

'Enormous but not Biblical'

Those were the words of David Harlow, a Menlo Oaks geophysicist who was 10 miles away when the Mt. Pinatubo volcano blew in the Philippines

BY MARION SOFTKY

It was dark as night the afternoon of June 15. The sky was pouring ash, typhoon rain and blocks of pumice as David Harlow and the intrepid team of U.S. and Philippine geologists fled Clark Air Force Base in the midst of one of the great volcanic eruptions of the century.

"We had to reach out the window with a squirt bottle to wipe the ash and pumice off the windshield," Mr. Harlow told a press conference at the U.S. Geological Survey in Menlo Park nine days after the cataclysmic explosion.

He had just returned from three weeks during which a volcano that had been dormant for 600 years came to life.

The eruption, which blew ash more than 20 miles in the air, was bigger than Mt. St. Helen's in 1980 but smaller than the Indonesian volcano, Tambora, in 1816, said geologist Robert Tilling. The cloud from that 19th century explosion led to the legendary "year without summer" when New England had frost in July and the summer was so cold in Switzerland that Mary Shelley stayed indoors and wrote Frankenstein.

Mr. Harlow, a resident of Menlo Oaks, left for the Philippines May 19 when a series of small earthquakes signalled that the 4,795-foot peak was waking from its 600-year nap.

A specialist in volcanic seismology, Mr. Harlow has been studying the earthquakes that result from the movement of magma deep inside of volcanoes.

Until Mt. Pinatubo, he had been to most of the major eruptions of the last 20 years, but had always missed the biggest bangs. In answer to a question, he acknowledged that, for a volcanologist, Mt. Pinatubo was the proverbial grand-slam home run.

Mr. Harlow met his first volcano as a graduate student at Dartmouth on a field trip to Guatemala. He "fell in love" with Mt. Pacaya.

Since that time he has even taken his wife,



PHOTO BY MARION SOFTKY

DAVID HARLOW of Menlo Oaks led the team of American geologists who helped save thousands of lives in the Philippines when Mt. Pinatubo exploded in one of the century's great volcanic blasts.

community activist Pauline Lord, volcano-watching. She loves "to hear the lava sloshing about."

An adventuresome type, Mr. Harlow also flies his own plane. He lives in Menlo Oaks with Pauline and their 5-year old daughter, Megan.

When the U.S. team got to Clark Air Force Base 10 miles from Mt. Pinatubo, it took just days to set up a seismic station. Mobile equipment and light, powerful

computers made the complex operation possible. "We now have equipment we didn't have five years ago," he said.

There the scientists — six from the U. S. Geological Survey and nine from the Philippine Institute of Volcanology and Seismology — holed in and studied the data from the small, magnitude 3 earthquakes that shivered the ground. "I got three or four hours of sleep — here and there," Mr. Harlow acknowledged.

The first ash spewed out of the crater June

8 and 9. The first major eruption came June 12. By June 13 the base was evacuated, as were most of the native communities in the danger zone. The volcano blew just two days later.

One of the tough jobs was telling people they were in danger and might have to leave, Mr. Harlow said. "They went through a period of disbelief; they said 'It can't happen to us,'" he said.

Even more stressful for the scientists was the two-day wait between the evacuation and the eruption. They were wondering, "Did we do the right thing?" They wondered how people would feel if the eruption didn't come on schedule. "People don't like false alarms," Mr. Harlow said.

However, Mt. Pinatubo erupted right on schedule. Early on the morning of the "fateful Saturday," the watchers saw the first of the bigger eruptions. "Then the typhoon moved in," he said.

So they relied on instruments, which began to go crazy. By 2 p.m. the instruments — seven seismometers and two tiltmeters — were off-scale. "Then all the stations between us and the mountain went out," he said.

At that point, they left amid a downpour of ash and rock that stripped the leaves off trees for miles around.

The next morning the scientists were back. After the big eruption, the earthquakes got larger — with magnitudes around 4 — as the sides of the crater crashed into the hollow chamber where the magma had been building up.

Mr. Harlow believes the major eruption is over although there will be smaller ones for a long time.

"The next big hazard is mudflows," he said. Tropical rains will sweep the mud and ash down the mountain in avalanches of mud and debris.

The whole operation — analysis, prediction, evacuation — was an enormous success," Mr. Harlow said. "The volcano performed very nicely and erupted on schedule."