NW warning system could avert disasters

BY TOM PAULSON
Seattle Post-Intelligencer

The 10,000-mile-long tsunami raced across the Indian Ocean, leaving a trail of destruction, devil-may-care unpredictability and only fragments of hope for those who were caught in the disaster. Now, a group of scientists is using the new warning system to try to prevent similar disasters from happening in the future.

"The goal is to have alerts in 15 minutes or less," said Tom Paulson, a mathematician and computer modeler who is working on tsunami forecasting. "We have a group of experts who are working on tsunami forecasting, and they are constantly monitoring the ocean to see if there is any activity that might indicate a tsunami is coming.

"We have a computer model that can predict the path of a tsunami," said Paulson. "But it's not perfect, and we are always looking for ways to improve it."
Sumatra / Cascadia

MAP KEY
- Fault line
- Subduction zone
- Plate movement

SUMATRAN SUBDUCTION ZONE

CASCADIA SUBDUCTION ZONE

Fault line

Eurasian plate

African plate

Indo-Australian plate

Pacific plate

North American plate

South American plate
hunt for hidden clues

Scientists from U.S., around the world scramble into area

BY TOM PAULSON

While much of the world is focusing on how to help victims in tsunami-wrecked South Asia, scientists are starting to fly out in a search for clues.

Cornell University tsunami scientist Philip Liu is assembling his team in Sri Lanka, Oregon State's Harry Yeh's group is in India, a Japanese team has gone to Indonesia and various other scientists from Russia, Korea, Australia and elsewhere are on their way, hoping to unlock tsunami secrets that could lead to minimal destruction the next time around. “Much of the tsunami evidence is ephemeral,” said Betwood Higman, a University of Washington tsunami researcher who is on Liu's team.

“I wish we could have gotten in sooner, but this is still an opportunity of a lifetime,” said the 24-year-old Higman, whose specialty is in analyzing sediments, but is still a more precise look at tsunami behavior.

This is not just science for science's sake. A better understanding of summits could lead to a variety of practical results in Washington and around the world, including faster, more accurate tsunami warning systems and ideas for how better to protect vulnerable coastal areas.

The scientists will do their work amid chaos and recovery, a situation
Sri Lanka may hold more answers about tsunamis

By Tom Paulson

COLOMBO, Sri Lanka — Along the capital city’s main waterfront boulevard, Galle Face Green, the seawalls looked fine, but could find no evidence of the devastating tsunamis that have claimed more than 300,000 lives on the teardrop-shaped island nation.

But, just a few miles to the south, in a section of the city known as Mount Lavinia, it was a completely different story. A massive brick wall had been flattened and thrown mighty by a wall of water estimated to have been about 15 feet above sealevel.

Tsunamis are complex, unpredictable. One place,

Sri Lanka may hold more answers about tsunamis

SEE A7
Tsunami Geology ...

Photo documentation of sampled tsunami sand

1 cm thick samples collected from the top to the bottom.

Tsunami sand

Pre-tsunami sandy soil
Tsunami experts examine waves’ debris
Sri Lanka warns of land mines, kidnappers

Squid is a culinary catch

UW wants bioterrorism lab
New facility would research deadly pathogens

A Capitol Defense

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U.S., EU to negotiate on Airbus-Boeing subsidies
"Tsunami made the water... poison"

[Image of aftermath of tsunami]

[Map showing affected areas]

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New Joint Care Breakthrough
Best Joint Comfort PLUS Better Joint Health

Who is Charlie?

[Image of Charlie]

Lubriscience^® is twice as effective as glucosamine alone.
Secrets of tsunamis not easily revealed

BY TOM PAULSSON

COLOMBO, Sri Lanka — Before an audience hungry for answers, a panel of American tsunami scientists spoke of some tantalizing findings, but said they remain far away from understanding and explaining the massive Dec. 26 tsunami that has killed more than 150,000 in Southeast Asia.

“We still don’t have all the data we need,” cautioned Phil Liu, a tsunami expert from Cornell University and leader of the scientific team sponsored by the National Science Foundation.

The scientists presented their findings over the weekend to Sri Lanka’s minister of science and about 100 engineers, academics and other dignitaries after a hectic week of observation and analysis aimed at improving future defenses.

One location on the other side of the planet with a similar risk profile has come up in the discussion — the Pacific Northwest.

Costa Spanos, a University of Southern California tsunami researcher who led studies on the southern coast of Sri Lanka last year, cited the network of deep-ocean tsunami detectors designed and built in Seattle at the Pacific Marine Environmental Lab.

The January study of the tsunamis generated by the December earthquake off the coast of Indonesia was more than three times smaller than those in December, Spanos said.

In Seattle, the scientists are working to create a network of buoy-like devices that can detect and analyze waves as they move through the Pacific.

The Seattle team is also involved in a study of how the Indian Ocean tsunami affected the Pacific Northwest, a study led by University of Washington tsunami expert David Hill.

