



MEETING AGENDA & PUBLIC HEARING NOTICE

City Council

Wednesday, September 24, 2025, at 6:30 p.m.

Maupin Civic Center (507 Grant Ave.) and virtually on Zoom:

<https://us02web.zoom.us/j/84802522147?pwd=SlZHSndod2RhY09NRE8xN0JOdjRWZz09> or dial 1-253-215-8782 (Meeting ID: 848 0252 2147 Passcode: 978965)

PUBLIC COMMENT: Individuals wishing to address City Council on items not already listed on the Agenda may do so during the Public Comment item on the Agenda. The maximum amount of time for all public comments under the Agenda item will be 15 minutes. Council will not engage in dialogue but can consider scheduling any matter as an Agenda item at a future Council Meeting. At other times throughout the meeting, please wait for the current speaker to conclude and raise your hand to be recognized by the Mayor for direction. Speakers are required to give their name and address. Please limit comments to three minutes, unless extended by the Mayor.

PLEASE NOTE: With the exception of Public Hearings, the Agenda is subject to last minute changes; times are approximate – please arrive early. Meetings are ADA accessible. For special accommodations please contact the City Recorder in advance at 541-395-2698. *Las reuniones son ADA accesibles. Por tipo de alojamiento especiales, por favor póngase en contacto con la registrador de la ciudad 541-395-2698.*

6:30 p.m.	Call to Order / Roll Call of City Council and Staff / Pledge of Allegiance
	Consent Agenda
	Public Comment
6:40 p.m.	Reports
6:50 p.m.	Discussion: Visioning Reports
7:05 p.m.	Discussion: Natural Hazards Mitigation Plan (NHMP)
7:15 p.m.	Discussion: Dark Sky
7:25 p.m.	Discussion: Planning Commission Direction
	Communications
Executive Session	ORS 192.660(2)(h): To consult with counsel concerning the legal rights and duties of a public body with regard to current litigation or litigation likely to be filed.
7:45 p.m.	Adjourn



CONSENT AGENDA

Items of a routine and non-controversial nature are placed on the Consent Agenda to allow the Council to spend its time on significant items and issues. Any Council member may request that an item be withdrawn from the Consent Agenda and be placed in the business section of the Agenda.

DOCUMENTS

[Minutes of July 23, 2025, Council Meeting](#)

[Mayor/City Manager July 2025 Finance Report](#)

[Paid Invoices for July 2025](#)

[Mayor/City Manager August 2025 Finance Report](#)

[Paid Invoices for August 2025](#)

MOTION

I move to approve the Consent Agenda as presented.

I move to withdraw _____ from the Consent Agenda and place it in the business section of the Agenda.



MINUTES

City Council Meeting

Wednesday, July 23, 2025

Maupin Civic Center (507 Grant Avenue) and virtually on Zoom

Call to Order / Roll call of City Council and Staff / Pledge of Allegiance

Mayor Beatty called the regular session meeting to order at 6:30 p.m. Roll call of City Council and Staff was conducted by Recorder Wolfe, Pledge of Allegiance led by Mayor Beatty.

Presiding: Mayor Beatty

Council Present: Shelby Dumire, Tom Troutman, Mike Foreaker, Matthias Kesler

Council Absent:

Staff Present: City Manager Nick Smith, Recorder Christine Wolfe, Attorney Ruben Cleaveland, Admin. Assist. Doni Van Dolah

Visitors Present: Medy Gantz, Rod Woodside, Donna Henderson, Rich Sutliff, Jon Helquist, Phil Brady, Becky Kelly, Paula Latasa, Randy & Allison Bechtol, Jordan Belozar, Ken Hemphill

Consent Agenda

Councilor Dumire moved to approve the consent agenda. Councilor Kesler second. The motion passed unanimously on a 5-0 vote. Ayes: Carol Beatty, Shelby Dumire, Tom Troutman, Mike Foreaker, Matthias Kesler; Nays: None.

Concessus of Council to add the Boat Ramp as a topic to the agenda.

Public Comment

Allison Bechtol, Maupin, concern regarding weeds along Hwy 197 entering into the city, is this ODOT or the City responsibility?

Paula Latasa, Maupin, stated she was not receiving Text alerts.

Jon Helquist, Maupin, Is the city still doing the fire assessments and is concerned with the tall grasses on the railroad easement.

Reports

Manager Smith gave an update on water tank repair; the cost is approximately \$1.37 million. There is consideration to add an extra coating to extend the tank's lifespan, cost is \$150,000.

Councilor Troutman spoke on the condition of the City Park boat ramp.

Council Resignation and Appoint Members

Mayor Beatty shared an email from Councilor Rhoades regarding her resignation from council.

Councilor Troutman moved to accept Councilor Rhoades' resignation and declare a vacant seat. Councilor Kesler second.

The motion passed unanimously on a 5-0 vote. Ayes: Carol Beatty, Shelby Dumire, Tom Troutman, Mike Foreaker, Matthias Kesler; Nays: None.

Councilor Troutman made a motion to accept both applications to fill both vacant council seat. Councilor Kesler second.

Recorder Wolfe brought to council attention regarding term expiration dates. Roper's term ends 12.2026 and Rhoades's term ends 12.2028. Attorney Cleaveland advised council they need to appoint by name due to term ending dates and the first motion should be withdrawn.

Councilor Dunmire made a motion to withdraw Councilor Troutman's motion. Councilor Kesler second.

	Councilor Dumire made a motion to appoint Randy Bechtol to the vacant city Council position with term ending date 12.2026. Councilor Foreaker second. The motion passed unanimously on a 5-0 vote. Ayes: Carol Beatty, Shelby Dumire, Tom Troutman, Mike Foreaker, Matthias Kesler; Nays: None. Councilor Dumire made a motion to appoint Kathy Peck to the vacant city Council position with term ending date 12.2028. Councilor Kesler second. The motion passed unanimously on a 5-0 vote. Ayes: Carol Beatty, Shelby Dumire, Tom Troutman, Mike Foreaker, Matthias Kesler; Nays: None Recorder Wolfe performed the oath of office with Randy Bechtol, and he was seated at council table. Oath of office will be performed for Kathy Peck at a later date, but before next council meeting.
Legion Hall Proposal	Attorney Cleaveland spoke to council on a couple of changes, adding memorial services and meeting of the American Legion Maupin Post No. 73. The other change is the revert clause. Discussion guarding “substantially complete” and what that means for both parties. We have not had feedback from Emily and Sara on the draft recitals and Statutory Bargain and Sale Deed. Council consensus for Attorney Cleaveland to speak to Emily and Sara’s attorney.
Visioning Reports	Discussion continued regarding the City Park Boat Ramp; the current gravel and fill material is washing out and creating a dangerous drop-off and impeding boat access. Discussed potential solutions including digging out the existing material, adding concrete slabs or asphalt patches and marking parking areas. What can we do under emergency repair? Can the Marine board help us during this stage? Painting a yellow safety line along the pavement drop off. Staff will contact the Mr. Fitzgerald Dept of State Lands. We are still out one to two years before we see our new boat ramp completed. Another safety concern is near the exit where trailers create a hole where they are cutting a corner while entering Bakeoven road. Discussion on the need to restart and improve the visioning process for long-range city planning and budgeting. Communication has been an issue in notifying committee members with acceptance and meeting times.
Communications	Recorder Wolfe shared a memo from Library Director Valerie Stephenson on the upcoming National Night Out. We received a letter from Representative Greg Smith informing us we have successfully been awarded the funding bid to upgrade the Maupin Water Distribution System in HB 5006 A. He is proud to partner with us on this important project and looks forward to seeing the project complete! We received a thank you note from the White River Health Board for weed eating around the Clinic using the fire protection grant funds.

Adjourn

The next regular meeting will take place on August 27, 2025, at 6:30 p.m.
Mayor Beatty adjourned the meeting at 7:45 p.m.

