

**A Resolution Adopting the City of Yachats Representation in the Updates to the  
Lincoln County  
Multi-Jurisdictional Natural Hazards Mitigation Plan**

**Whereas**, the City of Yachats recognizes the threat that natural hazards pose to people, property and infrastructure within our community; and

**Whereas**, undertaking hazard mitigation actions will reduce the potential for harm to people, property and infrastructure from future hazard occurrences; and

**Whereas**, an adopted Natural Hazards Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

**Whereas**, the City of Yachats has fully participated in the FEMA prescribed mitigation planning process to prepare the *Lincoln County, Multi-Jurisdictional Natural Hazard Mitigation Plan*, which has established a comprehensive, coordinated planning process to eliminate or minimize these vulnerabilities; and

**Whereas**, the City of Yachats has identified natural hazard risks and prioritized a number of proposed actions and programs needed to mitigate the vulnerabilities of the City of Yachats to the impacts of future disasters within the *Lincoln County, Multi-Jurisdictional Natural Hazard Mitigation Plan*; and

**Whereas**, these proposed projects and programs have been incorporated into the *Lincoln County, Multi-Jurisdictional Natural Hazard Mitigation Plan* that has been prepared and promulgated for consideration and implementation by the cities of Lincoln County; and

**Whereas**, the Oregon Office of Emergency Management and Federal Emergency Management Agency, Region X officials have reviewed the *Lincoln County, Multi-Jurisdictional Natural Hazard Mitigation Plan* and pre-approved it (dated, August 19, 2015) contingent upon this official adoption of the participating governments and entities;

**Whereas**, the NHMP is comprised of four main elements: Basic Plan, Hazard Annex, City Addenda, and Mitigation Resources, collectively referred to herein as the NHMP; and

**Whereas**, the NHMP is in an on-going cycle of development and revision to improve it's effectiveness; and

**Whereas,** City of Yachats adopts the NHMP and shall develop, approve, and implement the mitigation strategies and any administrative changes to the NHMP.

**Now, therefore, be it resolved,** that the City of Yachats adopts *the Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan* as an official plan acknowledging that that Yachats' role as Coordinating Organization does not obligate the City to jurisdiction of or responsibility for Ocean View Drive, liability for buying out repetitive flood loss building or responsible for relocating the Yachats Fire District; and

**Be it further resolved,** that the City of Yachats will submit this Adoption Resolution to the Oregon Office of Emergency Management and Federal Emergency Management Agency, Region X officials to enable final approval of the *Lincoln County Multi-Jurisdictional Natural Hazards Mitigation Plan*.

Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2015

Attest:

\_\_\_\_\_  
Ronald L. Brean, Mayor

\_\_\_\_\_  
Nancy Batchelder, City Recorder

# CITY OF YACHATS ADDENDUM

## Purpose

This document serves as an update for the City of Yachats's Addendum to the Lincoln County Natural Hazards Mitigation Plan (NHMP). The City of Yachats's original addendum to Lincoln County's NHMP was completed and approved by FEMA in 2009. This update of the City's Addendum is considered part of the county's multi-jurisdictional plan, and meets the following requirements:

- Multi-jurisdictional Plan Adoption §201.6(c)(5),
- Multi-jurisdictional Participation §201.6(a)(3),
- Multi-Jurisdictional Risk Assessment §201.6(c)(2) (iii), and
- Multi-jurisdictional Mitigation Strategy §201.6(c)(3) (iv).

A description of the city specific planning and adoption process follows, along with detailed community specific action items. Information about the city's risk relative to the county's risk to natural hazards is documented in the addendum's Hazard Analysis and Issue Identification section. The section considers how the city's risk differs from or matches that of the county's; additional information on Risk Assessment is provided within the Lincoln County NHMP's Section 2 – Risk Assessment.

Updates to Yachats's city addendum are further discussed throughout the plan and in the Lincoln County NHMP Appendix B - Planning and Public Process, which provides an overview of alterations to the document that took place during the city addendum update process.

## How was the Plan Developed?

In the summer of 2014, the Oregon Partnership for Disaster Resilience (the Partnership/OPDR) at the University of Oregon's Community Service Center partnered with the Oregon Military Department's Office of Emergency Management (OEM) and Lincoln County to update their NHMP, which expired July 22, 2014. Lincoln County first adopted their NHMP on June 30, 2009 and it was approved by FEMA on July 22, 2009 (Yachats approved its addendum on December 10, 2009). This project is funded through the Federal Emergency Management Agency's (FEMA) FY13 Pre-Disaster Mitigation Competitive Grant Program (PDMC – PL-10-OR-2013-001).

By updating the plan and having it re-approved by FEMA, Lincoln County will maintain eligibility for FEMA Hazard Mitigation, Pre-Disaster Mitigation, and Flood Mitigation Assistance grant program funds.

The Lincoln County Natural Hazard Mitigation Plan is the result of a collaborative effort between citizens, public agencies, non-profit organizations, the private sector and regional organizations. A project steering committee guided the process of developing the plan. For more information on the composition of the steering committee see Lincoln County NHMP, Acknowledgements and Executive Summary.

The Lincoln County Emergency Manager and Planning Director were designated as the conveners of the NHMP update and will take the lead in implementing, maintaining, and updating the plan. Locally, the Yachats Planner convened a steering committee for the purpose of updating the city's addendum. Public participation played a key role in the development of goals and action items. Public participation was achieved with the establishment of the steering committee, which was comprised of city and county officials representing different organizations and sectors. The Steering Committee was closely involved throughout the development of the plan and served as the local oversight body for the plan's development. In addition, community members outside of the steering committee were provided an opportunity for comment via the plan review process (see Lincoln County NHMP Appendix B, Planning Process for more information). In addition, a survey regarding community perceptions of natural hazards was provided as a component of the Risk MAP process; see Appendix F for more information.

**The Yachats Addendum to the Lincoln County NHMP was adopted on [insert date] and the Lincoln County NHMP was approved by FEMA on September 14, 2015.**

For more information on the composition of the steering committee and the process see this NHMP's Volume I, Acknowledgements and Executive Summary, and Volume IV, Appendix B, Planning Process.

## **How Were the Action Items Developed?**

The City's action items were first developed through a two-stage process during the 2009 NHMP development. In stage one, OPDR facilitated a work session with the steering committee to discuss the city's risk and to identify potential issues. In the second stage, OPDR, working with the local steering committee, developed potential actions based on the hazards and the issues identified by the steering committee. During the 2015 update process OPDR re-evaluated the Action Items with the county and local steering committees and updated actions, noting what accomplishments had been made and if the actions were still relevant; any new action items were identified at this time. In addition, there are 23 County Action Items that include the city as an "Affected Jurisdiction". For additional information see the discussion near the end of this document. For more detailed information on the county actions that involve city participation, see Volume I, Section 3 and the action item forms within Volume IV, Appendix A.

The City's actions are listed below in matrix format. For more detailed information on each action, see the action forms within Attachment 1 of this addendum.

**Table YA-I City of Yachats Action Items**

Action Item (2015 NHMP)	Priority	Proposed Action Title	Coordinating Organization	Partner Organization(s)	Timeline ST=Short-term (1-3 yrs), MT=Mid-term (4-10 yrs), LT=Long-term (10+ yrs)	Status
Yachats #1		Identify over-water transportation alternatives in the event of bridge collapse in an earthquake and/ or tsunami.	Yachats Public Works	Yachats Planning, Public Works, Lincoln County Emergency Management, ODOT, NOAA, CERT	LT	Delayed
Yachats #2		Continue to maintain and keep stocked two mobile storage containers with emergency supplies and equipment.	City of Yachats	Yachats Public Works, Emergency Planning Steering Committee, Yachats Rural Fire Protection District	Ongoing	Ongoing
Yachats #3		Implement actions identified in the Yachats Storm Drainage Master Plan	City of Yachats	Yachats Public Works, Planning, DOGAMI	Ongoing	Ongoing
Yachats #4		Encourage purchase of flood insurance, even for those outside of NFIP mapped hazard areas.	City of Yachats	Planning, Lincoln County, insurance companies	Ongoing	Ongoing
Yachats #5		Provide supplemental water supply tanks in key locations to ensure availability of water throughout the city.	City of Yachats	Yachats Public Works, USDA, USGA, Western States Water Council	ST	On Schedule
Yachats #6		Obtain LiDAR collection for DOGAMI.	City of Yachats	Yachats Public Works, Planning, City Recorder, DOGAMI	LT	In Process
Yachats #7		Encourage the County to evaluate and implement erosion control mitigation projects for NE Ocean View Drive/ 804 Trail.	Public Works	Lincoln County, Yachats Planning, DOGAMI, Oregon Parks & Recreation	LT	New
Yachats #8		Work with the owners of repetitive flood loss buildings in the city to identify cost effective mitigation strategies including consideration of relocation, elevation, or buy-out.	Floodplain Manager	Yachats Planning, Public Works, Lincoln County Building, DLCD, OEM, DOGAMI, FEMA	LT	New
*Yachats #9	X	Relocate Yachats Fire Department out of tsunami inundation zone	Planning	Yachats Rural Fire Protection District, County, DLCD, Regional Solutions Team	MT	New

Source: City of Yachats NHMP Steering Committee, 2014.

## Yachats Addendum Update

Representatives from the City of Yachats steering committee met on several occasions to discuss updates to their addendum (see Appendix B for more information). The steering committee reviewed and revised the city's addendum, with particular focus on the plan's risk assessment and mitigation strategy (action items).

The current version of the addendum reflects changes decided upon at the plan update meetings and during subsequent work and communication with OPDR. Additional input was provided via the Risk MAP Integration Report Resilience Workshop on December 9, 2014 (see Appendix F for additional information). The changes are highlighted with more detail throughout this document and within Appendix B, *Planning and Public Process* of the Lincoln County NHMP. Other documented changes include a revision of the city's Risk Assessment and Hazard Identification sections, Plan Goals and Action Items (Section 3, Mitigation Strategy), and Community Profile (Appendix C, Community Profile).

The Yachats Steering Committee was comprised of the following representatives:

- Convener, Larry Lewis, Planner
- Bob Bennett, Public Works and Streets Commission
- Walt Weyand, Public Works and Streets Commission
- Larry Nixon, Public Works and Streets Commission
- Larry Blanchard, Public Works Director

## How Will the Plan be Implemented?

The City Council will be responsible for adopting the City of Yachats addendum to the Lincoln County NHMP. This addendum designates a coordinating body and a convener to oversee the development and implementation of action items. Because the city addendum is part of the county's multi-jurisdictional NHMP, the city will look for opportunities to partner with the county. The city's steering committee will convene after re-adoption of the City of Yachats addendum on a semi-annual schedule; the county is meeting on a quarterly basis and will provide opportunities for the cities to report on NHMP implementation and maintenance during their meetings. The city's Planner will serve as the convener and will be responsible for assembling the steering committee (coordinating body). The steering committee will be responsible for identifying new risk assessment data, reviewing status of mitigation actions, identifying new actions, and seeking funding to implement the city's mitigation strategy (actions). The convener will also remain active in the county's implementation and maintenance process (see Volume I, Section 4 for more information).

The city will utilize the same prioritization process as the county [See Volume I, Section 4: Plan Implementation and Maintenance and Volume IV, Appendix D: Economic Analysis of Natural Hazard Mitigation Projects for more information].

## Implementation through Existing Programs

Many of the Natural Hazards Mitigation Plan's recommendations are consistent with the goals and objectives of the city's existing plans and policies. Where possible, the City of Yachats will implement the NHMP's recommended actions through existing plans and

policies. Plans and policies already in existence have support from local residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

The steering committee and the community's leadership have the option to add or implement action items at any time. This allows the steering committee to consider mitigation strategies as new opportunities arise, such as funding for action items that may not be of the highest priority. When new actions are identified, they should be documented using the action item form. Once a proposed action form has been submitted to the convener, the steering committee will review the actions and agree to include it as part of the City's addendum.

## Existing Plans and Policies

Communities often have existing plans and policies that guide and influence land use, land development, and population growth. Such existing plans and policies can include comprehensive plans, zoning ordinances, and technical reports or studies. Plans and policies already in existence have support from local residents, businesses and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, and can adapt easily to changing conditions and needs.

Yachats's Addendum includes a range of recommended action items that, when implemented, will reduce the city's vulnerability to natural hazards. Many of these recommendations are consistent with the goals and objectives of the city's existing plans and policies. Linking existing plans and policies to the addendum helps identify what resources already exist that can be used to implement the action items identified in Yachats's Addendum. Implementing the city's mitigation actions through existing plans and policies increases their likelihood of being supported and getting updated, and maximizes the city's resources.

The following are Yachats's existing plans and policies that relate to natural hazards:

- **Comprehensive Plan, 2008:** A document stating the general, long-range policies that will govern a local community's future development.

*Relation to Natural Hazard Mitigation:* Contains city-specific information regarding natural hazards within the city's jurisdictional boundaries.

- **Municipal Code:** Establishes land use zones to regulate the location of building structure and the use of land within the city of Yachats.

*Relation to Natural Hazard Mitigation:* Contains city-specific hazard related requirements for the placement and construction of the buildings. Issues such as floodplain development, fire resistant materials, etc. Title 9.54, Flood Damage Prevention Regulations, includes regulations for areas subject to flood damage.

- **Yachats Village Circulation Plan, 1997, amended 2013:** Guides the management of existing transportation facilities and the design and implementation of future facilities.

*Relation to Natural Hazard Mitigation:* Mitigation principles and strategies can be incorporated into Transportation Systems Plans to protect key transportation infrastructure from natural hazards.

- **Emergency Operations Plan, 2014:** All hazards plan describing how Yachats will respond to incidents.

*Relation to Natural Hazard Mitigation:* The plan includes a hazard vulnerability assessment, evaluation of hazards in the community, and demonstrates how the community will respond to a natural hazard event such as flood, tsunami, wildfire, etc. Much of the hazard assessment cites the Yachats addendum to the Lincoln County NHMP.

## Continued Public Participation

Keeping the public informed of the city's efforts to reduce the city's risk to future natural hazards events is important for successful plan implementation and maintenance. The city is committed to involving the public in the plan review and updated process. The City Addendum along with the County Plan will be posted on-line on the University of Oregon's Scholars Bank <https://scholarsbank.uoregon.edu/xmlui/handle/1794/1907> so that the public may view the plan at any time.

In addition, natural hazards information dissemination is conducted throughout the year when opportunities present themselves via the city offices and website.

## Plan Maintenance

The Lincoln County Multijurisdictional Natural Hazard Mitigation Plan and city addendum will be updated every five years in accordance with the update schedule outlined in the Disaster Mitigation Act of 2000. During the county plan update process, the city will also review and update its addendum. The convener will be responsible for convening the steering committee to address the questions outlined below.

- Are there new partners that should be brought to the table?
- Are there new local, regional, state, or federal policies influencing natural hazards that should be addressed?
- Has the community successfully implemented any mitigation activities since the plan was last updated?
- Have new issues or problems related to hazards been identified in the community?
- Are the actions still appropriate given current resources?
- Have there been any changes in development patterns that could influence the effects of hazards?
- Have there been any significant changes in the community's demographics that could influence the effects of hazards?
- Are there new studies or data available that would enhance the risk assessment?



- Has the community been affected by any disasters? Did the plan accurately address the impacts of this event?

These questions will help the steering committee determine what components of the mitigation plan need updating. The steering committee will be responsible for updating any deficiencies found in the plan.

The remainder of this addendum includes three sections:

1. Community Profile and Asset Identification,
2. Hazard Identification and Risk Assessment, and
3. Mitigation Strategy section.

