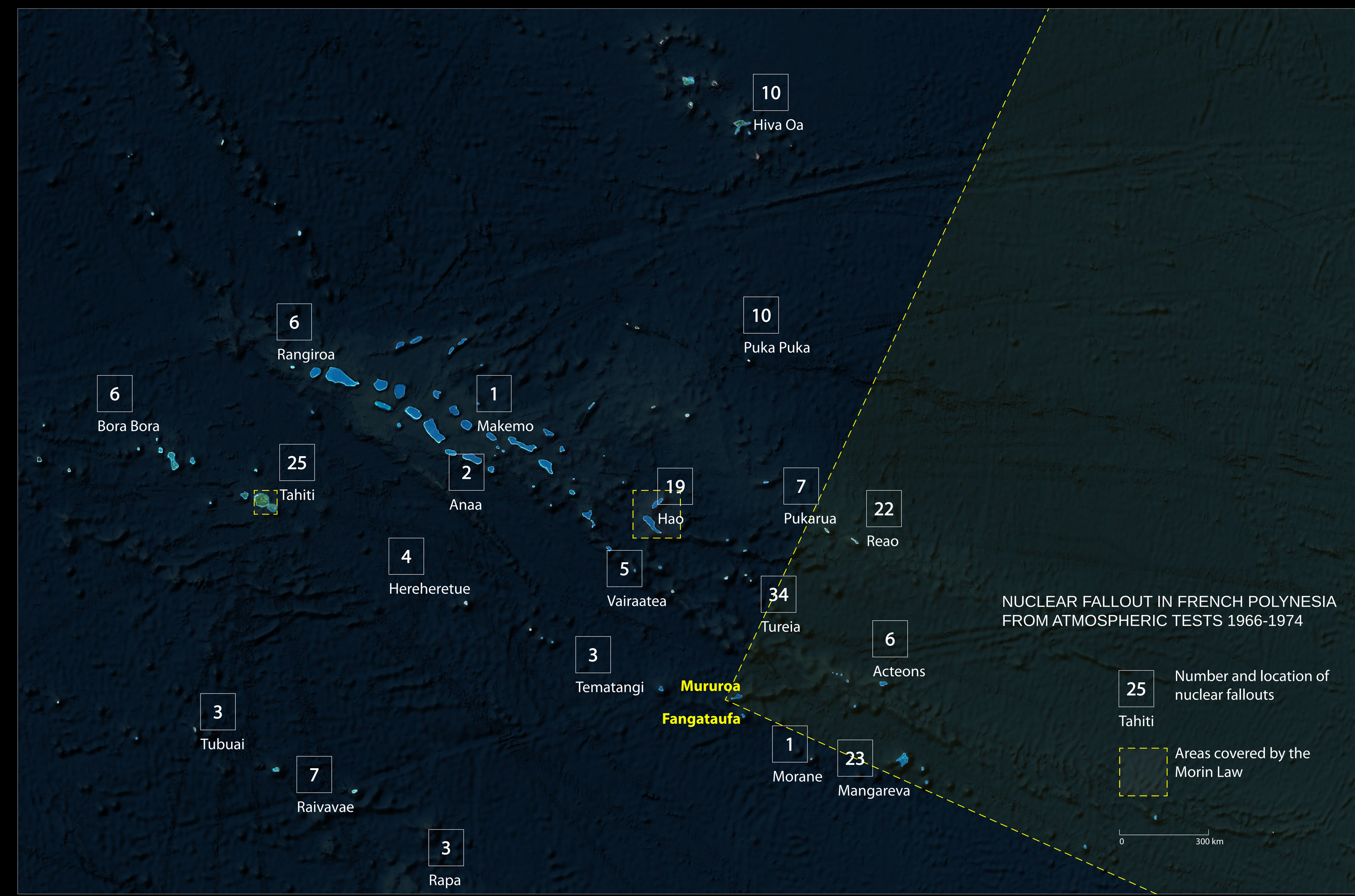
The precise location and depth of each well in the rim is unknown. The precise location of the shots in the lagoon comes from unofficial sources provided by Bruno Barillot. The energy released during each firing is an evaluation made by the IAEA in 1996. The configuration of the atolls is such that underground test wells could only be drilled on limited areas of the coral corona. At Mururoa atoll underground tests were concentrated in 4 zones inevitably weakening the outer slopes of the atoll. The IAEA report revealed underground fire was not all contained in the volcanic zone of the atolls. Indeed, the IAEA experts had measured abnormal levels of radioactivity in their samples. The Ministry of Defence then provided the IAEA with a document showing that 23 underground tests had passed the tight zone of volcanism and that cracks in the chimney at the vertical of the zero points had occurred in the carbonate zone of the atoll. The precise information on the depth of the wells and the exact energy of each shot would have allowed a better understanding of the causes of the collapse of the atoll slopes, land subsidence and potential leakage of radioactive products. (Assembly of French Polynesia, 2009)