Respectfully Submitted by Christine Wolfe, City Recorder

Signed: _____
Carol Beatty, Mayor

Attest: _____
Christine Wolfe, City Recorder

DRAFT



City of Maupin
507 Grant Ave.
PO Box 308
Maupin, Oregon 97037

541-395-2698
cwolfe@cityofmaupin.org
cityofmaupin.org

MONTHLY FINANCE REPORT

We, the undersigned, have completed a review of the City of Maupin's fiscal records for the month of July 2025 consisting of the following:

Bank Statements & Reconciliations

(Umpqua (Columbia) Bank, Rivermark Community Credit Union, Local Government Investment Pool)

Accounts Payable

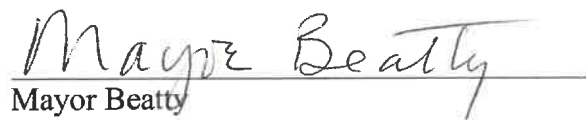
(Invoices & Checks)

Payroll

Finance Summary

We find the records to be accurate and present our signatures for approval.

Dated 20 day of August, 2025


Mayor Beatty


City Manager, Nick Smith

CITY OF MAUPIN
INVOICES PAID FOR THE MONTH

July-25

Creditor:	Total	City	Water	Sewer	Street	Park	Fire	SWC Library	Street Impro
ABS/ billing software annual	818.00	272.67	272.67	272.66					
Ashley Pump / Water Tower	21,040.30		21,040.30						
Beechler, Michael / Travel samples	175.00			175.00					
Bishop Services / Water Tower	84,800.00		84,800.00						
Bohns Printing	230.62	230.62							
City of Maupin / Parks (water, sewer, recycle)	1,307.91					1,307.91			
City of Maupin / Parks (2nd QTR TLT Tax)	3,396.72					3,396.72			
City of The Dalles / Water Tower	120.00		120.00						
CIS / Property & Liability	64,092.88	23,135.11	8,530.04	7,113.62	1,475.83	6,726.12	10,157.85	6,954.31	
Central Oregon Cities Org (COCO) dues	368.00	368.00							
Edward Ingram	61.00					61.00			
Elan Financial Service (Credit card)	11,790.62	11,790.62							
Eurofins Environment Testing Northwest	464.00		464.00						
H.D. Fowler	1,789.42		1,789.42						
High Desert / Fire Grant	6,200.00	6,200.00							
HR Answers	580.50		580.50						
Land and Brush Control / Fire Grant	23,700.00	23,700.00							
LCOG / Annual dues	250.00	250.00							
Lightspeed Networks (LSN) Internet	6,693.32	2,652.05	821.58	242.58		1,124.52	246.28	1,606.31	
LOC / Annual dues	281.86	281.86							
Optimist Printers / East Welcome Maupin sign	2,321.00	2,321.00							
Oregon DEQ / Sewer permit annual	3,516.24			3,516.24					
Oregon Dept of Finance / Parks (2nd QTR TLT Tax)	823.18					823.18			
Qlife / Franchise pass thru	286.45	286.45							
Richmond's Service	925.00	43.00	232.75	245.25		219.25	184.75		
Staples	561.15	68.28						492.87	
ST1D Designs	135.00					135.00			
The Dalles Disposal	3,633.80	1,500.00				2,133.80			
Unity Tribe / Library event	100.00							100.00	
USA Blue Book	1,019.33			1,019.33					
VanKoten & Cleveland LLC	2,347.54	2347.54							
Verizon Wireless	524.04	172.64	129.99	44.69		87.34	44.69	44.69	
Vestis	195.29	78.12						117.17	
Walter E Nelson	1,827.42					1,827.42			
Wasco County	1,000.00	1000.00							
Wasco Electric	6,289.52	198.11	2,442.94	926.10	1,273.00	1,154.21	116.16	179.00	
Christine Wolfe / Petty Cash replunish	57.72	57.72							
	253,722.83	76,953.79	121,224.19	13,555.47	2,748.83	18,996.47	10,749.73	9,494.35	-
	253,722.83								



City of Maupin
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MONTHLY FINANCE REPORT

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(Umpqua (Columbia) Bank, Rivermark Community Credit Union, Local Government Investment Pool)

Accounts Payable

(Invoices & Checks)

Payroll

Finance Summary

We find the records to be accurate and present our signatures for approval.

Dated 17 day of September, 2025

Mayor Beatty
Mayor Beatty

Nick Smith
City Manager, Nick Smith

**CITY OF MAUPIN
INVOICES PAID FOR THE MONTH**

August-25

Creditor:	Total	City	Water	Sewer	Street	Park	Fire	SWC Library	Street Impro
AKS Engineering / Tenneson	1,932.50	1,932.50							
Anderson Perry / Water Tower	22,772.20		22,772.20						
Anderson Perry / 2nd & Staats	1,507.50		1,507.50						
Aryeh Frankfurter / Library Event	500.00							500.00	
Barnett Towing & Service	106.50		86.55	19.95					
Beebe, George	146.24		73.12	73.12					
Beechler, Michael / Travel samples	131.60			131.60					
Bohns Printing	147.38	147.38							
City of Maupin / Parks (water, sewer, recycle)	1,307.91						1,307.91		
City of The Dalles	30.00		30.00						
City of The Dalles / (Water Tower)	60.00		60.00						
Code Publishing	830.00	830.00							
Columbia River Electric	660.00					660.00			
Elan Financial Service (Credit card)	7,269.93	3,283.13	383.24	383.23		1,295.31		1,925.02	
Eurofins Environment Testing Northwest	188.00			188.00					
H.D Fowler / Water Tower	448.59		448.59						
Hage Electric / Water Tower	2,000.00		2,000.00						
Honey Buns	92.00							92.00	
Inner Tech Systems	239.40	239.40							
Ingram, Edward	61.00					61.00			
International Institute of Municipal Clerks / dues	195.00	195.00							
Kenekt'd Interneet Services / WiFi (2 months)	1,039.78	149.98	69.98	69.98		444.90	69.98	234.96	
Land and Brush Control / Fire Grant	13,750.00	13,750.00							
Lightspeed Networks (LSN) Internet	3,952.68	1,213.14	431.60	214.84		1,164.25	263.32	665.53	
Maupin Country Store & Hardware	759.71	21.99	221.48	73.70	159.96	282.58			
MCEED / Dues	396.00	396.00							
Qxarc	985.33		523.35	461.98					
Pacer Propane	50.00		2.50	2.50		40.00	5.00		
Pepsi Cola	17.50					17.50			
ProNace / Water Tower	800.00		800.00						
Richmond's Service / Re-issue lost ck#6951 \$ 900.00	1,750.00		547.64	547.64	92.50	463.56	98.66		
SAIF	399.45	7.99	199.73			83.88	107.85		
Staples	98.82		98.82						
Stephenson, Valerie	164.92							164.92	
The Dalles Disposal	4,156.26	1,000.00				3,156.26			
United Fire / annual service	3,377.40	3,114.40					263.00		
VanKoten & Cleveland LLC	1,431.04	1431.04							
Wasco County Weed & Pest Dept	2,273.04				2,273.04				
Wasco Electric	6,649.63	210.55	2,200.21	913.40	1,273.00	1,736.95	117.88	197.64	
	-								
	82,677.31	27,922.50	32,456.51	3,079.94	3,798.50	9,406.19	2,233.60	3,780.07	-
	82,677.31								



PUBLIC COMMENT

City Council places great value on testimony from the public. This time is set-aside for the public to speak on any subject which does not later appear on the agenda. Three minutes per person will be allowed. The maximum amount of time for all public comments under this agenda item will be 15 minutes. Council will not engage in dialogue but can consider scheduling any matter as an agenda item at a future Council Meeting.

People who wish to testify are encouraged to provide written summaries; recognize that substance, not length, determines the value of testimony; endorse, rather than repeat, testimony of other witnesses with whom you agree. Thank you for taking the time to present your views.



REPORTS

6:40 p.m.

