



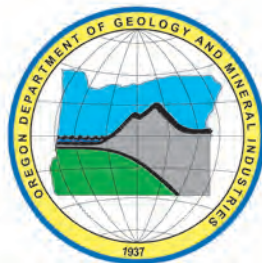
**National Tsunami Hazard Mitigation Program | Oregon**  
 TsunamiReady, TsunamiPrepared  
 Outreach and Education Program  
**Year Four, 2012-2013**

**Prepared by staff of the Oregon Department of Geology and Mineral Industries (DOGAMI)**

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OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

OREGON EMERGENCY MANAGEMENT

SEPTEMBER 2013

## SPECIAL THANKS and ACKNOWLEDGMENT

We wish to thank all the individuals and organizations involved with Tsunami Outreach Oregon, and especially the National Tsunami Hazard Mitigation Program for funding this important work.

Without the participation and services of the many organizations, businesses, and government agencies, our outreach strategies would not have been possible. Participating groups included all those listed in the following pages, from local steering committees and emergency managers to civic groups, businesses, schools, and preparedness advocates.

Finally, we extend our appreciation to the dedicated volunteers of these communities whose hard work exemplifies this program's goal of building a culture of tsunami preparedness. These volunteers truly make Oregon's coast a special – and a safer – place.

*Cover photo credits: At left: Peter Ovington, DOGAMI. At right: Linda Tudico.*

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## INTRODUCTION

The Oregon Department of Geology and Mineral Industries (DOGAMI) was funded to conduct tsunami hazard mapping and preparedness outreach along the Oregon coast through a four-year grant from the National Tsunami Hazard Mitigation Program (NTHMP), formed in 1995 by Congressional action. This report summarizes year four of DOGAMI's Tsunami Outreach Oregon (TOO), conducted from August 2012 to July 2013. This phase included work in five counties. From north to south, these were Clatsop, Lincoln, Lane, Douglas, and northern Coos counties.

Year four of the grant was led by DOGAMI staff members George Priest (principal investigator), Rachel Lyles Smith (project operations manager), and Peter Ovington (geologic hazards outreach specialist), in partnership with Althea Rizzo (geologic hazards program coordinator, Oregon Emergency Management) and Tyree Wilde and Ryan Sandler (warning coordinator meteorologists, National Weather Service). DOGAMI also hired three temporary community organizers (one each in Clatsop, Lincoln, and Douglas/Coos counties). These local residents coordinated outreach to their respective counties.

Tsunami Outreach Oregon was conceived as a locally-driven education and outreach program, giving each community the ability to design how best to achieve agreed upon objectives. Based on successful components of the City of Seaside's 2005 Tsunami Awareness Program, priorities for each community included active support by local and county governments; targeted neighborhood campaigns in evacuation zones; distribution of tsunami evacuation and preparedness information; engagement of local schools; and a community-wide tsunami evacuation drill. An essential part of the program is involving local volunteers and community groups to foster self-sustaining, volunteer-based outreach. An additional long-term goal is to increase the number of *TsunamiReady* communities on the coast over the four years of the grant. The *TsunamiReady* program, developed by the National Weather Service, is designed to help cities, counties, and other large sites in coastal areas to reduce the potential for disastrous tsunami-related consequences.



Residents in Lincoln City examine tsunami inundation maps, the basis of the evacuation brochures distributed for free in coastal communities. *Photos: Peter Ovington, DOGAMI*

## DOUGLAS COUNTY (Reedsport, Gardiner, Winchester Bay) and northern COOS COUNTY (Lakeside, Hauser)

### Overview

DOGAMI community organizer (CO) Terry Plotz led a very effective outreach effort in a coastal county with little prior awareness of the tsunami threat. Terry's experience as a church pastor, school board member, and CERT volunteer served him well in conducting grassroots outreach to communities.

Each year at the beginning of Tsunami Outreach Oregon, a local steering committee is formed to provide guidance to the COs and participate in various outreach activities. Terry began as a committee member, then was hired in January for the CO position. A resident of Reedsport, he was responsible for outreach to all five communities listed in the heading above.

### Steering committee

This group brought local knowledge to the overall outreach effort. They also assisted in identifying candidates for the community organizer position and participated in both the community rally and evacuation drills.

The committee included local leaders ranging from volunteer first responders to city and county staff. A particular challenge in this area was that the fire departments have no paid staff, meaning that some volunteer fire chiefs with other jobs couldn't always attend. Meetings were led by DOGAMI's Peter Ovington and Rachel Lyles Smith.

### Steering committee members

Name	Affiliation
Wayne Stinson	Douglas County Emergency Mgr.
Glenda Hales	Coos County Emergency Mgr.
Kent Abendroth	KDUN Radio, CERT, ham radio
Chief Tom Anderson	Reedsport Volunteer Fire Dept.
Chief Scott Anderson	Winchester Bay Fire Dept.
Ron Eberlein	Lower Umpqua Hospital
Chief Mark Fandrey	Reedsport Police Dept.

Ernie Fegles	Lower Umpqua Hospital
Madeline Gonsalves	Lakeside CERT
Rita Harte	CERT / ARES (amateur radio)
Tony Hernandez	American Red Cross
Dave Hudson	CERT, Coos County
Dan Loop	CERT, Reedsport area
Terry Plotz	DOGAMI community organizer
Chief Ted Ross	Lakeside Fire
Asst. Chief John Steinger	Reedsport Volunteer Fire Dept.
Andrea Stone	Douglas County
Chief John Swann	Gardiner Fire Dept.
Supt. Jim Thomas	Reedsport School District
Jeff VanderKley	Salmon Harbor Marina
Charmaine Vitek	Port of Umpqua
Jonathan Wright	City of Reedsport
Andrea Zielinski	Douglas County Sheriff's Office

After an initial planning meeting, the committee met six times, plus an evacuation drill planning session. Many also attended separate meetings to review draft tsunami evacuation maps.



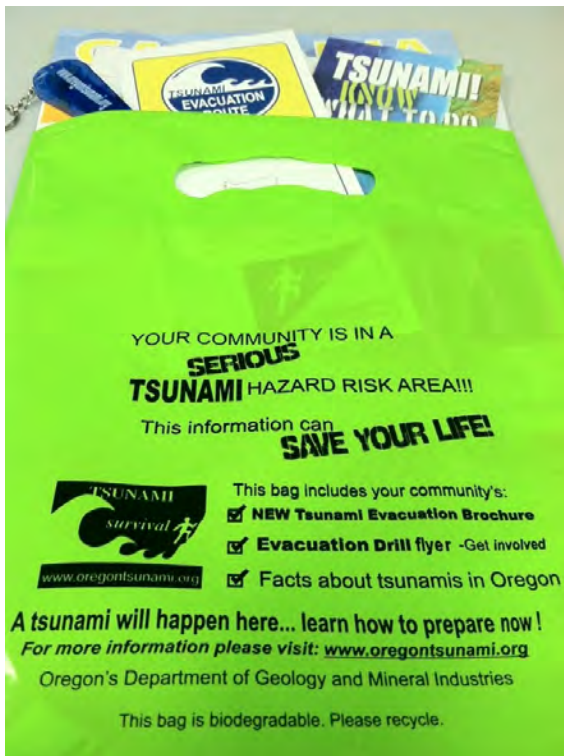
Steering committee member and Reedsport fire chief, Tom Anderson (at right), talking with Lee Bridge, a volunteer with CERT and ARES ham radio.  
*Photo: Peter Ovington, DOGAMI*

## Door to door outreach

The purpose of this activity is to have face-to-face conversations with residents in the tsunami inundation zones. The community organizer and local volunteers delivered small bags of informational materials including an evacuation map brochure, tsunami fact sheet, evacuation drill flier, *Living on Shaky Ground* booklet, and in some cases, the Winter 2012 edition of DOGAMI's newsletter, *Cascadia*, featuring articles on Japan's 2011 tsunami.

The CO assigned "area captains" to conduct this outreach, and in some neighborhoods the local residents themselves led the outreach, as in the case of River Bend mobile home owners association in Reedsport.

**Reedsport** CERT volunteers, firefighters, and several churches worked together to distribute info bags in Reedsport's distant and local tsunami hazard zones. Teams distributed a total of 711 bags



Door-to-door outreach bags contained an evacuation map, a drill flier, and other resources.

and spoke to 328 individuals, which is 46 percent of the households in the hazard zone. Of that number, 78 businesses were given information, and 90 percent of those were spoken to.

Almost all homes and businesses were contacted except for some obviously empty dwellings, homes where dogs made it unsafe to approach, and a small neighborhood of about 45 homes. Efforts are still underway to reach these last few homes.

**Gardiner** Volunteer Fire Dept. distributed bags to all the homes in the Gardiner inundation zone. A total of 83 homes were contacted, of which 41 residents were personally spoken to, or about half.

**Winchester Bay** Volunteer Fire Dept., with support by their fire district volunteers, contacted all of the homes and businesses in Winchester Bay's hazard zone. They reached 105 homes and businesses, of which 50 were spoken to, totaling 48 percent.

**Lakeside** Fire Chief Ted Ross led outreach to 250 homes in his district. He maintains regular contact with those homeowners, and holds several campaigns annually and drills actively for a number of emergencies.

**Hauser** CERT leaders requested a supplemental evacuation map showing Hauser, for use in door to door outreach. DOGAMI printed 250 such maps.

Volunteers made contact with 230 homes in the hazard zones and about 100 homes just outside. They also had North Bay Fire Department make door to door contact with homes off East Bay Drive that are in the inundation zones in their fire district, totaling about 300 more homes.

Hauser CERT volunteers remain active by giving presentations to the community and enrolling students in their training class at the community college. They have also added North Bay School to their local assembly areas.

## Community rallies

### Reedsport, Gardiner, and Winchester Bay

A Tsunami Readiness Rally for coastal Douglas County was held on April 25, 2013, at 6:30pm at the Reedsport Community Charter School. Rallies educate the public on the earthquake and tsunami hazard, unveil the new inundation maps for the area, distribute new evacuation brochures to residents, and generate interest in the area's evacuation drill.

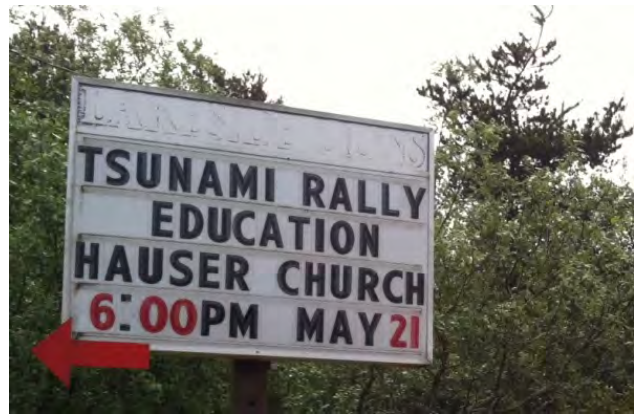
The rally was a success, attended by about 170 people, including some families with children (thanks to fliers distributed in advance through the schools). Turnout was also helped by the placement of electronic roadside reader boards loaned by Douglas County, placed along Highway 101 in the days prior.

The rally's focus was a slide presentation by DOGAMI staff George Priest and Peter Ovington, with time for questions. Local speakers included Reedsport police chief Mark Fandrey, Douglas County emergency manager Wayne Stinson, and community organizer Terry Plotz. Twenty-six volunteers helped to set up and staff the event. The rally was a success in bringing together residents and local emergency management officials.