SEE TSUNAMIS, AS
Tsunami expert

BY TOM PAULSON

COLUMBUS, Sri Lanka — All the stories about the tsunami devastation of December 26, 2004, have told a sad tale. And yet, the story of the tsunami experts that helped in the aftermath is also a story of hope and progress.

Most Pacific Northwest residents likely have heard that a magnitude 9 earthquake struck off the west coast of Indonesia on December 26, 2004, prompting a deadly tsunami that swept across broad swaths of the Pacific Ocean.

What might not be as well known is why we know this, and how recent it was that we didn’t need to be at risk of a similar deadly surprise.

“Tsunami expert” Kaiji Nishimura paper in 1996 that they all finally shut up about it. And it was, a U.S. Geological Survey geologist and tsunami expert, who at the University of Washington, told an interview about his work in Seattle.

The normally mild-mannered Nishimura is justly proud of his work in the Pacific Northwest.

“Tsunami? That’s just a Japanese word. Everyone knew the Northwest...”
A scientist toils as survivors

BY TOM PAULSON

ULLAL, Sri Lanka – Just over the hill from where Srinivasan Fernando was taking sand samples and counting how far the tsunami ran up on land with fresh marks grew with about 250 bodies.

“We were lucky to escape,” said Naushad Ahmed, 42, who had owned a small beach hotel that was obliterated by the tsunami. “We knew it was not a normal wave.”

Fernando, a Sri Lankan geologist, came to study fishing and tourist village on the east coast of Sri Lanka, where a swarm of American tourists expected to dock. They were in Anuradhapura, where about 700
In Sri Lanka, scientists feel post-tsunami wrath

BY TONY PULSON
SEATTLE POST-INTELLIGENCER

COLOMBO, Sri Lanka — In the aftermath of the tsunami that killed about 300,000 people in Sri Lanka, scientists here are defending themselves against allegations of misconduct and ignoring for not sounding a warning.

“We had technical problems, and perhaps lack of competence, but claims that we could have acted to save anyone are based on a basic misunderstanding,” said Chandula Jayasingh, a geologist at the University of Peradeniya. Sri Lanka’s largest university located hours inland and high up in the hilly, green hill country.

“It’s absurd,” said F. G. P. Dhammaveera, chairman of the country’s Geological Survey and Mines Bureau. “How could we have forewarned our people when the world’s best

SEE SRI LANKA, A7

INSIDE

Indonesian rebels agree to cease-fire

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Senator’s bill would provide better alert system for Pacific U.S.

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U.S. vows efforts to protect Iraq vote

Page comes around under duress; war is democracy's ally.

U.S. military chief赖斯, representing a host of hard-liners, has set a deadline for Iraq's leaders to put their differences aside.

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Lessons Learned?

• What does the Indian Ocean tsunami tell us about Cascadia?
• Are we ready for the same thing
‘Tsunami on its way, gonna happen any day’
Preparedness, resignation at coastal summit

BY TOM PAULSON
P-I reporter

LONG BEACH — Not ready.
That may best describe the basic consensus at the daylong “Coastal
Tsunami Summit” in this community recognized as one of the most prepared
in the nation for the kind of killer waves that rolled across the In-
Stephanie Fritts, director of emergency management for Pierce
County, has been trying for years to
convince residents here that they
convinced residents in Long Beach — and should — plan to survive a
tsunami. The Indian Ocean tragedy,
she said, has gotten everyone’s at-
tention and also drawn attention to
how much more needs to be done.
“There are things we can do to
improve our chances,” she said, even
though Long Beach is among only
about a dozen communities nation-
wide (along with Ocean Shores and the Quinault Indian Reservation) to

SEE TSUNAMI, AT1
80-foot waves blasted Indonesia, scientists now say

BY TOM WILSON

Scientists studying the Indian Ocean tsunami have determined that the killer waves, at least for one coastal area in northern Indonesia, were much larger than earlier believed.

The new findings, of keen interest worldwide, have researchers looking for clues to the mechanics of the disaster, which resulted in a disturbing suggestion that the waves may have significantly underestimated the magnitude of the tsunami threat to the Pacific Northwest and perhaps to coastal communities around the Pacific Ocean.

"It's truly staggering," said Andrew Moore, a geophysicist at the University of Washington who was on the research team, led by volcanologist Tony Shepherd of the University of Ivo,

SEE WAVES, 16
Tsunami scare exposes glitches in warning system

The coastal communities of Washington state got the automated emergency tsunami alert ... issued by the National Weather Service.

By Tom Paulson

It was the second tsunami alert and the Manette couple woke up early one morning to see the warning on their television screen. They grabbed their cell phones and rushed upstairs to tell their neighbors.

The Manette couple quickly evacuated a cell phone from a cell phone tower by panning with a shot that was sent over the tsunami. (A.D. Styer - Daily News)

Tsu...