DOCUMENTS

[City Manager Report](#) (Handout at meeting)

[Southern Wasco County Library Report September & August](#)

[Chamber Report August](#) (September Handout at meeting)

City Council Report for September 2025

- With school back in session and summer reading completed it's been a little quieter in the library this month. We are actively shifting gears and working on fall programming.
- Knots and Needles fiber arts group started meeting again and will gather on the first Wednesday of each month
- Afterschool program for kids will resume on Mondays with alternating programs each week. The schedule will rotate through Minecraft, Make it or Break it STEM activities, Nintendo Switch Squad multiplayer games and Unplugged games and crafts. Kids involved in these after school activities can still ride the activity bus home.
- Our summer community reads gave away 60 copies of the book Cabin by Patrick Hutchison. Patrick came to the library on Tuesday the 16th to a very good audience and was well received.
- Saturday the 20th as part of the Ride Row Run events, the SWC Library Foundation paid for the band Gorge Tropicana to come play live Caribbean music on the library patio. Sounds of steel drums and island music filled Kaiser park
- I'm currently working on grant reports and our annual statistical reports for the state library.

August Statistics:

Patrons served: 608

Reference: 85

Reading Room Use: 13

Computer use: 18

Wi-Fi use: 46

New Patrons: 8

City Council Report for August 2025

- Our Summer Reading Program has wrapped up with great results this year. We had 71 kids registered this summer, 206 attendance at programs and weekly crafts, and 25 completed reading logs returned. Prizes have been distributed to the lucky winners.
- Our Columbia Gorge Quilters Guild exhibit is up for another week before they come to pick it up after Labor Day. Come look at it before it's gone.
- Tegan has been our teen intern for the summer and has done a fantastic job! You have probably seen her artwork on the library window in the hallway. As part of the internship grant, she had to plan and execute a project of her choice. Tegan is an artist and chose to host a class for kids 11 and up teaching them how to design and create their own comic books. The library purchased support materials for the class including new drawing books. Each participant in the class got a bag of goodies with more art supplies for them to take home.
- At the Wasco County Fair this year Katie and I created the Wasco County Library District booth to fit the theme Blue Jeans and Country Dreams. We received a 1st Place ribbon for our display!
- Katie and I have met with the school administration to work on our partnership and activities for the coming year. We are currently promoting an OBOB author visit to the school, a zombie nerf night for the high school, a storyteller and regular Monday after school programs for kids to attend then ride the activity bus home. We are also working toward getting every student in the school their own library card.
- One of the best products I saw at the Oregon Library Association conference in April was Newsbank, which is a service that provides digital copies of newspapers from all over the world. We now have that service and will be promoting it in the coming months. Along with the newspapers there is access to world news research, historical newspaper archives and genealogy research resources.
- July Stats
 - Patron visits – 553
 - Reference - 98
 - Reading room use - 15
 - Computer use - 19
 - New Patrons – 9



Report to City of Maupin August 2025

Artisan's Market: Join us for the Second Annual Artisan's Market on August 31st (Sunday of Labor Day Weekend) on the lawn at Maupin Works. Support local makers, bakers, and crafters and enjoy refreshments from local businesses.

South Wasco FAM Tour: On July 25th, we hosted a group of folks from some of our regional and state-wide partners. The group enjoyed rafting, eating, staying the night, and learning all about Maupin - some for the first time. Representatives from the Deschutes River Alliance also joined us to discuss the health of the river and how it affects our economy. We enjoyed hosting the group during peak-season, so that they could see our businesses in action and experience what it is like to be a Maupin tourist.

Ride, Row, Run Weekend: September 20-21, 2025

All are welcome to join us for the adult trike races, barbecue, kids bike decorating, bike parade, and piñata - 5pm on Saturday, September 20th at Kaiser Park. The triathlon will once again be held at the Imperial River Company on Sunday, September 21st.

'Welcome to Maupin' Signs: The new signs have been completed by Optimist Printers and given to Public Works. They are working on getting the signs erected.

Person of the Year: We have already received a number of nominations! Applications are available at the Civic Center and on the chamber's website: maupinoregon.com. Applications will remain open until November 14th. Please take the time to nominate someone who deserves some recognition!

Next Board Meeting: Thursday September 18th, 4pm at Maupin Works



DISCUSSION: VISIONING REPORTS

6:50 p.m.

DOCUMENTS

[No Documents](#)

MOTION



DISCUSSION: NATURAL HAZARDS MITIGATION PLAN (NHMP)

7:05 p.m.

DOCUMENTS

[NHMP Addendum](#)

MOTION

Volume III: City/Special District Addendum

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Maupin City Addendum

Purpose

This document serves as the City of Maupin's Addendum to the Wasco County Natural Hazards Mitigation Plan (NHMP). The County plan update is scheduled to be sent to FEMA for approval and adopted by the Wasco County Board of Commissioners in October - November 2024. On June 2, 2023, the City of Maupin committed to producing an addendum to be part of the Wasco County Multi-Jurisdictional Natural Hazards Mitigation Plan, to include mitigation action items and an implementation strategy unique to the City of Maupin. The City's Addendum is considered part of the County's multi-jurisdictional NHMP, and meets the following requirements: (1) Multi-jurisdictional Plan Adoption §201.6(c)(5), (2) Multi-jurisdictional Participation §201.6(a)(3), (3) Multi-Jurisdictional Risk Assessment §201.6(c)(2) (iii), and (4) 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 mitigation action items. Information about the City's risk relative to the County's risk to natural hazards is documented in the rationale of the mitigation action items. The rationale indicates how the City's risk is considered greater or lesser than that of the County's.

How was the 2024 Plan Developed?

In 2023, a multijurisdictional group was convened to update the 2019 Natural Hazards Mitigation Plan. Staff from Wasco County and the City of Maupin and others conducted a climate and hazards vulnerability assessment that has become the foundation to this update. Maupin participated in Wasco County's collaborative planning process in the following ways.

1. A representative from the City of Maupin Administrative Office, Community Liaison Melissa Napoli, served on the Wasco County Natural Hazards Mitigation Steering Committee and participated in developing the Wasco County Natural Hazards Mitigation Plan.
2. The City of Maupin received input from a number of staff members to help develop the City's Addendum, including the following:
 - a. City Manager
 - b. Maupin Fire Chief
3. Maupin's working group participated in an issue identification work session. During this work session the working group identified the City's level of risk to each hazard in comparison to the County's risk and identified and documented particular natural hazard issues faced by the City with regard to population, economy, critical facilities and the environment.
4. The working group reviewed draft actions developed based on the outcomes of the first work session. If the City identified its risk as greater than the County to certain hazards, this

information was included in the rationale of the appropriate action item as well as in the County's Risk Assessment.

5. City staff developed the City of Maupin Addendum.
6. The Community Liaison Melissa Napoli sent the draft addendum and attachments to Maupin's working group to review and provide comment. The County assisted the City to make appropriate revisions. The plan was sent to OEM and FEMA for review.
7. The plan returned from FEMA with a letter called Approved Pending Adoption. Then, after the County and the cities approved the NHMP, FEMA sent an approval letter that identified their approval date and the expiration date of the NHMP.

How Were the Action Items Developed?

The City's action items were developed through a two-stage process. In stage one, the Wasco County NHMP Update Steering Committee evaluated County-wide risks and identified potential issues which were then refined by Maupin's work group to be specific to the City. In stage two, the Maupin work group developed potential actions based on the hazards and the issues identified in stage one. The work group then cross walked the City's issues with Wasco County's action items, working through the Wasco County NHMP Update Steering Committee to identify opportunities to partner where issues were shared between jurisdictions.

City of Maupin 2024 Mitigation Action Items

The following mitigation actions are described in detail in the Action Items Matrix.

- Evaluate and Prioritize Critical Infrastructure for Hazard Resilience (e.g. Seismic Retrofit, Wildfire Protections)
- Seek Implementation Funding for Hazard Resilient Modifications to Critical Infrastructure
- Partner with the County for the Coordination of Disaster Education/Outreach & Response
- Identification and pursuit of Implementation Funding for Mitigation Actions
- Annual Review of Natural Hazards Mitigation Plan/ Complete Review/ Update/Adoption by City Council Every Five Years
- Secure Emergency Power Supply to Critical Facilities
- Small Business Awareness and Continuity Planning
- Partner with County on All-Hazard Emergency Preparedness
- Enter Into Supply Contracts and Mutual Aid Agreements

- Ensure Critical Staff Are Identified and Trained in the NIMS-FEMA Compliant Incident Command System (ICS)
- Reduce Impacts to Roadways
- Conduct Severe Weather Risk Awareness Activities
- Assist Vulnerable Populations
- Explore the Potential for Maupin to Participate in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP).
- Explore Acquisition and Management Strategies to Preserve Parks, Trails, and Open Space in the Floodplain.
- Ensure Continued Compliance with the National Flood Insurance Program (NFIP).
- Partner with the County to Implement the Community Wildfire Protection Plan (CWPP)
- Incorporate Wildfire Mitigation in the Comprehensive Plan
- Implement Ongoing Fuels Management Program.