Media coverage was thorough (see appendix), with articles in *The Umpqua Post* leading up to the event and a cover story afterwards.

The following information booths were on hand before and after the presentation:

- Fire departments of Reedsport, Gardiner, and Winchester Bay, with evacuation maps for each area
- Community Emergency Response Team (CERT)
- Map Your Neighborhood
- Business readiness
- Grab and go bags for people and pets
- Medical records and special needs
- American Red Cross



- ARES (amateur radio group)

Eighteen volunteers were recruited at the event, and another 8-9 signed up for a CERT class.

### Lakeside and Hauser

On May 21 another rally was held at Hauser Church between Lakeside and North Bend. Following the same format and staffing as the Reedsport rally, there were about nine info booths staffed by CERT, Coos County Emergency Management, some preparedness groups, and fire departments, which also had their fire trucks outside to draw attention.

Over 100 people attended the presentation and took home lots of maps and materials. All of the Lakeside and Hauser maps were distributed and many residents looked up their homes and neighbors' homes on the tsunami inundation maps (TIMs). There had been a lot of promotion, but there were few attendees under age 40 or families with children, an ongoing challenge when conducting outreach using public meetings.


### Evacuation drills

The evacuation drills were held May 31 at 10:00 am in coastal Douglas and northern Coos counties. Because the planning and volunteers were split between the counties, they are summarized separately below.


Turnout at both drills was not as high as organizers would have liked. This can be attributed in part to



**Tsunami Evacuation Drill**  
**Friday May 31 at 10am**  
 Reedsport, Gardiner, Winchester Bay, Lakeside, Hauser, North Bay



**Practice your route. Your loved ones are counting on you!**




**ASSEMBLY AREA A** REEDSPORT

**OUTSIDE HAZARD AREA:** Evacuate to this area for all tsunami warnings or if you feel an earthquake.

**LOCAL CASCADIA EARTHQUAKE AND TSUNAMI:** Evacuation zone for a local tsunami from an earthquake at the Oregon coast.

**DISTANT TSUNAMI:** Evacuation zone for a distant tsunami from an earthquake far away from the Oregon coast.





*Detail of Reedsport evacuation map*

- ✓ Follow tsunami evacuation routes on the new maps.
- ✓ Time how long it takes to walk to your nearest assembly area or other high ground nearby.
- ✓ Ask your friends and neighbors to join you.
- ✓ Take along your "grab and go" bag of emergency supplies.

**Free evacuation maps at [www.OregonTsunami.org](http://www.OregonTsunami.org) or your local fire station.**

Questions? Call Terry at (503) 307-5734.

State of Oregon Department of Geology and Mineral Industries  
 Douglas County Emergency Management  
 Coos County Emergency Management

Evacuation drill fliers and advertisements appeared in local newspapers and elsewhere.

the need to balance convenience and visibility with the safety of participants. Given that some evacuees had to navigate a busy Highway 101 on foot, the weekday morning drill time was chosen by local police specifically to avoid traffic safety risks, which would be greater if kids were out of school and the busy summer weekend season were underway. To be successful, a drill must first ensure that no one gets hurt.

### Reedsport, Gardiner, and Winchester Bay

This drill was originally organized based on the approach used in Coos Bay in 2012. As people took ownership of the program it was adapted to fit Douglas County. Community organizer Terry Plotz was primarily responsible for publicity and assembly areas. Wayne Stinson, Douglas County Emergency Manager, coordinated public safety and communications.

The drill went very smoothly. Overall, 92 people and six dogs came to the eight staffed assembly areas. While turnout was not as high as organizers had hoped, a key success of the drill was in bringing together the myriad agencies and partners. Drill partners included ODOT, Douglas County Sheriff, Douglas County Public Works, Reedsport Public Works, Reedsport Police, Reedsport Fire, Reedsport CERT, Umpqua Valley CERT, ARES/RACES, Winchester Bay Fire, Winchester Bay Merchants, Salvation Army Roseburg and Coos Bay, and St. Mary's Episcopal Church in Gardiner. Over 50 individuals helped run the drill.

No sirens or signals were used. This did cause some to wonder whether the drill was occurring. The surveys showed that most participants were in the 50+ age range, unsurprising given local demographics and the weekday morning drill time. Participants appreciated the drill, but many were disappointed in the low turnout and planned to talk to neighbors and family to share tsunami readiness information. Drill surveys were conducted at assembly areas; for a summary, please see the appendices.

Following the drill, staff returned to the Reedsport Community Center for a debrief and lunch provided by the Salvation Army. Public safety representatives were happy that there were no injuries and assembly area staff was very encouraged by those who participated. An added bonus was having ham radio leaders from ARES/RACES and the new Reedsport Police mobile communications trailer,

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since both groups were looking for a way to test their new equipment.

The feeling after the event was that more training is needed for volunteers and the community at large. People still want someone to lead them and are hesitant to move out on their own. There are also many disabled people who will have a difficult time getting to assembly areas and will not even practice due to age or health reasons. The consensus of the group was that additional drills should be held at least every other year, perhaps connected to the Great Oregon Shakeout in October.

### Lakeside and Hauser

Coos County had a very similar operations plan, schedule, and group of volunteers, though they didn't have all the highway crossings that Reedsport and Winchester Bay faced, nor involvement by the Salvation Army or ARES/RACES ham radio folks.

Nearly 50 volunteers turned out to support the effort in Lakeside and Hauser. Coos County Emergency Management took the lead, assisted by Lakeside, Hauser, and North Bay fire departments; Lakeside and Hauser CERT; and North Bend Police. Red Cross provided some supplies and the local

Lions Club provided a venue for lunch and the post-drill debriefing, known as a "hot wash."

Drill organizers staffed four assembly areas and had plenty of help to provide information to cars passing through. About 35 people officially came to the assembly areas. This was a reasonable turn out for the area considering the high number of elderly, disabled, and low-income residents. Unfortunately, even after door to door outreach, no one came from the mobile home park that is the most exposed in the case of a Cascadia event and which was the focus of a new emergency evacuation trail across the Port of Coos Bay rail line and heading east to Wind Song Lane (see Lakeside evacuation map near Tenmile Creek).

In all, the Coos County crew felt the drill was a success. They recognize the need to do more education and plan to have drills in the future, perhaps during the Great Oregon Shakeout. One assembly area seems to be very close to private property and may need to be adjusted in the future. Coos Emergency Management will look into it. They are also concerned about the trailer park mentioned above, and would like to brainstorm



Incident commander for the drill was Wayne Stinson (far left), Douglas County emergency manager. Also pictured are George Roth, ham radio and Red Cross volunteer (in yellow vest), and DOGAMI's community organizer Terry Plotz.

*Photos: Andrea Zielinski, Douglas County Sheriff's Office*

how to reach them more effectively.

The main organizers of the drill were Glenda Hales, Coos County Emergency Management; fire chiefs Ted Ross of Lakeside Fire, Jerry Wharton of Hauser Fire, and Jim Aldrich of North Bay Fire; and CERT coordinators Dave Hudson and Madeline Gonsalves.

**Schools outreach (K-12)**

As a longtime school board member in Reedsport, community organizer Terry Plotz actively engaged all the schools in tsunami preparedness by giving presentations, printing materials about the rallies and drills to send home with kids, and talking with educators. Presentations were age-appropriate and included a focus on earthquake and tsunami response, grab and go kits, and sharing what they learned with friends and family.

CERT leaders in Hauser also assisted North Bend School District #13 in developing their evacuation plan based on the information from the outreach program, an impact of about 1,400 students. The Bay Area school districts are having students build and bring to school 72 hour “go kits” for each student, reaching about another 2,600 students.

**Presentations to schools**

<i>School audience</i>	<i>Attendees</i>
Highland Elementary teachers, Reedsport	15
Highland Elementary, 4th Grade	29
Hauser North Bay School staff	17
Reedsport Community Charter School, 7th Grade	24
Reedsport Community Charter School, 7th Grade	23
North Bay and Lighthouse schools, North Bend (students and teachers)	275
Lighthouse school, North Bend (students and teachers)	79
<b>Total</b>	<b>462</b>

**Media coverage**

To get the word out, the project used both paid ads and “earned media” in the form of newspaper and radio coverage. This included several articles in *The Umpqua Post*, Reedsport’s main newspaper, including front page articles (see appendices). DOGAMI also placed paid ads in the *Post* to promote the rallies and drills.

Radio coverage included three 10-minute interviews in Coos County with Terry Plotz to promote the Tsunami Readiness Rallies, as well as appearances on KDUN radio to promote the evacuation drills. This coverage also reached listeners in Lane County who participated in the Florence drill. Some paid radio ads were also used to announce events.

**Workshops and events for key audiences**

Targeted outreach was also conducted with key audiences via one-on-one meetings, workshops, presentations, and at community gathering places. These included briefings to local government leadership at city council meetings and presentations to large employers and other businesses located in the inundation zones. While there are not many Spanish speakers in coastal Douglas County, the CO also had outreach materials in Spanish available during door to door efforts and



*The Umpqua Post* provided thorough coverage of tsunami outreach and events, as in this front page story.

at events.

Below is a summary of all outreach presentations, leaving out the school meetings already listed above.

**Outreach presentations and other events, 2013**

<i>Date</i>	<i>Organization or event</i>	<i>Attendees</i>
2/19	Gardiner Fire Dept.	11
2/25	Winchester Bay Fire Board	6
3/5	River Bend Homeowners Assn. officers	9
3/14	Reedsport Chamber of Commerce	18
3/21	Reedsport Rotary	16
4/1	Reedsport City Council	35
4/7	Reedsport Christian Church	30
4/9	Lower Umpqua Hospital	22
4/12	Episcopal Ladies Group	15
4/17	Economic Development Forum	10
4/17	Soups On	17
4/25	Tsunami Readiness Rally, Reedsport	170
4/29	Reedsport Fire Dept.	38
4/30	American Bridge employees	48
5/2	Door to door outreach training	13
5/7	Door to door outreach training	6
5/9	Lakeside City Council	16
5/10	Umpqua Bank employees	4
5/11	River Bend Homeowner's Association	23
5/13	Reedsport Fire Dept.	30
5/14	Gardiner Fire Dept.	9
5/21	Tsunami Readiness Rally, Hauser	101
5/31	Evacuation drill: Reedsport, Gardiner, Winchester Bay	92
5/31	Evacuation drill: Lakeside/Hauser	35
6/5	Reedsport Assembly of God Church	26
6/10	Bank of America employees	6
6/11	Hauser Fire and Hauser CERT	20
	<i>Total</i>	<i>826</i>

**Map Your Neighborhood**

In a disaster, the most immediate source of help is the neighbors living around you. Map Your Neighborhood is a program designed to help neighbors prepare for disasters and is offered as part of a simple, nine-step booklet and 90-minute video that anyone can initiate in their neighborhood. The program is an easy way for people to dip their toes into preparedness before

moving on to the bigger commitment of CERT training.

In Lakeside and Hauser, two MYN sessions were held with about 30 attendees, of which 10 were from the Coos Bay / North Bend area.

**CERT training**

Community Emergency Response Teams in both Douglas and northern Coos counties formed the backbone of volunteer support for many activities. They staffed information booths at tsunami rallies, helped coordinate door to door outreach, and staffed assembly areas and more at evacuation drills, among other activities.

New CERT volunteers were recruited during the outreach program. At the Reedsport tsunami readiness rally, seven new recruits signed up for CERT training. In Hauser and Lakeside, eight new CERT members have been recruited since the start of 2013 (not to mention about 35 from the Coos Bay area just south). In addition, 15 new faces have signed up to take CERT training in autumn 2013, having heard about it through tsunami outreach.



