

In Pursuit of Justice for All Those Who Were Damaged



Date: August 21, 2023
To: Radioactive and Hazardous Materials Committee
From: Tularosa Basin Downwinders Consortium (TBDC)
Re: Issues Concerning Downwinders

- 1) Update on Fallout Deposition Mapping
- 2) Update on Plutonium Studies
- 3) Update on Radiation Exposure Compensation Act (RECA) amendments
 - a. Trip to Washington DC for lobbying purposes



DID YOU KNOW

The Tularosa Basin Downwinders Consortium (TBDC) is a grassroots organization that was founded in 2005. Our purpose is to bring attention to the negative health effects suffered by the people living adjacent to the Trinity test site subsequent to their overexposure to high levels of ionizing radiation that occurred on July 16, 1945, with the explosion of the Trinity atomic bomb test. For more information about our organization, please go to: www.trinitydownwinders.com or we would be glad to meet with your organization for a full presentation of our work.

- There were families living as close as 12 miles to the Trinity test site in 1945 and there were thousands of families, men, women and children living in a 50-mile radius. If you extend the radius to 150 miles it encompasses Albuquerque to the north and El Paso to the south. That would mean that hundreds of thousands of people were exposed.
- The bomb was a plutonium-based bomb and it was packed with 13 pounds of weapons grade plutonium but only 3 pounds of the plutonium fissioned. The remaining 10 pounds of plutonium was joined with the soil, sand, animal and plant life and incinerated. The resultant fireball exceeded the atmosphere and penetrated the stratosphere traveling more than 7 miles high. Ash fell from the sky for days afterwards.
- The bomb produced more heat and more light than the sun. Many people who we've spoken to that were alive at the time thought they were experiencing the end of the world.
- Plutonium has a half-life of more than 24,000 years. Once the radioactive ash fell from the sky as fallout it settled on everything on the soil, in the water and on the skin of every living thing both human and animal.
- In 1945 most if not all the small villages inside a 50-mile radius of the Trinity Site had no running water. The water sources at the time were cisterns, holding ponds or irrigation ditches. As a result of the fallout the water sources were contaminated.
- In 1945 there were no grocery stores in the small villages surrounding the Trinity site. All the meat, dairy and produce people consumed was raised, harvested, or grown by them. It too was contaminated.
- Since 1990 the US Government has been compensating "Downwinders" of the Nevada Test Site. The fund set up to extend compensation and medical care is called the Radiation Exposure Compensation Act (RECA). The Downwinders in New Mexico have never been included or compensated although they were the first people to be exposed to radiation any place in the world. Furthermore, it is well documented that the people of New Mexico were downwind of the above ground tests that took place at the Nevada Test Site through the summer of 1962 yet the

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compensation ends at the Arizona, New Mexico border.

- The fund has paid out more than 2.5 billion dollars in claims and has provided much needed health care coverage to some of those that qualify. If the health care coverage was extended to the Downwinders of New Mexico it would save lives and reduce the financial burden to patients and families as they travel from their rural communities to receive treatment traveling long distances and sometimes out of State.
- The TBDC is fighting for the same compensation and for health care coverage. We often say we don't want one dime more or one dime less than what other Downwinders are receiving today and have received for over 31 years.
- On June 27, 2018, Tina Cordova as a representative of the TBDC testified before the U.S. Senate Judiciary Committee about the need to amend the RECA in order to compensate the New Mexico Downwinders. The testimony is available at: <https://www.judiciary.senate.gov/meetings/examining-the-eligibility-requirements-for-the-radiation-exposure-compensation-program-to-ensure-all-downwinders-receive-coverage>. The hearing begins at 20 minutes. Tina Cordova, co-founder of TBDC, begins her testimony at 1:02:20 minutes.

On March 24, 2021, Tina Cordova as a representative of the TBDC testified before the U.S. House Judiciary Committee, Subcommittee on the Constitution, Civil Rights and Civil Liberties. The testimony is available at:

[Examining the Need to Expand Eligibility Under the Radiation Exposure Compensation Act | U.S. House of Representatives Judiciary Committee](#) Tina's testimony begins at 51:14 minutes.

