

# Kid's KOrner

## Volcanoes create natural fireworks

WASHINGTON — For the first time since records have been kept, four American volcanoes apparently erupted on the same day this year.

At the center of the far-flung fireworks was Mauna Loa in Hawaii, the world's largest active volcano. It began its first eruption since 1975 early in the morning of March 25, sending a threatening river of lava toward the port city of Hilo. The eruption ended three weeks later.

On March 30, while Mauna Loa's glowing flow was still going strong, Hawaii's only other active volcano, the smaller Kilauea, had a brief eruption. That alone was quite an occasion: Scientists at the Hawaiian Volcano Observatory say it was the first time in 116 years that both volcanoes had "vigorously fountained" on the same day.

### Others on Mainland

While all this was happening in Hawaii, Washington state's Mount St. Helens, whose violent eruption that killed 60 people in 1980, belched out a towering plume of smoke and steam.

And to top it all off, Veniaminof, a volcano on the Alaskan Peninsula, almost certainly erupted that day, U.S. Geological Survey volcanologists say. But a helicopter sent to check it out ran into bad weather and couldn't verify the eruption.

"We probably had a quadruple event," says Robert I. Tilling, a volcanologist at USGS headquarters in Reston, Va. "It's the first known instance of that in the United States."

The four eruptions, Tilling says, were unrelated. Even the two Hawaiian volcanoes have separate power sources.

In itself, the relatively gentle eruption of the 13,680-foot Mauna Loa wasn't that unusual. Since its

first recorded eruption in 1832, through 1950, it averaged one eruption every 3.6 years. It was somnolent from 1950 until 1975.

The 4,090-foot Kilauea, on Mauna Loa's southeast slope, has been much more active in recent years. It's been erupting periodically since January 1983.

### All Volcanoes Different

Volcanoes are like people, Tilling says. "People are individuals. There's only one of a kind of a particular person, and volcanoes must be considered the same way. They share certain common characteristics, but each volcano is distinctive."

Like the other Hawaiian volcanoes — both of the active ones are on the "Big Island" of Hawaii, largest and newest in the archipelago — Mauna Loa and Kilauea are "shield" volcanoes, so named because their broad, gradual slopes resemble an inverted shield.

Their shape is formed by the comparatively smooth, gas-free type of lava that periodically squeezes out of the "hot spot" reservoirs of magma, the pools of molten rock bubbling more than 30 miles below the Earth's surface.

Unlike some other types of volcanoes, whose explosive violence has taken an estimated 200,000 lives over the past 500 years, the Hawaiian volcanoes have caused only one known death since records have been kept. Property damage is another matter.

The death occurred in 1924, when an over-eager photographer ignored warnings and rushed forward to record a "phreatic" explosion on Kilauea, a bottled-up blast of steam caused by water seeping onto the magma.

The more common type of Hawaiian eruption is preceded by

earthquake activity and swelling of the mountain, followed by lava flows that may continue for months. Brilliant lava fountains, hundreds of feet high, may accompany the eruption.

Despite their comparative safety, the Hawaiian eruptions are awesome, sometimes terrifying spectacles, displays of nature's power that demand respect.

### Witness Describes Blast

After flying over the latest Mauna Loa eruption at night, a visitor described "a suffused fire...Minutes later the plume resolved into a crimson, sickle-shaped glow, not unlike the emission from a blast furnace."

Three days later, from her campsite some 20 miles distant from the lava flow, she wrote: "A smoldering ribbon of 15 miles of molten lava glowed like peat newly-fanned by a draft from an open door. It was not unlike a double-carnation lei, unfastened and stretched along the horizon."

Tilling of the USGS and his associates at the Hawaiian Volcano Observatory aren't that poetic, but they're enthusiastic about what they expect to learn from this eruption.

It was, says Tilling, "one of the best-monitored, the best-studied of the Mauna Loa eruptions, because ever since the one in '75, when I was there, we subsequently have greatly increased the instrumentation, the scientific networks on the mountain."

"It's going to be the best data base for a Mauna Loa-type eruption. My guess would be that when we have a chance to really analyze that data, we're going to discover all kinds of things that we didn't know before."