Maupin Addendum Update

As the Wasco County NHMP update process began to unfold in 2024, plans were made to include the City of Maupin in the multi-jurisdictional NHMP update. The City of Maupin's Community Liaison Melissa Napoli, served on the Wasco County NHMP Update Steering Committee, and convened a number of meetings with relevant City staff to create Maupin's City Addendum. Consulted through the process were the City Manager Nick Smith, and Maupin Fire Chief Tom Troutman. Wasco County Staff members, including Senior Planner Daniel Dougherty, Associate Planner Sean Bailey, and Long-range Planner Alice Cannon also provided assistance in the City Addendum's development.

Following those meetings, Community Liaison Melissa Napoli developed the City's addendum, with particular focus on the plan's action items.

The Addendum reflects the City's Hazard Vulnerability and Issue Identification, Plan Goals, and Community Profile sections. The City Manager approved all changes before submittal to the County.

How Will the Plan be Implemented?

The City Council will be responsible for adopting the City of Maupin Natural Hazards Mitigation Addendum. This addendum designates a coordinating body and a convener to oversee the development and implementation of action items. Because the City Addendum is considered part of the County plan, the city will look for opportunities to partner with the County. The City's staff will re-convene 2 ½ years

after re-adoption of the City of Maupin NHMP Addendum. When the County's Steering Committee meets to review actions, the City's working group will also meet to review city-specific actions. The City Manager will serve as the convener and will be responsible for convening the working group. The convener will also remain active in the County's planning process.

Implementation through Existing Programs

Many of the recommendations in the Natural Hazards Mitigation Plan are consistent with the goals and objectives of the City's existing plans and policies. Where possible, the City of Maupin will implement the Natural Hazards Mitigation Plan's recommended mitigation 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. Implementing the Natural Hazards Mitigation Plan's action items through such plans and policies increases their likelihood of being supported and implemented.

In addition to Water, Wastewater, Wellhead Protection and Street Design Standards Plans, the City of Maupin currently has planning documents that directly relate to natural hazard mitigation:

- The City of Maupin Comprehensive Land Use Plan, last revised in 2006, relates to natural hazard mitigation through its section that outlines goals and policies.
- The City of Maupin Capital Improvement Plan, last revised in 2009, relates to Natural Hazard Mitigation through its section on water infrastructure, which does not plan for, but has room for natural hazard mitigation planning. The plan documents upgrades and improvements which may be necessary for fire prevention and suppression.
- The City of Maupin Economic Opportunities Analysis, created in June 2019, describes Maupin's primary opportunity for employment growth as being related to the Deschutes River, a natural resource which supports the majority of Maupin's economy. Natural hazard mitigation, such as protection from floods, may relate to this plan.
- The City of Maupin Main Street Plan, created January 2022, details the preservation of the downtown district as a core value. This could include protection from natural hazards by way of fire suppression equipment or seismic retrofitting.

The working group and the community's leadership have the option to add or implement action items at any time. This allows the working group 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 action will become part of the City's addendum.

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 future updates. The City Addendum, as a chapter of the

County Plan, is posted on the Wasco County and City of Maupin websites so that the public may view the plan and submit electronic comments to the community at any time.

In addition, the Hazard and Vulnerability information is presented to the public by the City of Maupin's Planning Department and at an informational booth during the City's annual Maupin Daze event, hosted this year on May 18th at Kaiser Park in Maupin. Additional information dissemination is conducted throughout the year when opportunities present themselves.

Plan Maintenance

The Wasco County Natural Hazards Mitigation Plan 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 working group 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 working group determine what components of the mitigation plan need updating. The working group will be responsible for updating any deficiencies found in the plan.

The City of Maupin Natural Hazards Mitigation Addendum includes three sections:

1. The City of Maupin Community Profile describes community vulnerability,
2. Hazard Vulnerability and Issue Identification, and

3. Action Items Matrix and detailed action items forms.

Maupin Community Profile

This section provides information on the characteristics of Maupin, in terms of geography, environment, population, demographics, employment and economics, as well as housing and transportation. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering these characteristics during the planning process can assist in identifying appropriate measures for natural hazard mitigation.

Geography and Climate

Maupin is located in Central Wasco County along US HWY-197 at 45.18°N latitude and 121.09°W longitude¹. The elevation of the City is 1,227² feet above sea level. The area of the City estimated by the US Census Bureau is 1.45 square miles. Maupin is located along the Deschutes River, an Oregon Scenic Waterway. The closest major city is The Dalles, Oregon, which is 40 miles away. Portland, the largest City in the state is located 101 miles to the west.

The climate in Maupin varies throughout the seasons, each with its own dominant weather patterns. In the summer, temperatures range between 50 and 85 degrees. During the winter, the temperatures range from a 26 and 46 degrees. According to varied data, the City of Maupin's average snowfall ranges from 14-24 inches annually. According to varied data, the annual average rainfall is approximately 10-14 inches.

¹ National Oceanic and Atmospheric Administration (2024). Your National Weather Service Forecast. <https://www.nws.noaa.gov/wtf/MapClick.php?lat=45.18&lon=-121.09&lg=ep>.

² U.S. Geological Survey Geographic Names Information System: Maupin, Oregon (2024). Summary Report, City of Maupin. <https://edits.nationalmap.gov/apps/gaz-domestic/public/search/names/2411052>.

Table 1.1: General Climate Summary, Maupin, OR

Month	Average Max. Temperature (degree F)	Average Min. Temperature (degree F)
January	42	28
February	46	28
March	54	33
April	61	37
May	67	43
June	75	50
July	84	56
August	85	55
September	76	47
October	64	39
November	49	31
December	40	26
Annual	62	39

Source: USClimateData.com, Average Temperatures, 1981-2010.

Population and Demographics

The City of Maupin, incorporated in 1922, is located on the Lower Deschutes River in South Wasco County at the crossroads between central and eastern Oregon and the Columbia River Gorge.³ Originally utilized for its historic ferry crossing, the city is now a river and rafting recreation location.

Perry Maupin arrived at the present townsite of Maupin in 1872. He realized the possibilities of the location and constructed a ferry, which he operated from the west side of the Deschutes to the mouth of Bakeoven Creek. He continued to operate the ferry for five years, during which time he built the first house in Maupin.

In 1889 Jim Brown a stockman, established a ferry service, hiring J.H. Chastain Sr a millwright and carpenter to do the construction work, but the high water of 1903 washed the dock and ferry away. J.H. Chastain had also built a ferry that summer for R. B. Darnall, near the Oregon Truck depot at Cambrai. After the death of Mr. Darnall in 1905, W.H. Hunt purchased the Darnall holdings and thereafter Maupin was known as 'Hunt's Ferry'. Mr. Hunt's ferry washed away in 1911, but he built a new one which served the people until the building of the (first) bridge in 1912.

³ City of Maupin, Oregon (2024) website, <https://cityofmaupin.org/about-maupin/>.

On September 10th 1921 a fire that virtually destroyed every business, nearly leveled the whole town. The loss was estimated at \$70,000 and was partly covered by insurance. The City of Maupin was incorporated on April 15th 1922 and the town has steadily grown to its present size.