- The TBDC is working to make certain the amendments to RECA introduced in both the U.S. House and Senate will move out of the committees and onto the floor of both the House and Senate for a vote. Call or email your US House and Senate members and ask them to support the amendments to the RECA that are found in House bill HR 4426 and Senate bill S 1751. These amendments have broad bipartisan support.

www.house.gov/representatives/find-your-representative
www.senate.gov/senators

To help the TBDC, sign-up to receive our newsletter by emailing habeaumont@aol.com or go to our website for more information www.trinitydownwinders.com Please support the TBDC with your financial contribution. Send checks made out to the TBDC care of Tina Cordova, TBDC, 7518 2nd St. NW Albuquerque, NM 87107

<https://searchlightnm.org/deliverance-for-downwinders-as-the-clock-winds-down-on-federal-compensation-one-womans-mission-ramps-up/>

<https://www.nationalgeographic.com/history/article/lawmakers-move-urgently-to-recognize-survivors-of-the-first-atomic-bomb-test>



Trinity Nuclear Test's Fallout Reached 46 States, Canada and Mexico, Study Finds

The research shows that the first atomic bomb explosion's effects had been underestimated, and could help more "downwinders" press for

By Lesley M. M. Blume

July 20, 2023

In July 1945, as J. Robert Oppenheimer and the other researchers of the Manhattan Project prepared to test their brand-new atomic bomb in a New Mexico desert, they knew relatively little about how that mega-weapon would behave.

On July 16, when the plutonium-implosion device was set off atop a hundred-foot metal tower in a test code-named "Trinity," the resultant blast was much stronger than anticipated. The irradiated mushroom cloud also went many times higher into the atmosphere than expected: some 50,000 to 70,000 feet. Where it would ultimately go was anyone's guess.

A new study, released on Thursday ahead of submission to a scientific journal for peer review, shows that the cloud and its fallout went farther than anyone in the Manhattan Project had imagined in 1945. Using state-of-the-art modeling software and recently uncovered historical weather data, the study's authors say that radioactive fallout from the Trinity test reached 46 states, Canada and Mexico within 10 days of detonation.

"It's a huge finding and, at the same time, it shouldn't surprise anyone," said the study's lead author, Sébastien Philippe, a researcher and scientist at Princeton University's Program on Science and Global Security.

The study also reanalyzed fallout from all 93 aboveground U.S. atomic tests in Nevada and created a map depicting composite deposition of radioactive material across the contiguous U.S. (The team also hopes to study U.S. tests over the Pacific Ocean in the future).

How much of Trinity's fallout still remain at original deposition sites across the country is difficult to calculate, said Susan Alzner, an author of the study and the co-founder of shift7, an organization that coordinated the study's research. The study documents deposition as it originally hit the ground in 1945.

"It's a frozen-in-time image," she said.

The findings could be cited by advocates aiming to increase the number of people eligible for compensation by the federal government for potential exposure to radiation from atmospheric nuclear explosions.

