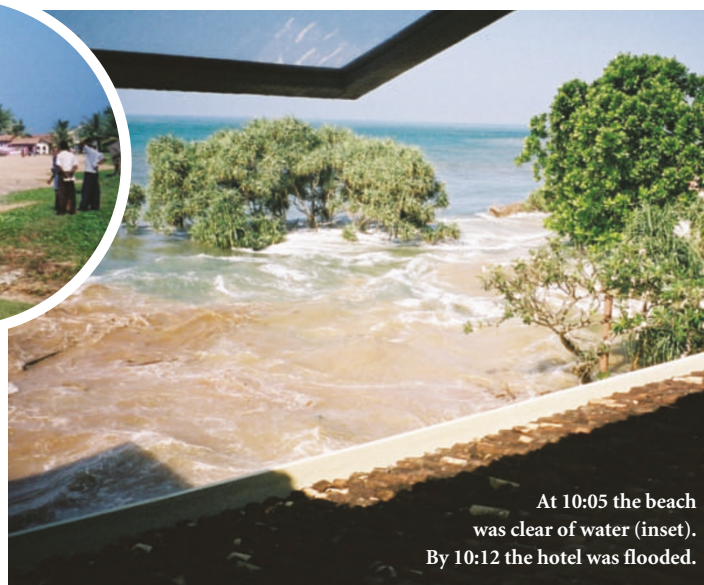


Get off the beach — now!

As a theoretical seismologist, Chris Chapman says he “sits in front of the computer trying to work out how seismic waves can tell us things about the interior of the Earth”. Sitting in Ahungalla, 30 kilometres north of hard-hit Galle on the southwest tip of Sri Lanka when last month’s tsunami rolled in, he got a fresh perspective on earthquakes and their impact. Fortunately, Chapman, who works at Schlumberger Cambridge Research in Britain, was able to surmise the danger and initiate efforts to clear the beaches. He tells David Cyranoski about the experience.



At 10:05 the beach was clear of water (inset).
By 10:12 the hotel was flooded.

PICTURES: C. CHAPMAN

Q & A

Where were you when the tsunami first hit?

It was 9:30 a.m. and we — my wife Lillian and I — were just finishing breakfast in the ground-floor restaurant of our hotel, which overlooks the beach and the swimming pool. The earthquake had occurred at 7:00, but we didn’t feel it. The sea rose a few metres, although we didn’t notice until a fairly small wave rolled gently through the swimming pool and lobby of the hotel. Everyone just stopped what they were doing and watched in amazement. It only left a couple of inches of water in the lobby but there was sand and debris in the swimming pool. When we asked the hotel staff if this had ever happened before, they said “never”. People talked of a particularly high tide, but that just didn’t seem right to me.

What were your initial thoughts?

I had read about tsunamis when I was a student, especially from the big earthquake that occurred in Alaska in 1964. But I had never experienced one. I said to my wife that there must have been an earthquake in the Indian Ocean. When she asked if there was more to come, I said possibly but that it was probably from a small earthquake on

a nearby plate boundary, and that this first wave was all that was going to happen.

Nevertheless she went off and spoke to the hotel manager and warned him that there had been an earthquake and there might be more to come. She’s Canadian, and she’s always found English understatement difficult to understand.

When did you know that things would get worse?

At 9:50 the sea was far below its normal level. That was about when I said to my wife that this was going to be something big. She is more outgoing than me, so she rushed back to the hotel manager and told him to get people off the beach. The sea level was continuing to go down. By 10:05 it was several metres below normal.

What kind of response did you get?

The hotel manager was extremely good. As soon as my wife said what might happen, he got his staff out to the beach with megaphones and told people to come in. By the time the sea level started to rise again, we were all near the hotel; not necessarily on higher floors, but within running distance of the stairs.

There was no panic until about 10:10, at which point the water was coming in very quickly. The striking thing was not the wave but the speed and sheer volume of water. It was amazing. The water took 35 minutes to retreat, but only 7 minutes to come back in. Fortunately no one from our hotel was lost.

How high was the wave in the end?

I didn’t see it because I was running for my life. It’s difficult to estimate heights, but the total rise was 5 to 10 metres above sea level.

Your PhD thesis was on the diffraction of seismic waves and you’re familiar with laws describing the dispersion of water waves — were these things rattling around in your head?

Not at those moments, no. I was, later, trying to figure out the pattern to the waves. After the big one, there were further waves at 11:10 and 11:50. These were just as big as the first wave that hit the swimming pool, so people began to panic again — but none was as big as the second wave. When I returned to England,

I started re-reading about tsunami theory, but at the time I wasn’t thinking about these things. I had gone on holiday to forget about them.

Some say that your efforts saved hundreds of lives. Is that really the case?

Well, hundreds is certainly an exaggeration, but maybe a few. It wasn’t me alone — it was also my wife and then the staff who responded so quickly. I have also read newspaper articles about a young girl who had studied tsunamis in school and told her parents what was going on; they also immediately went to a higher floor. It goes to show how useful education can be.

David Cyranoski is *Nature’s* Asian-Pacific correspondent.



At the scene: Lillian and Chris Chapman saw the tsunami arrive.