

Vintage US nuclear test films declassified and publicized

March 18 2017, by Susan Montoya Bryan

From the deserts of southern New Mexico and Nevada to islands in the Pacific Ocean, the U.S. government conducted dozens of nuclear weapons tests from the 1940s until the early 1960s.

Vintage rolls of film collected from high-security vaults across the country show some of the blasts sending incredible mushroom clouds into the sky and massive fireballs across the landscape. Others start with blinding flashes of light followed by rising columns of smoke in the distance.

A team from Lawrence Livermore National Laboratory this week published more than five dozen [films](#) salvaged from government installations where they had sat idle for years.

Lab physicist Greg Spriggs said the decades-old films were in danger of decomposing and being lost to history. He called them a big part of the nation's history and an important tool for providing better data to modern scientists who now use computer codes to help certify that the U.S. nuclear stockpile remains safe and effective.

"We don't have any experimental data for modern weapons in the atmosphere. The only data that we have are the old tests," he said, noting that the manual methods used in the 1950s to analyze the blasts weren't that accurate.

By scanning the film and reviewing it along with data sheets from the

original tests, the team discovered that much of the data initially published were wrong. Some of the answers were off by 20 percent.

"One of the payoffs of this project is that we're now getting very consistent answers," he said. "We've also discovered new things about these detonations that have never been seen before."

Of the 10,000 or so films that are thought to have been made over the testing period, Spriggs and his team have located about 6,500 of them. Only a fraction of the films have been reanalyzed and declassified.

Some of the film cans had not been opened for decades. Some smelled of vinegar, indicating the decomposition process was underway and any more time would have left the material useless.

Some of the test films were located in a vault at Los Alamos National Laboratory, the northern New Mexico installation that played a large role in the Manhattan Project to develop the first atomic bomb.

Archivists and software developers worked together to determine the frame rates of the cameras used during the tests. That ensured an accurate measure of the growth of the fireball, the size of the shockwave and the overall yield.

"It's just unbelievable how much energy's released," Spriggs said. "We hope that we would never have to use a nuclear weapon ever again. I think that if we capture the history of this and show what the force of these weapons are and how much devastation they can wreak, then maybe people will be reluctant to use them."

It could take another two years to scan the rest of the films and even longer to complete the analysis and declassification, Spriggs said.

© 2017 The Associated Press. All rights reserved.

Citation: Vintage US nuclear test films declassified and publicized (2017, March 18) retrieved 19 April 2024 from <https://phys.org/news/2017-03-vintage-nuclear-declassified.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.