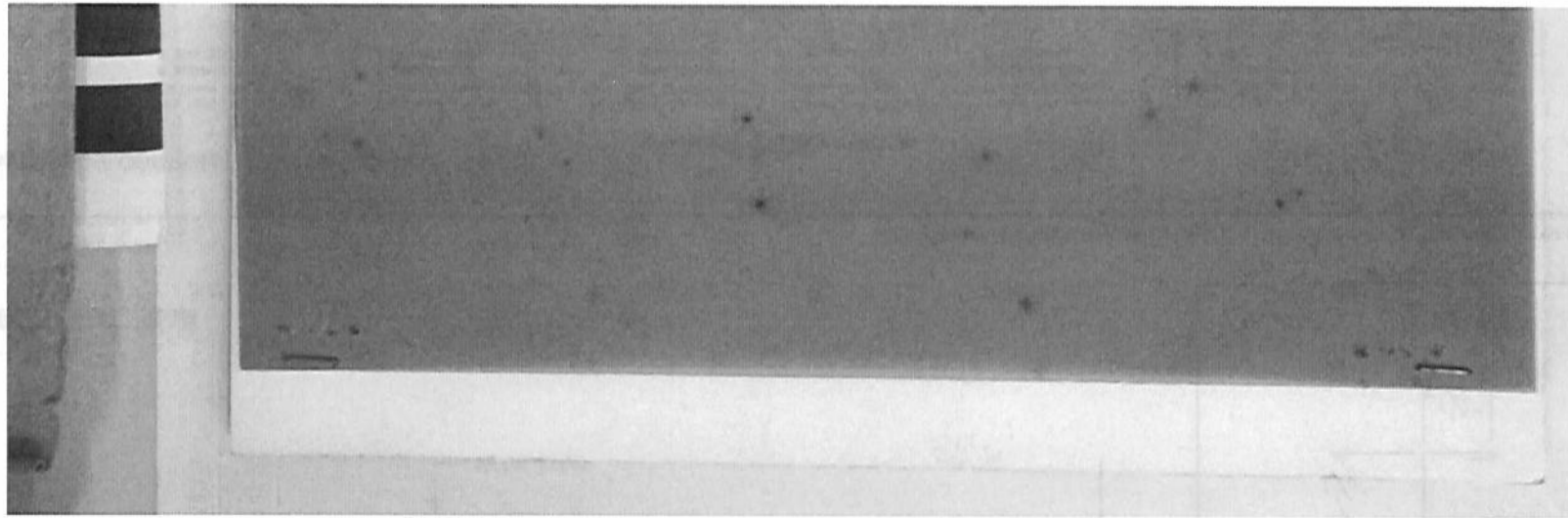
The drift of the Trinity cloud was monitored by Manhattan Project physicists and doctors, but they underestimated its reach.

"They were aware that there were radioactive hazards, but they were thinking about acute risk in the areas around the immediate detonation site," Alex Wellerstein, a nuclear historian at the Stevens Institute of Technology in New Jersey, said. They had little understanding, he said, about how the radioactive materials could embed in ecosystems, near and far. "They were not really thinking about effects of low doses on large populations, which is exactly what the fallout problem is."

At the time, Dr. Stafford L. Warren, a Manhattan Project physician specializing in nuclear medicine, reported to Lt. Gen. Leslie Groves, leader of the Manhattan Project, that the Trinity cloud "remained towering over the northeast corner of the site for several hours." Soon, he added, "various levels were seen to move in different directions." Dr. Warren assured General Groves that an assessment of the fallout's reach could be undertaken later on horseback.

In the decades that followed, a lack of crucial data has bedeviled assessments and attempted studies of the Trinity test's fallout. The U.S. had no national monitoring stations in place in 1945 to track the fallout, Dr. Philippe said. Plus, essential historical weather and atmospheric data was available only from 1948 onward. Remodeling fallout from tests in Nevada — starting in 1951 — was easier, but Trinity remained frustratingly difficult to reanalyze.

"The data sets for the Nevada tests and the available data that we could possibly find for Trinity were not comparable," Ms. Alzner said. "You couldn't put them on the same map. We decided to keep pushing."



The fogged film. National Archives and Records Administration

Determined to fill in the gaps, the team started the study about 18 months ago. Dr. Philippe has extensive background in modeling fallout and was an author of a similar project in 2021 that documented the effects from French nuclear tests.

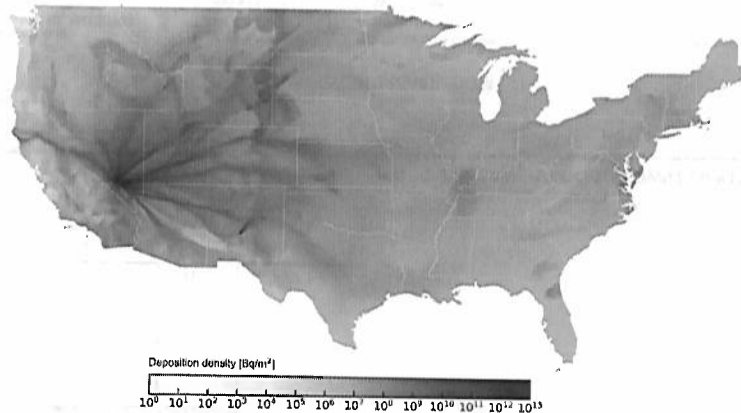
A breakthrough came in March, when Ms. Alzner and Megan Smith, another co-founder of shift7 and a former United States chief technology officer in the Obama administration, contacted the National Oceanic and Atmospheric Administration. There, Gilbert P. Compo, a senior research scientist at the University of Colorado and the NOAA Physical Sciences Laboratory, told the team that the European Centre for Medium-Range Weather Forecasts had only a week earlier released historical data that charted weather patterns extending 30,000 feet or higher above Earth's surface.

