

# Seismic Shock

**The Chilean State's ineffective response to the recent earthquake and tsunami reveals a systemic failure and is a wakeup call for a more effective warning system**

**O**n 27 February at 3.34 a.m. local time, the central southern region of Chile was shaken by a powerful, magnitude 8.8 earthquake. The epicentre of the earthquake was offshore, at a depth of about 22 miles, some 70 miles from Concepción, Chile's second largest city, with a population of around 670,000. At 3.52 a.m., the first of three tidal waves was produced. Roughly one hour after the third and final wave came in at 6.32 a.m., the Sub-secretary of the Interior rejected the possibility of a tsunami.

It was thanks to long experience with earthquakes that the death toll in Chile was not much higher. In May

to a coastal strip of around 700 km between San Antonio and Valdivia.”

In a preliminary census carried out with information from different radio stations, local papers, Facebook, Twitter and communications from non-governmental organizations (NGOs) and coastal communities, *Ecoceanos News* made a preliminary estimate that “between San Antonio and the mouth of the river Rapel, in the south of Valparaiso Region (Region V), the *caletas* (settlements) have suffered subsidence, and a large number of artisanal fishing vessels have overturned, and landing areas and godowns destroyed. In addition, there is damage to port infrastructure and commercial activity linked to tourism. A similar situation exists from Port Saavedra, Araucanía Region, up to Corral, in the Rivers (Los Ríos) Region.”

*Ecoceanos News* reported that around 100 artisanal fishing *caletas* have been totally destroyed, while another 70 or so have had serious damage inflicted on their infrastructure, vessels, homes and citizens. Boats and fishing gear, port infrastructure, refrigeration, drinking water systems and power, public buildings, schools, hospitals, and warehouses and roads are unusable. In places that were less affected, security and operating conditions are nonetheless precarious.

## Geographical changes

It is estimated that the impacts of the earthquake and tsunami on the economy of Chilean coastal and artisanal fishing communities could last at least two years, as the tidal waves have changed the geography of various coastal areas.

**It is estimated that the impacts of the earthquake and tsunami on the economy of Chilean coastal and artisanal fishing communities could last at least two years...**

1960, the largest earthquake ever recorded, measuring 9.5 on the Richter scale, hit southern Chile. The effects of this and the resulting tsunami killed 1,655 people and left around 2mn people homeless. A less powerful earthquake in 1985 also caused extensive damage in central Chile.

The earthquake and tsunami mainly affected six of Chile's 15 Regions, from the O'Higgins Region VI to the Araucanía Region XI, where, according to *Ecoceanos News*, “...the destruction of fishing and small-scale subsistence communities, including seaweed and shellfish gatherers, is almost total. In the Valparaiso and Lakes (Los Lagos) Regions, there is serious destruction. This relates

*This article has been compiled by Brian O'Riordan (briano@scarlet.be) from various sources*

The National Confederation of Chilean Artisanal Fishermen (CONAPACH) estimates that 123 *caletas* in six Regions were affected, and some 2,700 vessels destroyed, directly affecting the productive activities of 26,000 fishers and their families, and completely destroying the seaweed harvests stored on the beaches.

An article written by several authors from Chile's Tsunami Warning Centre describes the official response to the earthquake as a catalogue of "errors, lack of concern, ineffectiveness and irresponsible behaviour." The article says: "Only six minutes after it was known that the epicentre of the earthquake was some 90 km to the northeast of the city of Concepcion (out in the Pacific Ocean), the Hydrographic and Oceanographic Service of the Chilean Navy (SHOA), the organization in charge of equipment to evaluate whether or not a tidal wave has been produced, did not function, did not provide any advice, and failed to follow established protocol. The other State body, the National Emergency Office (ONEMI), continued to broadcast that there was no tidal wave".

The failure of the navy was despite a warning being given by the United States Pacific Tsunami Warning Centre (PTWC) in Hawaii, which at 3.46 a.m. alerted SHOA that "... an earthquake of this size has the potential to generate a destructive tsunami that could hit the coasts near the epicentre. The authority should take appropriate action in respect of this possibility." However, the sailor on watch spoke no English. Two minutes later, a scientist at the PTWC, Victor Sardiña, warned SHOA in Spanish that they should put out information and warn the rest of the countries in the Pacific. One hour later, the same scientist warned SHOA that "sea level readings indicate that a tidal wave has been produced" and that they should warn countries in the South Pacific.