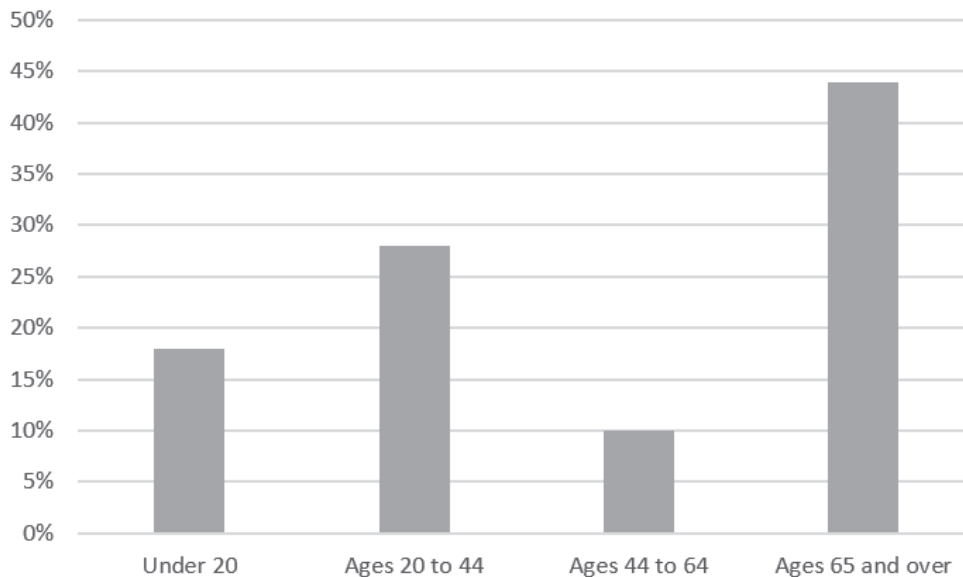
The estimated population of Maupin, according to the United States Census 2022 American Community Survey was 431. The average family size is 2.45. The median age in 2022 was 56.8 years old, compared to 54.7 years old in 2010. 44.1% of Maupin's population is 65 years and older compared to 19.3% of 65 years and older within the state of Oregon. The median age of Maupin citizens continues to slowly increase.⁴ Tables 1.2 and 1.3 illustrate population and demographics of Maupin.

Table 1.2: Total Population, City of Maupin, Wasco County, Oregon, 2010-2022

Jurisdiction	Population (2022)	Population (2020)	Population (2010)	Population Change (2010 - 2022)	Percent Change (2010 - 2022)
Maupin	431	427	418	13	3.0%
Wasco County	26,794	26,670	25,213	1,581	5.9%
Oregon	4,281,851	4,237,256	3,831,074	450,777	10.5%

Source: Portland State University Population Center, *Populations for Oregon and Its Counties and Incorporated Cities and Towns: 2000-2022*.

Figure 1.3: City of Maupin Population Distribution by Age, 2022



Source: U.S. Census Bureau, American Community Survey, 2022.

The impact of disasters, in terms of loss and the ability to recover from a hazard event, varies among population groups. Disabled and aged population groups may disproportionately struggle to recover

⁴ I.d.

from natural disaster loss due to fixed incomes. People with low incomes may find recovery difficult or impossible due to the lack of financial ability. Additionally, a disproportionate burden may be placed upon specific racial and ethnic minority groups and other minority communities that lack the financial power and access to necessary resources needed to recover from the impact of disasters.

Data from the 2020 United States Census provides that 376 people in the City of Maupin self-identified as “White alone” (Non-Hispanic), which is approximately (88%) of the city’s population.⁵ Approximately 20 people, or approximately (0.5%) identified as “Black alone”, “American Indian or Alaska Native alone”, “Asian alone”, “Native Hawaiian or Other Pacific Islander alone”, or “Some Other Race alone”. Approximately 12 people (2.8%) self-identified as Hispanic or Latino (of any race).⁶ According to the 2022 American Community Survey 5-Year Estimate, only 4.5% of residents speak a language other than English.

Employment and Economics

The 2020 census demonstrated that the City of Maupin is steadily growing in both population and business. Maupin is home to small businesses that range from outdoor recreation guides, agriculture, and manufacturing. An increased population corresponds with a growing construction industry focused on residential housing development. Retail trade, arts and recreation, and construction industries make up about 60% of the city’s industry.⁷ Table 1.4 shows the range of industry in Maupin.

Table 1.4: Industries, City of Maupin 2022

Industry	Percent of Employment
Retail Trade	21.10%
Arts, entertainment, and recreation, and accommodation and food services	20.30%
Construction	20.30%
Transportation and warehousing, and utilities	17.20%
Educational services, and health care and social assistance	16.40%
Agriculture, forestry, fishing, and hunting and mining	4.7%
Finance and insurance, and real estate and rental and leasing	0%
Information	0%

⁵ U.S. Census Bureau. (n.d.). Table Decennial Census P1 RACE: Maupin city, Oregon. Retrieved February 12, 2024, from <https://data.census.gov/table/DECENNIALDHC2020.P8?g=160XX00US4146500>

⁶ U.S. Census Bureau. (n.d.). Table Decennial Census P1 RACE: Maupin city, Oregon. Retrieved February 12, 2024, from <https://data.census.gov/table/DECENNIALDHC2020.P8?g=160XX00US4146500>

⁷ U.S. Census Bureau. (n.d.). 2022 Community Profile: Maupin city, Oregon. Retrieved February 12, 2024, from https://data.census.gov/profile/Maupin_city,_Oregon?g=160XX00US4146500

Manufacturing	0%
Other services, except public administration	0%
Professional, scientific, and management, and administrative and waste management services	0%
Public Administration	0%

Source: US Census Bureau, American Community Survey 2022.

A 2019 study titled “City of Maupin Economic Opportunities Analysis” found that Maupin has a high commuter workforce. The study provided that 12% of people who work in Maupin commute from The Dalles, 5% remain from Maupin, and 5% commute from Portland.⁸

The median household income for Maupin is \$44,583, compared to \$75,657 for the state of Oregon.⁹ The household median income is not rising faster than the rate of inflation. The median household income was \$38,611 in 2010 (\$50,097.17 in 2022 dollars).¹⁰ The percentage of households in Maupin at or below the Federal poverty level in 2022 was 9.0%, compared to 12% for the state.¹¹

Housing

Housing type and year-built dates are important factors in mitigation planning. Certain housing types tend to be less disaster resistant and warrant special attention: mobile homes, for example, are generally more prone to wind and water damage than standard stick-built homes. Generally, the older the home is, the greater the risk of damage from natural disasters. This is because stricter building codes have been developed following improved scientific understanding of natural hazards and their impacts on structures. For example, structures built after the late 1960s in the Pacific Northwest and California use earthquake resistant designs and construction techniques. In addition, FEMA began assisting communities with floodplain mapping during the 1970s, and communities developed ordinances that require homes built in the floodplain to be elevated to one foot above Base Flood Elevation (BFE).

There are 310 total housing units in the City (Table 1.5), and their owner occupies approximately 76.1% of those units.¹² The median value of owner occupied housing units in 2010 was \$213,300 and in 2022, is \$238,900. Fifty-seven percent of Maupin’s housing stock is fifty years old or older. Twenty-five percent of Maupin’s housing stock was built between 1970 and 2009. However, 50 housing units were built between 2010 and 2019, a number of houses in a ten-year period that had not been built since 1950-1959 decade. (Table 1.6). Most of the housing units are heated by electricity (58.3%), followed by wood

⁸ City of Maupin. (2019). City of Maupin Economic Opportunities Analysis. P.12.

https://www.oregon.gov/lcd/UP/Documents/Maupin_Economic_Opportunities_Analysis_FINAL.pdf

⁹ U.S. Census Bureau. (n.d.). 2022 Community Profile: Maupin city, Oregon. Retrieved February 12, 2024, from https://data.census.gov/profile/Maupin_city,_Oregon?g=160XX00US4146500

¹⁰ U.S. Census Bureau. (n.d.). 2010: ACS 5-Year Estimates Subject Table Income in the Past 12 Months (in 2022 Inflation-Adjusted Dollars): Maupin city, Oregon. Retrieved February 12, 2024, from <https://data.census.gov/table/ACSST5Y2010.S1901?g=160XX00US4146500&tid=ACSST5Y2022.S1901>

¹¹ U.S. Census Bureau. (n.d.). 2022 Community Profile: Maupin city, Oregon. Retrieved February 12, 2024, from https://data.census.gov/profile/Maupin_city,_Oregon?g=160XX00US4146500

¹² I.d.

fire (20.9%), and gas (15.3% utility or bottled, tank, or LP). Both electric and wood heated housing units have dropped in numbers, but gas-heated housing units have increased since 2010.