"For the first time, we had the most accurate hourly reconstruction of the weather back to 1940, around the world," said Dr. Compo, who became a co-author on the study. "Every single event that puts something in the air, no matter what it is, can now be tracked, by the hour."

Using the new data and software built by NOAA, Dr. Philippe then reanalyzed Trinity's fallout. And while the study's authors acknowledge limitations and uncertainties within their calculations, they maintain that "our estimates likely remain conservatively low."

"It's a very comprehensive, well-executed study," said M. V. Ramana, professor and Simons chair in disarmament, global and human security at the University of British Columbia, who was not involved in the study. Dr. Ramana was unsurprised by the study's findings about Trinity. "I expected that the old estimates were understating what was actually deposited," he said.

The results show that New Mexico was heavily affected by Trinity's fallout. Computations by Dr. Philippe and his colleagues show the cloud's trajectory primarily spreading up over northeast New Mexico and a part of the cloud circling to the south and west of ground zero over the next few days. The researchers wrote that there are "locations in New Mexico where radionuclide deposition reached levels on par with Nevada."



A map depicting composite deposition of radioactive material across the contiguous U.S. from the Trinity test in New Mexico and from 93 atmospheric tests in Nevada. Sébastien Philippe, Susan Alzner, Gilbert P. Compo, Mason Grimshaw, Megan Smith

Trinity’s fallout, Dr. Philippe says, accounts for 87 percent of total deposition found across New Mexico, which also received deposition from Nevada’s aboveground tests. The study also found that Socorro County — where the Trinity test took place — has the fifth highest deposition per county of all counties in the United States.

Trinity test “downwinders” — a term describing people who have lived near nuclear test sites and may have been exposed to deadly radioactive fallout — have never been eligible for compensation under the 1990 Radiation Exposure Compensation Act (RECA). It has provided over \$2.5 billion in payments to nuclear workers in much of the Western U.S. and to downwinders who were located near the Nevada test site and may have developed cancer or other diseases as a result of radiation exposure.

“Despite the Trinity test taking place in New Mexico, many New Mexicans were left out of the original RECA legislation and nobody has ever been able to explain why,” said Senator Ben Ray Luján, a New Mexico Democrat. He has helped lead efforts in Congress to expand and extend the legislation, currently due to sunset in 2024.

Census data from 1940 shows that as many as 500,000 people were living within a 150-mile radius of the test site. Some families lived as close as 12 miles away, according to the Tularosa Basin Downwinders Consortium. Yet no civilians were warned about the test ahead of time, and they weren’t evacuated before or after the test.

“This new information about the Trinity bomb is monumental and a long time coming,” Tina Cordova, a co-founder of the consortium, said. “We’ve been waiting for an affirmation of the histories told by generations of people from Tularosa who witnessed the Trinity bomb and talked about how the ash fell from the sky for days afterward.”

The study also documents significant deposition in Nevada, Utah, Wyoming, Colorado, Arizona and Idaho, as well as dozens of federally-recognized tribal lands, potentially strengthening the case for people seeking expanded compensation in those areas.

Although Dr. Wellerstein said that he approaches such reanalyses of historical fallout with a certain amount of uncertainty, partly because of the age of the data, he said there is value in such studies by keeping nuclear history and its legacy in the public discourse.

“The extent to which America nuked itself is not completely appreciated still, to this day, by most Americans, especially younger Americans,” he said.

A correction was made on July 20, 2023: An earlier version of this article misspelled a researcher’s surname. He is Sébastien Philippe, not Phillippe.