# COMMUNITY PROFILE

## ASSET IDENTIFICATION

This section provides information city specific asset identification. For information on the characteristics of Yachats, in terms of geography, environment, population, demographics, employment and economics, as well as housing and transportation see Appendix C, Community Profile. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the city specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

### Community Characteristics

The city of Yachats is located on the Central Oregon Coast, in Lincoln County Oregon, approximately 26 miles south of the city of Newport and 155 miles from the metropolitan area of the city of Portland. Yachats is located at the mouth of the Yachats River overlooking the Pacific Ocean. The city of Yachats has an average elevation of approximately 23 feet above sea level. The climate in Yachats is moderate. Average monthly temperatures range from a low of 37 degrees to a high of 66 degrees. The hottest month is September and the coldest month is January. The driest month is July and the wettest month is December. Yachats has an average annual precipitation of approximately 71.7 inches. The city consists of varying topography ranging from ridgetops, steep hillsides, basalt cliffs, uplifted marine terrace deposits, river frontage and relatively level areas along US Highway 101.<sup>1</sup>

### Government Structure

The City Council is the policy making body for Yachats. As the elected legislative body in Yachats, the City Council has overall responsibility for the scope, direction and financing of city services. Council members serve four-year terms. Additional departments within the city include the following:

**City Recorder:** The city recorder assures the timely presentation of formal communications from the public, other agencies and city staff to the City Council. The recorder prepares city council meeting agendas in coordination with the mayor; maintains official city records which reflect the actions of the governing body; maintains a depository of contracts, agreements and official council actions and ensures the timely availability of these records to the council, public other agencies and staff.

**City Planner:** The city planner provides service and information to the general public regarding phases of planning and community development. The city planner implements ordinance and plan requirements through a site and land use review process. Specifically,

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<sup>1</sup> Oregon Economic and Community Development Department. City of Yachats Community Profile.

the city planner reviews potential development opportunities to ensure compliance with zoning, setback, parking, landscaping, access and other city requirements.

In addition to oversight of the development process, the city planner advises the City Council and Planning Commission on land use and special project matters.

**Public Works Department:** The Yachats Public Works Department provides responsive community services related to planning, design, construction, operation, maintenance and management of public infrastructure, including streets, sewer, water treatment, waste water treatment, storm drainage, public buildings and other facilities. Services provided by the department contribute to the public health, safety, economic diversity, environmental quality and citizen convenience.

**Finance Department:** The Finance Department serves the community by managing utility billing, business licenses, collecting taxes and fees, dealing with city expenditures, preparing the city's budget and managing investments. The goal of the Finance Department staff is to provide services with an emphasis on timelines, accuracy and courteous customer service.

**Public Library:** The Yachats Public Library collects, preserves, and administers organized collections of books and related materials.

## Asset Identification

The following assets identified by the City of Yachats were gathered from the Asset Identification meetings held with community members in 2007. These assets were confirmed and updated by the City of Yachats steering committee on December 2, 2014. The City of Yachats has the following assets:

## Cultural and Historic Resources

Historic and cultural resources such as historic structures and landmarks can help to define a community and may also be sources of tourism dollars. Because of their role in defining and supporting the community, protecting these resources from the impact of disasters is important.

The city of Yachats's website offers noteworthy time periods in the community's history.<sup>2</sup> Before white settlers came to the Yachats area, the coast was inhabited by Native Americans, known as the Alsi and Yahuts tribes. In 1787, Captain Cook, one of the first white people sailing along the Oregon Coast, named Cape Perpetua, an 800-foot cape overlooking the ocean. In 1855, the Coast Range Reservation and Alsea Sub-Agency established a community to be the home to different tribes of Native Americans. In 1871, it noted that the first white child was born in Yachats. In 1875, the Coast Range Reservation and Alsea Sub-Agency was closed when the area was opened to settlement. In 1892, the Oceanview, Benton County Post Office was established in what later became known as the town of Yachats. Vacationers began visiting the Yachats area in the early 1900's. In 1914, the US Forest Service built a narrow road around Cape Perpetua. In 1917, the community was renamed from "Oceanview" to the present name of Yachats. In 1918, soldiers of the

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<sup>2</sup> City of Yachats History. [www. http://www.ci.yachats.or.us/Yachats%20History.htm](http://www.ci.yachats.or.us/Yachats%20History.htm)

Signal Corps were organized at camps in the area to log for spruce used to build airplanes for war efforts. In 1926, the Little Log Church was built to serve the community. The church later became the property of the Lincoln County Historical Society, who eventually turned the church over to the city of Yachats. It is now maintained as the Little Log Church and Museum. In the 1930's, the Roosevelt Memorial Highway, now known as US Highway 101, was completed, opening the coastal area to a greater influx of people. In the 1930's and 40's, the Great Depression and World War II affected the area. Today, Yachats is a lively community home to permanent and seasonal residents, with a vigorous tourist population.

The National Register of Historic Places lists one historic sites within the city of Toledo while the State Historic Preservation Office includes several other properties.<sup>3</sup> The following list includes 14 sites that are listed on the National Register of Historic Places:

- US Spruce Production Railroad XII, Spur 5, Linear District],1925
- Ten Mile Creek Bridge, Hwy 101, 1931
- North Fork Of The Yachats Bridge, North Fork Yachats River, c.1938
- Cape Perpetua Shelter and Parapet, Waldport Ranger District, 1933
- (35-LNC-73) Trail 804 Midden #3, Address Restricted
- (35-LNC-72) North 804 Midden, Address Restricted
- (35-LNC-66) Yachats Trail 804 Midden, Address Restricted
- (35-LNC-65) Smelt Sands Midden, Address Restricted
- (35-LNC-63) Archeological Site, Address Restricted
- (35-LNC-57) Cape Creek Site, Address Restricted
- (35-LNC-56) Good Fortune Cove Site, Address Restricted
- (35-LNC-55) Good Fortune Point Site, Address Restricted
- (35-LNC-54) Archeological Site, Address Restricted
- (35-LNC-48) Archeological Site, Address Restricted

The following list includes six other sites listed on the State Historic Preservation Office website:

- [House],10740 Yachats River Rd
- Upper Yachats School, E Hwy 101, c.1920
- Roosevelt Coast Highway, Hwy 101, c.1919
- Little Log Church by the Sea, 328 W 3rd St, 1927
- Alsea Sub-Agency Indian Reservation Headquarters, Hwy 101 , 1875
- [House], 2550 N Hwy 101, c.1930

The city of Yachats is rich with beauty and abundant natural resources. The coastal community offers recreational amenities, activities and attractions including, but not limited to fishing, beachcombing, clam digging, hiking/ trail running, mountain biking (including the Gravel Epic ride), camping, whale watching, crabbing, windsurfing, scenic flights, golfing, kite-flying and more. In and around the community are the Cape Perpetua Federal Recreational Area and Museum, Smelt Sands State Park, Yachats State Park, the Commons Community Center, and the Yachats Ocean Wayside State Park.

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<sup>3</sup> Oregon Historic Sites Database, <http://heritagedata.prd.state.or.us/historic/>, accessed July 6, 2015.

The city of Yachats holds many community events throughout the year, including, but not limited to, the Yachats Guitar Festival, the Yachats Music Festival, Yachats Big Band, the Yachats Farmers Market, various arts and craft shows, the Yachats la de da Parade, Festivities and Fireworks Show, the Yachats Village Mushroom Festival, the Annual Smelt Fry, the Yachats Celtic Music Festival, and the Yachats Youth and Families Activities Program, as well as a wide range of restaurants, galleries and shops.<sup>4</sup>

## **Critical Facilities & Infrastructure**

Critical facilities are those that support government and first responders' ability to take action in an emergency. They are a top priority in any comprehensive hazard mitigation plan. Individual communities should inventory their critical facilities to include locally designated shelters and other essential assets, such as fire stations, and water and wastewater treatment facilities.

Yachats has the following critical facilities:

- Yachats Rural Fire Protection District
- The Commons Building
- Public Library
- Water treatment plant
- Wastewater treatment plant

In addition the Sea Aire Assisted Living Facility (1882 Hwy 101 N) is considered a community asset serving the elderly population of the community.

## **Land Use and Development**

The City of Yachats's acknowledged comprehensive plan is the Yachats Comprehensive Plan (amended 2008). Residential uses are the dominant land use, while commercial development is located along the Highway 101 corridor (most businesses are dependent on their proximity to Highway 101 and are tourist-based). There are three oceanfront state parks located within the city. City population varies according to the season, with up to a 400% increase in population occurring during the summer months (July/ August peak); the population increases roughly from 750 to 2,500.

There have been a few new residential developments in the city including the Koho (30 units), The Dwellings (10 units) both south of town, low-income workforce housing (25 units), and a seven unit townhouse complex.

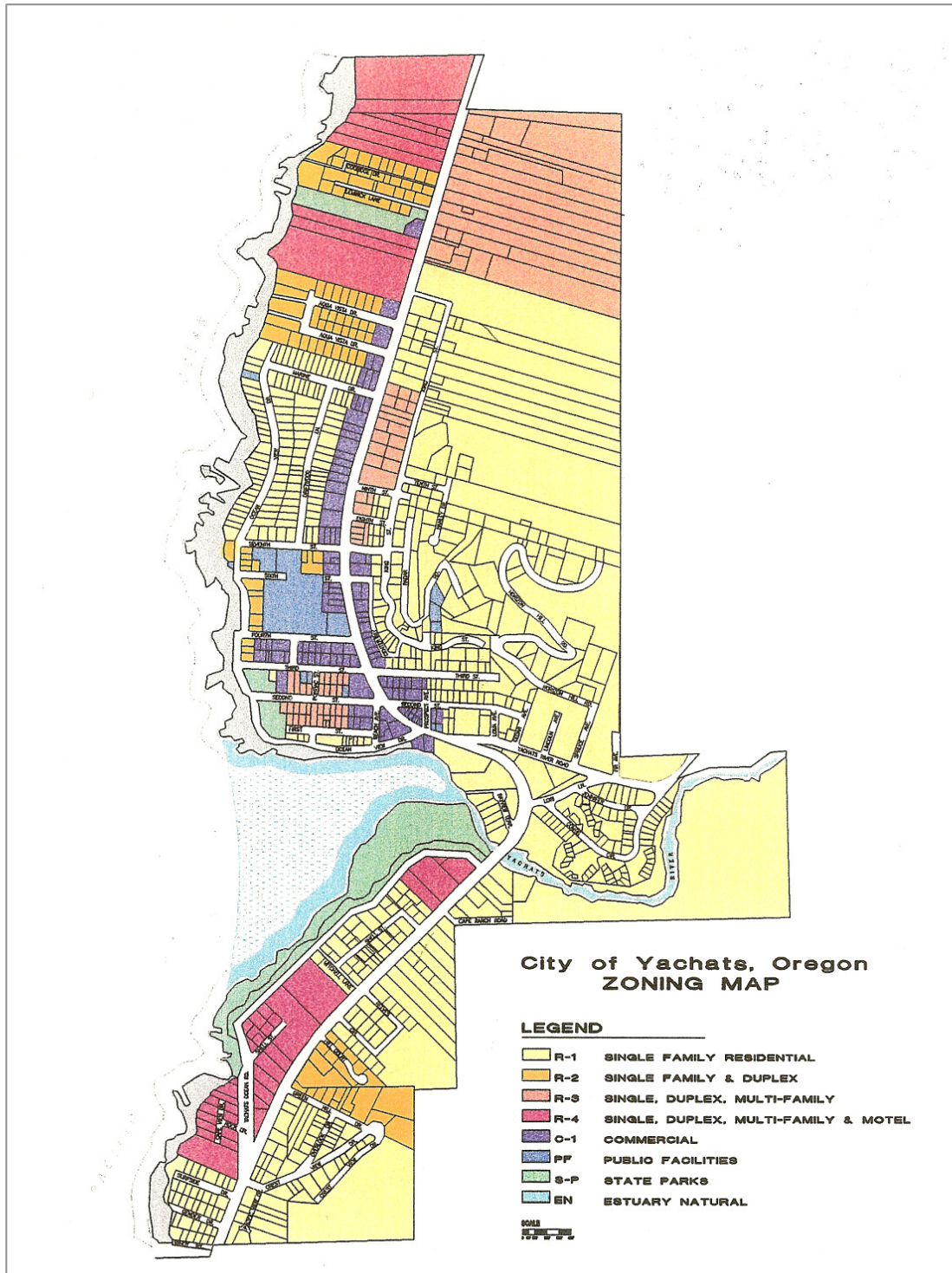
The city of Yachats sits at the mouth of the Yachats River overlooking the Pacific Ocean. Development in Yachats spreads mostly north to south along US-Highway 101 and slightly east along Yachats River Road. Dense commercial areas in Yachats exist along US-Highway 101 and are centrally located in the downtown area and around the Yachats River. Residential development surrounds the downtown commercial core. The city's Comprehensive Plan identifies land use needs within the city and its urban growth boundary.

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<sup>4</sup> City of Yachats Events. <http://www.ci.yachats.or.us/calendar/commons/events.htm>

The map below displays the city of Yachats's zoning map.

**Figure YA-I Zoning Map**

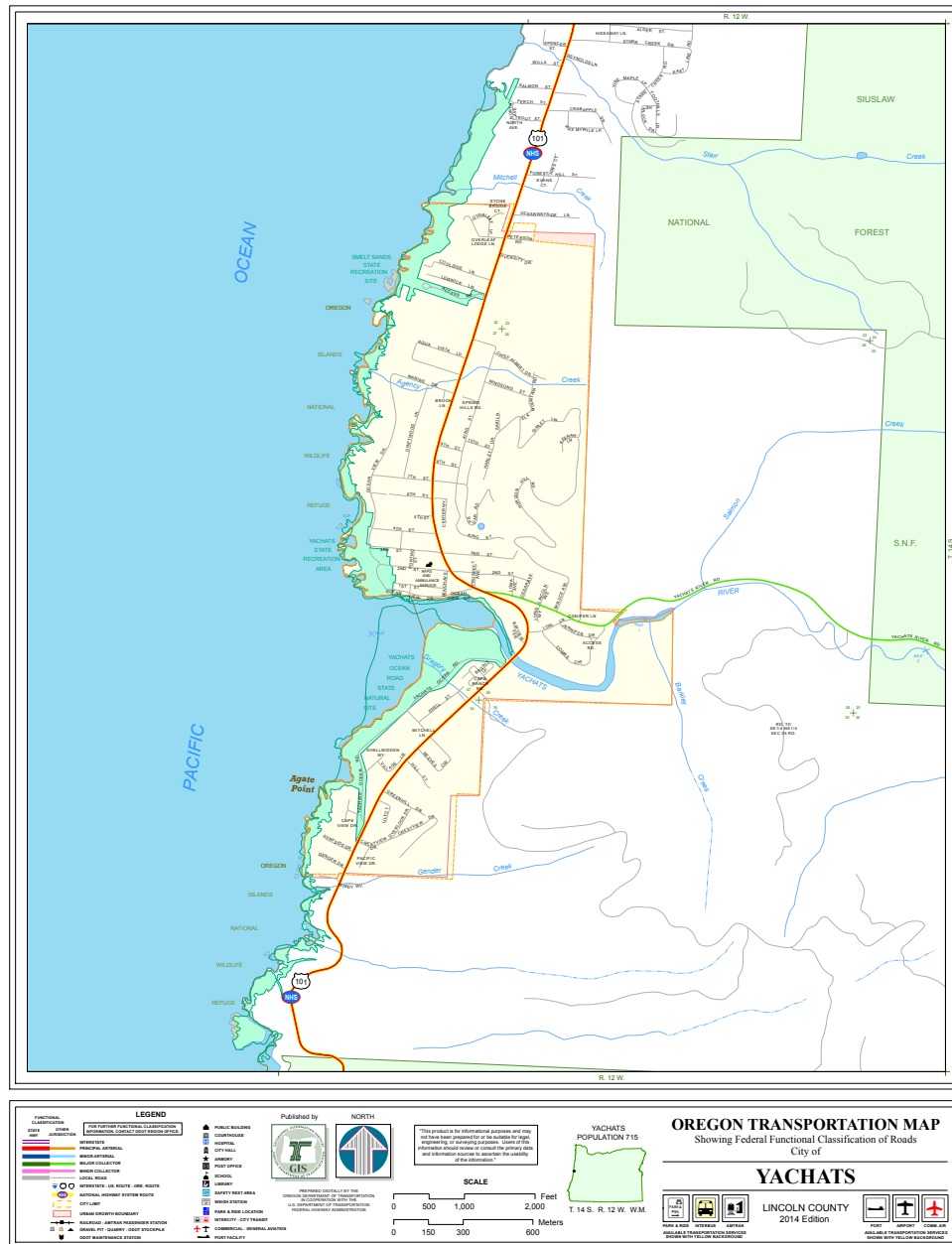


Source: City of Yachats

## Transportation & Commuting Patterns

The city of Yachats lies adjacent to US-Highway 101. US-Highway 101 is the principle state access route along the Oregon Coast. Major routes from U.S. Interstate 5 in the Willamette Valley to Lincoln County include Highways 18, 20, and 34. Transportation is an important consideration when planning for emergency service provisions.