Table 1.6: Housing Stock by Age, City of Maupin, 2022

Housing Type	Number	Percent
1 unit, detached	201	65%
1 unit, attached	8	3%
2 to 9 units	9	3%
10 or more units	32	10%
Mobile Home, Boat, RV, Van	60	19%
Total	310	100%

Source: U.S. Census Bureau, American Community Survey, 2022.

Table 1.6: Housing Stock by Age, City of Maupin, 2022

Year Structure Built	Number	Percent
2020 or later	11	4%
2010 to 2019	50	16%
2000 to 2009	11	4%
1990 to 1999	24	8%
1980 to 1989	26	8%
1970 to 1979	16	5%
1960 to 1969	8	3%
1950 to 1959	64	21%
1940 to 1949	27	9%
1939 or earlier	73	24%
Total housing units	310	100%

Source: U.S. Census Bureau, American Community Survey, 2022.

Land and Development

Land use goals in the city are maintained in the comprehensive plan, which is consistent to the state wide land use goals set by the Department of Land and Development Conservation (DLCD). Maupin has experienced a slight decrease in population growth over the past three decades. From 1980 to 2022, Maupin's population decreased approximately 1.9% from a population of 495 people to 427 people.¹³ The 2019 "City of Maupin Economic Opportunities Analysis" found that Maupin is forecast to grow in both commercial and industrial employment sectors over the next 20-years (70 new estimated jobs).¹⁴ Approximately 18 of the 70 jobs will be

¹³ Oregon Secretary of State. (n.d.). Oregon Blue Book: Almanac and Fact Book. <https://sos.oregon.gov/blue-book/Pages/local/city-population.aspx>

¹⁴ City of Maupin. (2019). City of Maupin Economic Opportunities Analysis. P.vii. https://www.oregon.gov/lcd/UP/Documents/Maupin_Economic_Opportunities_Analysis_FINAL.pdf

in industrial land uses, 25 in office and commercial services, and 14 in retail.¹⁵ These jobs will require approximately 5-gross acres of commercial and industrial land. Furthermore, the study found that Maupin has enough employment land to accommodate the expected growth; however, Maupin’s aging infrastructure, such as the wastewater treatment facility, must be upgraded to manage the expected growth.

Transportation and Commuting Patterns

Maupin is located in the approximate center of Wasco County. U.S. Highway 197 runs directly through the center of the city and provides a primary access point over the Deschutes River. Highway 197 is a north-south “Regional Highway with a Special Transportation Area (STA) designation in the City of Maupin.”¹⁶ Because Highway 197 passes through the City of Maupin, the city is a primary corridor to and from the City of The Dalles and Interstate 84, as well as the City of Dufur, and other unincorporated communities in Wasco County. Additionally, Maupin is host to north-south bound travel for Jefferson, Crook, Deschutes, Lake and Klamath Counties.

Transportation is an important consideration when planning for emergency service provisions. Growth within the City is likely to put pressure on both major and minor roads, especially if the main mode of travel is by single occupancy vehicles. How people travel to work is indicative of the prevalence of single occupancy vehicle travel and can help predict the amount of traffic congestion and the potential for accidents. Furthermore, the only access point over the Deschutes River is the Deschutes River Bridge (ODOT: OR 00966) in Maupin, which opened in 1929. This bridge is a key route for north-south bound travel for recreational and commercial purposes and is vital for emergency services.

The majority of the inhabitants in the City commute to work by automobile (85% in 2022, down from 86.2% in 2010), and 10.6% of those workers commute to work via carpooling.¹⁷ Approximately 15% percent walk to work instead of driving.¹⁸ Nearly 28.3% work from home, a significant decrease from 59.2% in 2010.¹⁹

Critical Facilities and Infrastructure

Critical facilities support government and first responders’ ability to act 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.

A critical energy dependent infrastructure list was updated by the working group. Critical facilities within City limits or owned by the City of Maupin are listed in Table 1.7.

¹⁵ i.d.

¹⁶ Wasco County. (2009). Wasco County Transportation System Plan. P.15.

https://www.oregon.gov/ODOT/Planning/TPOD/tsp/county/county_of_wasco_tsp_2009.pdf

¹⁷ U.S. Census Bureau. (n.d.). 2022 and 2010: ACS 5-Year Estimates Table Commuting Characteristics by Sex: Maupin city, Oregon. Retrieved February 13, 2024, from <https://data.census.gov/table/DECENNIALDHC2020.P8?g=160XX00US4146500S0801Communiting>

¹⁸ i.d.

¹⁹ i.d.

Table 1.7: Critical Infrastructure and Facilities, Maupin, 2024

Infrastructure/Facility	
Civic Center	Wastewater Treatment Plant
Communications/Internet Facilities	Upper Reservoir Yard
Deschutes River Bridge	ODOT shop/yard
Electric Utility	City Park and Boat Ramp
Fire Station	BNSF Railway
Richmond's Service Station	Maupin Market
Deschutes Rim Health Clinic	Exposed Waterline from Upper Reservoir
Canyon Rim Asst'd Living	Dufur Springs and Springboxes
South Wasco School District	Springs Pumphouses
Upper Water Reservoir	Wastewater Treatment Plant

Historic and Cultural Resources

Historic and cultural resources such as historic structures and landmarks can help define a community and may also be vital to the survival of recreational and tourism industries. Because of their role in defining and supporting the community, protecting historic and cultural resources from the impact of natural disasters is vital to preserving the community's culture and heritage. Protecting these resources can also help allay burdens placed on historically underrepresented population groups within a community who may have played a monumental role in the city's cultural development.

Table 1.8: Registered Historic Sites, City of Maupin, 2024

National Registry Status	Number of Properties
Not listed, but eligible for listing	16
Listed Individually near the City limits	1

Source: Oregon Historic Sites Database, February 2024

Hazard Analysis and Issue Identification

Initial Work Session Overview

In April 2024, the City staff conducted a series of meetings in order to develop community-specific action items for the City's addendum to the Wasco County Natural Hazards Mitigation Plan. Those action items were included in the City's addendum to the Wasco County Natural Hazards Mitigation Plan.

City Participants

The following individuals participated in the meetings:

- City Manager Nick Smith
- Community Liaison Melissa Napoli
- Maupin Fire Chief Tom Troutman

Analysis & Identification Process

During the meetings, participants discussed and developed the list of critical facilities owned by the City. Participants then provided comments on the City's risk and to identify specific hazard related issues. With information from the meetings, staff developed the NHMP Hazard Analysis and Issue Identification section. Changes were made where appropriate to reflect changes in perception to the City of Maupin's risk to natural hazards. The Wasco County Natural Hazards Steering Committee elected to move Extreme Heat from the Severe Weather Hazard category and rank Extreme Heat as its own hazard. The following is a summary of input from the Maupin working group in the development of the City's Addendum to the 2024 Wasco County Natural Hazard Mitigation Plan.

There are three additional reports that relate to the City of Maupin's Risk Assessment:

- *2022 Community Wildfire Protection Plan*, by the Wasco County Planning Department, 2022.
- *Natural Hazard Risk Report for Wasco County, Oregon Including the Cities of Antelope, Dufur, Maupin, Mosier, Shaniko, The Dalles, and Unincorporated Communities of Chenoweth, Tygh Valley, Pine Hollow, and the Warm Springs Indian Reservation* by the Oregon Department of Geology and Mineral Industries (DOGAMI) (2021)
- *Future Climate Projections Wasco County* report prepared by the Oregon Climate Change Research Institute (OCCRI) in August 2018.

These three reports provide important analysis related to the natural hazards identified in Table 1.8 and how they are impacted related to climate projections. The *DOGAMI Risk Report* will be found in finished form at <http://www.oregongeology.org/pubs/index.htm>. The *OCCRI Future Projections Report* for Wasco County can be found on the Wasco County Planning website, under Long Range – Natural Hazard Mitigation Plan in the Additional Information section.

Of note, the *DOGAMI Risk Report* includes the natural hazards of earthquakes, flood, landslides, wildfire, lahar/volcanoes, and channel migration. Channel migration was not a hazard identified by the Wasco County NHMP Steering Committee and is not discussed in detail in the NHMP. The *Risk Report* does not include severe weather and drought, which are two of the natural hazards identified by the Wasco County NHMP Steering Committee and the City of Maupin Working Group.