Does New Mexico deserve Downwinder Status: Definitely yes, as evident *via* plutonium isotopes in 2023 soil samples

Introduction/objective: to investigate whether plutonium from the July 16, 1945 Trinity Test can be identified in contemporary soils and dusts near the Trinity Site. A proof-of concept study was conducted *via* a small-scale July 2023 collection of soil samples along five public highways transecting the areas reported to be most affected (map below from Beck *et al.*, 2020). More-distant soil samples were obtained from the Carson National Forest near Truchas, New Mexico.

Study method: surface soils (0-10 cm) were collected from the canopies of large conifers having stationary, well-developed soil horizons. Transects were completed along NM 42, US 54, NM 55, US 60, and US 380. Samples were analyzed by mass spectrometry for $^{239+240}\text{Pu}$ activities to determine quantities present, and for $^{240}\text{Pu}/^{239}\text{Pu}$ atom ratios to determine origins of the contained plutonium. **Ubiquitous "stratospheric fallout" Pu exhibits a $^{240}\text{Pu}/^{239}\text{Pu}$ of 0.18; Trinity Test Pu has a ratio of 0.02.**

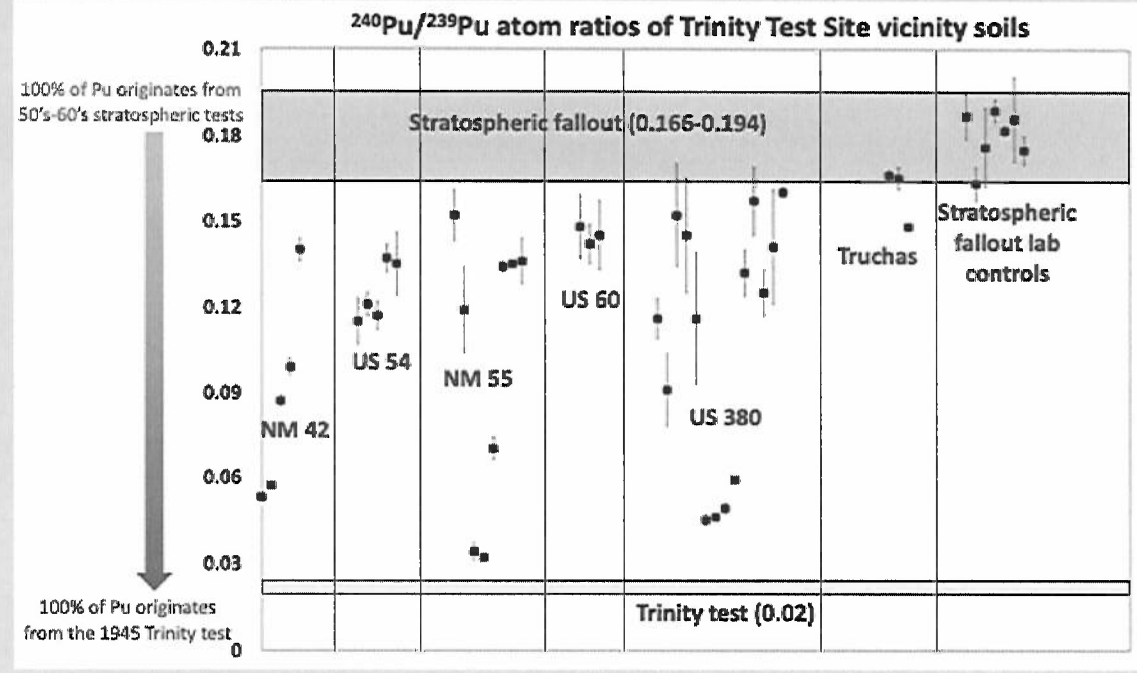
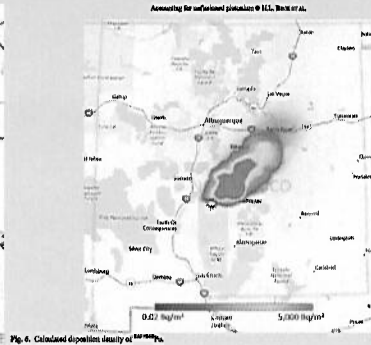
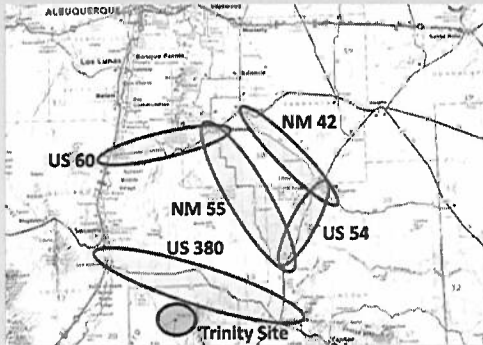
Findings: All five highway transects clearly exhibit Pu that is distinguishable from stratospheric fallout; the Trinity site is clearly the dominant Pu source for many close-in locations along the NM 55 and US 380 transects. **The Trinity Site appears to be the dominant Pu source in specific portions of New Mexico.** "Plutonium fingerprinting" provides critical "ground truthing" of models that reconstruct the geospatial distribution of Trinity fallout. The results confirm that New Mexico soils exhibit mixing of Trinity fallout Pu, stratospheric fallout Pu, and minor contributions of regional/tropospheric fallout Pu from the Nevada Test Site.

