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EARTHQUAKES & TSUNAMI

EARTHQUAKES & TSUNAMI

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INTRO: EARTHQUAKES & TSUNAMI

EARTHQUAKES

Shaky Beginnings (extract)

Bryan Bruce Productions 1999. Duration 3:17

Jim Hickey astride the Murchison Falls, gives a brief resume on the two 'big quakes', Murchison and Hawkes Bay. The science of earthquakes with its particular New Zealand focus is introduced. New Zealand is sitting astride two tectonic plates (Pacific and Indo-Australian). There is a correlation between earthquake activity and plate boundaries..

TSUNAMI

What Lies Beneath: Signs of Tsunami (extract)

Natural History NZ 2005. Duration 1:56

An overview of the Tsunami in New Zealand's recent geological history. Evidence of a tsunami 500 years ago in the Wairarapa. The 1960 tsunami at Lyall Bay following a quake off the coast of Chile. The massive 1855 Wairarapa Earthquake produced a Tsunami with ten metre waves rushing over the Rongotai isthmus and back onto where downtown Wellington now is.

MURCHISON 1929

MURCHISON EARTHQUAKE SCENES

Murchison Earthquake Scenes June 17 1929 (extracts)

L Inkster 1929. Duration 0:38

Scenes of the aftermath of the Murchison earthquake. Includes shots of the hospital, twisted railway lines and the Westport Post Office ruins. Seventeen people were killed in the Murchison earthquake. If the earthquake had occurred in a more populated area it could have been New Zealand's biggest ever natural disaster.

VIEWS OF MURCHISON AFTER THE EARTHQUAKE

Views of Murchison after the Earthquake Filmed By a Wellington Visitor (extracts)

(1929) Duration 2:19

The aftermath of the earthquake which struck Murchison and surroundings on June 17, 1929. Shows the building damage, road washouts, collapsed bridges and the struggling inhabitants of the stricken area. This illustrates the economic effects of the hazard, as the cost of repairing the infrastructure is very high. The difficulties of dealing with the damage puts considerable stress on the population.

HAWKES BAY 1931

THE GREAT HOLOCAUST

The Great Holocaust Feb 3rd 1931 Napier in Ruins (extracts)

(1931) . Duration 1:15

A devastated Napier after the earthquake on February 3rd 1931. Fires from coal ranges and coppers smoulder causing fog-like conditions. The city area is a pile of debris and rubble, with very few buildings left unscathed.

THE GREAT EARTHQUAKE

The Great Earthquake at Napier and Hastings (extracts)

Carlton Films 1931. Duration 1:43

Residential damage and perilous accommodation atop the Bluff. Note that slope failure i.e. shaking plus gravity leads to landslides. Rock in earthquake prone regions is often quite weak having been shattered by previous earthquakes.

TERRIBLE EARTHQUAKE. DISASTER

Terrible Earthquake Disaster at Napier-Hastings and Surroundings

Theatre Service News / Ted Coubray 1931. Duration 1:15

Actual footage taken in the days after the Hawkes Bay earthquake showing among other things the results of building standards prior to modern earthquake regulations. Measuring 7.9 on the Richter scale, 256 people died. Fire engulfed four hectares of central Napier within a few minutes of the first shock, and aftershocks were experienced for ten days.

THE HAWKES BAY DISASTER

The Hawkes Bay Disaster

National Film Unit 1965. Duration 13:52

This film, made in 1965, includes footage from a silent film, New Zealand Topical News: The Hawkes Bay Disaster, showing the extent of damage to Napier city following the Hawkes Bay earthquake in February 1931. The commentary provides contextual information about the images. Why was there so much damage to the Post Office building? Buildings were generally not reinforced and were made of lime cement. Following the Hawkes Bay disaster more stringent building codes were introduced to resist earthquakes more effectively. Sailors from the HMS Veronica, a Royal Navy Destroyer that happened to be in harbour at the time of the earthquake, helped with the clean-up and recovery of Napier. The experience of the Napier clean-up eventually led to the establishment of the New Zealand Civil Defence Organisation.

WAIRARAPA

TSUNAMNI (1500?)

What Lies Beneath: Signs of Tsunami (extract)

Natural History NZ 2005. Duration 7:02

Archeologists discuss evidence of a possible Tsunami of major proportions on the south Wairarapa coast.

EARTHQUAKE (1942)

Weekly Review 68

National film Unit 1942. Duration 4:04

EARTHQUAKE – HEAVY DAMAGE IN WAIRARAPA June 24 1942, a severe earthquake shook the southern half of the North Island centred on Masterton and the Wairarapa. Measuring 7 on the scale, most Wellington households lost their crockery and downtown buildings lost their gables. There was much damage to chimneys, especially in Kilbirnie and Lyall Bay where houses were built on sand which amplifies the shaking. Damage to Wellington's CBD led to a rethink in the way buildings were designed – many decorative gables, chimneys and towers were removed.