DOGAMI describes the purpose of the *Risk Report*:

“The purpose of this project is to help communities in the study area better understand their risk and increase resilience to natural hazards that are present in their community. This is accomplished by

providing them with accurate, detailed, and up to date information about these hazards and by measuring the number of people and buildings at risk.

The main objectives of this study are to:

- Compile and/or create a database of critical facilities, tax assessor data, buildings, and population distribution data.
- Incorporate and use existing data from previous geologic, hydrologic, and wildfire hazard studies.
- Perform exposure and Hazus-based risk analysis.
- Share this report widely so that all interested parties have access to its information and data.

The body of this report describes the methods and results for these objectives. Two primary methods (Hazus-MH or exposure) depending on the type of hazard, were used to assess risk. We describe the methods for creating the building and population information used in this project. Results for each hazard type are reported on a countywide basis, and community-based results are reported in detail in the community profiles.”

The *Risk Report* includes information about critical facilities such as what they are, where they are, what the monetary value of them is, and so forth. These critical facilities are important to note because of the essential role they play in recovery efforts. DOGAMI was provided a list of the Wasco County critical facilities, including the City of Maupin, prepared by the Steering Committee. There are some differences in what DOGAMI includes in the *Risk Report* versus what is included in the NHMP, in terms of critical facilities. See also the subsection “Critical Facilities and Infrastructure” in the Wasco County section for additional details.

OCCRI’s *Future Climate Projections Wasco County* and the *Climate Change Influence on Natural Hazards in Eight Oregon Counties: Overview of County Reports*, provide important information regarding the influence and impacts of climate change on existing natural hazards events such as heavy rains, river flooding, drought, heat waves, cold waves, wildfire, and air quality.

Each county report describes county-specific projected changes in climate metrics related to selected natural hazards. The reports present future climate projections for the 2020s (2010-2039 average) and the 2050s (2040-2069 average) compared to the 1971-2000 average historical baseline. Each hazard in the report has a box highlighting “key messages” that call out the main points of the research and analysis for that hazard.

The City will consult the DOGAMI report to prioritize proposed actions before implementation.

Natural Hazard Risk Level Ranking Table

Table 1.9: Comparison of Wasco County and City of Maupin Revised Risk Level Ranking

Hazard	Wasco Co. Rating	City Rating	Detail
Wildlands-Wildfire	High	High	The Maupin area has seen significant wildfire events in its surroundings over the last several years.

Severe Local Storm	High	High	Ice storm, snow storm or blizzard, and windstorms.
Flood	Medium	High	The Deschutes River and Spring Creek run through Maupin.
Extreme Heat	High	High	Maupin
Earthquake	Low	Medium	Although low probability, results would be devastating to infrastructure.
Landslide	Low	Medium	Maupin has areas of Moderate, High and Very High.
Drought	High	Low	Maupin has sufficient water from Dufur Springs
Volcano	Low	Low	Maupin may be impacted by a volcanic eruption at any time (particularly from Mt. Hood and Mt. Adams)

Source: Wasco County 2018 Natural Hazards Mitigation Plan; City of Maupin Working Group

Wildfire

The working group determined that the City's risk to wildfire is high, which is the same as the County's risk. In addition to information found in the County's plan, the working group identified other issues specific to Maupin. The City of Maupin is a high priority area for wildfire protection in Wasco County because of its limited firefighting resources and the fact that the fuel loading and weather conditions there are conducive to large and fast-moving fires.

- The City's greatest vulnerability lies in the Wildland Urban Interface surrounding Maupin where juniper and sage flats provide ample fire fuels and strong winds can rush fires towards city limits, critical infrastructure and a 27-bed assisted living facility.
- The lightning-caused Boxcar Fire of 2018 burned 100,207 acres and came within one mile of Maupin city limits, threatened approximately 50 homes²⁰ and was fueled by sage, juniper and dry grass. The Boxcar fire was the largest of three major fires burning in the region, which included the Jackknife Fire and the South Junction Fire.²¹
- The Miller Road wildfire of 2022 Miller Road Fire near The Maupin burned more than 10,500 acres and threatened the communities of Juniper Flat and Maupin. One structure was burned. The fire was designated as an OSFM Conflagration Act (CA) incident.²²
- The lightning caused White River Fire in 2020 burned 17,000 acres²³ southwest of Maupin near the neighboring community of Pine Grove, resulting in the death of a helicopter pilot,

²⁰ <https://www.koin.com/news/boxcar-fire-grows-to-nearly-100k-acres/>

²¹ <https://web.archive.org/web/20180624150313/https://inciweb.nwcg.gov/incident/article/5862/43416/>

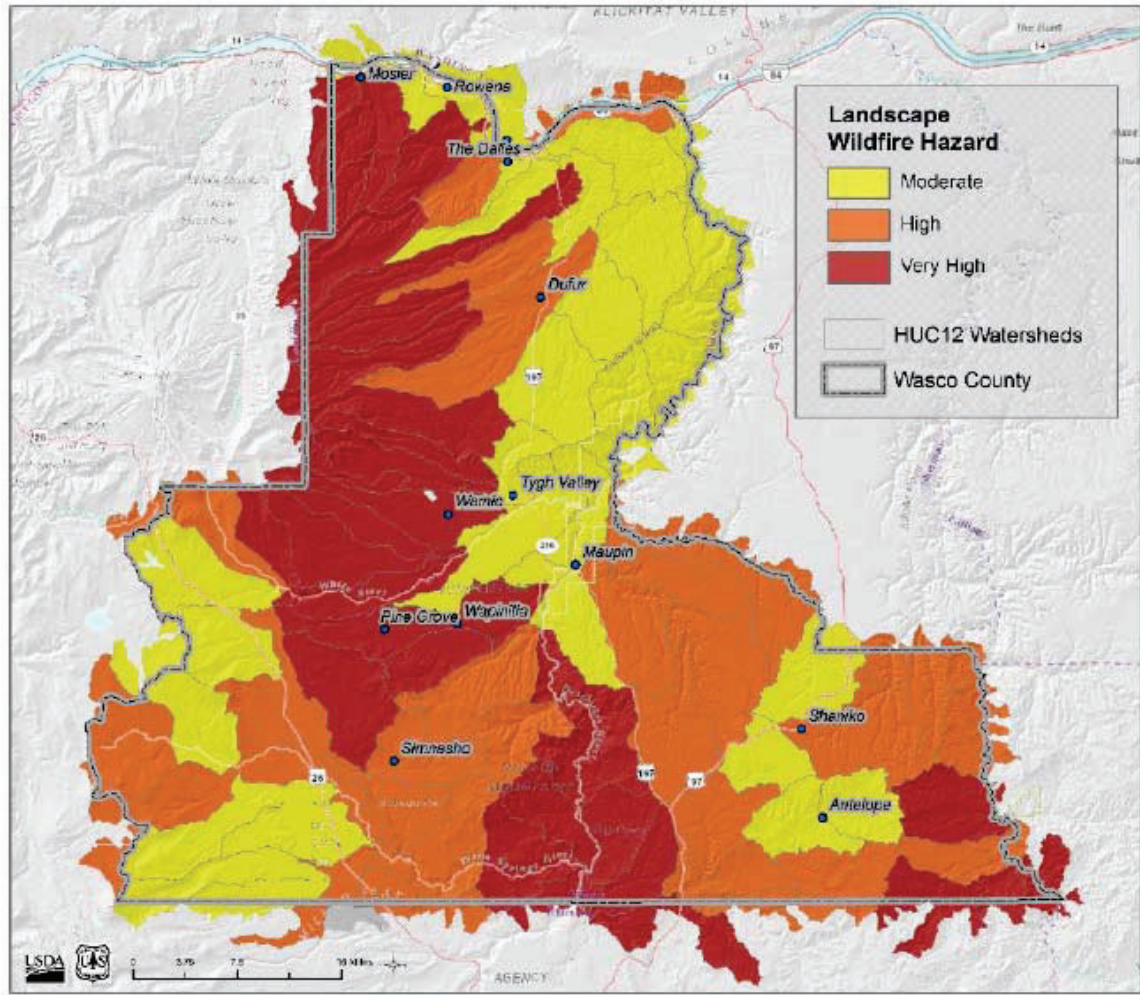
²² https://www.centraloregondaily.com/archives/central-oregon-daily/miller-road-fire-explodes-to-10-500-acres/article_1077b174-da55-5895-a8a9-a6e0c41e3a37.html

²³ <https://www.fs.usda.gov/detail/mthood/fire/?cid=fseprd1027793>

threatening more than 1,700 homes, and warranting a \$3.6 million dollar award from FEMA for recovery efforts.²⁴

- The log home manufacturing plant in Maupin is a potential source of fire because the number of logs onsite present a highly combustible fuel source for a fire that may encroach upon neighborhoods and businesses.