### Figure YA-2 Yachats Functional Classification of Roads



Source: ODOT

## Community Organizations and Programs

Social systems can be defined as community organizations and programs that provide social and community-based services, such as health care or housing assistance, to the public. In planning for natural hazard mitigation, it is important to know what social systems exist within the community because of their existing connections to the public. Often, actions identified by the plan involve communicating with the public or specific subgroups within the population (e.g. elderly, children, low income). The county and cities can use existing social systems as resources for implementing such communication-related activities because these service providers already work directly with the public on a number of issues, one of which could be natural hazard preparedness and mitigation. The countywide community organizations and programs table can be found in Appendix C: Community Profile. The table highlights organizations that are active within the county and may be potential partners for implementing mitigation actions.

### Lincoln County School District<sup>5</sup>

Yachats students are served by the Lincoln County School District and schools in Waldport approximately eight (8) miles north of Yachats.

## Existing Mitigation Activities

Existing mitigation activities include current mitigation programs and activities that are being implemented by the community in an effort to reduce the community's overall risk to natural hazards. Documenting these efforts can assist participating jurisdictions better understand risk and can assist in documenting successes. The following efforts have occurred or are on-going within Yachats:

- The city of Yachats has an emergency planning steering committee that meets monthly.
- A Community Emergency Response Team (CERT) is active in Yachats. The CERT Program educates people about disaster preparedness and trains citizens to assist with the community's immediate needs in the aftermath of a disaster (when emergency services are not immediately available). CERT can assist in saving lives and protecting property.
- The city of Yachats coordinates emergency planning activities with the Yachats Rural Fire Protection District.
- The city of Yachats enforces a setback requirement for all developments located along the coast. The purpose of the setback is to reduce property damages related to coastal erosion, wind storms, and flooding. The setback requirement also serves to satisfy a portion of the city's natural hazard goal, as defined in the Yachats Comprehensive Plan: "Through regulation of the location and type of development, the city shall work to protect life and property from natural disasters and hazards, such as landslides, fire, tsunamis and flooding."

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<sup>5</sup> This section was authored by Sue Graves, Lincoln County School District Safety Coordinator, and edited by OPDR.



- The city's Comprehensive Plan and Zoning and Land Use Code address natural hazards. Specific hazardous areas have been identified by RNKR Associates in their work *Environmental Hazards, Coastal Lincoln County, Oregon, 1979*. The city has defined 'hazardous areas' and will allow development in these areas if adequate protective measures can be employed to prevent or minimize damage in accordance with city development code standards.
- State legislation: SB 379, implemented as Oregon Revised Statutes (ORS) 455.446 and 455.447, limits construction of new essential facilities and special occupancy structures in tsunami flooding zones.

# HAZARD ANALYSIS AND RISK ASSESSMENT

This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards. Assessing natural hazard risk has three phases:

- **Phase 1:** Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts – type, location, extent, etc.
- **Phase 2:** Identify important community assets and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places and drinking water sources.
- **Phase 3:** Evaluate the extent to which the identified hazards overlap with, or have an impact on, the important assets identified by the community.

The information presented below, along with hazard specific information presented elsewhere in this addendum, within the Hazard Annexes (Volume II), and community characteristics presented in the Community Profile (Appendix C), will be used as the local level rationale for the risk reduction actions identified in this addendum. The risk assessment process is graphically depicted in Figure YA-3 below. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

**Figure YA-3 Understanding Risk**



## Hazard Analysis Methodology

This NHMP utilizes a hazard analysis methodology that was first developed by FEMA circa 1983, and gradually refined by the Oregon Military Department's Office of Emergency Management over the years.

The methodology produces scores that range from 24 (lowest possible) to 240 (highest possible). Vulnerability and probability are the two key components of the methodology. Vulnerability examines both typical and maximum credible events, and probability endeavors to reflect how physical changes in the jurisdiction and scientific research modify the historical record for each hazard. Vulnerability accounts for approximately 60% of the total score, and probability approximately 40%.

This method provides the jurisdiction with a sense of hazard priorities, or relative risk. It doesn't predict the occurrence of a particular hazard, but it does "quantify" the risk of one hazard compared with another. By doing this analysis, planning can first be focused where the risk is greatest.

In this analysis, severity ratings, and weight factors, are applied to the four categories of history, vulnerability, maximum threat (worst-case scenario), and probability as shown in the table below. See Volume I, Section (3 Risk Assessment) for more information.

## Hazard Analysis

On December 2, 2014, the City of Yachats addendum update steering committee reviewed and revised the plan's Hazard Analysis and Risk Assessment section. Changes were made where appropriate to reflect changes in perception of risk from natural hazards to the City of Yachats, which are discussed throughout this plan as well as in the Planning and Public Process Appendix of the Lincoln County NHMP. The following is a summary of input from the original city addendum steering committee, along with revisions and additions from the 2014 steering committee.

The table below presents the entire updated hazard analysis matrix for the City of Yachats. The hazards are listed in order of rank from high to low and compare them to the county's ranking for each hazard. The table shows that hazard scores are influenced by each of the four categories combined. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response, and recovery. The method provides the jurisdiction with sense of hazard priorities, but does not predict the occurrence of a particular hazard. See Volume I, Section 2: Risk Assessment of the Lincoln County NHMP for a description of the methodology.

With considerations for past historical events, the probability or likelihood of a particular hazard event occurring, the vulnerability to the community, and the maximum threat or worst-case scenario, Drought, Wildfire, and Windstorm rank as the top three hazard threats to the city, followed close by Landslide and Winter Storm (Top Tier). The Cascadia Earthquake, Local Tsunami, Coastal Erosion, Coastal flood, and Riverine flood comprise the next highest ranked hazards (Middle Tier). The Distant Tsunami, Volcano, and Crustal Earthquake comprise the lowest ranked hazards in the matrix (Bottom Tier).

**Table YA-2 Hazard Analysis Matrix – City of Yachats**

Hazard	History	Probability	Vulnerability	Maximum Threat	Total Threat Score	Hazard Rank	
Drought	20	70	50	100	240	# 1	<i>Top Tier</i>
Wildfire	20	70	50	100	240	# 1	
Windstorm	20	70	50	100	240	# 1	
Landslide	20	70	40	100	230	# 4	
Winter Storm (Snow/Ice)	18	70	40	100	228	# 5	
Earthquake (Cascadia)	10	49	50	100	209	# 6	<i>Middle Tier</i>
Tsunami (Local)	2	49	50	100	201	# 7	
Coastal Erosion	20	56	35	70	181	# 8	
Flood (Coastal)	20	70	35	40	165	# 9	
Flood (Riverine)	20	70	25	40	155	# 10	
Tsunami (Distant)	16	70	15	30	131	# 11	<i>Bottom Tier</i>
Volcano	2	7	5	100	114	# 12	
Earthquake (Crustal)	10	35	20	40	105	# 13	

Source: City of Yachats NHMP Steering Committee and Lincoln County NHMP Steering Committee

The following table categorizes the probability and vulnerability scores from the hazard analysis for the city and compares the results to the assessment completed by the Lincoln County NHMP Steering Committee (areas of differences are noted with **bold** text within the city ratings).

**Table YA-3 Probability and Vulnerability Comparison – Yachats and Lincoln County**

Hazard	Yachats		County	
	Probability	Vulnerability	Probability	Vulnerability
Coastal Erosion	High	Moderate	High	Moderate
Drought	High	High	High	High
Earthquake (Cascadia)	Moderate	High	Moderate	High
Earthquake (Crustal)	<b>Moderate</b>	Moderate	High	Moderate
Flood (Coastal)	High	Moderate	High	Moderate
Flood (Riverine)	High	Moderate	High	Moderate
Landslide	High	<b>High</b>	High	Moderate
Tsunami (Distant)	High	Low	High	Low
Tsunami (Local)	Moderate	High	Moderate	High
Volcano	Low	Low	Low	Low
Wildfire	High	<b>High</b>	High	Moderate
Windstorm	High	High	High	High
Winter Storm (Snow/Ice)	High	<b>High</b>	High	Moderate

Source: City of Yachats NHMP Steering Committee and Lincoln County NHMP Steering Committee

## Coastal Erosion

The steering committee determined that the city's probability for coastal erosion is **high** (which is that same as the county's rating) and that their vulnerability to coastal erosion is

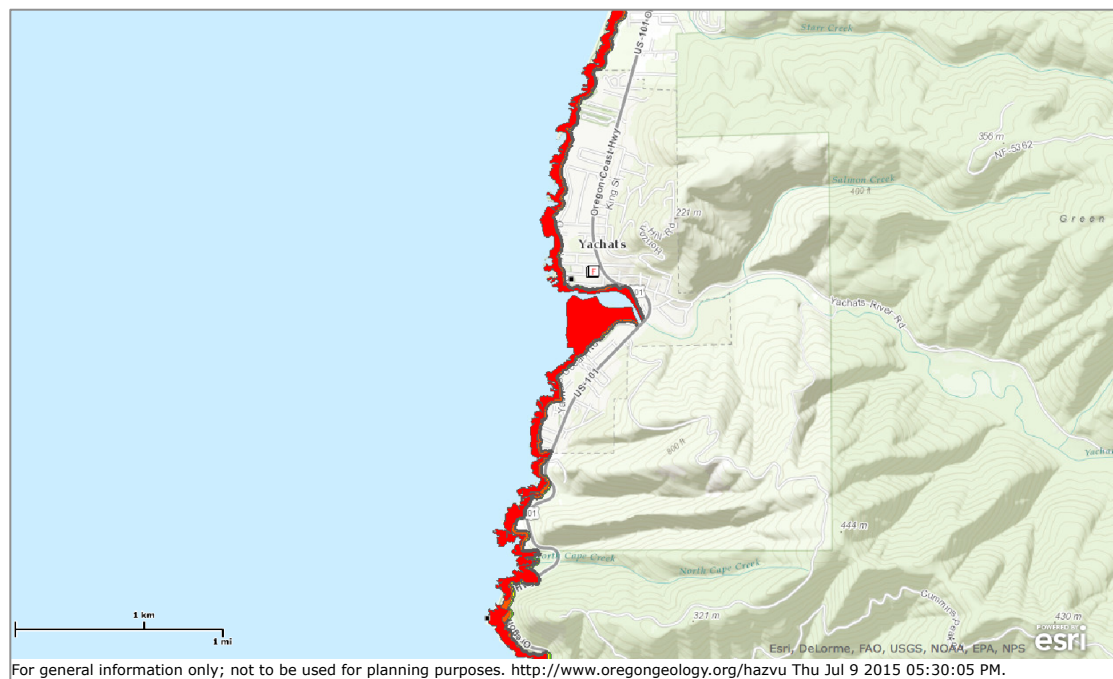
**moderate** (which is the same as the county's rating). These ratings have not changed since the previous NHMP.

Lincoln County's Natural Hazards Mitigation Plan adequately describes the causes and characteristics of coastal erosion hazards. Erosion is a natural process that continually affects coastal areas; in Yachats and elsewhere along the Pacific, erosion becomes a hazard when lives and personal properties are at risk of damage. Erosion is typically a gradual process, which can be greatly accelerated in the event of a storm.

The county identified areas along Highway 101 that have sustained erosion induced damages. The city can be characterized as consisting of low rock beaches, basalt cliffs and benches overlain by sedimentary uplifted marine terrace deposits along US Highway 101. Additionally, the city has steep hillsides east of Highway 101 and southeast of the Yachats River. The most susceptible area for coastal erosion is along the oceanfront where concentrations of homes, businesses, roads and infrastructure are located. The steering committee identified the area along Ocean View Road from 6<sup>th</sup> Street down to the Yachats Recreation Area as experiencing on-going erosion; this road includes major water and sewer lines. The city of Yachats has engaged in projects to mitigate coastal erosion by installing hardened shoreline stabilization in the form of rip-rip, relocating pump stations away from vulnerable locations, and stabilizing banks. The city previously installed rip-rap to protect utilities and streets along the bluffline. Records of other specific events are not available at this time; however, events may have occurred in tandem with previous storms.

Potential community-related impacts, including shoreline reduction, economic (tourism-related) impacts, and property/infrastructural damage, are adequately described within the county's Coastal Erosion Hazard Annex. See Figure YA-4 for locations of the city's coastal erosion hazard along coastal bluffs on the city's western edge.

### Figure YA-4 Coastal Erosion Hazard



Source: Oregon HazVu: Statewide Geohazards Viewer (HazVu)

The city of Yachats uses the RNKR Environmental Hazards Inventory of Coastal Lincoln County, Oregon as a mapping and reporting tool for coastal erosion. Although not included within this addendum, the coastal erosion hazards map can be obtained through the Planning and Community Development Department at City Hall.

Additional vulnerability assessments can be found via DOGAMI Open-File Report O-07-03 Evaluation of Coastal Erosion along Dune and Bluff Backed Shorelines in Lincoln County, Oregon: Seal Rock to Cape Perpetua, by George R. Priest and Jonathan C Allan. For more information see the DOGAMI website: [www.oregongeology.org/](http://www.oregongeology.org/)

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Drought

The steering committee determined that the city's probability for drought is **high** (which is the same as the county's rating) and that their vulnerability to drought is **high** (which is the same as the county's rating). The probability rating has increased, however, the vulnerability rating has not changed since the previous NHMP.

Lincoln County's Natural Hazards Mitigation Plan adequately describes the causes and characteristics of drought hazards, as well as the location and extent of a potential event. Due to a cool, wet climate, past and present weather conditions have generally spared coastal communities from the effects of a drought. As such, there is no record of a severe drought event within Lincoln County. The same holds true for Yachats; the impacts of a potential event, however, are much greater for the city than for the county as a whole. The city is working to protect their water rights on the Yachats River, including the Reedy and Salmon creeks to secure future access and supply (there is some concern in the community that logging within the Salmon Creek Watershed compromises their water availability). Likewise, Yachats has an intergovernmental agreement with the South Lincoln County Water District and the city of Waldport for delivery services in the event of a water-shortage. In addition, Yachats's population expands during the summer tourist season, peaking in July/August with a tourist population upwards to 400% the normal population of the community (approximately 750); during these period water meter usage expands from about 150 to about 800; the tourism population, in addition to natural population growth, will further strain the existing system. To mitigate water availability the city is currently installing additional water storage projects that will be complete by 2016.

