

Mr. John W. Madden

**Director, Alaska Division of Homeland Security
and Emergency Management**

TESTIMONY

**Before the House Oversight and Government Reform Committee
Subcommittee on National Security, Homeland Defense,
and Foreign Operations**

*Tsunami Warning, Preparedness and Interagency Cooperation:
Lessons Learned*

April 14, 2011

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Introduction

Thank you Chairman Chaffetz, Ranking Member Tierney, and distinguished members of the Subcommittee for the opportunity to testify today regarding tsunami preparedness. I am John Madden, Director of the Alaska Division of Homeland Security and Emergency Management. My division is responsible for hazard mitigation, preparedness, outreach, planning, response, and recovery for the entire range of hazards that nature and humans can inflict on our citizens and economy.

Background

Alaska is no stranger to disasters. We have seasonal flooding when our rivers break up, storms from the Bering Sea and the Pacific and Arctic oceans, wildland fires across vast areas, extreme cold disrupting our supply chains and the provision of essential services. But the geological hazard of volcanoes and the seismic hazards of earthquakes and tsunamis give little or no warning and require a different approach to preparedness.

In our history are many destructive earthquakes. The largest was the 9.2 magnitude earthquake on Good Friday in 1964. That earthquake and tsunami killed 131 people in Alaska, Oregon, and California and damaged infrastructure in several nations. Dozens of Alaska communities – Anchorage, Seward, Valdez, Whittier, Cordova, and Kodiak among them – were heavily damaged from the ground shaking, subsidence, and tsunami.

Alaska faces three types of tsunami hazards. The first hazard comes from distant earthquakes such as what we experienced on March 10 and 11, 2011. That tsunami took four hours to travel the 2,000 miles to our westernmost community on Shemya and another five hours to traverse the 2,300 miles of our southern coast. The second hazard comes from near shore earthquakes creating a tsunami that will hit coastal communities within minutes.

The third tsunami hazard results from landslides above or below the water line that displace the water with a wave of extraordinary speed and power. In 1958, an earthquake of 7.7 magnitude in Lituya Bay, Alaska, broke loose 300 million cubic yards from a mountain into the bay. The resulting tsunami rose 1,720 feet almost instantaneously. Much of the damage in 1964 in Seward came from this lesser known hazard.

Preparedness Initiatives

Alaska believes that tsunami preparedness is not so much a system but an enterprise – a purposeful and industrious undertaking that requires effort or boldness. Every organization and profession dedicated to this enterprise is vital to the success of the whole. Each component – monitoring, detection, assessment, alert, warning, and public outreach, education, planning, and

training – must support all other components. The effectiveness of each component cannot be measured in isolation but only by the success of all the components.

Over the years since the 1964 Good Friday earthquake, the State of Alaska has been central in the creation of an evolving enterprise of many organizations:

- Alaska Division of Homeland Security and Emergency Management
- University of Alaska Fairbanks and the Geophysical Institute
- Alaska Division of Geology and Geophysical Surveys
- West Coast and Alaska Tsunami Warning Center
- Alaska Region of the National Weather Service
- Federal Emergency Management Agency

We built this enterprise to provide information to the public that they cannot get for themselves. But why do we do this? The purpose of the tsunami preparedness enterprise is to support informed decision making – by communities, by the private sector, and most importantly by individuals and households.

With leadership from the National Weather Service, Alaska now has seven coastal communities recognized as Tsunami Ready with three more on track to achieve this by summer's end. Since 2006, we have installed warning sirens in 26 communities with more identified for the future. We have placed NOAA Weather Radios in all communities where that signal is available. We also have placed these radios in critical facilities such as dispatch centers, schools, clinics, city offices, and emergency operations centers.

Our last state wide exercise, Alaska Shield 2010, focused on widespread disruption from earthquakes and tsunamis. The communities of Valdez and Cordova exercised their entire tsunami response with real evacuations of large portions of their citizens, search and rescue operations on land and sea, mass casualty drills, and real world sheltering and feeding of large numbers.

We created an outreach and education team that we call the "Tsunami Road Show." Supported by staff from all our partner organizations, the team meets with city leaders, schools, and the general public. We brief on earthquake and tsunami science, emergency preparations, evacuation procedures and sheltering. We distribute information for emergency professionals, children, and many sectors of the economy.

Our Quake Cabin is very popular at schools, fairs, and public events. It simulates the movement and feel of a strong earthquake inside the typical house. This demonstrates to children and adults alike the need for personal preparedness and safety.