Some things the scientists may never know. Hanging over every

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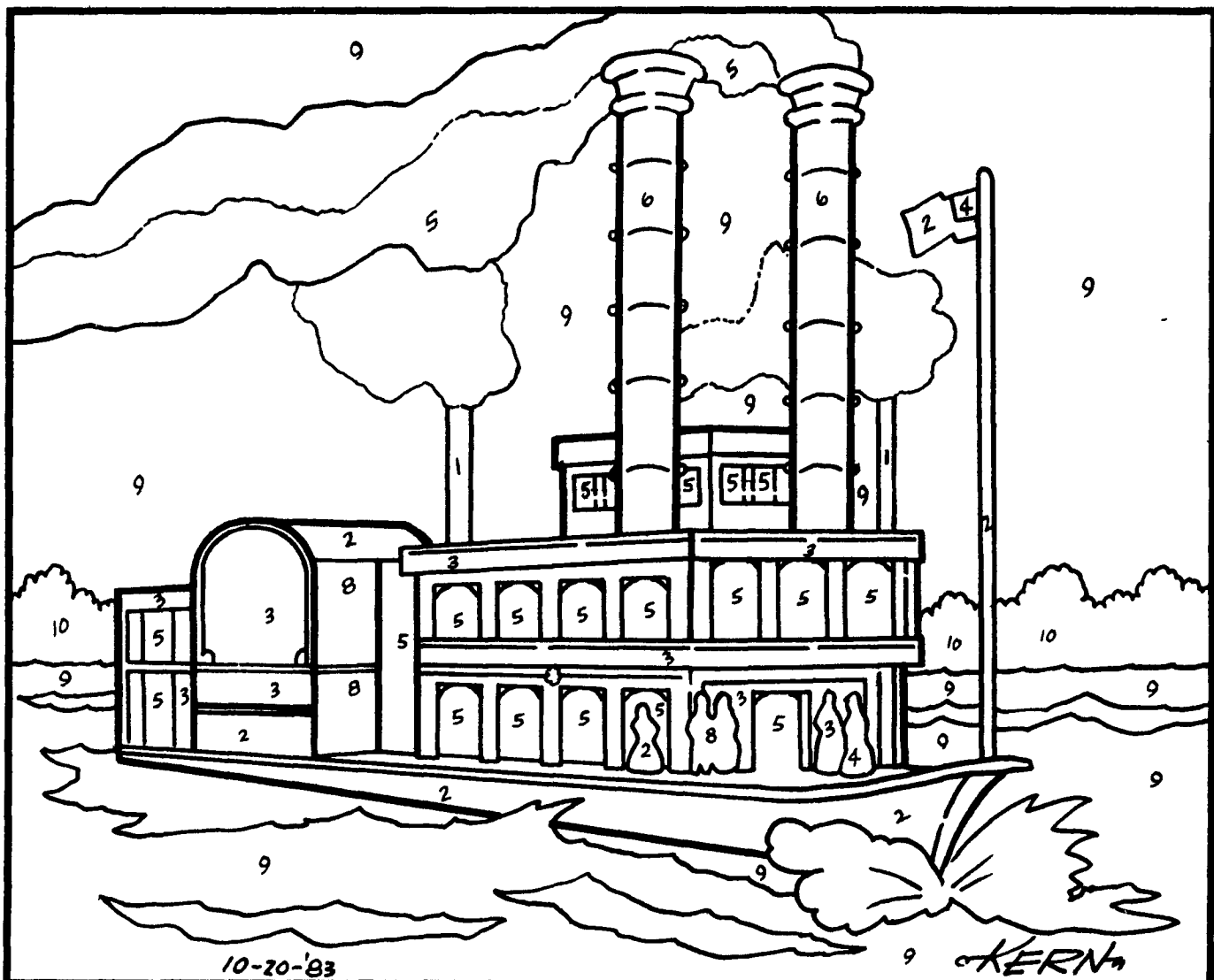


Kilauea, one of Hawaii's two active volcanoes, erupts in a fiery tower of lava, sending a glowing river down its slopes. The 4,090-foot volcano has erupted periodically since January 1983. Earlier this year, it erupted the same day as three other American volcanoes - the first known quadruple event in this country, volcanologists say.

## COLOR THIS!

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|-----------|---------------|
| 1. BLACK  | 6. LT. GREY   |
| 2. RED    | 7. GREEN      |
| 3. YELLOW | 8. LT. BROWN  |
| 4. BLUE   | 9. LT. BLUE   |
| 5. BROWN  | 10. LT. GREEN |

**RIVERBOAT.** AS LANDS ALONG THE MISSISSIPPI RIVER WERE SETTLED, THE RIVER BECAME AN IMPORTANT HIGHWAY FOR THE HAULING OF PEOPLE AND CARGOES OF COTTON AND SUGAR. THESE FLOATING PALACES REACHED THEIR PEAK IN LUXURY A NUMBER OF YEARS BEFORE THE CIVIL WAR.



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