CERT members, led by steering committee member Dan Loop, were vital to events like the rally and door to door outreach. Here, they explain readiness for pets. *Photo: Peter Ovington, DOGAMI*

## DOUGLAS and northern COOS

One CERT leader commented that as a result of Tsunami Outreach Oregon, they now have stronger relationships with the fire departments, with many firefighters asking for more info and how they can help grow CERT membership.

### Signage

Using grant dollars, DOGAMI purchased and delivered roadway and assembly area signs for local jurisdictions to use and install as needed. These included 18" round evacuation route signs with matching arrows to be used to identify the direction to high ground, and 24" x 36" assembly area signs to indicate the location of high ground for evacuees.

#### Signage purchased for communities

(corresponding to photos below)

Community	Evacuation route sign + arrow	Assembly area sign
Reedsport /Gardiner / Winchester Bay	20	8
Lakeside	5	4
Hauser	3	0
Railroad emergency trail, Lakeside	3	0
<b>Total</b>	<b>31</b>	<b>12</b>



### TsunamiReady certification

The TsunamiReady program, developed by the National Weather Service, is designed to help cities,

towns, counties, universities and other large sites in coastal areas reduce the potential for disastrous tsunami-related consequences. TsunamiReady communities are better prepared to save lives through planning, education and awareness. Communities have fewer fatalities and property damage if they plan before a tsunami arrives.

Prior to this outreach phase, TsunamiReady requirements had already been met at the *county* level (by Coos County in 2006 and by Douglas County in 2007). In 2013, the city of Reedsport earned its TsunamiReady designation thanks to DOGAMI's outreach and the good work of city manager Jonathan Wright and NOAA's Ryan Sandler. Other communities in the region are closer to meeting requirements but will need assistance completing the necessary paperwork. In the coming years, this should be considered for follow up by local jurisdictions and by Oregon Emergency Management.

### Surveys

Please see the appendices for results from pre- and post-outreach surveys, as well as the post-evacuation drill surveys discussed below.

Drill surveys were conducted at assembly areas after the evacuation drill in coastal Douglas County (no surveys were used in coastal Coos County). In addition to drill data, the surveys provided names and contact info of 23 participants who would like to receive tsunami readiness info in the future, and who are potential future volunteers and preparedness advocates. This list is being turned over to local fire districts' CERT teams to help grow their network.

Grab and go kits: Two questions were asked about whether respondents had a "grab-and-go bag" of emergency supplies ready before the drill and whether they brought it with them as practice. To the first question, about half had such a bag prepared, while about a quarter then brought it on

## DOUGLAS and northern COOS

the drill. One strategy for improving these results might include partnering with other organizations and businesses to make more grab and go bags available for sale at reduced cost, pre-assembled with supplies. These bags could be made available at disaster preparedness fairs and other outreach events.

Evacuation signage: Two-thirds said the signs were easy or very easy to follow, while one-third said there were no signs in their area.

Evacuation time and difficulty: The good news is that 85 percent said they reached their assembly area in under 20 minutes, and 97 percent in under 40 minutes. Only 12 percent said they needed assistance reaching an assembly area.

Age: Three-quarters of respondents were over age 50. Of those, 30 percent are age 65 or older. A common worry of drill organizers is that the most vulnerable and those with mobility challenges sometimes participate the least, as in the case of the mobile home community in Lakeside who were

a focus of door to door outreach. Convincing these most vulnerable that they can make it farther on foot than they might think is an ongoing challenge. But every step higher and inland is a step toward safety.

Assembly area choice: When asked why they chose an assembly area, 58 percent said it was closest to where they began the drill, in addition to other reasons, including 12 percent who said they were most familiar with and felt safest at a particular assembly area.

## Conclusion

A primary goal of Tsunami Outreach Oregon is the sustainability of readiness. The community organizer worked hard toward this goal in Douglas and northern Coos counties and, as a resident of Reedsport, will continue to be a preparedness ambassador in his role as a church pastor and community leader.



Drill participants complete surveys at the Lake Marie assembly area near Winchester Bay.  
*Photo: Andrea Zielinski, Douglas County Sheriff's Office*

## LANE COUNTY

### Overview

Coastal Lane County includes the communities of Florence (population 8,500) and Dunes City (1,300). The area enjoys a relatively strong level of readiness thanks to the leadership of its fire department, local CERT team, city officials, county emergency manager, and a diverse set of local leaders known as the West Lane Emergency Operations Group (WLEOG, pronounced WEE-log), a collaborative effort of local government and residents to coordinate disaster readiness and response.

Because of this strong foundation and limited funding in year four of Tsunami Outreach Oregon, DOGAMI and its Lane County steering committee chose not to hire a community organizer. Still, much of the hard work of organizing door to door outreach and evacuation drills was taken on by Siuslaw Valley Fire and Rescue, including Chief John Buchanan, Marvin Tipler, and especially the fire district's Florence CERT coordinator Frank Nulty, a tireless readiness advocate who dedicated countless hours to this work. Frank is a retired geologist with a passion for tsunami science and preparedness.



Frank Nulty, CERT coordinator, talks with a resident at the community rally in Florence.

*Photo: Peter Ovington, DOGAMI*

### Steering committee

This group met six times in Florence to help plan outreach and provide important feedback on draft evacuation maps and other project elements. It was led by DOGAMI staffer Peter Ovington and included elected officials, police and fire, tribal government representatives, local amateur (ham) radio group representatives, and other preparedness advocates. The group brought invaluable local knowledge to the outreach effort. Members are listed below.

### Door to door outreach

The purpose of this activity is to have face-to-face conversations with residents in the tsunami inundation zones. Frank Nulty, the CERT coordinator, led this effort with technical assistance

### Steering committee members

<i>Name</i>	<i>Affiliation</i>
Linda Cook	Lane County Emergency Management
Chief John Buchanan	Siuslaw Valley Fire and Rescue
Marvin Tipler	Siuslaw Valley Fire and Rescue
David Davis	CERT, Siuslaw Valley Fire
Deputy Paul Vitus	Lane County Sheriff's Office
Chief Ray Gutierrez	Florence Police
Lt. John Pitcher	Florence Police
Frank Nulty	CERT, Florence
Henry Hanf	Western Lane Ambulance
Fred Hilden	City of Dunes City
Councilor Jamie Mills	City of Dunes City
Dave Haberman	Mapleton Fire District
Ken Hill	Port of Siuslaw
Jacque Betz	City of Florence
Jan Kinney	Peace Harbor Hospital
Pat Kirby	Peace Harbor Hospital
Police Chief Brad Kneaper	Confederated Tribes of Coos, Lower Umpqua & Siuslaw Indians
Paula Williams	Confederated Tribes of Coos, Lower Umpqua & Siuslaw Indians
Supt. Jeff Davis	Siuslaw School District
Mike Rivers	Oregon State Parks
Ken Quiner	Oregon Health Authority
Mike Miller	Florence Public Works

## LANE COUNTY

from the City of Florence public works department, whose director Mike Miller and GIS specialist Ron Miller provided GIS-based walking maps to make it easier for volunteers to track their progress.

Another goal of door to door outreach is to notify residents of an upcoming evacuation drill.

CERT teams and local volunteers delivered small bags of informational materials including an evacuation map brochure, tsunami fact sheet, evacuation drill flyer, and *Living on Shaky Ground* booklet. Of the 956 homes they targeted in the inundation zones, they reached nearly all (only 90 door bags were leftover).

CERT teams of two were found to be most efficient. One exception, Joan Edwards, WLEOG Public Outreach Coordinator, visited all of the Old Town Florence businesses on her own to help them prepare their evacuation plans. Multiple CERT teams were in charge of visiting all of the residents in Old Town's inundation zone. CERT members living in the Greentrees area conducted outreach to their neighbors in the inundation zone. A separate team visited residents along low lying areas of



The City of Florence provided walking maps of door to door outreach areas – showing tax lots, addresses, and the yellow tsunami inundation zone – making it easier for volunteers to track their progress.



Evacuation drill participants gather at the Florence Events Center assembly area. *Photo: Frank Nulty*

Rhododendron Drive. Multiple teams visited residents in the Heceta Beach Area where they found that at least 50 percent of the dwellings are vacation rentals.

### Community rally

A Tsunami Readiness Rally for coastal Lane County was held on Tuesday, May 14, 2013, at 7:00pm at the Florence Events Center. Rallies educate the public on the earthquake and tsunami hazard, unveil the new inundation maps for the area, distribute new evacuation brochures to residents, and generate interest in the area's evacuation drill.

The rally drew only about 35-40 attendees, far fewer than organizers had hoped for. This was despite the extensive door to door outreach, a paid ad in *The Siuslaw News*, and some radio coverage. The warm, sunny weather may have been a factor, but a bigger reason was likely the presentation by DOGAMI's Dr. George Priest two months earlier, in which he debuted the draft evacuation map. That event drew a total of 135 people to two sessions (see below, *The Siuslaw News*, "Hey, what's shakin'?" March 13, 2013). Many of those residents may have decided they already had the new information.

The rally's focus was a slide presentation by DOGAMI staff Laura Stimely and Peter Ovington, with time for questions. Local speakers included Lane County emergency manager Linda Cook and



WLEOG chair Henry Hanf. Information tables were on hand from CERT, ham radio operators, American Red Cross, and others. Despite low turnout, the event put new maps into many hands and created new ambassadors for preparedness who will spread the word.

## Evacuation drills

A drill was held May 30, 2013, at 10:00am, with about 50 participants in Florence and four reporting that they evacuated in Dunes City (an area with much less inundation). Assembly areas in Florence were staffed by Siuslaw Valley Fire staff and CERT volunteers, with the largest turnout at the Florence Events Center location. Despite the disappointing turnout, CERT members and others felt upbeat about having laid a foundation for future drills. And media coverage was broad enough – including local TV news – that many residents learned of the drill.

A “reverse 911” call was set up by Lane County Emergency Management to notify all landline and cell phones in the inundation zones of the drill. This was a good test for their “AlertMe” Community Emergency Notification System (CENS). Some evacuees reported receiving a call but others didn’t. The emergency manager plans to use DOGAMI’s map data, once formally published, as part of her



A local TV reporter discusses the evacuation drill while holding a bag of outreach materials from the door to door outreach campaign.

alert system for various tsunami scenarios.

An after-drill debriefing, known as a “hot wash”, was held the same day. Drill organizers decided to invite local media to add their perspective and to work as partners in getting the word out in future drills.

Following the drill, CERT also contacted all vacation rental companies and insurance agents in the area, supplying them with bulk copies of the Florence evacuation map for distribution to their customers.

Lastly, Siuslaw Valley Fire and Rescue, as part of a communications grant, included a GMRS repeater and antenna on the 188’ tower on Herman Peak. A base station is located in the emergency operations center and at Dunes City’s city hall, among other locations in Florence. The system is supplemented by 23 handheld radios strategically located throughout the area. The local ham radio club administers the operation and training. CERT members are being trained to expand the network providing vital information to the emergency operations center (EOC) during disasters.

## Schools outreach (K-12)

Dunes City has no schools, and all of the schools in Florence lie outside the tsunami hazard zone. Even so, without a paid community organizer in Lane County, there was not enough time and resources to do much outreach to K-12 students and teachers.