Underwater extension fractures of the order of 40cm aperture on the northeastern rim of Fangataufa in the vicinity of Kilo - Frégate. Source: International Geomechanical Commission, 1999.

FORUM

According to the United Nations Decolonization Committee French Polynesia remains a non self-governing territory and an overseas territory of France. As in other Pacific islands, there has been a popular anti-nuclear movement in French Polynesia led initially by independentist leaders such as Pouvanna a Oopa in the 1950's, and ex-workers in the French nuclear testing military industrial complex, and the evangelical church. Currently the movement is led by two organizations, "Muroroa e Tatou" and "Association 193".

We seek to facilitate an international public inquiry and explore possible international legal forums to seek accountability of France to compensate the victims of nuclear testing in French Polynesia as well as the Pacific environment, using the law of Ecocide or Crimes Against Nature.



Members of the Makemo atoll branch of Association 193, a Polynesian activist organization for victims of nuclear tests on July 2nd, 2016, the day of the 50th anniversary of the first test. Photo credit: Nabil Ahmed

In 2010 French parliament passed a nuclear compensation law under a presumption of causation that was ratified in 2017. Known as the Morin Law, the conditions of which are so restrictive that out of over 1000 claim applications, 7 received compensation. The geographical area included in the law are Moruroa and Fangatufa, and extends to Hao atoll and parts of Tahiti. The French Ministry of Defence's own 2006 report "The Radiological Dimension of French Nuclear Testing in Polynesia" demonstrated that more than 200 geographically wide radioactive fallouts had occurred throughout the atmospheric testing period in Polynesia (Obsarm, 2014). Yet the geographical distribution was not included in the Morin Law. Polynesians are continuing their struggle for further legal and political challenges to seek compensation and justice.

INTERVIEW WITH BRUNO BARILLOT

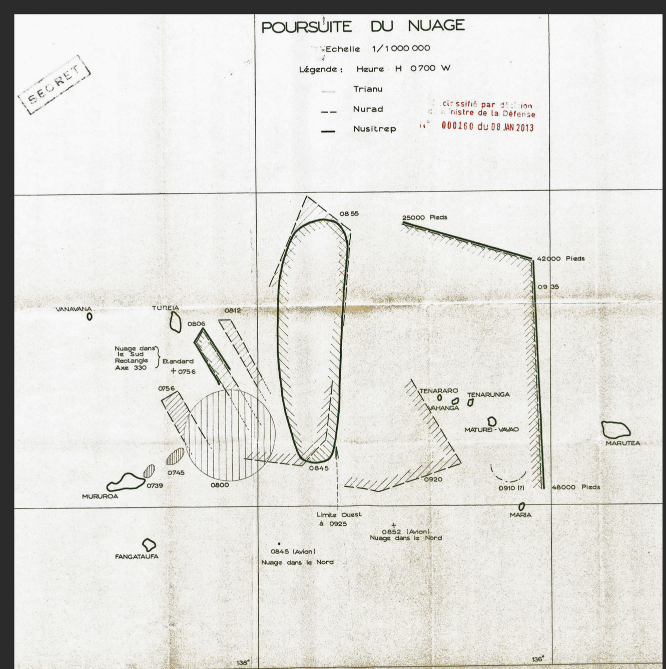
I had made a cartography of the Pacific zone and there still are nuclear installations in many Pacific islands, not only French Polynesia but there is also storages of nuclear material (including radioactive waste) in Hawaii, in the Mariana Islands, in Australia… So basically I think that these organisations (PROE/Pacific Regional Environment Programme) which are lead by nuclear Powers - don't want us to have a closer look on all of this."

