

Lessons for the Disaster Resistant University Program University of Concepcion

Bill Holmes

University of Concepcion

- School was out for the “summer”
 - Scheduled to start March 15, now April 5 (questionable)
 - Student housing is off campus residential, much now damaged. Amount now available is unknown. Plan for housing not formulated
- Little structural damage on campus, but much nonstructural
 - No power for 7 days
 - Water out for 7-14 days (still fixing leaks on March 19)
- Lost Chemistry Department due to fire following
- Lost Marine Biology Department -extensively outfitted ship
 - Tsunami and looting
- Losses in Civil Engineering Labs
 - Essentially all equipment out of calibration at a minimum
 - All theodolites fell off shelves—have not been tested
- Severe losses in Microbiology lab
- Campus not completely investigated—library?, computer center? Student Records?

Large
Chemistry
Building,
containing
the entire
department,
destroyed by
fire,
exacerbated
by chemicals



Four year old Micro Biology Lab Building



Structure
had
several
joint, all
beat up
by
pounding



Protection of Equipment

- Equipment on wheels vs. anchorage: Wheels apparently are better. No injuries and no reported overturning. This issue needs systematic testing.

Centrifuge on wheels ok



Incubator ruined



- Hit by overturning equipment
- Loss of power for 5-10 days

Microbiology Lab

- Lost most of work done in 4 years at micro biology lab
 - will take 2 years to recover to previous point
- 8 PhD work lost
- 100 M Peso total lost equipment (\$500,000)
 - Lost a \$70,000 piece that will take 6 mo to replace
 - Lost another that will take 12 mo to replace

Not the
University of
Concepcion
Marine
Biology
Department



William T. Holmes
RUTHERFORD & CHEKENE
Chilean Earthquake of Feb 27, 2010

March 24, 2010

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