Still, the school district has active involvement in WLEOG meetings and has discussed completion of emergency planning to include tarps, school disaster supply kits, and evacuation plans in case a building is damaged during an earthquake or major winter storm. There has been an open line of communication between CERT coordinator Frank Nulty and the schools’ WLEOG representative. In April, Frank was contacted by an eighth grade teacher asking him to answer questions and assist students with an extra credit project which would

enhance their recently completed module on earthquakes.

## Media coverage

Highlights from news coverage included two front page stories in *The Siuslaw News*, a story on KEZI TV about the drill, radio coverage by KLCC and KCST, and articles in the *Albany Tribune*, *Eugene Register-Guard*, and *Lane Today*. For news clips, please see the appendix. For the KEZI story, please contact DOGAMI to request the video file.

A paid newspaper ad was also placed in *The Siuslaw News* announcing the evacuation drill.

## Workshops and events for key audiences

Other events aimed at key audiences were limited due to not having a full-time community organizer. Nonetheless, examples of awareness among key groups included a local motel owner who participated in the evacuation drill and said he is training his staff on evacuation protocols and is putting informational tent cards in guest rooms.

Perhaps the biggest success in reaching visitors to Florence was the decision to print an evacuation map in the 35,000 copies of the free *Florence Walking Map and Directory*, which is the most visible handout at lodging facilities and visitor centers (see photo). A local business, the Shipping Shack, offered the opportunity and WLEOG used their funds to purchase the space at a special price.

Workshops and presentations included the following conducted by Frank Nulty of CERT:

**Chamber of Commerce:** Feb. 22, staffed info booth at Chamber-sponsored Building Bridges to Business. Used projector to show coastal interactive website and Florence tsunami inundation map.

**Map your Neighborhood** seminar, March 2, with 62 North Florence residents attending. Provided 125



35,000 copies of the *Florence Walking Map and Directory* feature DOGAMI's tsunami map as a foldout to educate visitors about evacuation routes.

MYN booklets to the three neighborhoods which were starting to organize.

**Homeowners association:** On March 16, presented a tsunami awareness briefing at Heceta South Home Owners Association annual meeting at Driftwood Shores Resort. Emphasized importance of knowing where high ground is when recreating. Assisted HOA president in setting up the Disaster Preparedness page on their website by providing PDF files of key DOGAMI publications.

**Health fairs:** Staffed an info booth at one event sponsored by a faith-based group, at Florence Events Center on April 5, and another sponsored by the casino on April 11.

**Surfrider Foundation:** Attended monthly chapter meetings, recommending they use the evacuation zone map viewer on OregonTsunami.org when scheduling and conducting their environmental clean-up activities. Partnering with Surfrider is part of an effort to get younger people involved in CERT and WLEOG.

## Map Your Neighborhood

In a disaster, the most immediate source of help is the neighbors living around you. Map Your Neighborhood is a program designed to help

neighbors prepare for disasters and is offered as part of a simple, nine-step booklet and 90-minute video that anyone can initiate in their neighborhood. The program is an easy way for people to dip their toes into preparedness before moving on to the bigger commitment of CERT training. DOGAMI has a supply of MYN booklets, available upon request.

Map Your Neighborhood has been offered twice since October 2012 with 59 attendees. It is combined with Disaster First Aid as part of the “Neighbor Helping Neighbor” class.

**CERT training**

CERT basic training classes are offered in the spring and fall. The spring class graduated 11 with the majority directly involved in the door to door campaign and evacuation drill. There are 31 signed up for the fall class. Frank Nulty coordinates professional first responders as instructors for the training modules.

WLEOG’s “Living on Shaky Ground” program has provided disaster preparedness training for 775 attendees since October 2012 when Joan Edwards began as Public Outreach Coordinator.

**Signage**

Using grant dollars, DOGAMI purchased and delivered roadway and assembly area signs for local jurisdictions to use and install as needed. These included 18” round evacuation route signs with matching arrows to be used to identify the direction to high ground, and 24" x 36" assembly area signs to indicate the location of high ground for evacuees.

**Signage purchased for communities**

<i>Community</i>	<i>Evacuation route sign + arrow</i>	<i>Assembly area sign</i>
Florence	7	10
Dunes City	0	4

In addition, DOGAMI and Oregon Emergency Management continue to work with Florence and Dunes City to provide evacuation maps as permanent signs at key beach access points or other high pedestrian traffic areas.

**TsunamiReady certification**

The TsunamiReady program, developed by the National Weather Service, is designed to help cities, towns, counties, universities and other large sites in coastal areas reduce the potential for disastrous tsunami-related consequences.

The city of Florence became TsunamiReady in July 2010 through WLEOG’s efforts. A follow up item for this area would be for Lane County to consider pursuing its own designation for the county.

**Surveys**

The program conducted three surveys per region to measure awareness of tsunamis: before the outreach program began, after outreach was completed, and after the tsunami evacuation drill.

The pre- and post-outreach surveys were conducted via the Internet for simplicity, on a Web survey site. Questions and methodology were based on the City of Seaside’s 2005 tsunami outreach pilot project. The post-evacuation drill surveys were conducted in person at assembly areas.

Please see the appendix for detailed survey results.

**Conclusion**

As for lessons learned, both CERT and WLEOG public outreach are exploring ways to reach younger members. The survey results reflect a community made up of 80+ percent retirees. CERT plans to continue working to help faith-based groups prepare for disasters through partnerships aimed at building stockpiles of emergency supplies. CERT will continue being responsive to requests for

interaction with K-12 students. WLEOG public outreach is considering joining local organizations which feature a younger demographic, plus exploring different time slots for offering mini-classes designed to reach working parents.

While coastal Lane County was already in better shape than some communities – thanks to an active fire district, WLEOG, and CERT – the outreach program increased the public’s awareness while promoting collaboration among local stakeholders.

The evacuation drill was a helpful learning experience for local officials and the county emergency manager. It laid a foundation for improving drill turnout and coordination in the future.

WLEOG staff set an October 2013 date for the next emergency operations center (EOC) tabletop exercise. CERT coordinator Frank Nulty

recommended to Chief Buchanan that they contact the Emergency Management Institute to sign up for their Virtual Tabletop Exercise (VTTX 0002). They are signed up to join with 10 other communities across the US to participate in this exercise, which is conducted via video teleconference.

Coastal Lane county continues to build on its own readiness work and the momentum brought by Tsunami Outreach Oregon and the new evacuation maps.

**Siuslaw News**  
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 SERVING THE COMMUNITIES OF FLORENCE • DUNES CITY • WESTLAKE • MAPLETON • SWISSHOME • DEADWOOD • YACHTS AND ALL POINTS BETWEEN  
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**Hey, what's shakin'?**  
*It could be Florence and surrounding areas, and now is the time to prepare.*

No one who is staying remotely in touch with the community can say, "I didn't know. Nobody told me," after the glut of information that has been flooding print and air media in past months about emergency preparedness, particularly for the looming dangers of tsunamis and earthquakes.

Locally a team of information experts, Western Lane Emergency Operations Group (WLEOG), has been offering a steady stream of meetings and classes to teach residents how to be prepared in case of such major disasters, and last weekend the group refocused on earthquakes, even while tsunamis have been holding onto the headlines in recent years.

Near the second anniversary of a magnitude 9 earthquake in Japan that preceded a tsunami more than 40 feet high, a famed Oregon geologist and a team of certified emergency responders presented two workshops on Saturday, March 9, to drive home the point of "being prepared."

Introduced as a scientific "rock star," pun intended, Dr. George Priest, noted geologist for the Oregon Department of Geology and Mineral Industries (DOGAMI), led the multi-faceted discussion Saturday, that blurred the line between earthquakes and tsunamis, a little bit like which comes first, the chicken or the egg?

Perhaps because tsunamis have taken the forefront in worldwide news, many have lost sight of that which precipitates the disastrous event, a high-magnitude earthquake.

The entire coast of Oregon, as well as territories from Vancouver Island, British Columbia, through Washington state to just past Eureka, Calif., sit in what is called the Cascadia Subduction Zone.

Scientists say this area is due for an earthquake. A big one.

According to Priest, the area is rated at a 10 percent chance of such an event in the next 50 years.

The positive side of that statistic is that there is a 90 percent chance that it won't happen. Regardless, now is the time for policymakers and the rest of government to ensure that their constituents and their infrastructure are prepared.

Priest stated that a "great" earthquake, in or around a magnitude 9.0, and of a duration of two minutes or longer, will be utterly life-changing.

"This experience will be unmistakable," he said. Bridges will fail. Expect to have to walk to high ground because the terrain will be undrivable and in 15 to 20 minutes a tsunami will follow. Waves will continue for at least four hours, he said.

**Geologist Dr. George Priest describes how the earth reacts during a major earthquake.**

See **PREPARE 7A**

Dr. George Priest of DOGAMI discussed Cascadia earthquakes and new tsunami maps for an audience of 135 residents in Florence on March 9, 2013.

## LINCOLN COUNTY



Community organizer Lynda Engle, with Seal Rock Fire Chief Tracy Shaw, speaking to Bayshore homeowners near Waldport. *Photo: Patty Benjamin*

### Overview

Lincoln County spans a large coastal area and is home to many residents and visitors, from Lincoln City to Newport to Waldport. The county has a very active and engaged emergency manager who works to coordinate readiness activities among all the players, from fire districts to city staff and schools. Lincoln County’s teamwork earned them the unique achievement of more TsunamiReady designations than any other county in Oregon.

Community organizer Lynda Engle was DOGAMI’s point person in this county which has had activities in the past, from ongoing preparedness fairs to the 2010 tsunami evacuation drill in south county spanning 17 miles (see Tsunami Outreach Oregon Year 1 report for details).

Despite some residents’ previous understanding of tsunamis, the new evacuation maps made it easier for Lynda to explain what was different and why it matters. A resident of Seal Rock, Lynda is a CERT volunteer and has work experience with assisted living facilities, a background that enabled her to educate some of those vulnerable populations. Her position with DOGAMI began in January and ended in July 2013.

### Steering committee

A local steering committee was formed to provide guidance to DOGAMI and to participate in various outreach activities. The group met four times in person and once via conference call to help plan outreach and provide important feedback on community rallies and other project elements. It was led by DOGAMI staffers Rachel Lyles Smith and Peter Ovington. The committee included fire and police, city managers and planners, and other preparedness advocates. They brought invaluable local knowledge to the outreach effort. Members are listed below.

<i>Name</i>	<i>Affiliation</i>
Jenny Demaris	Lincoln County Emergency Mgr.
Tami Atkinson	WVCC Newport
Lt. Mike Baird	US Coast Guard
Chief Don Baker	North Lincoln Fire & Rescue
Cdr. Helen Ballantyne	NOAA - MOC-P
Sue Bolstad	CERT, Seal Rock/Waldport
Maryann Bozza	Hatfield Marine Science Center
Annette Brooks-Flatt	CERT, East Lincoln County
Rick Brown	NOAA - Hatfield Marine Science Ctr.
Captain David Clark	North Lincoln Fire & Rescue
Chief Derek Clawson	Central Oregon Coast Fire & Rescue
Chief Dave Enyeart	Toledo Police
Chief Will Ewing	Toledo Fire
Sgt. Tony Garbarino	Newport Police
Sue Graves	Lincoln County School District
Asst.Chief Doug Kerr	North Lincoln Fire & Rescue
Captain Jim Kusz	North Lincoln Fire & Rescue
Casey Miller	Lincoln County
Rob Murphy	Newport Fire
Pery Murray	City of Depoe Bay
Mark Nicholson	City of Lincoln City
Lt. Jerry Palmer	Lincoln City Police
Chief Frankie Petrick	Yachats Rural Fire Protection Dept.
Ceci Pratt	American Red Cross
Dean Sawyer	Confederated Tribes of Siletz Indians

Chief Tracy Shaw	Seal Rock Fire Department
Anthony Vendetti	Lincoln County Public Health
John Waffenschmidt	Lincoln County
Chief Joshua Williams	Depoe Bay Fire District
Mayor Sue Woodruff	City of Waldport
Kay Wyatt	CERT, Depoe Bay Fire

### Door to door outreach

This activity aims to have face-to-face conversations with residents in the tsunami inundation zones and to notify them of evacuation drills (where applicable). Each city and/or fire district led this outreach with support and coordination from the community organizer.