Due to lack of a predictable water supply, the Yachats Steering Committee believes that the impacts of a potential event are much greater for the city than for the county as a whole. Although the city has IGA's to ensure deliverable water in the event of a water shortage, the South Lincoln County Water District and the city of Waldport have similar contamination concerns as Yachats. Funding has been secured to purchase emergency treatment machines capable of treating 9000 gallons per day for drinking water. In addition, the city Public Works Department has an ongoing water main inspection program to prevent the loss of water due to leaks. The city also has long range plans to construct a series of reservoirs with water storage capacity of up to 500,000 gallons. Moreover, the city has an active water conservation program in place. In addition to reduced water supplies, a drought will increase the chances of wildfire and significantly reduce tourism activities. If

hotels and rental houses, for example, are unable to accommodate guests, the city's economy would greatly suffer.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Earthquake

The steering committee determined that the city's probability for a Cascadia Subduction Zone (CSZ) Earthquake event is **moderate** (which is the same as the county's rating) and that their vulnerability to a Cascadia Earthquake event is **high** (which is the same as the county's rating). The steering committee determined that the city's probability for a Crustal Earthquake event is **moderate** (which is lower than the county's rating) and that their vulnerability to a Crustal Earthquake event is **moderate** (which is the same as the county's rating). This hazard was not rated as distinct CSZ and crustal events in the previous NHMP.

The Pacific Northwest experienced a subduction zone earthquake estimated at magnitude 9 on January 26, 1700. The earthquake generated a tsunami that caused damage as far away as Japan. Cascadia subduction zone earthquakes and associated tsunamis have occurred on average every 500 years over the last 3,500 years in the Pacific Northwest. The time between events has been as short as 100 to 200 years and as long as 1000 years. The geologic record indicates that over the last 10,000 years approximately 42 tsunamis have been generated off the Oregon Coast in connection to ruptures of the CSZ (19 of the events were full-margin ruptures and arrived approximately 15-20 minutes after the earthquake).<sup>6</sup>

A 9.0 magnitude earthquake originating from Japan caused approximately \$7.1 million worth of damages along the Oregon Coast. Particularly, there was extensive damage to the Port of Brookings (Curry County; \$6.7 million), as well as the Port of Depoe Bay (Lincoln County; \$182,000), and Charleston Harbor (Coos County; \$200,000); Salmon Harbor on Winchester Bay (Douglas County) and the South Beach Marina in Newport (Lincoln County) were also affected. On March 15, 2011 Governor Kitzhaber declared a State of Emergency was declared by Executive Order in Curry County. Approximately 40% of all docks at the Port of Brookings were destroyed or rendered unusable (including a dock leased by the U.S. Coast Guard) compromising commercial fishing and U.S. Coast Guard operations. Along the Oregon Coast local official activated the Emergency Alert System and sirens, implemented "reverse 9-1-1" and conducted door-to-door notices in order to evacuate people from the tsunami inundation zone. Local governments activate their Emergency Operations Centers and the state activated its Emergency Coordination Center. For more information view Volume II, Hazard Annex.

Earthquake-induced damages are difficult to predict, and depend on the size, type, and location of the earthquake, as well as site-specific building and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any particular site. In many major earthquakes, damages have primarily been caused by the behavior of the soil.

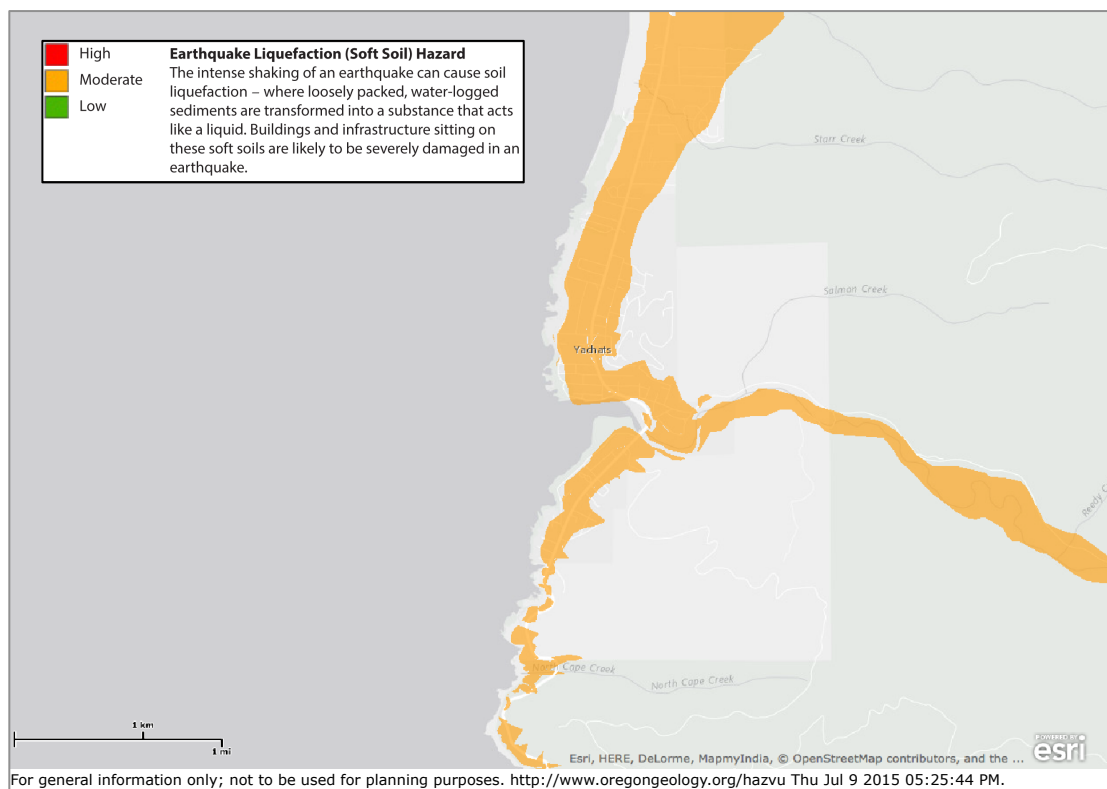
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<sup>6</sup> Oregon Natural Hazard Mitigation Plan. Department of Land Conservation and Development, 2015.

The Oregon Department of Geology and Mineral Industries (DOGAMI), in partnership with other state and federal agencies, has undertaken a rigorous program in Oregon to identify seismic hazards, including active fault identification, bedrock shaking, tsunami inundation zones, ground motion amplification, liquefaction, and earthquake induced landslides. DOGAMI has published a number of seismic hazard maps that are available for Oregon communities to use. The maps show liquefaction, ground motion amplification, landslide susceptibility, and relative earthquake hazards. Volume II, Hazard Annex, uses the DOGAMI Statewide Geohazards Viewer (Hazvu) to present visual maps of recent earthquake activity (Figure II-5), liquefaction (soft soils, Figure II-6), expected ground shaking for crustal events (Figure II-7) and the Cascadia Subduction Zone event (Figure II-8).

The figures below show earthquake hazards that affect the city, including the soft soil/liquefaction hazard (Figure YA-5), expected ground shaking for crustal events (Figure YA-6), and for the Cascadia Subduction Zone event (Figure YA-7). The extent of the damage to structures and injury and death to people will depend upon the type of earthquake, proximity to the epicenter and the magnitude and duration of the event. The soft soils figure below shows that the areas of the population along the coastline are more susceptible to liquefaction than areas further in land and away from rivers.

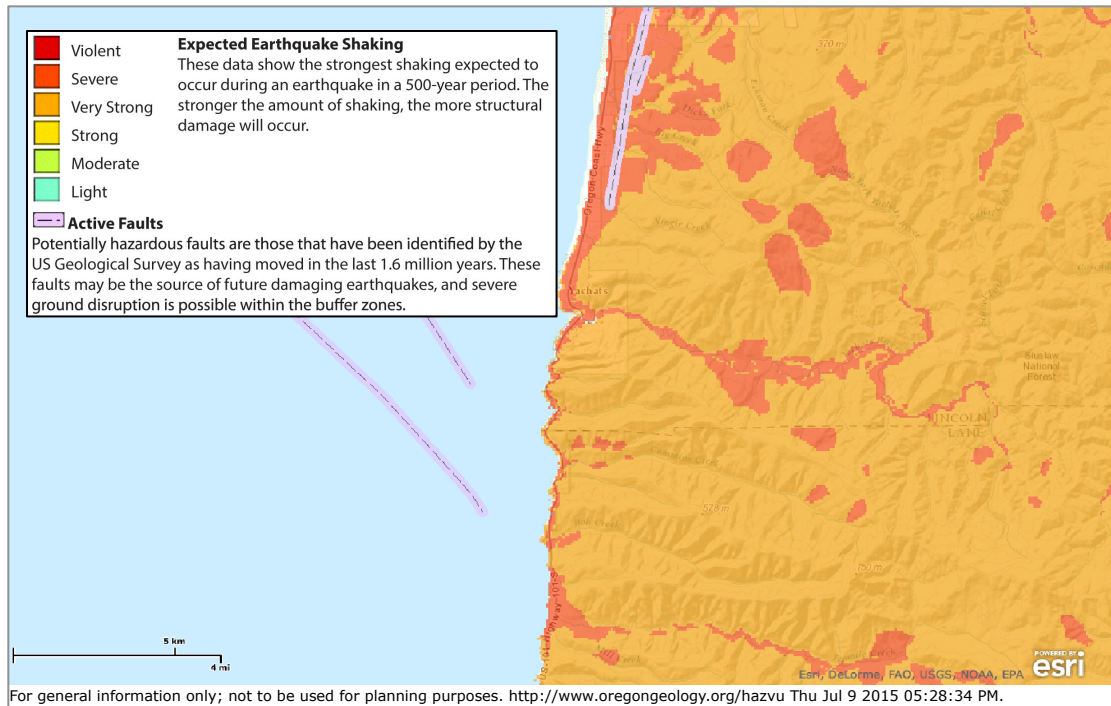
**Figure YA-5 Earthquake Liquefaction (Soft Soil) Hazard**



Source: Oregon HazVu: Statewide Geohazards Viewer (HazVu)



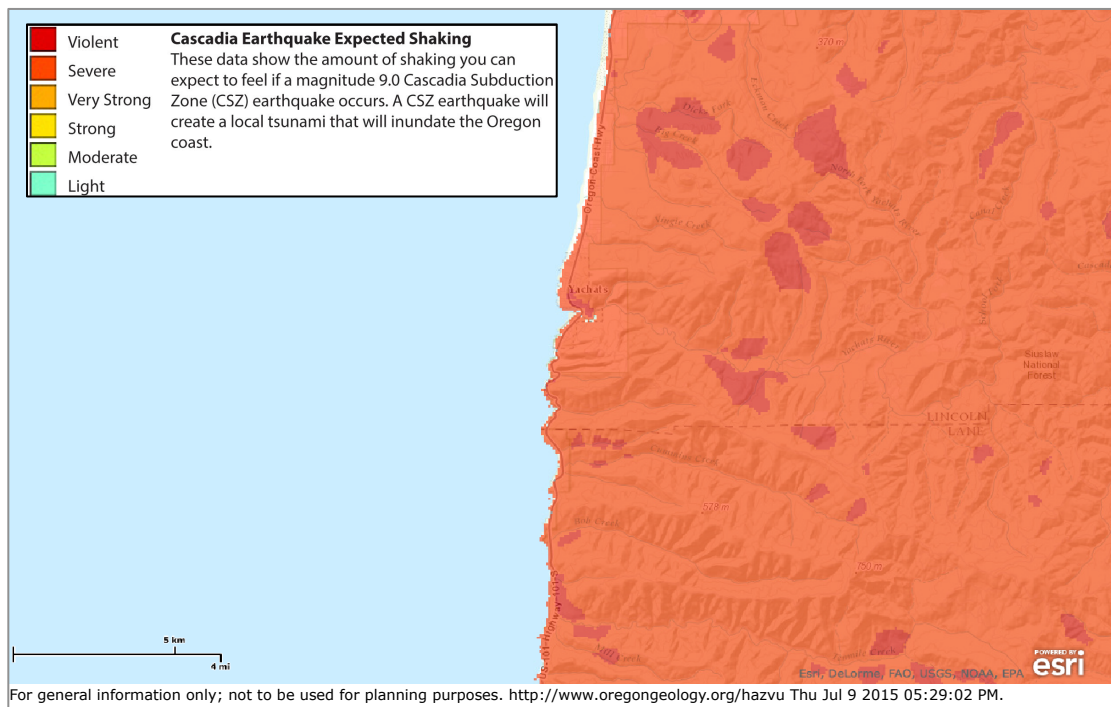
**Figure YA-6 Combined Earthquake Events Expected Shaking and Active Faults**



Source: Oregon HazVu: Statewide Geohazards Viewer (HazVu)

Figure YA-7 shows expected shaking with a Cascadia Earthquake. The figure shows that the entire city will receive severe to violent shaking.

**Figure YA-7 Cascadia Earthquake Expected Shaking**



Source: Oregon HazVu: Statewide Geohazards Viewer (HazVu)

The Department of Geology and Mineral Industries (DOGAMI), in partnership with other state and federal agencies, has commenced a program to identify seismic hazards and risks. A number of studies have been published. Among other data, DOGAMI has created maps that identify areas in selected Oregon communities that will suffer more damage, relative to other areas, during a damaging earthquake. As part of the Risk MAP project DOGAMI will provide additional risk assessment information for Lincoln County including a damage assessment during the summer of 2015.

The city's concentrated population and resources, as well as the soil characteristics and relative earthquake hazards described above are cause for further study and significant effort toward mitigating the earthquake hazard. As shown in Table C-28 (Appendix C), about two-thirds of Yachats's housing structures were built prior to the enforcement of earthquake-resistant building codes of 1990. Also, there is considerable development on steep hillsides with grades as much as approximately 23%. Additionally, DOGAMI conducted a rapid visual assessment for public school buildings, acute inpatient care facilities, fire stations, police stations, sheriffs' offices and other law enforcement agency buildings. Buildings were ranked for the "probability of collapse" due to the maximum possible earthquake.

As noted above the city has a high concentration of buildings that are built prior to 1990, which increases the city's vulnerability to the earthquake hazard. Information on specific buildings' estimated seismic resistance, determined by DOGAMI in 2007, is shown in Table YA-4; each "X" represents one building within that ranking category. Only one facility, The Yachats Rural Fire Protection District and South Lincoln Ambulance Service, was evaluated by DOGAMI using RVS and it has one building with a very high (100% chance) collapse potential, and two other buildings with low and moderate collapse potentials.

**Table YA-4 Rapid Visual Survey Scores**

Facility	Level of Collapse Potential			
	Low (< 1%)	Moderate (>1%)	High (>10%)	Very High (100%)
<b>Public Safety</b>				
Yachats RFPD and South Lincoln Ambulance Service (217 W 2nd Street)	X	X		X

Source: DOGAMI 2007. Open File Report 0-07-02. Statewide Seismic Needs Assessment Using Rapid Visual Assessment.