"...here, on the atoll Anaa, in 1968, you can see the level of fallouts. Here are the names of the shootings. Bombs were given a name: Capricorne, Cassiopeia, Pollux… French government declassified this document because we were taking this to the Council of State, which is the last judicial authority in France and we could have taken it to the European Court of Human Rights. France declassified the document because they didn't want its nuclear affairs to be discussed in Europe."

Bruno Barillot (1940-2017) - Founder Armaments Observatory, and head of Polynesian delegation to monitor the consequences of nuclear testing (DSCEN)

Interview conducted by "The Current" Expedition, TBA21 Academy, 2016. Photo credit: Nabil Ahmed

DISPUTED REPORTS



Course of the cloud of Betelgeuse nuclear test on September 11th, 1966. Total yield 110 kt. Declassified Document, French Ministy of Defence: Doc n°5_58#6EEE CR opération Bélelgeuse 1966, page 9.

The International Atomic Agency (IAEA) conducted a two year study on the radiological situation at the atolls of Mururoa and Fangatufa between 1996 and 1998. The aims of the Study were "to assess prospectively the situation at the two atolls and in the involved areas from the point of view of radiological safety, to ascertain whether there are any radiological hazards to people, and to make recommendations on the form, scale and duration of any remedial action, monitoring, or any other follow-up action that might be required" (IAEA, 1998). The report found that no significant amount of residual radioactive material was present in the terrestrial and aquatic systems. The report concluded that the expected radiation dose rates and modes of exposure are such that no effects on animal or plant population groups could arise.

The findings of the report confirmed France's claims that the impact of the nuclear experiments were indeed minimum and posed little or no harm to people and marine life. Yet the IAEA report did not attempt to assess the doses received by inhabitants of the region as a result of the atmospheric nuclear tests at the time when those tests were carried out. (Harvard International Review, 2001)

Nongovernmental groups in French Polynesia have argued there is a lack of transparency on the part of the French government. Declassified documents obtained through freedom of information proceeding by Mururoa e Tatou (Defence Association of former nuclear workers) and Association of Veterans of Nuclear Testing (Aven) revealed the secrecy of the French state. The existence of these documents has never been denied, but they point to the negligence of the authorities of the Pacific Experimentation Centre (PEC) and the risks to which the Polynesian populations have been exposed. (Obsarm, 2014).

Further research and analysis is needed to make the declassified reports accessible to nonscientific public.

INTERPRT, Nuclear Pacific workshop, The Current Convening, Kochi Biennial, 2016. Photo credit: TBA21

INTERPRT (Inter-Pacific Ring Tribunal)

"Inter-Pacific Ring Tribunal" (INTERPRT) is an organization that investigates under-reported environmental crimes in the Pacific region at the intersection of spatial analysis, international law, outreach and advocacy. INTERPRT is an interdisciplinary project that involves a network of architects, researchers, lawyers, scientists, politicians and cultural producers. The project has been investigating environmental damage resulting from industrial mining in West Papua and human rights. We are exploring impacts of nuclear testing in French Polynesia as well as implications of seabed mining in the region.

Due to their cross border nature, environmental crimes are often spatially diffused and temporally protracted. INTERPRT uses spatial analysis such as remote sensing and GIS, interactive maps, models, drawings and other architectural analysis tools allow for new ways of an interdisciplinary reporting on environmental destruction. The project explores the law of ecocide as a legal instrument that prohibits the mass damage and destruction of the earth and creates a legal duty of care to prevent, prohibit and pre-empt ecocide and further establishes it as an environmental crime.

The organization's objectives are to develop ecocide law, develop procedural instruments in order to fight environmental crimes and impunity, investigate on under reported cases of environmental crime, legal and judicial capacity building, raise public awareness through research exhibitions, publications and scholarship.

The author's visit to French Polynesia was part of TBA21 Academy's "The Current" expedition in 2016.