In addition, a smaller core group made up of DOGAMI, the county emergency manager, county public information officer, and a few fire district staff and CERT leaders met by phone weekly for a period of time to coordinate activities in more detail.

DOGAMI also held meetings with local officials over the winter to review draft evacuation maps.

CERT teams, firefighters, and other volunteers delivered small bags of informational materials including an evacuation map brochure, tsunami fact sheet, evacuation drill flyer, and *Living on Shaky Ground* booklet. Below is a summary of where outreach was done and how many households were targeted.

#### Overview of door to door outreach

<i>When</i>	<i>Where</i>	<i>Neighborhood</i>	<i>Households</i>	<i>Map delivered</i>	<i>Status</i>
North county					
Aug and Sep 2013	<b>Lincoln City</b>	Roads End	Approx. 200	Linc. City North	Completed (except Cutler City, to be in September)
		NW 34 <sup>th</sup> St. Area	600	Linc. City North	
		Cutler City	500	Linc. City South	
June 8, 2013	<b>Depoe Bay</b>	Depoe Bay (South Point area)	100	Depoe Bay	Completed 68 out of 98.
Oct, 2013		Gleneden Beach	300	Gleneden Beach	Opted instead for delivery of 600 fliers promoting Oct. drill
Central county					
Scheduled for autumn 2013	<b>Newport</b>	Southbeach	200	Newport South	Before Great Oregon Shakeout drill, October
		Nye Beach	250	Newport North	
		Bayfront	200	Newport North	
Summer and autumn 2013	<b>Toledo</b>	Hidden Valley Road	50	Toledo	Held a town hall meeting and two info sessions.
		Sturdevant Road	250	Toledo	
South county					
May 11 2013	<b>Seal Rock</b>	Bayshore, Sandpiper	800	Waldport	Complete. 77 bags leftover.
May 2013 to early June	<b>Waldport</b>	Old Town Waldport	450	Waldport	Complete. 177 bags leftover
		Uptown Waldport	250	Waldport	
May 2013 onward	<b>Yachats</b>	Main City Area	500	Yachats	Nearly complete. 150 more outside city.
<b>TOTAL</b>			<b>4,650</b>		

**Toledo:** The fire department held one town hall meeting and two other outreach sessions to inform the public of the map changes, reaching over 100 people from several areas of the county. They are planning another outreach event in late September for the Hidden Valley Road area. Their door to door campaign will begin during their next CERT training session in autumn 2013.



Door to door outreach prep meeting in Depoe Bay fire district. *Photo: Kay Wyatt*

## Community rallies

Tsunami readiness rallies educate the public on the earthquake and tsunami hazard, unveil the new inundation maps for the area, distribute new evacuation brochures to residents, and generate interest in the area’s evacuation drill. Local speakers included the county emergency manager, Jenny Demaris, and local hosts from the fire districts. Three rallies were held, as described below:

**Lincoln City:** May 7 at the Cultural Center, with two presentations. The 3pm presentation was attended by 57 people and the 7pm brought just 37. Two couples from the local Kiwanis Club assisted with set-up and as greeters. DOGAMI presenters were Peter Ovington and George Priest.

**Waldport:** May 9 rally at Waldport High School. This was the only rally where we had several info booths, since local partners preferred not to use this format at other rallies. Tables included Red Cross, CERT, business resiliency, and general earthquake/tsunami information. DOGAMI presenters were Peter Ovington and Laura Stimely. Attendance was a disappointing 28, a reflection of what some local leaders have said is a high level of apathy among residents, even after door to door outreach in the past.

**Newport:** May 11, a Saturday morning, in Newport at the Agate Beach Inn. Attendance was 65. Depoe Bay CERT leader and seismologist, Kay Wyatt, also set up a table for this rally to help educate the public on earthquake resiliency. Members of Depoe Bay CERT, identifiable by their vests, were in attendance to help funnel people to the auditorium where the presentation was held. DOGAMI presenters were Rachel Smith and George Priest.

Posters advertising the rallies were put up in some Newport and South County areas. But altogether, only about 187 attended the rallies, a modest turnout. Some speculated that it was because we didn’t purchase ads in the local newspapers, at the request of local partners who preferred instead to rely on earned media and save those funds for a countywide postcard mailer. Despite modest turnout, the events put new maps into many hands



Rally attendees in Waldport discuss new maps with Yachats fire chief Frankie Petrick (middle). *Photo: Linda Tudico*

and created new ambassadors for preparedness who will spread the word.

## Evacuation drills

**Seal Rock Fire District:** A drill was held in the Bayshore/Sandpiper area north of Waldport on Saturday, May 18 at 10:30am. Three assembly areas were activated and a total of 79 participants came to those areas, bringing with them 13 pets (including a parrot). A total of 24 officials helped out with the drill: Seal Rock Fire Chief Tracy Shaw, Lincoln County Emergency Manager Jenny Demaris, Sheriff's department, CERT and Fire volunteers, ARES ham radio operators, American Red Cross, and DOGAMI community organizer Lynda Engle.

Scheduling the drill posed some challenges due to a conflict with the Bayshore homeowners association's annual meeting. The drill time was rearranged to avoid this conflict, but some other community events could not be avoided, such as a Waldport fishing contest for young people, spring clean-up day throughout Bayshore, and the town-wide garage sale weekend. This illustrates a constant challenge between scheduling drills when the weather is nicer to encourage turnout, yet avoiding the early summer season of activities.

A "reverse 911" call was set up by Lincoln County Emergency Management to notify all landline and cell phones in the inundation areas of the drill. This was a good test for their Citizen Alert system. The emergency manager plans to use DOGAMI's map data, once formally published, as part of her alert system for various tsunami scenarios.

Planning prior to the drill included several components. Two planning meetings were held at the Seal Rock Fire Station. A few days prior to the drill, organizers held a town hall meeting in Bayshore to cover tsunami basics and to let the neighborhood know what to expect on drill day.



Drill participants (and pets) in the Bayshore and Sandpiper areas north of Waldport. *Photo: Linda Tudico*

After the drill a debriefing, or after-action meeting, was held on May 21 and Chief Shaw said he felt the drill was a success. As a relatively new fire chief at the coast, this was his first evacuation drill since moving to Seal Rock.

**Depoe Bay Fire District:** After the grant period had ended, a successful "Tsunami Stroll" was held in Gleneden Beach on October 17, 2013, as part of the Great Oregon Shakeout. A total of 97 residents participated, exceeding organizers' expectations.

Local readiness champion and CERT leader Kay Wyatt reported that it was helpful to share DOGAMI's message of "Every step higher and inland increases your chances of survival," especially in this community of mostly retired folks.

"It was was the most inspiring moment of my life," she said. "Without DOGAMI's maps, science, and encouragement, this event would not have happened!" Wyatt added.

Organizers gave out 25 five-gallon buckets for emergency supplies, as well as 75 headlamps provided by a generous donor. The event was supported by 17 CERT volunteers, ham radio operators, and public safety staff from the fire district, sheriff's office, state police, and ambulance.

Because many participants were elderly, when they arrived at a tsunami assembly area, organizers



greeted them with a hug, a raffle ticket, and a shuttle that took them to the Community Hall for a celebration event. There were even shuttles to take them home afterwards. This kind of hospitality and savvy event planning can make a big difference in promoting turnout and ensuring a successful drill.

**Drills in other fire districts:** Of the county's five other fire districts at risk of tsunami inundation, none chose to hold drills during the grant period. Newport chose to schedule theirs during the Great Oregon Shakeout in October, since their staffing and responsibilities at that time of year make it more feasible. (The City of Newport and the Hatfield Marine Science Center will host their third annual South Beach evacuation drill that week.)

The City of Lincoln City held an evacuation drill in the Cutler City area in March 2012, and North Lincoln Fire and Rescue has no drills planned. Yachats and Waldport fire districts have elected not to hold a drill for now after having conducted a large scale one in 2010, instead focusing on door to door outreach and evacuation map distribution. Yachats is also planning a tabletop exercise for a distant tsunami scenario, slated for February 2014.

## Schools outreach (K-12)

Outreach to students was limited as Lynda focused on other deliverables and trusted the helpful hand of Lincoln County School District's safety coordinator, Sue Graves, and the schools' existing preparedness curriculum. DOGAMI was asked to provide laminated evacuation maps for all the district schools as permanent displays. Unfortunately, it was not in the budget and timeframe to complete this, but it's a task we hope to include in the coming year's outreach materials budget.

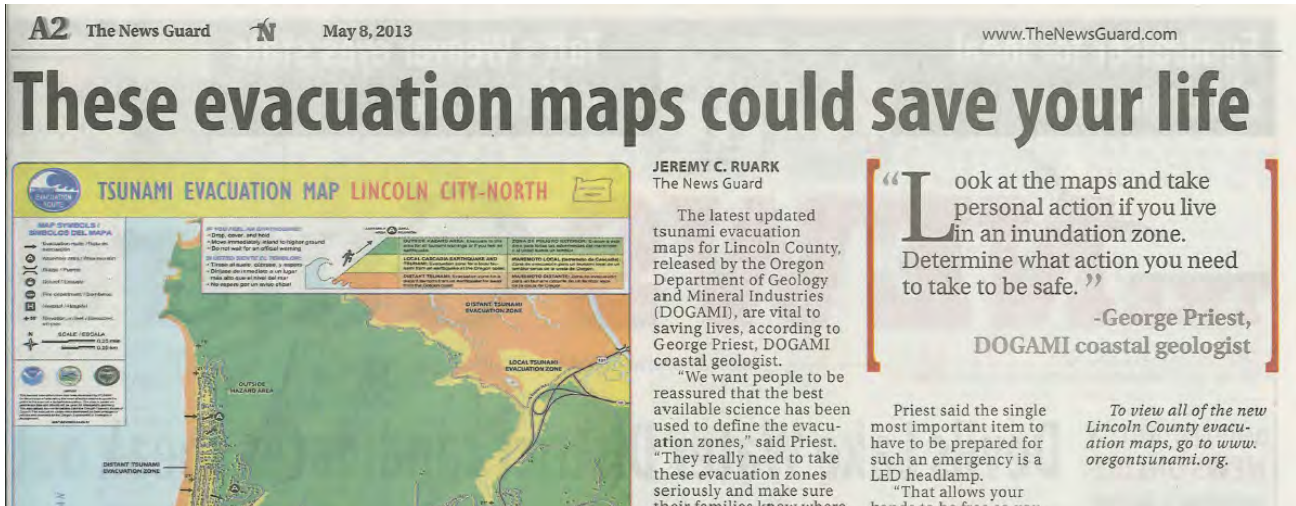
## Media coverage

News reporting was fairly extensive and helpful in generating interest in the new maps. Highlights included newspaper cover stories and reprints of the actual maps, multiple radio talk show appearances, and a media outreach effort based on release of the Hollywood disaster film *The Impossible*.