In addition, the city's infrastructure is highly vulnerable to a severe earthquake event. Sewer lines, water lines, power lines, water and sewer treatment systems, City Hall and the Lions Thrift Store were identified by the steering committee as vulnerable assets. The city would also expect damage to roads following a CSZ event, as well as deaths and severe injuries region-wide. Education and outreach regarding the CSZ is an on-going endeavor in Yachats.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Flood

The steering committee determined that the city's probability for riverine flood is **high** (which is the same as the county's rating) and that their vulnerability to flood is **moderate** (which is the same as the county's rating). The ratings for this hazard have not changed since the previous NHMP. The steering committee determined that the city's probability for coastal flood is **high** (which is the same as the county's rating) and that their vulnerability to coastal flood is **moderate** (which is the same as the county's rating). This hazard was not rated in the previous NHMP.

Lincoln County's Natural Hazards Mitigation Plan adequately describes the causes and characteristics of flooding hazards within the region, as well as previous flooding occurrences. General flood-related community impacts are adequately described within the Flood Hazard Annex of Lincoln County's Natural Hazards Mitigation Plan. The city of Yachats's Steering Committee notes that a couple of homes along Gender Creek located south of the Yachats River have flooded in recent history, most likely from debris that clogs storm drains (possibly from recent logging activity). The city is currently taking steps to address infrastructural vulnerabilities associated with seasonal flooding and flooding associated with storm drain systems. The city's water intake system was upgraded in such a way that improved maintenance capabilities and will reduce potential flood impacts. The city is reviewing its Storm Water Master Plan to identify a list of projects intended to mitigate localized flooding that's associated with clogged or overloaded drains. The city's steering committee also found that with the exception of some pump stations, there are no critical city facilities located in flood hazard areas. The steering committee acknowledges there may be seasonal underground streams of which they may not be aware. Houses along Bayview Terrace near the bridge may be more vulnerable to flooding due to the areas low elevation. See city action items (Attachment 1) for additional detail on vulnerable areas.

The Yachats Stormwater Master Plan includes additional information on flood impacts to the community and includes additional mitigation actions.

## National Flood Insurance Program (NFIP)

The city's Flood Insurance Rate Maps (FIRM), available at City Hall, best describes the location and extent of Yachats's flood hazard. The Lincoln County Flood Insurance Rate Maps (FIRMs), are currently being updated, the information below relates to the effective flood maps adopted December 18, 2009 (the new maps should be adopted by 2016). The table below shows that as of April 2015, Yachats has 134 National Flood Insurance Program (NFIP) policies in force and three (3) paid claims. The city last had a Community Assistance Visit (CAV) on March 7, 2001. The city is not a member of the Community Rating System (CRS). The table displays the number of policies by building type and shows that of the properties with flood insurance policies, 130 are single-family homes, one (1) is a two to four family home, zero (0) are other residential structures, and three (3) are non-residential. One (1) of the policies is within a minus rated A zone.

The Community Repetitive Loss record for Yachats identifies one (1) repetitive loss structure and zero severe repetitive loss properties. Total payments related to this repetitive loss property amount to \$5,952.54 (see Table II-7 in Volume II, Hazard Annex, for more information).

**Table YA-5 Flood Insurance Detail**

Jurisdiction	Effective FIRM and FIS	Initial FIRM Date	Total Policies	Pre-FIRM Policies	Policies by Building Type				Minus Rated A Zone	Minus Rated V Zone
					Single Family	2 to 4 Family	Other Residential	Non-Residential		
Lincoln County	-	-	2,614	1,204	1,926	70	489	129	74	2
Yachats	12/18/09	3/1/79	134	30	130	1	0	3	1	0

Jurisdiction	Insurance in Force	Total Paid Claims	Pre-FIRM Claims Paid	Substantial Damage Claims	Total Paid Amount	Repetitive Loss Structures	Severe Repetitive Loss Properties	CRS Class Rating	Last Community Assistance Visit
Lincoln County	\$ 624,346,700	327	255	53	\$ 4,863,715	44	1	-	-
Yachats	\$ 40,771,000	5	3	0	\$ 21,833	1	0	NP	3/7/01

\* Portion of entire county under Lincoln County political jurisdiction, NP - Not Participating

Source: Information compiled by Department of Land Conservation and Development, April 2015

The Lincoln County Risk Report (2014, unpublished draft) conducted an exposure analysis for the purposes of estimating the number of buildings that are vulnerable to damage from either riverine or coastal flooding. Table YA-6 summarizes the amount of real market value (RMV) exposed to the 1% and 0.2% flood hazard recurrence intervals within the city. The data shows that there are 15 buildings exposed to the 1% flood recurrence interval (riverine and coastal) with a total value of \$1.8 million and an exposure ratio of 1.55%. The table also shows that there are 26 buildings exposed to the 0.2% riverine flood recurrence interval with a total value of \$1.6 million and an exposure ratio of 1.36%.

**Table YA-6 Actual Exposure of RMV for 1% and 0.2% Flood Scenarios**

	1% (100-year)			0.2% (500-year)		
	RMV Exposed	# Buildings	Exposure Ratio	RMV Exposed	# Buildings	Exposure Ratio
All exposed Buildings	\$1,847,539	15	1.55%	\$1,623,500	26	1.36%
0-3 Ft Flood Exposure	\$1,253,200	11	1.05%	\$1,623,500	26	1.36%
3-6 Ft Flood Exposure	\$331,610	2	0.28%	\$0	0	0.00%
>6 Ft Flood Exposure	\$111,409	1	0.09%	\$0	0	0.00%
Coastal High Hazard	\$151,320	1	0.13%	*	*	*

Source: DOGAMI exposure analysis using tax lot data and Risk MAP depth grids, Lincoln County Risk Report (2014, unpublished draft)

Note 1: The 1% flood zone is a combination of the riverine and coastal 1% flood zones. The 0.2% flood zone is inclusive of the riverine 1% flood zone.

Note 2: The 1% exposure is the only recurrence interval that includes coastal flooding zones.

Note 3: Coastal High Hazard Zone outside of flood depth grid.

Note 4: Total Real Market Value (RMV) is \$119,495,111 for 862 buildings.

Updated risk assessment information will be provided as part of the final Risk Report in 2016, which will be updated to include Hazus loss estimation for all areas of the county. See NFIP section (above and in Risk Assessment) for residential insurance market penetration information.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Landslide

The steering committee determined that the city's probability for landslide is **high** (which is the same as the county's rating) and that their vulnerability to landslide is **high** (which is higher than the county's rating). The probability rating has increased and the vulnerability rating has not changed since the previous NHMP.

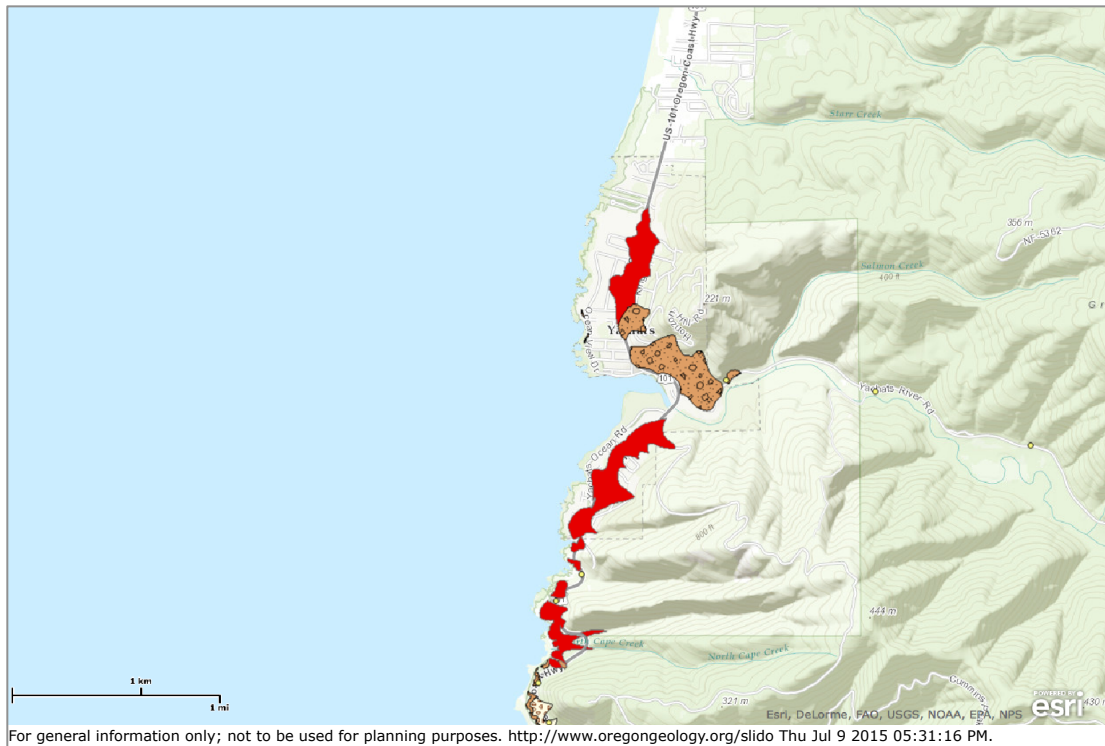
Lincoln County's Natural Hazards Mitigation Plan adequately describes the causes and characteristics of landslides, and appropriately identifies previous landslide occurrences within the region. Areas most susceptible to landslide activity are on steep hillsides east of Highway 101 and southeast of the Yachats River. The city's steering committee notes that site-specific geotechnical reports are required for development on steep hillsides, and city approval is also required for road construction and utility installation serving development on steep hillsides. Road cracking has occurred in some areas, but no significant losses are documented. Potential community-related impacts from landslide events are adequately described within the county's plan. Potential impacts include infrastructural damages, economic impacts (due to isolation and /or arterial road closures), property damage, and obstruction to evacuation routes.

DOGAMI maps the State Landslide Information Layer for Oregon (SLIDO); Figure YA-8 relies on the 2014 SLIDO data and shows Lincoln County landslides that have been identified on published maps. The database contains only landslides that have been located on these maps. Many landslides have not yet been located or are not on these maps and therefore are not in this database. This database does not contain information about relative hazards<sup>7</sup> The map shows that the history of landslide events, and landslide deposits, is relatively high within the city and distributed in the area of steeper slopes to the east of Highway 101.

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<sup>7</sup> DOGAMI. Statewide Landslide Information Database for Oregon (SLIDO-3.2).  
<http://www.oregongeology.org/sub/slido/index.htm>

**Figure YA-8 Mapped Landslides**



Source: DOGAMI Statewide Landslide Information Layer for Oregon (SLIDO), accessed June 15, 2015

The Oregon Department of Geology and Mineral Industries (DOGAMI) is active in developing maps and collecting data on hazard risk. DOGAMI publications addressing the identification of areas subject to landslide hazard for Lincoln County include Environmental Geology of Lincoln County (Bulletin 81, 1973), LIDAR Data and Landslide Inventory Maps of the North Fork Siuslaw River and Big Elk Creek Watersheds, Lane, Lincoln, and Benton Counties, Oregon (Open Fire Report O-12-07), and Evaluation of Coastal Erosion Hazard Zones in Lincoln County, Oregon (Open File Reports O-04-01 and O-07-01). More information can be found on landslide mapping via DOGAMI Special Paper 42 Protocol for Inventory Mapping of Landslide Deposits from Light Detection and Ranging (LIDAR) Imagery.

Potential landslide-related impacts are adequately described within the county's plan, and include infrastructural damages, economic impacts (due to isolation and/or arterial road closures), property damages, and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Lincoln County, and thoroughfares beyond city limits are susceptible to obstruction as well. As such, Yachats is vulnerable to isolation for an extended period of time.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Tsunami

The steering committee determined that the city's probability for a distant tsunami event is **high** (which is the same as the county's rating) and that their vulnerability to a distant tsunami event is **low** (which is the same as the county's rating). The steering committee

determined that the city's probability for a local tsunami event is **moderate** (which is the same as the county's rating) and that their vulnerability to a local tsunami event is **high** (which is the same as the county's rating). This hazard was not rated as distinct local and distant sources events in the previous NHMP.

Lincoln County's Natural Hazards Mitigation Plan adequately describes the causes and characteristics of tsunami hazards, as well as the previous occurrences of tsunami events within the region.

The Pacific Northwest experienced a subduction zone earthquake estimated at magnitude 9 on January 26, 1700. The earthquake generated a tsunami that caused damage as far away as Japan. Cascadia subduction zone earthquakes and associated tsunamis have occurred on average every 500 years over the last 3,500 years in the Pacific Northwest. The time between events has been as short as 100 to 200 years and as long as 1000 years. The geologic record indicates that over the last 10,000 years approximately 42 tsunamis have been generated off the Oregon Coast in connection to ruptures of the CSZ (19 of the events were full-margin ruptures and arrived approximately 15-20 minutes after the earthquake).<sup>8</sup>

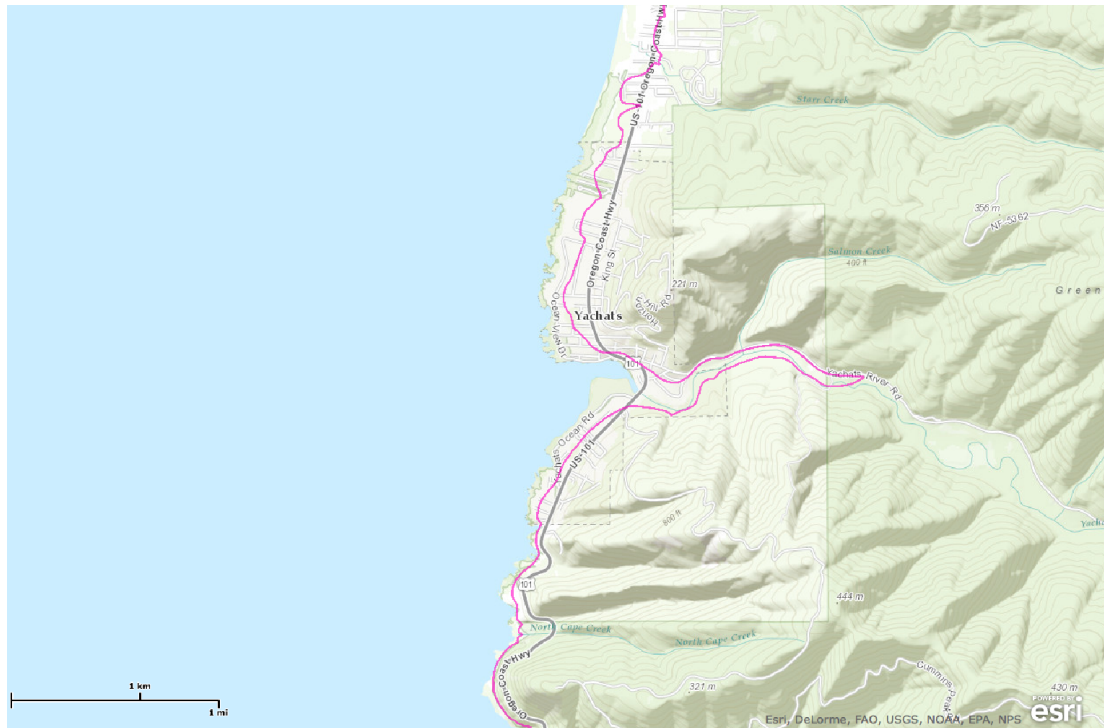
In 1995, the Department of Geology and Mineral Industries (DOGAMI) conducted an analysis resulting in extensive mapping along the Oregon Coast. The maps depict the expected inundation for tsunamis produced by a magnitude 8.8 to 8.9 undersea earthquake. The tsunami maps were produced to help implement Senate Bill 379 (SB 379). SB 379, implemented as Oregon Revised Statutes (ORS) 455.446 and 455.447, and Oregon Administrative Rules (OAR) 632-005, limit construction of new essential facilities and special occupancy structures in tsunami flooding zones. Figure YA-9 shows the regulatory tsunami inundation line showing the much of the residential development west of Highway 101 is vulnerable to tsunami. It should be noted that the updated maps (described below) show an increased vulnerability in that area.