In November 2010, the Alaska Division of Homeland Security and Emergency Management conduct its latest Tsunami Operations Workshop in Unalaska for communities through the 1,500 miles across the Aleutian Islands, Alaskan Peninsula, and Kodiak Island. Many of these communities are within the areas threatened by the Japanese tsunami. The workshop participants included emergency managers, educators, planners, first responders, and elected officials. Each

participating community left that workshop with plans on evacuation, emergency operations and a solid understanding of warnings, advisories, and watches.

We will continue with other Tsunami Operations Workshops in Southeast Alaska in September 2011 and the Central Gulf Coast in 2012.

Japanese Tsunami

On March 10, 2011, the Alaska State Emergency Coordination Center received initial notification of the earthquake in Japan within minutes. The preliminary estimate of 7.9 magnitude was just at the threshold of our concern for a distant tsunami. We began our notification and recall systems. As the magnitude was recalculated upward to 8.8, we received the first advisories from the West Coast and Alaska Tsunami Warning Center.

The Tsunami Warning Center is located about 40 miles from our State Emergency Coordination Center. As a precaution against possible system overload or interruption of the dissemination systems, we positioned one of our operations staff inside the Tsunami Warning Center with a cell phone and radio. There was an overwhelming demand on the Center's website and email distribution system that sometimes overloaded the system. These are the primary means of disseminated the Center's products and services. Our man with a radio proved to be extremely valuable to continued communications and will be part of our procedures in all future events.

This emergency combined four factors that greatly complicated our response. The warnings came in the middle of the night, in winter, in adverse weather, and in isolated communities remote from each other and from the nearest help.

The State of Alaska serves as a safeguard to the automated and electronic dissemination systems. My emergency operations staff established voice contact with every community in the warning and advisory area. They ensured the community leaders had the information necessary for their local decisions. They knew the local weather conditions and were in the best position to weigh the options.

We were fortunate that only limited damage occurred in Alaska and no disruptions to our communities or their supply chain.

Conclusion

During the Japanese tsunami event on March 10 and 11, 2011, the tsunami preparedness enterprise worked as designed.

The continuous monitoring system yielded immediate detection of the earthquake. The computer models swiftly determined the potential for tsunami. The alert and warning systems effectively transmitted the critical information. The deep water buoys provided real time information to recalculate the estimated arrival times and amplitudes to high accuracy. The State operations system provided the certainty that the communities received the needed information and that all

state assets were ready to respond as needed. The communities invoked emergency plans that were recently validated and tested.

The science and other systems supported the informed decision-making by communities and individuals.

The State of Alaska strongly supports the continued authorization of the National Tsunami Hazard Mitigation Program within NOAA. Through funding to states with tsunami risk, this program supports tsunami ready communities, sirens, preparedness training and exercises, evacuation planning and signage, modeling for inundation areas, and mapping for risk analysis and siting of safe havens. We also recommend resilient and redundant communications systems are the highest priority to ensure continuity of the tsunami warning network.

We continue to search for the horseshoe nail that would yield a less favorable outcome. I believe that the most critical element of the entire enterprise is the public outreach and education. All the science, all the computers, all the warning systems are useless if the affected community – the affected population – does not know how to respond to the threat. We cannot assume that Alaskans will have hours notice to prepare and take action. We must create and sustain a posture of preparedness in each person living or visiting our coastal communities. If the ground shakes for more than 20 seconds, do not wait for the warning. Move to higher ground immediately.

The nation's preparedness for tsunamis closely mirrors that of other hazards. It is complex and fraught with potential pitfalls. No one agency owns the system. Only through exemplary interagency cooperation can we prepare for this unpredictable and potentially devastating hazard. With the continued support of Congress, however, you can provide the partners in this vital enterprise – federal, state, and local governments, and the general public – with the means to continue effectively to protect lives and property.

Director, Alaska Division of Homeland Security & Emergency Services

Mr. Madden has served his state and his country for more than 40 years. First appointed by Governor Sarah Palin in January 2007, Mr. Madden continues under Governor Sean Parnell as the Director of the Division of Homeland Security & Emergency Management for the State of Alaska. This followed a year as the Deputy Director for Homeland Security within the division. His state service follows a distinguished career in seven federal agencies.

Madden began his public service career at seventeen with service in the U.S. Army, including twenty months in Vietnam. After his military service, he joined the U.S. civil service with the Department of the Navy. He worked in program and project management with the Naval Weapons Engineering Support Activity, Naval Electronic Systems Command, and the Joint (Navy/Air Force) Cruise Missile Project Office. After earning his degree in political science, he joined the Department of Energy as a program and policy analyst working on fossil fuels programs and alternative fuels.