Media relations were handled primarily by DOGAMI staffer Peter Ovington, Lincoln County's emergency manager, Jenny Demaris, and county public



In Gleneden Beach, a "Tsunami Stroll" attracted 97 participants, including many seniors who previously didn't think they could reach high ground on foot. **Left:** Mr. Lee Hood won the "Best Decorated Go Bag" prize. **Middle:** Sheriff's Lt. Curtis Landers, Asst. Fire Chief Hank Walling, and a readiness leader from PAC West Ambulance. **Right:** Ms. Nellie Jaujou celebrates her arrival at an assembly area. *Photos: Kay Wyatt (left and middle); Karen Shafer (right).*



The News-Guard's coverage included a reprint of the two maps for the Lincoln City area.

information officer, Casey Miller. The community organizer and many partner staff, from fire districts to CERTS, supported the effort by appearing on radio shows and talking with reporters. To see the news clips, please turn to the appendix.

**Newspaper and website** coverage included articles on release of the new maps, community rallies, door to door outreach, the Bayshore evacuation drill, and the awards ceremony for TsunamiReady designations. No newspaper ads promoting the rallies were purchased because local partners felt that earned media coverage would be sufficient and the funds better spent on a countywide postcard mailer.

**Radio** coverage included several talk shows, most lasting at least 30 minutes, summarized below:

Date	Radio show	Guest spokespersons
Apr 10	Waldport Today and Seal Rock Too	Jenny Demaris , Chief Shaw
May 2	Lincoln County Connections (with Casey Miller), KNPT AM 1310	Kay Wyatt, Lynda Engle
May 8	Roll Call with Sheriff Dennis Dotson, KNPT AM 1310	Jenny Demaris, Peter Ovington
May 9	Lincoln County Connections (with Casey Miller), KNPT AM 1310	Peter Ovington, Rob Murphy of Newport Fire

May 21	Hotline with Kiera Morgan, KNPT AM 1310	Lynda Engle, Chief Tracy Shaw
May 22	KBCH radio	Chief Keith Kilian, Lincoln City Police

A small news conference was held on May 1 in Newport to announce the release of all the Lincoln County maps at once.

**The Impossible:** This Hollywood film tells the true story of a family who survived the 2004 tsunami in Southeast Asia that claimed 230,000 lives. The film stars Ewan McGregor and Naomi Watts, who was nominated for an Oscar for Best Actress. DOGAMI and local partners used this opportunity to reach moviegoers with a tsunami readiness message.

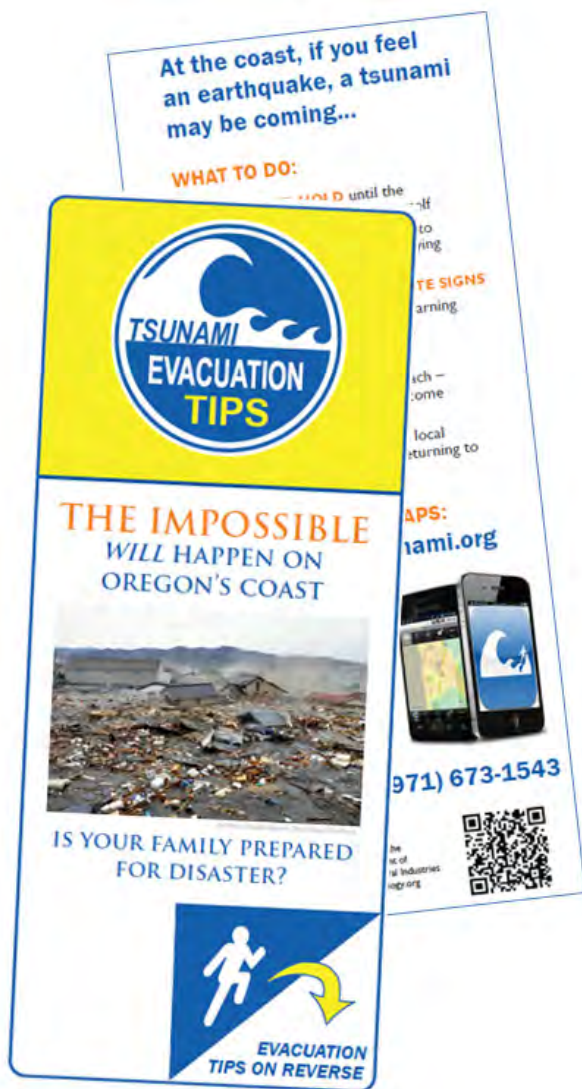
When the film screened in the Northwest in February and March 2013, DOGAMI partnered with Jim Kusz at North Lincoln Fire and Rescue to encourage Lincoln City's locally-owned Bijou Cinema to screen the film and feature DOGAMI's outreach materials and a pre-show, on-screen slide with tsunami readiness tips. DOGAMI and Jim also worked with Sue Graves at Lincoln County Schools on a special screening for two busloads of local high school students, followed by a discussion and readiness information.

DOGAMI created a small flier with tsunami tips, printing hundreds of them for distribution at theaters screening the movie. These included not only the Bijou, but Regal Cinemas and the Laurelhurst Theater in the Portland area, plus Coming Attractions Theaters in Newport, Astoria, and North Bend.

Altogether, this was a unique opportunity to leverage a moment in popular culture, making the connection between an emotional film and tsunami readiness in Oregon.



Ceci Pratt of the American Red Cross distributes meals ready to eat (MREs) to residents at a tsunami rally in Waldport. Photo: Peter Ovington, DOGAMI



DOGAMI printed hundreds of fliers for distribution at Oregon cinemas screening *The Impossible*.

## Workshops and events targeting key audiences

Targeted outreach was also conducted with key audiences via one-on-one meetings, workshops, presentations, and at community gathering places. These included briefings to local government leadership at city council meetings and chambers of commerce, primarily staffed by local partners.

Below is a summary of all outreach presentations. Note that events with attendance marked as “n/a” reflect presentations given by local partners where a count wasn’t recorded.

**Vulnerable populations** are those who, during a disaster, have special needs and greater difficulty in responding or evacuating. While there are varying definitions, these populations can include children, the disabled, the elderly, the homeless, and those with limited English proficiency.

These were a particular interest of the community organizer, who had outreach materials in Spanish available at events, including a presentation to staff of The Worldmark Resort in Depoe Bay, where they had an interpreter for the 15 or so Spanish-speaking

**Outreach presentations and other events, 2013**

<i>Date</i>	<i>Organization or event</i>	<i>Attendance</i>
Mar 30	SOLVE's Oregon Beach Cleanup	n/a
Apr 5	Seashore Family Literacy, Waldport	17
Apr 6	Bayshore and Sandpiper homeowners	37
Apr 8	City Council, Yachats	12
Apr 11	Chamber of Commerce, Waldport	5
Apr 11	City Council, Waldport	13
Apr 11	City Council, Siletz	12
Apr 12	WorldMark, Depoe Bay	54
Apr 12	Chamber of Commerce, Newport	80
Apr 13	Hatfield Marine Science Ctr, Newport	300
Apr 15	City Council, Newport	30
Apr 15	Chamber of Commerce, Depoe Bay	30
Apr 16	City Council, Depoe Bay	25
Apr 17	Lincoln County Board of Commissioners	14
Apr 17	Rotary Club, Lincoln City	28
Apr 17	Business resiliency, Lincoln City	12
Apr 17	City Council, Toledo	16
Apr 18	Chamber of Commerce, Toledo	15
Apr 18	Kiwanis Club, Lincoln City	24
Apr 19	Chamber of Commerce, Lincoln City	50
Apr 20	Moose Lodge, Waldport	3
Apr 22	City Council, Lincoln City	10
May 7	Tsunami readiness rally, Lincoln City	65
May 7	Tsunami readiness rally, Lincoln City	35
May 9	Tsunami readiness rally, Waldport	35
May 11	Tsunami readiness rally, Newport	64
May 18	Tsunami evacuation drill, Bayshore, Sandpiper	79
May 25	Yachats Fair	200
June 13	Port of Newport marinas staff	23
June 13	Seal Rock Water District staff and board	16
June 14	Aging Wisely (in-home caregiving), Newport	1
June 18	Bayside Assisted Living Facility staff	4
June 18	Angell Job Corps Camp safety staff	33
June 18	Adeo (in-home caregiving), Newport	3
June 20	Sea Aire Assisted Living Facility	28
June 26	Driftwood Mobile Home Park	36
June 29	Newport Farmers Market	100
June 30	Yachats Farmers Market	50
	<i>Total</i>	<i>1,559</i>

staff and a sign language interpreter for a deaf employee.

Lynda also reached out to assisted living facilities, having had experience as a hospice care worker. She gave presentations to staff at two such facilities in the tsunami hazard zones and met with the manager of a Lincoln City facility outside the hazard zone interested in earthquake readiness. Lynda also met with two Newport in-home caregiving agencies (Adeo and Aging Wisely). As a result, they made plans to look up each client’s address and print out evacuation maps that can be added to the clients’ books for future reference. With each agency having about 100 clients and 25-30 caregivers, it reached a good number of these vulnerable residents.

**Map Your Neighborhood and CERT training**

Map Your Neighborhood booklets were given out at rallies and other events where DOGAMI had materials. Many drew interest in MYN and CERT.

Lincoln County CERT has six geographic teams spread around the county. Lynda attended several CERT meetings to support their work and to enlist their help with tsunami outreach activities. These included conducting surveys, supporting door to door bag stuffing and outreach, attending community rallies to staff info tables, taking photos at events, and staffing assembly areas at the evacuation drill. Lynda also attended meetings of the Lincoln County Citizen Corps Coordinating Council (LC5), where countywide coordination and support for CERTs took place.

CERT teams were strengthened as a result of the tsunami mapping and outreach. A new CERT team in Waldport held its first meeting in February, at which DOGAMI presented. Also in the Waldport area, six residents at Driftwood Village Mobile Home Park signed up for CERT training. In Newport’s South Beach at the Bayside assisted

living facility, four of the 10 caregivers attending Lynda’s presentation signed up for CERT training.

**Signage**

Using grant funds, DOGAMI purchased and delivered roadway and assembly area signs for local jurisdictions to use and install as needed. These included 18” round evacuation route signs with matching arrows to be used to identify the direction to high ground, and 24" x 36" assembly area signs to indicate the location of high ground for evacuees.

**Signage purchased for communities.** “County designates signs in unincorporated areas.

	<i>Evac. route sign + arrow</i>	<i>Assembly area sign</i>
Lincoln City North	8	5
Lincoln City South	7	5
Gleneden Beach (County)	5	8
Lincoln Beach (County)	3	8
Depoe Bay	5	5
Toledo	5	5
Newport North	6	6
Newport South	3	6

Waldport	9	10
Yachats North (County)	5	10
Yachats	7	10
Seal Rock (County)	8	10
<i>Total</i>	<i>71</i>	<i>88</i>

**TsunamiReady certification**

The TsunamiReady program , developed by the National Weather Service, helps cities, towns, counties, universities and other large sites in coastal areas reduce the potential for disastrous tsunami-related consequences. The city of Lincoln City became TsunamiReady in 2005, but prior to 2013 no one else in the county had earned this badge.

Thanks to the leadership of county emergency manager Jenny Demaris working with local fire districts, cities, and others, new TsunamiReady designations were awarded to the following in July 2013. They also became StormReady.