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<sup>8</sup> 2015 Oregon Natural Hazard Mitigation Plan. Department of Land Conservation and Development.



**Figure YA-9 Regulatory (SB 360) Tsunami Inundation Line**



For general information only; not to be used for planning purposes. <http://www.oregongeology.org/hazvu> Thu Jul 9 2015 05:29:31 PM.

Source: Oregon HazVu: Statewide Geohazards Viewer (HazVu)

Since then DOGAMI and other agencies have conducted a large number of tsunami inundation studies. An update of these maps was completed in 2013, as described below.

Tsunami inundation maps were created by the Department of Geology and Mineral Industries (DOGAMI) to be used for emergency response planning for coastal communities.<sup>9</sup> Maps were created for local and distant source tsunami events. The local source tsunami inundation maps display the output of computer modeling showing five tsunami event scenarios shown as “T-shirt” sizes S, M, L, XL, and XXL. The transition line between the wet and dry zones is termed the Wet/ Dry Zone, only the XXL Wet/ Dry Zone is shown on the map. The distant source tsunami inundation maps show the affects of tsunamis generated by earthquakes along the “Ring of Fire” (the Circum-Pacific belt, the zone of earthquake activity surrounding the Pacific Ocean). The distant tsunami inundation maps model the 1964 Prince William Sound event (Alaska M9.2) and a hypothetical Alaska Maximum event scenario; only the Alaska Maximum Wet/ Dry Zone is shown on the map. Both the local and distant source tsunami inundation maps show simulated wave heights and inundation extents for the various scenarios.

For more information on the regulatory and non-regulatory maps visit the Oregon Tsunami Clearinghouse resource library:

Regulatory (SB 360) - <http://www.oregongeology.org/tsuclearinghouse/pubs-regmaps.htm>

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<sup>9</sup> DOGAMI website and Lincoln County Risk Report (2014)



Non-Regulatory Tsunami-Inundation Maps:

<http://www.oregongeology.org/tsuclearinghouse/pubs-inumaps.htm>

Evacuation maps (brochures) are available for the populated areas of Lincoln County. The Department of Geology and Mineral Industries (DOGAMI) developed the evacuation zones in consultation with local officials; local officials developed the routes that were reviewed by the Oregon Department of Emergency Management (OEM). The maps show the worst case scenario for a local source and distant source tsunami event and are not intended for land-use planning or engineering purposes.

For more information on the evacuation brochures visit the Oregon Tsunami Clearinghouse resource library:

<http://www.oregongeology.org/tsuclearinghouse/pubs-evacbro.htm>

A free application is also available that displays the evacuation routes in coastal areas of Oregon:

iPhone: <https://itunes.apple.com/us/app/tsunamievac-nw/id478984841?mt=8>

Android: <https://play.google.com/store/apps/details?id=org.nanoos.tsunami&hl=en>

In 2013, DOGAMI produced new Tsunami Inundation Maps (TIMs) for the entire Oregon coast. The TIMs identify both local and distant Tsunami Inundation Zones (TIZs) by event size. The maps also tabulate the affected buildings located within the local and distant source tsunami inundation zones. Tables II-10 through II-12 of Volume II, Hazard Annexes show the number and percentage of buildings located in the various TIZs. Approximately 70% of all buildings (633) in the city are located within the “Extra Large” (one event per 1,050-1,200 years) local source tsunami inundation zone (Table II-10); while approximately 7% of city buildings (67) are located within the Alaska Maximum distant source tsunami inundation zone (Table II-11).

Population vulnerability is characterized in terms of exposure, demographic sensitivity, and short-term resilience of at-risk individuals.<sup>10</sup> Nate Wood, et al. (USGS) performed a cluster analysis of the data for coastal communities in the Pacific Northwest to identify the most vulnerable communities in the region.<sup>11</sup> Wood, et al. conducted a comprehensive analysis to derive overall community clusters based on (1) the number of people and businesses in the tsunami hazard zone, (2) the demographic characteristics of residents in the zone, and (3) the number of people and businesses that may have insufficient time to evacuate based on slow and fast walking speeds.<sup>12</sup> The study placed all communities within Lincoln County within the following cluster category: “Relatively low numbers of residents, employees, or customer-heavy businesses in the tsunami hazard zones that will likely have sufficient time to reach high ground before tsunami wave arrival”.<sup>13</sup> Notably the study concluded that

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<sup>10</sup> Nathan J. Wood, Jeanne Jones, Seth Spielman, and Mathew C. Schmidtlein. “Community clusters of tsunami vulnerability in the US Pacific Northwest”, PNAS 2015 112 (17) 5354-5359.

<sup>11</sup> Ibid

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

Yachats had 289 residents, 10 employees, and three (3) commercial businesses that are exposed to a tsunami-hazard zone (Table II-12); additionally, 41% of homes within a tsunami-hazard zone are renter-occupied (Table II-13). For additional information from the study including a demographic analysis and evacuation based on walking speeds see Tables II-13, II-14, and II-15 of Volume II, Hazard Annexes.

When the tourist population swells, many are spending time at accommodations, facilities, or along the beach/bluff-line in these vulnerable locations. An existing assisted living facility (Sea Aire Assisted Living Facility, 1882 Hwy 101 N) is located on the eastern fringe of the tsunami inundation zone. Additionally, the Yachats Rural Fire Protection District and South Lincoln Ambulance Service building is among the buildings within the local source tsunami inundations zone. Severe damage could occur to low-lying areas of the city, including roads, bridges, communication systems, and infrastructure within Yachats, among other assets described in the county's plan. The city of Yachats recognizes the importance of continuing education and outreach, especially to the transient populations (i.e., tourists), and plans to implement greater outreach in the future. The city utilizes a reverse 911 service as the tsunami warning system; rental houses are notified if a land line is present.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Volcano

The steering committee determined that the city's probability for volcanic event is **low** (which is the same as the county's rating) and that their vulnerability to volcanic event is **low** (which is the same as the county's rating). These ratings have not changed since the previous NHMP.

The Lincoln County Natural Hazard Mitigation Plan adequately describes Yachats's risk to volcanic events. Generally, an event that affects the county is likely to affect Yachats as well. The causes and characteristics of a volcanic event are appropriately described within the county's plan, as well as the location and extent of potential hazards. Previous occurrences are well-documented within the county's plan, and the community impacts described by the county would generally be the same for Yachats as well. Yachats is very unlikely to experience anything more than volcanic ash during a volcanic event. When Mt. Saint Helens erupted in 1980, the city received small amounts of ashfall, but not enough to cause significant health and/or economic damages.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Wildfire

The steering committee determined that the city's probability for wildfire is **moderate** (which is lower than the county's rating) and that their vulnerability to wildfire is **moderate** (which is the same as the county's rating). These ratings have both increased since the previous NHMP; primarily due to wildfire fuel loads and drought conditions.

The Lincoln County Natural Hazard Mitigation Plan adequately describes the causes and characteristics of wildfires, as well as the county and city's history of wildfire events. Wildfires in 1849 and 1936 were particularly devastating in Lincoln County, but since then, there have been few large events. The location and extent of a wildfire vary depending on

fuel, topography, and weather conditions. As shown in Figure II-19 within Volume II, Hazard Annex, Yachats has a moderate fire hazard. Weather conditions are primarily at cause for the hazard level, the steering committee noted that the current drought conditions have heightened fire conditions in the area and likely have increased the probability of a wildfire occurrence. Due to the prevailing wind patterns (i.e., from the north or south), the city's steering committee felt that the east and south ends of the city might be the most vulnerable spots to wildfire. Power, natural gas, and phone lines run through the forest to the east of the city, and would be affected in the event of a wildfire. Likewise, active commercial logging occurs just outside the city, and slash burns are a potential wildfire concern.

Resource lands that are actively managed for forest uses surround the city of Yachats. The Yachats Steering Committee notes that commercial forestry and harvesting activities increase the potential for wildfires. In addition, development on the ridgeline along the eastern boundary of the city has increased over the last few years, making this urban/rural interface more vulnerable to wildfires. These are areas of concern, which would be vulnerable to wildfires as well as some of the open spaces within the city's limits. The city takes steps to notify landowners about measures, which can be taken to reduce risks associated with wildfires. Such measures include maintaining a firebreak free of dead fuels around the home.

The potential community impacts and vulnerabilities described in the county's plan are generally accurate for the city as well. Lincoln County developed a Community Wildfire Protection Plan (CWPP) in 2010, which mapped wildland urban interface areas and developed actions to mitigate wildfire risk. The city is a participant in the CWPP and will update the city's wildfire risk assessment if the CWPP presents better data during future updates.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Windstorm

The steering committee determined that the city's probability for windstorm is **high** (which is the same as the county's rating) and that their vulnerability to windstorm is **high** (which is the same as the county's rating). These ratings have not changed since the previous NHMP.

The Lincoln County Natural Hazard Mitigation Plan adequately describes the causes and characteristics of windstorms, as well as the location and extent of windstorm hazards. The region's (and city's) history of events is adequately described within the county's plan as well. Because coastal windstorms typically occur during winter months, ice, freezing rain, flooding, and very rarely, snow sometimes accompany them. More than likely, however, the coast's winter will just be windy, cold, and wet.

In Yachats, power outages are the greatest concern during windstorms. Without power, communication is lost, and fuel and food stores shut down. In the December, 2007 wind storm, the city lost power and some residents were unable to access 911. Also of concern are downed trees, heavy precipitation and damage to buildings. The city, in collaboration with private utility companies, removes hazardous trees where possible. In the event of a large windstorm with sustained power outages, the city of Yachats opens up an emergency

soup kitchen. The county's plan adequately identifies the remaining impacts and damages that can occur with windstorm events.

*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Winter Storm (Snow/ Ice)

The steering committee determined that the city's probability for winter storm is **high** (which is the same as the county's rating) and that their vulnerability to winter storm is **high** (which is higher than the county's rating). This hazard was not rated in the previous NHMP.

The Lincoln County Natural Hazard Mitigation Plan adequately describes the causes and characteristics of winter storms, as well as the location and extent of winter storm hazards. The region's (and city's) history of events is adequately described within the county's plan as well. Severe winter storms can consist of rain, freezing rain, ice, snow, cold temperatures, and wind. They originate from troughs of low pressure offshore that ride along the jet stream during fall, winter, and early spring months. Severe winter storms affecting the city typically originate in the Gulf of Alaska or in the central Pacific Ocean. These storms are most common from November through March. More than likely, however, the coast's winter will just be windy, cold, and wet.

Major winter storms can and have occurred in the Yachats area, and while they typically do not cause significant damage; they are frequent and have the potential to impact economic activity. Road closures on Highway 101, or the passes to the Willamette Valley, due to winter weather are an uncommon occurrence, but can interrupt commuter and large truck traffic. Due to the steep topography and potential icy road conditions Yachats is more vulnerable than other parts of the county to the winter storm hazard

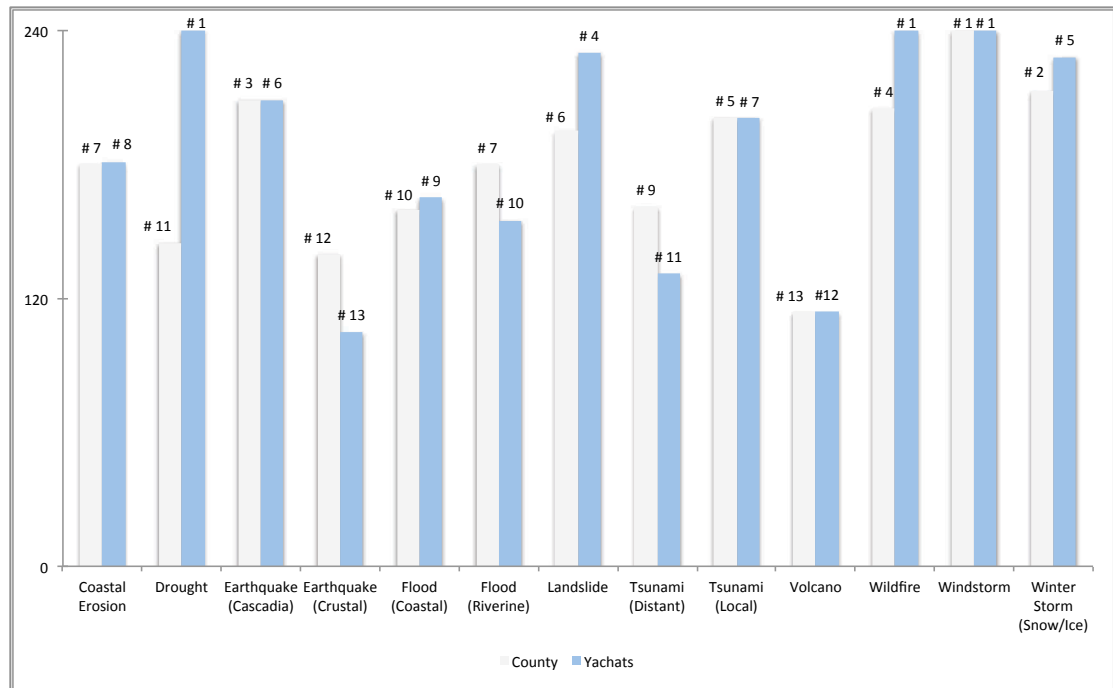
*Please review hazard annexes (Volume II) for additional information on this hazard.*

## Summary

The figure below presents a summary of the hazard analysis for the City of Yachats and compares the results to the assessment completed by the Lincoln County NHMP Steering Committee.

In terms of history, probability, vulnerability, and maximum threat, the hazard analysis for the city overall rated their threat to the drought, landslide, wildfire, and winter storm hazards higher than the county. The top three hazards for the city are drought, wildfire, and windstorm (the county rates windstorm, winter storm, and Cascadia earthquake as its top hazards). The City lists landslide and winter storm as its next highest rated hazards; followed by the catastrophic Cascadia earthquake and local tsunami hazards.

**Figure YA-I0 Overall Hazard Analysis Comparison – Yachats and Lincoln County**



Source: City of Yachats NHMP Steering Committee and Lincoln County NHMP Steering Committee

# MITIGATION STRATEGY

## Mitigation Plan Mission

The plan mission states the purpose and defines the primary functions of Lincoln County's Natural Hazard Mitigation Plan. It is intended to be adaptable to any future changes made to the plan and need not change unless the community's environment or priorities change.

The 2014 Lincoln County NHMP update steering committee reviewed, and City of Yachats steering committee accepted, the 2009 mission statement and agreed that the following statement best describes the over purpose and intent of this plan:

*To promote public policy and mitigation activities which will enhance the safety to life and property from natural hazards.*

## Mitigation Plan Goals

Mitigation plan goals are more specific statements of direction that Lincoln County citizens, and public and private partners can take while working to reduce the city's risk from natural hazards. These statements of direction form a bridge between the broad mission statement and particular action items. The goals listed here serve as checkpoints as agencies and organizations begin implementing mitigation action items. The goals listed below were created by the County Steering Committee after reviewing the State NHMP goals, the city steering committee then reviewed and accepted them.