In 1982, he elected to move to Alaska with the National Weather Service and supported its operations throughout Alaska. He next worked for the Alaskan Region of the Federal Aviation Administration as Executive Staff to the Regional Administrator. He also ensured continuity of operations for all FAA operations against all hazards. He supported FEMA in several exercises and served in several Disaster Field Offices, most notably in Puerto Rico and Florida in response to Hurricane Georges. He also served with the Transportation Security Administration as Deputy Federal Security Director for Anchorage International Airport and eight other Alaska airports.

He is a member of several national and regional organizations including:

- National Emergency Management Association - Board of Directors, Mitigation Committee Chair
- National Homeland Security Consortium – Tri-chair
- National Governors Association Homeland Security Advisory Council – Executive Committee
- Alaska Partnership for Infrastructure Protection
- Regional Consortium Coordinating Council (Public/Private Partnerships for Infrastructure Protection) – Executive Committee
- State, Local, Territorial, Tribal Government Coordinating Council (Infrastructure Protection Policies)
- Western Regional Emergency Management Advisory Council
- Regional Advisory Council for FEMA Region X
- Western States Seismic Policy Council - Board of Directors

He served on the National Preparedness Task Force in 2010.

Mr. Madden is proud to have served from 2005 to 2008 as the Honorary Commander of the 962nd Airborne Air Control Squadron (AWACS) of the 3rd Wing, Elmendorf AFB, Alaska.

Committee on Oversight and Government Reform
Witness Disclosure Requirement – "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

Name: John W. Madden

1. Please list any federal grants or contracts (including subgrants or subcontracts) you have received since October 1, 2008. Include the source and amount of each grant or contract.

2008 NOAA Remote Community Alert Program, Department of Commerce, \$225,000
2009 Pre-Disaster Mitigation Competitive Grant Program, Department of Homeland Security, \$185,508
2009 NOAA Remote Community Alert Program, Department of Commerce, \$225,000
2009 NOAA Alaska Tsunami Hazard/Ready Program, Department of Commerce, \$633,533
2009 Interoperable Emergency Communications, Department of Homeland Security, \$286,624
2009 Homeland Security Grant Program, Department of Homeland Security, \$7,295,765
2009 Emergency Operations Center, Department of Homeland Security, \$1,000,000
(See attached)

2. Please list any entity you are testifying on behalf of and briefly describe your relationship with these entities.

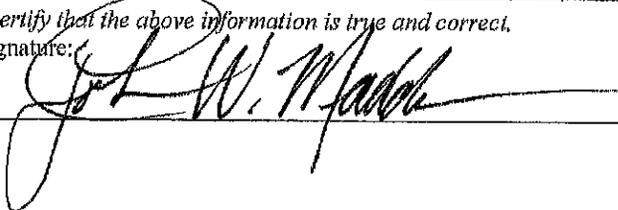
State of Alaska - Department of Military and Veterans Affairs, Division of Homeland Security and Emergency Management

3. Please list any federal grants or contracts (including subgrants or subcontracts) received since October 1, 2008, by the entity(ies) you listed above. Include the source and amount of each grant or contract.

NONE

I certify that the above information is true and correct.

Signature:



Date:

4/11/2011

Continuation from line 1.

2009 Emergency Management Performance Grant, Department of Homeland Security, \$2,705,062
2009 Earthquake Hazards Reduction State Assistance, Department of Homeland Security, \$56,842
2009 Buffer Zone Protection Program, Department of Homeland Security, \$400,000
2009 NOAA Alaska Tsunami Hazard/Ready Program Supplemental, Department of Commerce, \$639,698
2010 Pre-Disaster Mitigation Competitive Grant Program, Department of Homeland Security, \$1,041,424.91
2010 Interoperable Emergency Communications Grant Program, Department of Homeland Security, \$315,500
2010 Homeland Security Grant Program, Department of Homeland Security, \$7,358,300
2010 Hazardous Materials Emergency Preparedness, Department of Transportation, \$139,696
2010 Emergency Operations Center, Department of Homeland Security, \$877,750
2010 Emergency Management Performance Grant, Department of Homeland Security, \$2,913,599
2010 Earthquake Hazards Reduction State Assistance Program, Department of Homeland Security, \$54,074.59
2010 Buffer Zone Protection Program, Department of Homeland Security, \$200,000
2011 Hazardous Materials Emergency Preparedness, Department of Transportation, \$139,696