Businesses, schools, and other non-governmental entities often establish tsunami safety plans and take part in awareness activities. An entity that



Lincoln County's public safety leaders celebrate their TsunamiReady and StormReady designations at a ceremony in Newport. Photo: Casey Miller, Lincoln County

Pictured left to right are: Sgt. Tony Garbarino, Newport Police | Liz Martin, Lincoln County School Board | Assistant Chief Rob Murphy, Newport Fire | Chief Derek Clawson, Central Oregon Coast Fire | Chief Joshua Williams, Depoe Bay Fire | Chief Will Ewing, Toledo Fire | Mayor Sue Woodruff, City of Waldport | Chief Tracy Shaw, Seal Rock Fire | Mayor Ronald Brean, City of Yachats | Maryann Bozza, Hatfield Marine Science Center | Mayor A.J. Mattila, City of Depoe Bay | Chief Don Baker, North Lincoln Fire | Jenny Demaris, Lincoln County Emergency Management | Commissioner Terry Thompson, Lincoln County Board of Commissioners

promotes the principles and guidelines of the TsunamiReady program may apply to become a "Supporter."

This is a unique achievement because no other county in Oregon has so many TsunamiReady designations, and only one other TsunamiReady Supporter designation has been made in the U.S.

**TsunamiReady designations during grant period**

<u>TsunamiReady</u>	<u>TsunamiReady Supporters</u>
Depoe Bay	Lincoln County School District
Lincoln County	Hatfield Marine Science Center
Newport	Central Oregon Coast Fire District
Toledo	Depoe Bay Fire District
Waldport	North Lincoln Fire and Rescue District
Yachats	Seal Rock Fire District
	Yachats Rural Fire Protection District

**Surveys**

For a summary of surveys conducted before outreach, after outreach, and the day of Seal Rock Fire’s evacuation drill. please see the appendices.

**Conclusion**

Community organizer Lynda Engle will continue to be a preparedness ambassador as a CERT member and south county resident. She and the Seal Rock fire district are exploring grant funding opportunities for more preparedness outreach to keep the momentum going.

A primary goal of Tsunami Outreach Oregon is the sustainability of readiness. Lincoln County has strong public safety leadership in place across the fire districts, the county, and the municipalities. More work remains to be done to reach vulnerable populations, to engage more business owners, to break through apathy in some areas, and to conduct more frequent tsunami evacuation drills.

But the broad impact of door to door outreach, the countywide postcard mailer, the media coverage, and the streamlined public safety infrastructure reflected in the TsunamiReady designations are signs of a safer, more resilient county.



Gleneden Beach’s evacuation drill was branded as a "stroll" and a "celebration," an effective message for reaching seniors who worry they can’t reach high ground quickly enough on foot. Participants were awarded prizes in categories such as oldest and youngest participants, largest family group and cutest couple! Prior to the event, 600 copies of this mailer were printed and either delivered using the US Postal Service’s “Every Door Direct” option or distributed via the local post office (for residents without home delivery).

## CLATSOP COUNTY

### Overview

DOGAMI community organizer (CO) Lianne Thompson led the outreach effort in a coastal county that has had its share of tsunami outreach in the past, notably a 2005 outreach pilot project in Seaside and a limited 2010-2011 outreach effort in Warrenton and Astoria. While this meant there was occasionally a “been there, done that” attitude among some local partners, Lianne’s experience as a volunteer CERT coordinator for Clatsop County served her well in conducting grassroots outreach, and her strong ties to local media helped in earning excellent news coverage. Lianne’s position began in March and ended in July 2013.

The mapping and outreach in Clatsop County was on a shortened timeframe, due to availability of model data. DOGAMI held meetings with local officials in February through April to review draft evacuation maps. A decision was made not to conduct pre- and post-outreach surveys in this condensed timeframe.



Lianne Thompson of Arch Cape worked as DOGAMI's community organizer in Clatsop County.

*Photo: Lianne Thompson*

### Steering committee

A local steering committee was formed to provide guidance to DOGAMI and to participate in various outreach activities. The group met four times to help plan outreach and provide important feedback on community rallies and other project elements. It was led by DOGAMI staffers Rachel Lyles Smith and Peter Ovington, with special science presentations by Dr. George Priest. The committee included fire and police, city managers and planners, and other preparedness advocates. They brought invaluable local knowledge to the outreach effort. Members are listed below. A smaller core group of members came to most meetings.

<i>Name</i>	<i>Affiliation</i>
Chief Ted Ames	Astoria Fire Department
Chief Pete Curzon	Astoria Police Department
Deputy Chief Brad Johnston	Astoria Police Department
Paul Benoit	City of Astoria
Superintendent Craig Hoppes	Astoria School District
Herb Florer	Port of Astoria
David Wolfram	Oregon Military Department
Sgt. Daniel Cleveland	Oregon Military Department
James Miller	Oregon Military Department
Chief Mike Balzer	Cannon Beach Fire and Rescue
Chief Jason Schermerhorn	Cannon Beach Police
Rich Mays	City of Cannon Beach
Bill Vanderberg	City of Cannon Beach
Dean Perez	Clatsop County Emergency Management
Tiffany Brown	Clatsop County Emergency Management
Hiller West	Clatsop County Planning
Sheriff Thomas Bergin	Clatsop County Sheriff's Office
Ed Wegner	Clatsop County
Scott Somers	Clatsop County
Caren Black	Clatsop County CERT
Bruce Francis	Clatsop County Planning Commission
Tom Bennett	Clatsop County
Jennifer Bunch	Clatsop County Planning

## CLATSOP COUNTY

Patrick Wingard	Oregon Dept. of Land Conservation and Development
Chief Bill Eddy	Gearhart Volunteer Fire Dept.
Chief Jeff Bowman	Gearhart Police Department
Chad Sweet	City of Gearhart
Chief Jeff Golightly	Lewis & Clark Fire & Rescue
Duane Mullins	MEDIX
Tad Pedersen	OSFM Astoria
Patrick Corcoran	Oregon Sea Grant
Cecilia Pratt	American Red Cross
Chief Joey Daniels	Seaside Fire and Rescue
Asst. Chief Chris Dugan	Seaside Fire and Rescue
Chief Robert Gross	Seaside Police Department
Mark Winstanley	City of Seaside
Dr. Douglas Dougherty	Seaside School District
Kevin Cupples	City of Seaside
Jon Rahl	City of Seaside
Chris Penno	US Coast Guard
LCDR Brenda White	US Coast Guard
Chief Tim Demers	Warrenton Fire Department
Chief Matthew Workman	Warrenton Police Department
Kurt Fritsch	City of Warrenton
Superintendent Mark Jeffery	Warrenton-Hammond School District
Susana Gladwin	CERT, Jewell, Elsie-Vinemapple
Lianne Thompson	DOGAMI community organizer

### Community rallies

Tsunami Readiness Rallies educate the public on the earthquake and tsunami hazard, unveil the new inundation maps for the area, and distribute new evacuation brochures to residents. Four rallies were held in Clatsop County, summarized below:

Where	When	Attendance
Warrenton Community Center	Thu June 20 7pm	110
Astoria Clatsop Community College	Sat June 22 10am	75
Seaside Broadway Middle School	Thu June 27 7pm	140
Arch Cape Fire station	Sat June 29 10am	40
	<i>Total</i>	<i>365</i>



Evacuation maps were a big attraction at all rallies, including here in Arch Cape. *Photo: Peter Ovington*

DOGAMI and local partners were satisfied with the turnout, which was helped by extensive local media coverage. The rally's focus was a slide presentation by DOGAMI staff Rachel Lyles Smith and Peter Ovington, with time for questions. The events put new maps into many hands and created new ambassadors for preparedness who will spread the word.

A more detailed summary of each rally is included below.

**Warrenton:** The Community Center was standing room only, with city manager Kurt Fritsch, Fire Chief Tim Demers, and Police Chief Matthew Workman all attending. In addition, private sector attendees included the Asst. Manager Jeff Hazen of Costco and the Manager of The Home Depot. Volunteer Red Cross and CERT member Dean Peterson assisted with room setup and distributed emergency food supplies to start "grab and go" bags, a big hit with attendees.

**Astoria:** This venue was filled to capacity, with City Councilor Drew Herzig, Fire Chief Ted Ames, and Clatsop County Emergency Services Manager and Commander of Camp Rilea Lt. Col. Dean Perez attending. Red Cross staffer Ceci Pratt distributed



food and information. Astoria CERT volunteer Amy staffed the sign-up sheets and provided information about CERT and community preparedness.

**Seaside:** The Cafeteria of Broadway Middle School had a few empty seats, but attendance of 140 people exceeded expectations of city staff. City Manager Mark Winstanley came, as did senior planner Kevin Cupples, Fire Chief Joey Daniels, and many CERT, ham, and Tsunami Advisory Group (TAG) members and its chair, local geologic hazards expert Tom Horning. We were speaking to people who had a long-term interest in the topic and were actively involved in community preparation and response, but they still came to hear new information.

**Arch Cape:** Local partners at this rally included Cannon Beach Fire Chief Mike Balzer, County Commissioner Debra Birkby, and Cannon Beach City Manager Rich Mayes. Ceci Pratt distributed personal toiletries kits, again for “go bag” supplies. Several CERT and ham radio operators attended, too. Participants were eager to move forward and develop a cache container program, similar to Cannon Beach’s. Attendees agreed at this rally to schedule a special meeting to follow up on this idea. Chief Balzer’s plan is that the CERT team will work on this project, which also makes it a natural part of door to door outreach. As the South Clatsop County CERT leader, DOGAMI’s community



About 140 people came to the tsunami readiness rally in Seaside. *Photo: Peter Ovington*

organizer Lianne Thompson says she is committed to doing a drill during the Great Oregon ShakeOut, Map Your Neighborhood, and other outreach before then.

### **Door to door outreach, Map Your Neighborhood, and CERT**

The steering committee decided not to conduct door to door outreach or an evacuation drill during the grant period, because the summer season is busy with vacationers and heavy retail sales on the North Coast, dependent as the area is on tourist dollars for fueling the local economy.

DOGAMI provided local partners with bulk print orders of evacuation maps and door to door outreach bags and materials, with the understanding that they would distribute these after summer. Also provided was a toolkit with planning guidance and a sample door to door script. Some fire districts and communities have already committed to door to door outreach and drills as part of the Great Oregon Shakeout in October 2013. Commitments have come from the City of Astoria’s fire chief and the City of Gearhart’s administrator and fire chief.

DOGAMI’s community organizer, Lianne Thompson, spent much of her energy building relationships around the county to nurture the formation or growth of Map Your Neighborhood programs and CERT teams, the goal being to create the grassroots structure for readiness activities to live on. MYN is a first, easier step for getting involved, while CERT training asks for more time and commitment.

In Surf Pines (between Warrenton and Gearhart), the homeowners association and resident Susan Holloway are planning to work with Lianne on Map Your Neighborhood and perhaps CERT later on. In Gearhart, city manager Chad Sweet and Mayor Widdop have put city funds toward formation of a CERT team and are eager to establish a readiness

structure. In Seaside, CERT appeared to be a possibility, but it wasn't clear whether the fire chief and CERT training officer were prepared to do door to door.