**Goal 1:** *Protect life and reduce injuries resulting from natural hazards.*

**Goal 2:** *Minimize public and private property damages and the disruption of essential infrastructure and services from natural hazards.*

**Goal 3:** *Implement strategies to mitigate the effects of natural hazards and increase the quality of life and resilience of economies in Lincoln County.*

**Goal 4:** *Minimize the impact of natural hazards while protecting, restoring, and sustaining environmental processes.*

**Goal 5:** *Enhance and maintain local capability to implement a comprehensive hazard loss reduction strategy.*

**Goal 6:** *Document and evaluate progress in achieving hazard mitigation strategies and action items.*

**Goal 7:** *Motivate the public, private sector, and government agencies to mitigate the effects of natural hazards through information and education.*

**Goal 8:** *Apply development standards that mitigate or eliminate the potential impacts of natural hazards.*

**Goal 9:** *Mitigate damage to historic and cultural resources from natural hazards.*

**Goal 10:** *Increase communication, collaboration, and coordination among agencies at all levels of government and the private sector to mitigate natural hazards.*

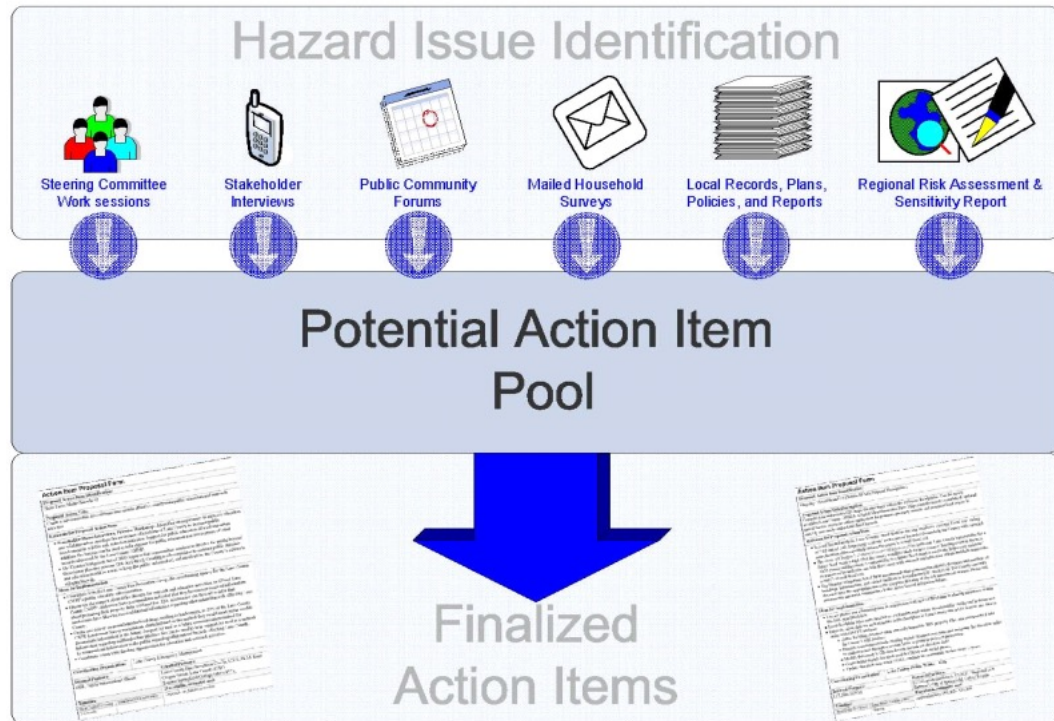
**Goal 11:** *Integrate local NHMPs with comprehensive plans and implementing measures.*

(Note: although numbered the goals are not prioritized.)

## Mitigation Plan Action Items

Short- and long-term action items identified through the planning process are an important part of the mitigation plan. Action items are detailed recommendations for activities that local departments, citizens and others could engage in to reduce risk. They address both multi-hazard (MH) and hazard-specific issues. Action items can be developed through a number of sources. The figure below illustrates some of these sources. A description of how the plan's mitigation actions were developed is provided below.

**Figure YA-9 Development of Action Items**



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## Action Item Worksheets

Each action item has a corresponding action item worksheet describing the activity, identifying the rationale for the project, identifying potential ideas for implementation, and assigning coordinating and partner organizations. The action item worksheets can assist the community in pre-packaging potential projects for grant funding. The worksheet components are described below.

### Proposed Action Title

Each action item includes a brief description of the proposed action.

### Alignment With Plan Goals

The plan goals addressed by each action item are identified as a means for monitoring and evaluating how well the mitigation plan is achieving its goals, following implementation.

### Affected Jurisdiction

Many of the action items within this plan apply to all of the participating cities and the county; however, some actions items are specific. The list of affected jurisdictions is provided on the right side of the matrix. The action item form in Appendix A provides more detailed information.

### Alignment with Existing Plans / Policies

Identify any existing community plans and policies where the action item can be incorporated. Incorporating the mitigation action into existing plans and policies, such as comprehensive plans, will increase the likelihood that it will be implemented.

### Rationale or Key Issues Addressed

Action items should be fact-based and tied directly to issues or needs identified throughout the planning process. Action items can be developed at any time during the planning process and can come from a number of sources, including participants in the planning process, noted deficiencies in local capability, or issues identified through the risk assessment. The rationale for proposed action items is based on the information documented in Section II and the Hazard Annexes.

### Implementation through Existing Programs

For each action item, the form asks for some ideas for implementation, which serve as the starting point for taking action. This information offers a transition from theory to practice. Ideas for implementation could include: (1) collaboration with relevant organizations, (2) alignment with the community priority areas, and (3) applications to new grant programs.

The ideas for implementation offer a transition from theory to practice and serve as a starting point for this plan. This component of the action item is dynamic, since some ideas may prove to not be feasible, and new ideas may be added during the plan maintenance process. Ideas for implementation include such things as: collaboration with relevant



organizations, grant programs, tax incentives, human resources, education and outreach, research, and physical manipulation of buildings and infrastructure. When an action is implemented, more work will probably be needed to determine the exact course of action.

The Lincoln County NHMP and city addenda includes a range of action items that, when implemented, will reduce loss from hazard events in the county. Within the plan, FEMA requires the identification of existing programs that might be used to implement these action items. Lincoln County and the participating cities currently address statewide planning goals and legislative requirements through their comprehensive land use plans, capital improvements plans, mandated standards and building codes. To the extent possible, the jurisdictions will work to incorporate the recommended mitigation action items into existing programs and procedures.

Many of the Lincoln County NHMP and city addenda recommendations are consistent with the goals and objectives of the existing plans and policies. Where possible, Lincoln County and the participating cities will implement the NHMP's recommended actions through existing plans and policies. Plans and policies already in existence have support from local residents, businesses, and policy makers. Many land-use, comprehensive, and strategic plans get updated regularly, and can adapt easily to changing conditions and needs.<sup>14</sup> Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented.

### **Coordinating Organization:**

The coordinating organization is the public agency with the regulatory responsibility to address natural hazards, or that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring and evaluation.

### **Internal and External Partners:**

The internal and external partner organizations listed in the Action Item Worksheets are potential partners recommended by the project Steering Committee but not necessarily contacted during the development of the plan. The coordinating organization should contact the identified partner organizations to see if they are capable of and interested in participation. This initial contact is also to gain a commitment of time and/or resources toward completion of the action items.

Internal partner organizations are departments within the county or other participating jurisdiction that may be able to assist in the implementation of action items by providing relevant resources to the coordinating organization.

External partner organizations can assist the coordinating organization in implementing the action items in various functions and may include local, regional, state, or federal agencies, as well as local and regional public and private sector organizations.

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<sup>14</sup> Ibid

## Potential Funding Sources

Where possible, identify potential funding sources for the action item. Example funding sources can include: the federal Pre-Disaster Mitigation and Flood Mitigation Assistance Programs; state funding sources such as the Oregon Seismic Rehabilitation Grant Program; or local funding sources such as capital improvement or general funds. An action item may also have multiple funding sources.

## Estimated Cost

Where possible, an estimate of the cost for implementing the action item is included.

## Timeline

Action items include both short and long-term activities. Each action item includes an estimate of the timeline for implementation. *Short-term action items* (ST) are activities that may be implemented with existing resources and authorities in one to two years. *Long-term action items* (LT) may require new or additional resources and/or authorities, and may take from one to five years to implement. *Ongoing* action items signify that work has begun and will either exist over an indefinite timeline, or an extended timeline.

## Status

As action items are implemented or new ones are created during the plan maintenance process, it is important to indicate the status of the action item—whether it is new, ongoing, deferred or complete. Documenting the status of the action will make reviewing and updating mitigation plan easier during the plan’s five-year update, and can be used as a benchmark for progress. *Deferred* action items have yet to see any significant work begin on the particular action.

## Priority

High priority action items are designated in order to clarify the importance of these mitigation actions for the affected jurisdictions.

# ATTACHMENT I: ACTION ITEM FORMS

## Action Item Forms

The action item forms portray the overall action plan framework and identify linkages between the plan goals, partnerships (coordination and partner organizations), and actions. Table YA-7 provides a list of actions for the city. The pages that follow include individual forms for each mitigation action. Action items that the city has chosen to partner with the county are provided within Appendix A of the Lincoln County NHMP.

**Table YA-7 Action Item Timelines, Status, High Priority and Related Hazards**

Action Item (2015 NHMP)	Priority	Timeline ST=Short-term (1-3 yrs), MT=Mid-term (4-10 yrs), LT=Long-term (10+ yrs)	Status	Related Hazard									
				Coastal Erosion	Drought	Earthquake	Flood	Landslide	Tsunami	Volcano	Wildfire	Windstorm	Winter Storm
Yachats #1		LT	Delayed			X			X				
Yachats #2		Ongoing	Ongoing			X	X		X				
Yachats #3		Ongoing	Ongoing				X		X				
Yachats #4		Ongoing	Ongoing				X						
Yachats #5		ST	On Schedule		X	X			X				
Yachats #6		LT	In Process	X			X	X			X		
Yachats #7		LT	New	X									
Yachats #8		LT	New				X						
*Yachats #9	X	MT	New						X				

Mitigation Action: Yachats #1 (What do we want to do?)		Alignment with Plan Goals:	High Priority Action Item?
Identify over-water transportation alternatives in the event of bridge collapse in an earthquake and/or tsunami.		<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11	<input type="checkbox"/> Yes
Alignment with Existing Plans/Policies:			
Rationale for Proposal (Why is this important?):			
<p>In the event of a Cascadia Subduction Zone (CSZ) earthquake and/or tsunami, it is possible the U.S. Highway 101 bridge in Yachats would fail. Essential transportation services would need to be restored. Community is most concerned about retaining access to Waldport which will provide evacuation shelters.</p> <p>Tsunami destruction can come from both the tsunami wave and from the rapid retreat of the water from the coastline. Tsunami waves tend to be fast moving, rising surges of water.</p> <p>The average recurrence interval for a CSZ event is between 500 and 600 years. There have been seven CSZ events in the last 3500 years with time between individual events varying from 150 to 1000 years. The last CSZ event occurred approximately 315 years ago.</p> <p>Restoration of key infrastructure is essential after a natural disaster "to support the industry and the jobs it provided." To sustain the economy, communities should "provide for temporary infrastructure while long-term rebuilding efforts are underway." Source: Governor's Commission Report on Recovery, Rebuilding, and Renewal. After Katrina: Building Back Better than Ever. December 31, 2005. p. 112.</p>			
Ideas for Implementation (How will it get done?):		Action Status Report	
Build boat launches in strategic locations to serve as bridge replacements after an earthquake and tsunami.  Obtain emergency equipment in preparation for an earthquake and/or tsunami event. Purchase flatcars to use as temporary bridges.		Delayed.	
Champion/ Responsible Organization:	Yachats Public Works		
Internal Partners:		External Partners:	
Yachats Planning, Public Works		Lincoln County Emergency Services, ODOT, NOAA, CERT	
Potential Funding Sources:	Estimated cost:	Timeline:	
Local Funding Resources		<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input checked="" type="checkbox"/> Long-Term (10+ years)	

<b>Form Submitted by:</b>	Yachats Steering Committee, revised 2015
<b>Action Item Status:</b>	Delayed

Mitigation Action: Yachats #2 (What do we want to do?)		Alignment with Plan Goals:	High Priority Action Item?
Continue to maintain and keep stocked two mobile storage containers with emergency supplies and equipment.		<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input type="checkbox"/> 11	<input type="checkbox"/> Yes
<b>Alignment with Existing Plans/Policies:</b>			
<b>Rationale for Proposal (Why is this important?):</b>			
<p>The city of Yachats is vulnerable to a Cascadia Subduction Zone earthquake/tsunami event.</p> <p>Other natural hazards such as flood, landslide and windstorm can leave populations without basic resources during emergencies.</p> <p>The city chooses to be proactive in being prepared to provide basic services when disrupted by natural hazard events.</p>			
<b>Ideas for Implementation (How will it get done?):</b>		<b>Action Status Report</b>	
<p>Two portable storage containers will be stocked with emergency supplies and equipment and be strategically placed in key locations.</p> <p>Seek funding to maintain and keep each unit stocked.</p> <p>Continue community education and outreach regarding the purpose and function of the Emergency Planning Steering Committee.</p> <p>Seek funding for additional containers.</p>		<p>The City maintains and stocks two mobile storage containers with emergency supplies and equipment. Electricity was recently supplied to the containers. Future plans are to include heat.</p>	
<b>Champion/ Responsible Organization:</b>	City of Yachats		
<b>Internal Partners:</b>		<b>External Partners:</b>	
Yachats Public Works, Emergency Planning Steering Committee		Yachats Rural Fire Protection District	
<b>Potential Funding Sources:</b>		<b>Estimated cost:</b>	<b>Timeline:</b>
Local Funding Resources, NOAA Coastal Resilience Grant			<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)
<b>Form Submitted by:</b>	Yachats Steering Committee, revised 2015		

<b>Action Item Status:</b>	Ongoing
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Mitigation Action: Yachats #3 (What do we want to do?)		Alignment with Plan Goals:	High Priority Action Item?
Implement actions identified in the Yachats Storm Drainage Master Plan		<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input checked="" type="checkbox"/> 11	<input type="checkbox"/> Yes
<b>Alignment with Existing Plans/Policies:</b>			
Storm Drainage Master Plan Addendum (2008)			
<b>Rationale for Proposal (Why is this important?):</b>			
<p>Yachats is recently updated its Stormwater Master Plan. Mitigation actions are identified within that plan as well. See Section 7 of the Storm Drainage Master Plan Addendum (2008) and Figure A-5, Recommended Improvement Map.</p> <p>The Disaster Mitigation Act of 2000 requires communities to describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information (201.6(b)). Implementing actions identified within the Yachats Stormwater Management Plan will assist the City in meeting this requirement.</p> <p>Stormwater management is a key element in maintaining and enhancing a community's livability. There is a direct link between stormwater and a community's surface and ground waters. As a community develops, the impervious surfaces that are created increase the amount of runoff during rainfall events, disrupting the natural hydrologic cycle. Without control, these conditions erode stream channels and prevent groundwater recharge. Parking lots, roadways, and rooftops increase the pollution levels and temperature of stormwater runoff that is transported to streams, rivers, and groundwater resources. Protecting these waters is vital for a great number of uses, including fish and wildlife habitat, recreation, and drinking water.</p>			
<b>Ideas for Implementation (How will it get done?):</b>		<b>Action Status Report</b>	
Implement and maintain the Stormwater Plan. Review the Plan's mitigation actions at one of the County's future semi-annual natural hazard mitigation meetings. Identify and assist with actions that reduce the City's vulnerability to flood-related hazards.		Storm water master plan implementation is in progress. Improvements are in process for the Quiet Water Tide Gate.	
<b>Champion/ Responsible Organization:</b>	City of Yachats		
<b>Internal Partners:</b>		<b>External Partners:</b>	
Yachats Public Works, Planning		DOGAMI	
<b>Potential Funding Sources:</b>	<b>Estimated cost:</b>	<b>Timeline:</b>	
Local Funding Resources		<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years)	