Carmen Fernández, Director of ONEMI, emphasized that officials in her organization had been clearly informed by SHOA on three occasions that there was no possibility of a tidal wave. "There was such a degree of imprecision

and ambiguity that no one was able to take a decision, and, on the technical side, there was not even any possibility of doing anything because there was no system (of communication) available to alert people in time for them to escape.... In my personal capacity (as a witness), I can say that those listening to the radio here or at home would have heard the SHOA operator state three times that there was no possibility of a tsunami."

**The National Confederation of Chilean Artisanal Fishermen (CONAPACH) estimates that 123 *caletas* in six Regions were affected, and some 2,700 vessels destroyed, directly affecting the productive activities of 26,000 fishers and their families...**

On 10 March, Carmen Fernández resigned her post, admitting that she was slow to respond to the earthquake. She was the third senior official to step down as a result of the quake. Earlier, the head of SHOA, Marino Rojas Busos, was fired, and the Junior Interior Minister, Patricio Rosende, resigned.

The State Prosecutor, Sebastian Chaguan, responsible for investigating if criminal charges should be brought against the authorities who neglected to provide a tsunami warning, stated that: "this could have saved lives".



Pichilemu beach, O'Higgins Region, Chile. Damaged 7-9-m fiberglass fishing vessels used to catch common hake and crabs

CADUZZI SALAS



A scene of devastation from Boyeruca in the O'Higgins Region, Chile. The earthquake and tsunami mainly affected six of Chile's 15 Regions

has also opened a special bank account to assist those who have been made destitute by the quake and tsunami.

The Ministry of the Economy has promised a fund of 5,500 million pesos (US\$10.3 mn) to invest in rebuilding the artisanal fishing sector, with a 'fast track' to accelerate the process of reviving the sector. Meanwhile, 2.1 million pesos (US\$4,000) has been allocated to assisting artisanal fishing vessel owners replace lost and damaged vessels and gear.

According to the Food and Agriculture Organization of the United Nations (FAO), 1,000 fishing vessels are considered lost, as reported in the Situation Report of the United Nations Office for the Co-ordination of Humanitarian Affairs (OCHA). The FAO has requested for an assistance of US\$1 mn for the fisheries sector from the UN's Central Emergency Response Fund (CERF) to procure fishing equipment to benefit 6,900 fishers.

Zoila Bustamante says, "This help being planned by the government is but charity, and not sufficient. With this money the affected people will never be able to repair or purchase new vessels. One of the main problems facing artisanal fishers across Chile is indebtedness, and they don't have the capacity to secure bank credit. We feel that this gesture by the government is insufficient to repair the great damage done by the tsunami".

"In these sad times for our country and especially for those *caletas* of artisanal fishers, two words are uppermost in our minds: solidarity and union," says the CONAPACH president.

However, he later announced "there is no precedent that allows us to evaluate whether there is a criminal responsibility, and therefore the Prosecutor will not open a criminal investigation for the time being because there are contradictory accounts with respect to whether or not the organs of State are responsible".

Criticism has also been made of the official response to providing relief following the disaster. Instead of tapping into national networks of traders, agricultural producers and distribution centres, the government struck a deal with four large supermarket chains in the VII and VIII Regions, who were paid US\$10 mn to provide food, water and clothing.

Faced with such conditions, CONAPACH established a solidarity network called "*Caleta for Caleta*", which sought to link artisanal fishers and communities in regions unaffected by the earthquake and tsunami with those who were affected, and to channel aid particularly to those *caletas* that were totally flattened in the VII and VIII Regions. Says Zoila Bustamante, the President of CONAPACH, "The main idea is that *caletas* that did not suffer any damage, like those in the north and in the south, can help those who are now suffering. Each *caleta* should sponsor a *caleta* that has suffered damage and provide it material support". CONAPACH

#### For more

[www.conapach.cl](http://www.conapach.cl)

**CONAPACH**

[www.ecoceanos.cl](http://www.ecoceanos.cl)

**Ecoceanos**

[www.greengrants.org/breakingnews.php?news\\_id=277](http://www.greengrants.org/breakingnews.php?news_id=277)

**Chilean Disaster Recovery Fund**

[http://www.cinu.org.mx/chile/docs/OCHSiteresituacion\\_No.\\_5-eqOCHA-20100308%5B1%5D.pdf](http://www.cinu.org.mx/chile/docs/OCHSiteresituacion_No._5-eqOCHA-20100308%5B1%5D.pdf)

**OCHA Situation Report**