The City of Cannon Beach has been one of the most active communities on the coast, given DOGAMI's past and ongoing work there on tsunami science, mapping, and more recently a pedestrian evacuation model. Some of Cannon Beach's volunteer leaders are eager to proceed with door to door. City manager Rich Mays, his emergency services consultant, Bill Vanderberg, and the volunteer E-Prep Committee are guiding decisions on next steps. In Arch Cape and Falcon Cove, CERT members are eager to demonstrate the benefits of door to door. They have also requested technical support from Cannon Beach in establishing a cache barrel program of their own.

Lianne and others initiated a Map Your Neighborhood for businesses in Astoria and another for staff of Cannon Beach Vacation Rentals.

## Evacuation drills

Apart from planning for larger scale drills this fall and beyond, as discussed above, three small



Community organizer Lianne Thompson and Cannon Beach Emergency Preparedness Committee member Les Wierson (far left) joined the Haystack Rock Awareness Program for a small, informal evacuation drill. These four coastal visitors (at right) joined in the drill. *Photo: Nala Cardillo*

evacuation drills occurred in Cannon Beach. Nala Cardillo, coordinator of the Haystack Rock Awareness Program (HRAP), conducted two of them on May 25, one at 8:00am, another at 8:00pm (after the local media misprinted the correct time). A third drill was conducted by CERTs in the northwest end of Cannon Beach, from Breaker's Point Condominium to the high ground at CERT members Les and Myrna Wiersons' house. Turnout at these smaller, informal events was limited, more akin to walking groups practicing evacuation routes. But it's good practice until local fire districts can schedule larger-scale drills in autumn, 2013.

## Schools outreach (K-12)

The county includes Seaside, Warrenton, and Astoria school districts. The timing of outreach, so close to the end of the school year, made it challenging to get much participation from schools. Still, DOGAMI advertised its Tsunami Readiness Rallies to students and staff by printing and distributing 5,250 half-sheet color fliers. A more detailed assessment of schools is below.

**Seaside, Gearhart, Cannon Beach, Arch Cape:** Dr. Doug Dougherty, Seaside Director of Public Schools, has indicated general support and high awareness of the issue. In June, 2013, Seaside Schools closed Cannon Beach Elementary School while the city council continued discussions with a local group aiming to form a construct a new charter school in Cannon Beach, outside of the inundation zone. In addition, Dr. Sheila Roley, Principal of Seaside High School and Broadway Middle School, has agreed to work with Lianne on the founding of a Teen CERT program at Seaside High School in the fall of 2013.

**Warrenton:** Schools superintendent Mark Jeffery agreed to donate \$1,000 to buy more maps for this area. Further, city manager Kurt Fritsch and his police and fire chiefs agreed that Warrenton's residents are best reached using a dual focus on senior citizens and families with school-aged kids.

**Astoria:** Superintendent Craig Hoppes is capable and responsive, and his staff was helpful in distributing rally fliers. More work is likely needed with this school district in the future.

**Falcon Cove** has a small private cooperative grade school, Fire Mountain School, which is a designated shelter area.

Overall, schools in Clatsop County continue to practice tsunami awareness, including drills and instructions for youth to carry home to their families.

Beyond the K-12 level, Lianne met with two vice-presidents at Clatsop Community College, JoAnn Zahn and Donna Larson. Both were eager to have the college involved in preparedness, including having one building designated as a Red Cross shelter, providing emergency communications for the area, and other activities.

**Media coverage**

News reporting on DOGAMI’s work was extensive, positive, and very helpful in generating turnout at rallies and interest in the new maps. Lianne Thompson worked closely with local reporters and played a large part in this success. To see the news clips, please turn to the appendix.

**Newspaper** coverage included eight articles in *The Daily Astorian*, including two prominent front-page stories, as well as an excellent front-page article in *The Seaside Signal*, with a reprint of the tsunami evacuation map. *Coast River Business Journal* and *Hipfish Monthly* are two publications deserving future media outreach; their less frequent publication schedule didn’t allow for timely coverage of the tsunami maps’ release. No newspaper ads promoting the rallies were purchased in Clatsop County because the earned media coverage was so extensive.



Front page newspaper coverage like this was very helpful in generating turnout at rallies and getting map information into the public's hands.

Other coverage included a reprint of evacuation maps in the *Cannon Beach Gazette* and *The Columbia Press* (Warrenton) and an Associated Press story reprinted by *The Oregonian*, as well as OPB News coverage.

**Radio** coverage included five stories from KAST Radio in Warrenton, one of which was an extended interview with DOGAMI’s Peter Ovington. Coast Community Radio (KMUN in Astoria) featured two 30-minute interviews, one with Peter Ovington on “Talk of Our Towns” and another with both Peter and Lianne Thompson on *The Daily Astorian’s* “After Deadline” with reporter Nancy McCarthy. Two of these three interviews are available upon request from DOGAMI as audio files. Lastly, public service announcements aired on KQCB radio.

**Workshops and events targeting key audiences**

Targeted outreach was also conducted with key audiences via one-on-one meetings, workshops, presentations, and at community gathering places. These included briefings to local government

leadership at city council meetings and presentations to large employers and other businesses located in the inundation zones. The CO also had outreach materials in Spanish available at some events.

Below is a summary of all outreach presentations:

<i>Date</i>	<i>Organization or event</i>	<i>Attendees</i>
5/7	Business Map Your Neighborhood	3
5/13	Cannon Beach Rural Fire Protection board	9
5/17	TeenCERT planning mtg, Cannon Beach	1
5/18	Map Your Neighborhood, Surf Pines	7
5/23	City of Seaside dept. leaders	9
5/25	Tsunami evacuation drill, Haystack Rock	
5/28	Cannon Beach Rural Fire Protection board	10
6/1	SEA-PAC Hamfest (amateur radio convention)	130
6/5	Gearhart City Council	30
6/7	Seaside Chamber of Commerce	4
6/8	STARS Ham Radio, Seaside	17
6/10	CERT, Seaside	9
6/10	Seaside City Council	30
6/11	Warrenton City Council	30
6/11	Cannon Beach City Council	40
6/12	Clatsop County Board of Commissioners	10
6/13	Seaside Downtown Development Assn.	23
6/13	Cannon Beach Chamber of Commerce	31
6/15	CERT, Astoria	25
6/20	Tsunami Readiness Rally, Warrenton	110
6/22	Tsunami Readiness Rally, Astoria	75
6/25	American Red Cross	15
6/26	Cannon Beach Chamber of Commerce	9
6/27	Tsunami Readiness Rally, Seaside	140
6/29	Tsunami Readiness Rally, Arch Cape	40
7/1	Astoria City Council	30
7/9	NW Senior and Disability Services	14
7/10	TLC Credit Union, Astoria	4
7/17	TLC Credit Union, Seaside	5
7/18	Astoria Senior Center	40
7/25	Coast Rehabilitation Services	35
7/27	Home Depot, Warrenton	55
	<i>Total</i>	<i>990</i>

**Amateur radio:** Ham radio operators are a vitally important communication link in this rural area, as became evident in the winter storm of 2007. Lianne

is a licensed ham operator (KF7SBQ) and participates sporadically in their various group meetings. Many say it is the ham operators who will likely conduct door to door outreach in Seaside, as well as performing vital communications functions during any tsunami. At their urging, Lianne attended their convention in Seaside on June 1 and 2 to distribute literature. Groups include Clatsop County ARES, SEARC in Astoria, STARS in Seaside, and CBARS in Cannon Beach, including Arch Cape. There is overlap in membership and coverage areas.

**American Red Cross:** Ceci Pratt is their outreach specialist from Lincoln County up to Clatsop County. She coordinates an amazing variety of effective community preparedness activities for tsunamis and other situations. She was a key partner for DOGAMI’s community organizers in both counties.

**Other:** Lianne conducted outreach to other constituencies, including Astoria Senior Center, chambers of commerce in Seaside, Cannon Beach, and Astoria-Warrenton, and the lodging industry, including a firm in Cannon Beach that manages 90



Community organizer Lianne Thompson speaks with a resident at a Map Your Neighborhood meeting in Surf Pines. *Photo: Lianne Thompson*

rental homes. In rural, unincorporated areas, efforts were made to reach home owners associations.

All of these are existing social networks that provide structure and strong personal relationships, essential to the continuing effort to maintain tsunami readiness.

**Signage**

Using grant dollars, DOGAMI purchased and delivered roadway and assembly area signs for local jurisdictions to use and install as needed. These included 18” round evacuation route signs with matching arrows to be used to identify the direction to high ground, and 24" x 36" signs to indicate the location of assembly areas.

**Signage purchased for communities**

	<i>Evac. route sign + arrow</i>	<i>Assembly area sign</i>
Arch Cape	5	7
Cannon Beach*	0	0
Seaside/Gearhart	15	13
Sunset Beach/Delray Beach	15	4
Youngs River Valley	5	3
Warrenton	15	10
Astoria	5	12
<i>Total</i>	<i>60</i>	<i>49</i>

\*Note: Cannon Beach already had sufficient signage in place.

In addition, DOGAMI and Oregon Emergency Management continue to work with Clatsop County communities to provide evacuation maps as permanent signs at key beach access points or other high pedestrian traffic areas.

**TsunamiReady certification**

The TsunamiReady program, developed by the National Weather Service, is designed to help cities, towns, counties, universities and other large sites in

coastal areas reduce the potential for disastrous tsunami-related consequences.

The city of Seaside became TsunamiReady in August 2013. Clatsop County was already designated in 2011 and Cannon Beach in 2002. Astoria, Warrenton, and Gearhart should consider pursuing TsunamiReady designations when they feel they have met enough of the criteria.

**Conclusion**

Lianne Thompson, as a resident of south Clatsop County, will continue to be a preparedness ambassador and CERT member.

A primary goal of Tsunami Outreach Oregon is the sustainability of readiness. Clatsop County has some strong public safety leadership but, like many, wrestles with limited resources in funding and staffing to carry on this work. More work remains to be done to complete door to door distribution of evacuation maps and for fire districts to hold evacuation drills.

But the broad impact of the media coverage, the grassroots relationships cultivated by Lianne, the interest shown at readiness rallies, and the time that public safety officials spent around the table together are signs of a safer, more resilient county to come.

## Conclusion and next steps

After recent years of this work, DOGAMI made a list of outreach challenges and requests from local communities.

### Challenges

- Reaching the younger population
- Convincing people the risk is real
- Convincing people they can save their lives (disaster psychology)
- Options for vulnerable populations in the inundation zones
- Getting local communities to volunteer time for the outreach campaign
- Finding the right community organizers for the job
- Finding local tsunami readiness champions
- Getting elected and institutional ownership
- Dependency on new maps and information (scheduling, time constraints)

### Requests

- More tsunami signs, with coordinated statewide inventory and installation
- More detailed information (critical facilities) – flow

depths, flow velocities, subsidence

- What are long-term effects of subsidence? The new high tide and what that could mean for coastal communities.
- Multi-hazard approach to planning and outreach
- Guidance for mariners
- Best practices guidance for evacuation drills (for the State)
- Continuance of outreach presentations by the scientists (provides validity)
- Continuance of local grass-roots and K-12 (school curriculum) outreach

Outreach and new maps increased the public's awareness and preparation for earthquakes and tsunamis, while promoting collaboration among local agencies and stakeholders. The primary goal of the TOO program is the sustainability of readiness. While coastal communities are now more prepared, thanks to maps and an extended community conversation, it is ultimately up to each coastal resident and visitor to take responsibility for his or her safety. Many communities now have a greater ability to do just that.



Waldport mayor Sue Woodruff reviewing evacuation maps at a May 1 news conference in Newport.  
*Photo: Courtesy of Oregon Coast Daily News.*