		<input type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)
<b>Form Submitted by:</b>	Yachats Steering Committee, revised 2015	
<b>Action Item Status:</b>	Ongoing	

Mitigation Action: Yachats #4 (What do we want to do?)		Alignment with Plan Goals:		High Priority Action Item?		
Encourage purchase of flood insurance, even for those outside of NFIP mapped hazard areas.		<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> Yes
		<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input type="checkbox"/> 8	
		<input type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input type="checkbox"/> 11		
<b>Alignment with Existing Plans/Policies:</b>						
FIS, FIRMs, Lincoln County Risk Report, Comprehensive Plan, Development Code						
<b>Rationale for Proposal (Why is this important?):</b>						
<p>Increasing knowledge about the extent of flood risk in order to educate residents about elevating homes and structures can help mitigate the city's vulnerability to future floods.</p> <p>There are streams affected by seasonal flooding.</p> <p>The Disaster Mitigation Act of 2000 requires that communities continue to involve the public beyond the original planning process [201.6(c)(4)(ii)]. Developing public education programs for hazard risk mitigation would be a way to keep the public informed of, and involved in, the city's actions to mitigate hazards.</p>						
<b>Ideas for Implementation (How will it get done?):</b>		<b>Action Status Report</b>				
<p>Continue to participate in the National Flood Insurance Program.</p> <p>Consider participating in the NFIPs CRS Program.</p> <p>Make contacts with insurance industry representatives to keep current about their requirements, rates, and plans.</p> <p>Provide educational information to property owners.</p> <p>Coordinate activity with Lincoln County.</p>		<p>The city provides educational material as outreach to members of the community.</p> <p>The city is currently participating in the NFIP.</p> <p>The Lincoln County Risk Report is being updated to include additional Hazus loss estimation which could be used to target areas for future outreach.</p>				
<b>Champion/ Responsible Organization:</b>	City of Yachats					
<b>Internal Partners:</b>		<b>External Partners:</b>				
Planning, Lincoln County		Insurance companies				
<b>Potential Funding Sources:</b>		<b>Estimated cost:</b>	<b>Timeline:</b>			
Local Funding Resources			<input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)			

<b>Form Submitted by:</b>	Yachats Steering Committee, revised 2015
<b>Action Item Status:</b>	Ongoing

Mitigation Action: Yachats #5 (What do we want to do?)		Alignment with Plan Goals:	High Priority Action Item?
Provide supplemental water supply tanks in key locations to ensure availability of water throughout the city.		<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input type="checkbox"/> 11	<input type="checkbox"/> Yes
<b>Alignment with Existing Plans/Policies:</b>			
Water System Master Plan			
<b>Rationale for Proposal (Why is this important?):</b>			
<p>In their hazard analysis, the city of Yachats rated itself as having a high drought risk and vulnerability. It is important water remains available during and after a drought event.</p> <p>Disaster Mitigation Act of 2000 requires communities to create actions that will reduce the impact of natural hazards on the community [201.6(c)(3)(ii)]. Providing supplemental water supply tanks in key locations will enhance the City's resilience in a drought event.</p>			
<b>Ideas for Implementation (How will it get done?):</b>		<b>Action Status Report</b>	
Obtain funding to construct additional water reservoirs for emergency drought-related storage.  Research ways to reduce drought risk within the city. This may potentially result in non-structural projects.		The city has storage containers for supplemental water and has portable water treatment plants. Two storage tanks are in development and should be complete by 2016; water filtration systems are available in the containers. A site has been purchased for one in the south part of the city and an engineering firm has been hired.	
<b>Champion/ Responsible Organization:</b>	City of Yachats		
<b>Internal Partners:</b>		<b>External Partners:</b>	
Yachats Public Works		USDA, USGA, Western States Water Council	
<b>Potential Funding Sources:</b>		<b>Estimated cost:</b>	<b>Timeline:</b>
Local Funding Resources			<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)
<b>Form Submitted by:</b>	Yachats Steering Committee, revised 2015		
<b>Action Item Status:</b>	On schedule		

<b>Mitigation Action: Yachats #6</b> (What do we want to do?)	<b>Alignment with Plan Goals:</b>	<b>High Priority Action Item?</b>
Obtain LiDAR collection for DOGAMI.	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input type="checkbox"/> 11	<input type="checkbox"/> Yes
<b>Alignment with Existing Plans/Policies:</b>		
Lincoln County Risk Report		
<b>Rationale for Proposal (Why is this important?):</b>		
<p>LIDAR (light detection and ranging) is a mapping tool that can provide very precise, accurate, and high-resolution images of the surface of the earth, vegetation, and the built environment. It can be used to study landforms and identify areas, especially landslide areas that may be susceptible to future occurrences. The Oregon Department of Geology and Mineral Industries (DOGAMI) has been working with communities to develop large-scale LIDAR maps of entire regions. In 2006- 2007, various local, state, and federal agencies formed the Portland Consortium to gather 2200 square miles of LIDAR data in the Portland Metropolitan region. DOGAMI has formed the Oregon LIDAR Consortium (OLC) to gather data in other Oregon regions, including Lincoln County. Entering into an agreement with the OLC, or obtaining LIDAR collection data from DOGAMI will assist in mapping areas of Western Lane County and landforms around Yachats. Additional, LIDAR analysis has been conducted as part of the Lincoln County Risk Report. Data and information will be available once it is complete in 2015.</p> <p>With LIDAR, you can quickly, cheaply, and accurately: find landslides, old cuts and grades; measure and estimate fills and cuts; find stream channels and measure gradients; measure the size and height of buildings and bridges; locate and measure every tree in the forest; characterize land cover; model floods, fire behavior; locate power lines and power poles; find archeological sites; map wetlands and impervious surfaces; define watersheds and view-sheds; model insulation and shaking; map road center and sidelines; find law enforcement targets; map landforms and soils; assess property remotely; inventory carbon; monitor quarries, find abandoned mines; enhance any project that requires a detailed and accurate 2-D or 3-D map.</p> <p>The east side of the city of Yachats has relatively steep topography. Despite the city's topographical characteristics and vulnerabilities to landslides, Yachats does not have accurate information regarding the location and extent of potential landslides. With improved data via participation in the OLC, (or purchase of the OLC's data), Yachats would have a much greater understanding of its landslide risks.</p> <p>The Disaster Mitigation Act of 2000 requires that communities identify actions and projects that reduce the impact of a natural hazard on the community, particularly to new and existing buildings and infrastructure [201.6(c)(3)(ii)]. Obtaining LIDAR collection data from DOGAMI will help in understanding areas and landforms susceptible to landslide events to protect new and existing buildings, and infrastructure.</p>		
<b>Ideas for Implementation (How will it get done?):</b>	<b>Action Status Report</b>	
DOGAMI's LIDAR website provides information about the OLC and LIDAR and is a starting point	The city has not yet acquired LIDAR from DOGAMI. LIDAR is available for areas of the county and data and analysis from the Lincoln County Risk Report is	

for entering into an agreement with DOGAMI. <a href="http://www.oregongeology.com/sub/projects/olc/default.htm">http://www.oregongeology.com/sub/projects/olc/default.htm</a>  Contact DOGAMI about obtaining the data. DOGAMI staff is additionally available to talk to groups of potential users to show them the data and explain its uses. The LIDAR will be available without license restrictions in standard USGS quadrangles, with a nominal charge for each quadrangle. DOGAMI is happy to work with small communities to develop map products that they can use if they do not have GIS.		available to incorporate in local planning efforts.	
<b>Champion/ Responsible Organization:</b>	City of Yachats		
<b>Internal Partners:</b>		<b>External Partners:</b>	
Yachats Public Works, Planning, City Recorder		DOGAMI	
<b>Potential Funding Sources:</b>		<b>Estimated cost:</b>	<b>Timeline:</b>
Local Funding Resources			<input type="checkbox"/> Ongoing <input checked="" type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)
<b>Form Submitted by:</b>	Yachats Steering Committee, revised 2015		
<b>Action Item Status:</b>	Ongoing		

Mitigation Action: Yachats #7 (What do we want to do?)		Alignment with Plan Goals:		High Priority Action Item?
Encourage the County to evaluate and implement erosion control mitigation projects for NE Ocean View Drive/ 804 Trail.		<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3
		<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input checked="" type="checkbox"/> 7
		<input type="checkbox"/> 9	<input type="checkbox"/> 10	<input type="checkbox"/> 11
<input type="checkbox"/> Yes				
<b>Alignment with Existing Plans/Policies:</b>				
804 Trail Plan				
<b>Rationale for Proposal (Why is this important?):</b>				
<p>Area is susceptible to coastal erosion (south side at the inlet, from 6th Street to south of 2nd Street). Lincoln County has jurisdiction over Ocean View Drive and the southern portion is within Yachats State Park.</p> <p>The Yachats 804 Trail/ NE Ocean View Drive is under Lincoln County jurisdiction and is part of former County Road 804, the gravel route between Yachats and Waldport's Alsea Bay before U.S. Highway 101 was built in the 1930s.</p> <p>Area is within the distant tsunami inundation zone</p> <p>This area is the only by-pass of Highway 101 for the northern half of the city</p> <p>Area is undergoing coastal erosion that will affect the street, public utilities (water, sewer), and public pedestrian access.</p>				
<b>Ideas for Implementation (How will it get done?):</b>		<b>Action Status Report</b>		
Plant and construct erosion control measures (riprap, etc.), handrails, and improve storm drainage.		New in 2015		
<b>Champion/ Responsible Organization:</b>	Public Works			
<b>Internal Partners:</b>		<b>External Partners:</b>		
Lincoln County, Yachats Planning		DOGAMI, Oregon Parks & Recreation		
<b>Potential Funding Sources:</b>		<b>Estimated cost:</b>	<b>Timeline:</b>	
Local Funding Resources			<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input checked="" type="checkbox"/> Long-Term (10+ years)	
<b>Form Submitted by:</b>	2015 Yachats Steering Committee			

<b>Action Item Status:</b>	New
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<b>Mitigation Action: Yachats #8</b> (What do we want to do?)		<b>Alignment with Plan Goals:</b>	<b>High Priority Action Item?</b>
Work with the owners of repetitive flood loss buildings in the city to identify cost effective mitigation strategies including consideration of relocation, elevation, or buy-out.		<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10 <input type="checkbox"/> 11	<input type="checkbox"/> Yes
<b>Alignment with Existing Plans/Policies:</b>			
Yachats Flood Ordinance, Comprehensive Plan, FEMA Flood Insurance Study, Flood Insurance Rate Maps, Stormwater Master Plan (2015), Lincoln County Risk Report, 2015			
<b>Rationale for Proposal (Why is this important?):</b>			
<p>The City estimates a high probability that flooding will occur in the future; see Table YA-5 for detail on current NFIP participation and the flood section of the city addendum and Volume II, Hazard Annex, for detail on city risk and vulnerability to the flood hazard. Repetitive flood loss properties are documented in this addendum, including properties on Yachats Ocean Road, and Gender Creek where flooding in 2009 affected two homes.</p> <p>Concentrations of pre-FIRM structures in areas subject to flooding are present in several areas along the County's major rivers. Experience with the floods of the late 1990s showed that properly elevated structures in the flood plain performed well during major flood events, most suffering minimal if any, damage. Especially in areas which may be subject to damage during relatively high frequency flood events, elevating structures in conformance with the County's flood hazard area codes (lowest floor at least one foot above the base flood level) is a cost effective way to reduce risk.</p>			
<b>Ideas for Implementation (How will it get done?):</b>		<b>Action Status Report</b>	
Coordinate with willing property owners, DLCD, FEMA, and OEM to identify suitable mitigation options.  Assess individual properties for possible mitigation measures (elevation, acquisition, relocation) to reduce or prevent future flood losses.  Implement mitigation measures (elevation, acquisition, relocation) for properties within the floodplain.		New in 2015	
<b>Champion/ Responsible Organization:</b>	Floodplain Manager		
<b>Internal Partners:</b>		<b>External Partners:</b>	
Planning, Public Works, Lincoln County Building,		DLCD, OEM, DOGAMI, FEMA	



Potential Funding Sources:		Estimated cost:	Timeline:
Local Funding Resources, FEMA PDM, HMGP, FMA			<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input checked="" type="checkbox"/> Long-Term (10+ years)
<b>Form Submitted by:</b>	2015 Yachats Steering Committee		
<b>Action Item Status:</b>	New		

Mitigation Action: Yachats #9 (What do we want to do?)		Alignment with Plan Goals:	High Priority Action Item?
Relocate Yachats Fire Department out of tsunami inundation zone		<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11	<input checked="" type="checkbox"/> Yes
Alignment with Existing Plans/Policies:			
Rationale for Proposal (Why is this important?):			
<p>The Yachats Rural Fire Protection District (215 W 2nd Street) is located within a tsunami inundation area. DOGAMI finalized the remapping of the distant and local tsunami zones providing public, private and citizens with a clearly defined map of hazard areas. However, there was little to be done for the relocation of public safety buildings out of the inundation areas.</p> <p>A significant tsunami event has the potential to cause disruption of power, contamination of water supplies, loss of essential communication systems, a large amount of debris, and traffic congestion. A tsunami has the potential to damage critical buildings and infrastructure in the tsunami inundation zone. Mitigating the effects that a tsunami has on city assets is a high priority.</p> <p>The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on both new and existing buildings and infrastructure [201.6(c)(3)(ii)]. Assessing and evaluating needed mitigation for critical assets in the tsunami inundation zone, can assist the City in determining what further actions are needed to help mitigate the city's risk to tsunami.</p>			
Ideas for Implementation (How will it get done?):		Action Status Report	
Cooperate with the Yachats Rural Fire Protection District to investigate relocation alternatives for critical facilities in the tsunami inundation zone.  Cooperate with the Yachats Rural Fire Protection District to Investigate alternatives and purchase a cost effective police communications system that is resilient to natural hazards (earthquake, tsunami, etc.)		New in 2015	
Champion/ Responsible Organization:	Planning		
Internal Partners:		External Partners:	
County		Yachats Rural Fire Protection District, DLCD, Regional Solutions Team	
Potential Funding Sources:	Estimated cost:	Timeline:	
Local Funding Resources		<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years)	

		<input checked="checked" type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)
<b>Form Submitted by:</b>	2014 Risk MAP Resilience Workshop	
<b>Action Item Status:</b>	New	

## ATTACHMENT 2: ACTION ITEM FORM TEMPLATE

Mitigation Action: Yachats # (What do we want to do?)	Alignment with Plan Goals:	High Priority Action Item?
	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11	<input type="checkbox"/> Yes
Alignment with Existing Plans/Policies:		
Rationale for Proposal (Why is this important?):		
Ideas for Implementation (How will it get done?):	Action Status Report	
Champion/ Responsible Organization:		
Internal Partners:	External Partners:	
Potential Funding Sources:	Estimated cost:	Timeline:
		<input type="checkbox"/> Ongoing <input type="checkbox"/> Short Term (1-4 years) <input type="checkbox"/> Mid-Term (4-10 years) <input type="checkbox"/> Long-Term (10+ years)
Form Submitted by:		
Action Item Status:		