



CDEM Resilience Fund project application form

Application for CDEM Resilience Collaborative fund approval	
Project title	West Coast Tsunami Evacuation Zoning
Date of application	28 February 2013
Details on application	
Lead local authority	West Coast Regional Council
CDEM Group	West Coast CDEM Group
Other local authorities or Groups supporting the proposal	Buller District Council Grey District Council Westland District Council
Project description	
<p>Executive summary</p> <p>The communities of the West Coast are exposed to hazards on all sides however there has been little information available, or planning undertaken, to address the risk of tsunami. Exercise Tangaroa in 2011 highlighted the inadequacies in information available to assist Controllers and CDEM staff to make decisions on where to evacuate people from, and where they should go.</p> <p>This Tsunami Inundation Modelling project has been designed based on the information that is currently available to the West Coast. While there is limited LiDAR information available for Westport and Karamea, elsewhere LINZ contour data will be the primary topographic dataset. Additional GPS data will be collected to improve the mapping of Greymouth, Hokitika and Carters Beach, in order to provide more robust information in these densely populated areas.</p> <p>The Project to be undertaken by GNS Science is considered as stage one with a second proposal to be put forth in future years to seek funding for signage. Tsunami inundation modelling has been undertaken in the majority of regions in New Zealand and this project will assist in completing a national picture of the risks inherent to these coastal communities.</p> <p>This Project meets many of the Goals of the National CDEM Strategy and the West Coast CDEM Group Plan and will improve the resilience and preparedness of the coastal communities of this region.</p>	
<p>Problem/opportunity</p> <p>The West Coast is bounded by hazards to the east through the Alpine Fault and to the west by the Tasman Sea and stretches some 600km from north to south. Due to the geography of the region the majority of the population lives along this coastal strip with major townships concentrated in Westport, Greymouth and Hokitika. These towns are also adjacent to major river mouths. Smaller communities are also strung out along this strip.</p> <p>While much work has been undertaken to improve the resilience of West Coast communities to the threat of earthquake, very little information is held on the threat from tsunami and the consequential inundation as a result of this hazard. This has resulted in difficulties during exercises, and real events, for Controllers and Emergency Management staff to make robust decisions around where evacuations need to occur. Furthermore, due to the layout of these towns and communities, further information is needed to determine where it is safe to evacuate people too.</p> <p>In the Review of Tsunami Hazard and Risk in New Zealand report completed by GNS in 2005 very little consideration was given to the West Coast. The review of this report, which is to be</p>	

completed shortly, provides improved modelling for all regions and it is considered an opportune time to progress with the next step of evacuation zoning for the region to capitalise on this progress.

The information that is obtained through this project will be able to be used to better inform communities of the hazards they are threatened with and how to respond through individual community response plans.

Alignment with identified goals and objectives

This application aligns with many of the National CDEM Objectives including:

- **Goal 1 – Readiness**
 - 1a - Increasing the level of community awareness and understanding of the risks from hazards.
 - 1b - Improving individual, community and business preparedness.
 - 1d - Encouraging and enabling wider community participation in hazard risk management decisions.
- **Goal 2 – Reduction**
 - 2b - Developing a comprehensive understanding of New Zealand’s hazardscape.
- **Goal 3 – Response**
 - 3b, c, d & e – Enhancing the ability of CDEM Groups, emergency services, lifeline utilities and government agencies to prepare for and manage civil defence emergencies.

This work will also address Objectives and the Actions set in the West Coast CDEM Group Plan:

- Building on the review of existing information on the risk and impacts to West Coast Communities from tsunami;
- Assist with identifying ‘at risk’ communities and helping them to plan their response in the development and review of Community Response Plans; and
- Will assist with developing the Tsunami Response Plan.

Dissemination of benefits to sector

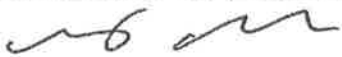
There has been a substantial amount of tsunami inundation modelling already undertaken around the country. This project will provide information for the West Coast that is consistent with that developed elsewhere and will provide for a second stage project through signage. Both this project and a second stage project regarding the development and installation of signage will complement the nationwide network of signage and information that is available to the public in order to assist with evacuation planning as well as for evacuation should an event occur.

Project design

Project manager	Nichola Costley (West Coast CDEM Group)
Other project members	
External providers/contractors	Graham Leonard, William Power – GNS Science

Deliverables

Milestone	Date for completion	Cost
Collection and processing of RTK GPS data acquired by car in Greymouth, Hokitika and Carters Beach	Start date + 6 months	\$10,000

Evacuation zones delivered as GIS layers, accompanied by letter report.	Start date + 1 year	\$50,000
Identified risks		
Risk	Suggested management	
That the full amount of funding requested will not be granted.	This project has been costed by GNS to cover the full WCRC area. Should the full amount not be funded then some regions and smaller communities will have to be removed from the tsunami evacuation zoning project and an incomplete project progressed.	
Due to the cost of LiDAR elevation information used will not be to the same high quality level.	Additional data will be collected by car-based RTK GPS in the most populated towns without LiDAR coverage (Greymouth, Hokitika, Carters Beach). The project will use the interim evacuation zone method which has been used in several New Zealand regions; this method is believed to be more tolerant of limited data than other modelling techniques. It is recognised that the evacuation zone boundaries, though limited in quality, will be substantially better than anything else that is currently available to help Controllers and CDEM staff make decisions in tsunami events. The West Coast CDEM Group is not asking for LiDAR to be funded through the Resilience Fund.	
Funding request and use		
CDEM resilience fund contribution	\$60,000	
Local authority contribution		
Other sources of funding	CDEM Group staff time to manage contract	
Expenditure	\$60,000 as identified in the deliverables above	
Application confirmation		
Approval of Chief Executive		
CDEM Group comment		
Comment	Exercise Tangaroa in 2011 showed the shortfalls in information currently available to the West Coast CDEM Group. This project will provide certainty for Controllers, CDEM staff and communities regarding potential tsunami inundation risk and lead to future nationwide consistency in tsunami signage and information.	
Approval of Coordinating Executive Group Chair	