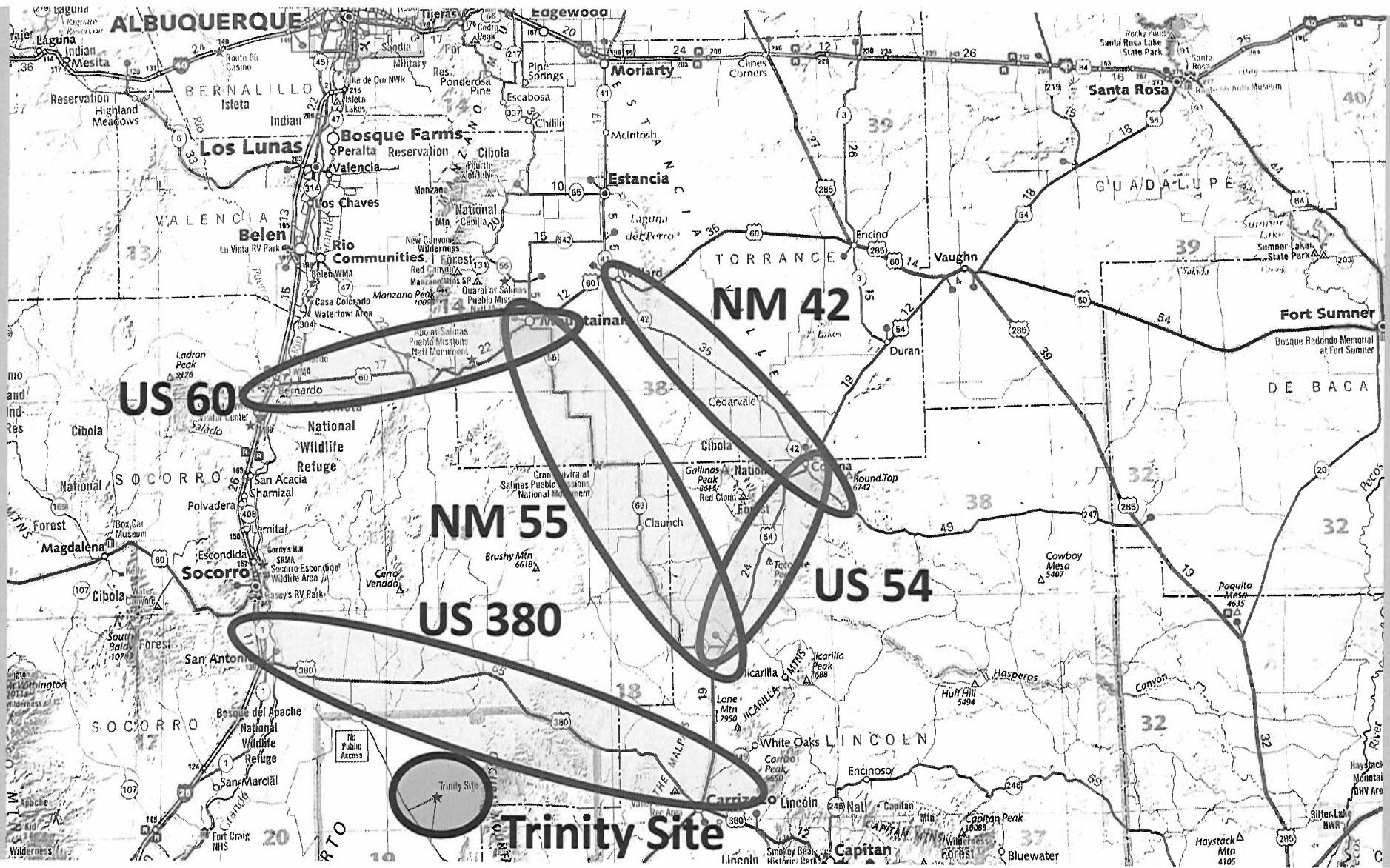


Michael E. Ketterer, Professor Emeritus, Department of Chemistry and Biochemistry
Northern Arizona University, Flagstaff AZ 86011-5698 USA

+1 (928) 853 7188

Michael.Ketterer@nau.edu or Michael.e.Ketterer@gmail.com





$^{240}\text{Pu}/^{239}\text{Pu}$ atom ratios of Trinity Test Site vicinity soils