INANGAHUA 1968

Search For Tomorrow. Design For Your Life (extract)

NZBC 1970. Duration 1:26

Seismologist details research into earthquakes and the science of seismology. The Inangahua earthquake of May 1968 is used as an example. Four people died as a result of the earthquake, the last recorded earthquake fatalities in New Zealand.

EDGE CUMBE 1987

Eyewitness News 03/03/87: AFTER QUAKE

TVNZ 1987. Duration 8:27

Footage of the Bay of Plenty earthquake recovery. The work of Civil Defence is highlighted.

THE SHAKY ISLES

TYPICAL HEADLINES

TV3 NEWS 21/04/98

TV3 News 21/04/98 (extract)

TV3 Network 1998. Duration 2:00

6.3 Richter scale earthquake across much of New Zealand, centred 32 km from Taumarunui. Witnesses in Napier; seismological explanation, witnesses at Te Papa.

NIGHTLINE 04/09/98

Nightline 04/09/98 (extract)

TV3 Network 1998. Duration 2:04

Scientists claim a massive earthquake in Southern Alps is 80 years overdue. The great Alpine fault marks the boundary of the Indo Australian plate and the Pacific plate. An engineer speaks of bridge construction, and a geologist presents the regional reasoning behind the claim.

TV3 NEWS 10/02/00

TV3 News 10/02/00 (extract)

TV3 Network 2000. Duration 1:38

Quake Risk – Christchurch residents were told today that they live in the earthquake capital in New Zealand. Earthquake Commission Report states they have a 75% chance of being hit by the big one within the next 50 years: David Middleton, Earthquake Commission. While there have been no recorded earthquakes in Christchurch since European settlement, there is no room for complacency. Earthquakes could strike any part of New Zealand.

EQC ADVERTISING

TELEVISION COMMERCIALS

Earthquake Commission / Silver Screen Productions 1988. . Duration 2:09

CASE STUDY: WELLINGTON

SHAKY BEGINNINGS

Shaky Beginnings (extract)

Bryan Bruce Productions 1999. Duration 1:55

Jim Hickey introduces the Wellington scenario covering the results of the large 1855 Wellington quake, and pointing out the shoreline changes resulting from 1 metre uplift in 1855 as well as reclamation. Wellington Harbour is one of the few harbours in the world where it is possible to drive around the perimeter. The road has been built on raised beaches, giving Wellington a strip of flat coastal land, following the earthquakes of 1460 and 1855.

THE MARITIME CITY

The Maritime City (extracts)

Government Publicity Office 1930. Duration 1:42

Buildings come and go, but no other New Zealand central city area has been so thoroughly redeveloped. The government cameraman rides atop a Lambton Quay tram in 1930, traversing the route of the pre-1855 shoreline. Most of the

buildings shown are no longer exist, they have been replaced by high rise buildings following a strict building code. However, all buildings on the seaward side of Lambton Quay are built on reclaimed land which is vulnerable to liquefaction (amplified shaking) during an earthquake.

HOMETOWN BOOMTOWN

Hometown Boomtown (extracts)

John Reid / Plumb Productions 1983. Duration 6:01

In the late 1960s Parliament gave the City Council the go ahead to survey all the commercial buildings in the city for earthquake risk. They concentrated on the narrow strip of real estate known as the "golden mile" identifying over 200 buildings as earthquake risks. Owners were given 15 years to strengthen or demolish their premises. Most chose to demolish, as it was profitable to build multi storey buildings. Earthquake proof buildings do not exist, but design measures are taken to minimise effects of the earthquakes. A Hutt Valley engineer, Dr. Bill Robinson invented the Base Isolator; a foundation of lead and compressed rubber that moves with the earthquake shock waves. Both Te Papa and the Parliament Buildings are built on Base Isolators. This technology has been exported overseas.

DECEMBER 2004

ONE NEWS. 24/12/2004

One News 24/12/04 (extract)

TVNZ 2004. Duration 0:47

The biggest earthquake in the world recorded to date, struck hundreds of kilometres south of New Zealand. Had it been closer to New Zealand it could have done considerable damage. As we know, worse was to follow.

TV3 NEWS. 27/12/2004

TV3 News 27/12/04 (extract)

TV3 Network 2004. Duration 10:56

Southern Asia in turmoil following a massive Boxing Day Tsunami that killed at least 13000 people, including one New Zealander. The Boxing Day Tsunami was caused by the fourth biggest earthquake of the last century, measuring 9 on the Richter Scale. The main countries affected were Sri Lanka, Indonesia, India, Thailand, Malaysia, Bangladesh and the Maldives.

TSUNAMI SCIENCE

TV3 News 27/12/04 (extract)

TV3 Network 2004. Duration 2:17

Tsunamis like the Boxing Day Tsunami that hit in South East Asia are rare around New Zealand, but they do occur. Vasily Titov (NOAA); Warwick Smith (Seismologist).