100% of Pu originates from 50's-60's stratospheric tests

0.21

0.18

0.15

0.12

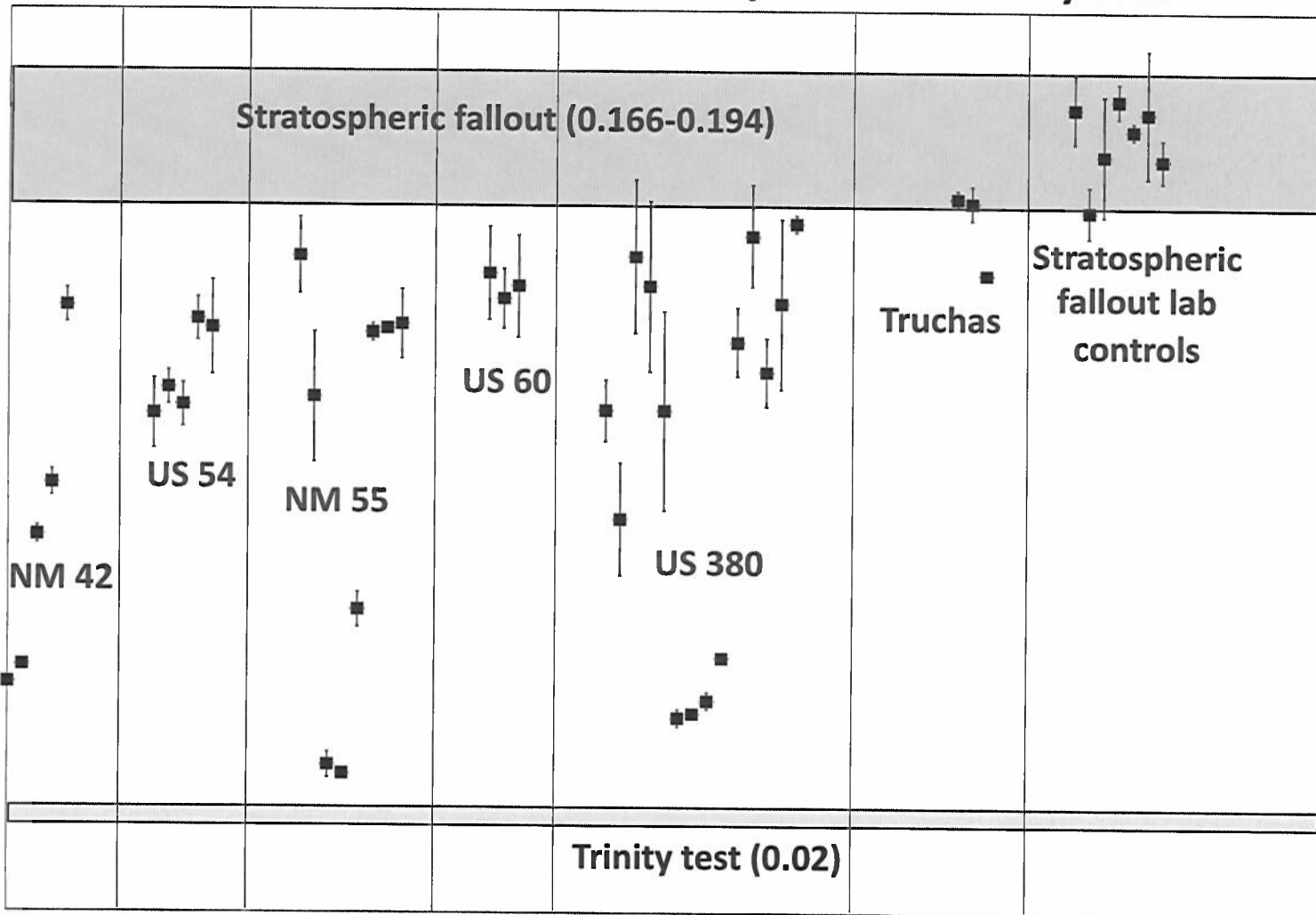
0.09

0.06

0.03

100% of Pu originates from the 1945 Trinity test

0





TULAROSA BASIN DOWNWINDERS CONSORTIUM

(TBDC) FACT SHEET:

THE ECONOMIC IMPACT OF THE

RADIATION EXPOSURE COMPENSATION ACT

(RECA) AMENDMENTS

If bills are passed as currently written they will essentially add for the first time the Downwinders of New Mexico, Idaho, Montana, Colorado, Guam and the parts of Nevada, Utah and Arizona previously excluded. It would also add for the first time the Post '71 uranium Miners/Workers.

There are many benefits to the proposed RECA amendments as outlined here:

- 1) The one-time compassionate payment to Downwinders would be increased from \$50,000 to \$150,000. A family member can apply for the restitution on behalf of a deceased loved one who meets the qualifications.
Example: If only 100 people in any given county/town are approved for RECA approximately \$15 million would be available for circulation in their local communities. This amount of money would be transformative for families, communities and state economies.
- 2) For the first time, health care coverage would be extended to those Downwinders diagnosed with a compensable cancer and meeting all the other criteria. This coverage would mean the difference between life and death for some especially those living in rural areas and those who depend on Indian Health Service (IHS) to access health care. People would have the opportunity to seek care at any facility they choose. There would be no more waiting for a referral and no copayments, coinsurance, deductibles, etc. This kind of comprehensive health care coverage develops its own economy. Health care businesses would spring up focused on providing all the services necessary creating jobs in rural areas and the associated financial benefits.
- 3) RECA passage would also expand the **Radiation Exposure and Screening Education Program (RESEP)** clinics in RECA states to provide all residents access to annual no cost cancer screening increasing the opportunity for early detection and a better prognosis. This translates into potential savings on the cost of screenings and the cost of treatment.
- 4) Attorney fees for helping individuals and/or their families to process RECA applications are capped at 3% of the award. For example: restitution amounting to \$150,000 would mean a payment of \$4,500 to the law firm. This protects applicants from being over charged while generating many more clients for local law firms.
- 5) There are some in Congress who claim that adding additional Downwinders and Uranium Miners/Workers will cost too much. However, Congress has approved a budget of **\$50 billion per year to maintain its current nuclear arsenal:** Essentially, 50 billion per year to put our nuclear arsenal to bed each night! In comparison: over the past 32 years, RECA has paid out **\$2.5 billion**. Of that amount, \$1.2 billion in compensation was paid to Downwinders. An extended and expanded RECA would add less than 1% of that budget.

<https://www.justice.gov/civil/awards-date-03042022>

The government spent trillions of dollars developing and testing nuclear devices adjacent to where we lived all the while destroying our environment. Now as we are sick and dying, they want to count pennies! We say no way no how!