Figure 1.1: Wasco County Fire Zones and WUIs



Source: Source: 2022 Community Wildfire Protection Plan. Wasco County Planning Department. Accessed 3/29/2024.

Severe Weather Event

The County's plan adequately addresses the severe storm risks that the City faces, except for winter storms. Severe weather events periodically impact all of Wasco County, damaging property and disrupting utilities.

²⁴ <https://ktvz.com/news/fire/2022/01/11/fema-directs-3-6-million-to-cover-firefighting-efforts-during-2020-white-river-fire/>

Recently tornadoes have caused significant damage in Western Oregon and Washington. On October 12, 2017 an EF0 tornado damaged the airport in Aurora, OR. A separate tornado on the same day caused airborne debris damage on the Washington State University campus in Vancouver, WA. The Columbian newspaper reported that Matthew Cullen, meteorologist with the Portland Weather Forecast Office of the National Weather Service, said that Washington experiences one or two tornadoes per year. For example, in 2015 an EF1 tornado damaged dozens of homes in Battleground, WA²⁵. But there is no recorded instance of a tornado causing damage in Maupin or Wasco County. Hence, the Wasco County NHMP Steering Committee and the Maupin working group determined that tornado was a hazard to mention but not a hazard that needed to be included specifically in the list of natural hazards that are identified with risk levels (low, medium, and high) in Table 1.8.

Winter Storm

The working group identified winter storm impacts specific to Maupin due to the potential demand for emergency response services and limited accessibility of resources. Roadways blocked with snow and ice can hinder police, fire, and medical response, as well as delivery of needed supplies. Maupin's singular route in and out of the city is by way of US 197, which can become impassable in severe winter weather. US 197 slopes steeply through a series of curves at both the east and west ends of town. These portions of roadway pose significant risk to residents seeking supplies and for emergency responders.

Storm Characteristics

Extreme precipitation events in the Pacific Northwest are governed by both atmospheric circulation and by how it interacts with complex topography. Atmospheric rivers – long, narrow swaths of warm, moist air that carry large amounts of water vapor from the tropics to mid-latitudes – generally result in coherent extreme precipitation events west of the Cascade Range. While closed low pressure systems often lead to isolated precipitation extremes east of the Cascade Range.²⁶

Summer storms in Dufur are generally thunderstorms. The National Weather Service (NWS) defines a severe thunderstorm as any storm that produces one or more of the following elements:

- A tornado.
- Damaging winds or speeds of 58 mph (50 knots) or greater.
- Hail 1 inch in diameter or larger.

Though thunderstorms of such severity are rare in Mosier, heavy rainfall during summer thunderstorms have overwhelmed the capacity of the stormwater conveyance system which has caused localized flooding and wastewater treatment plant violations.

²⁵ Source: The Columbian, *Thursday's storm brought tornado to Vancouver neighborhood*, October 13, 2017. Accessed 4/30/2018

²⁶ The Oregon Climate Change Research Institute. (2018) *Future Climate Projections Wasco County*. Salem, OR: Oregon Department of Land Conservation and Development.

Though damaging winds greater than 58 mph are rare in Mosier, strong winds and moisture funneled through the Deschutes River Valley, periodically impact all of Wasco County. Severe storms can damage property and disrupt utilities.

Winter storms may be ice or snow events that disrupt normal operations.

Ice storms or freezing rain (black ice) occur when rain falls from warm moist upper layers of the atmosphere into a cold, dry layer near the ground. The rain freezes on contact with the cold ground and accumulates on exposed surfaces. In addition to causing ice to accumulate on roadways, ice can accumulate on tree branches and power lines. This can cause power outages and can obstruct already icy transportation routes.

Snow is an ice particle formed by sublimation of vapor in the atmosphere as well as a collection of loosely bonded ice crystals deposited from the atmosphere. Snowfall results in an accumulation of packed ice crystals, and the condition of the snowpack determines a variety of qualities, such as color, temperature, and water equivalent. As weather conditions change, the snowpack can change as well, and this affects the characteristics of the snow.²⁷

Climate Change

The Oregon Climate Change Research Institute issued a report specific to Wasco County in August 2018. They modeled high and low greenhouse gas emissions scenarios. Their predictions for changes in extreme precipitation probabilities by the 2050s based on their higher emissions scenario:

- The intensity of extreme precipitation events is expected to increase slightly in the future as the atmosphere warms and is able to hold more water vapor.
- In Wasco County, the magnitude of precipitation on the wettest day and the wettest consecutive five days per year is projected to increase on average by about 17-percent and 12-percent, respectively.
- The frequency of days with at least 0.75-inches of precipitation and the frequency of days exceeding a threshold for landslide risk is not projected to change substantially.

Storm Probability

Extreme precipitation may occur at any time of year so design parameters in the hydraulic model for the stormwater conveyance system in Maupin are not seasonally specific. The data sources used to develop the maps in Atlas 2 Volume X – Oregon were rainfall records from the *Climatological Data for the United States by Sections* (National Climatic Center 1997-1970) and *Hourly Precipitation Data* (National Climatic Center 1940-1970).²⁸

²⁷ National Snow and Ice Data Center, (n.d.). *What is snow?* nsidc.org/learn/parts-cryosphere/snow. Accessed 5/8/2024.

²⁸ National Oceanic and Atmospheric Administration. (1973). *Atlas 2 Volume X – Oregon*. Washington D.C.: U.S. Dept. of Agriculture, Soil Conservation Service, Engineering Division

Storm Vulnerability

The working group identified winter storm impacts specific to Maupin due to the high concentration of population and potential demand for emergency response services. Roadways blocked with snow and ice can hinder police, fire, and medical response. It is not uncommon for Maupin to be isolated from other communities for a few days or longer each winter when US-197 is closed due to ice or other severe winter weather.

Extended days of extremely low temperatures can cause damage to City infrastructure due to soil movement when temperatures are 20-degrees Fahrenheit or lower. When water turns into ice underground, it expands. This can make the ground move, causing frost heave. Frost heave lifts up the ground, as well as everything on top of it. Frost heave can be strong enough to move and damage roads, bridges, buildings and water mains. When frozen ground thaws, the ice in the ground melts. The ground sinks to fill the space left by the ice. The amount of ice and how quickly it melts can vary from place to place. Because different patches of ground may not thaw at the same rate, melting ice can make the surface uneven. Uneven thawing can make roads wavy and can break water mains that are often buried under roadways.²⁹

Storm Resilience

Historically, Wasco County, the Oregon Department of Transportation and City of Maupin plan for winter weather deployments and share resources for most efficient response.

Storm Risk

With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life. Based the history of storm declarations, Wasco County's social vulnerability ratings, and the potential for storms to impact infrastructure and the local economy, Maupin is considered to be at high risk from storms by the City and Wasco County.

Drought

The working group determined that the City's risk to drought is low, based on abundant availability of spring water from Dufur Springs and lack of historical data to suggest that drought has had an impact on the city in the past. Additionally, agriculture is not a primary source of income for Maupin's residents, reducing the impact of drought on Maupin's economy which relies heavily on seasonal white water rafting and tourism. Though drought has a definite impact on rivers, the Deschutes has a unique flow that is fairly constant due to the many springs that feed the river in the upper reaches and the effects of the Pelton Reregulating Dam, which delivers a uniform flow for the last 100 miles.³⁰ As a result, the impact of drought on Maupin's recreational industries and economy are reduced.

Drought Characteristics

²⁹ National Snow and Ice Data Center, (n.d.). *All About Frozen Ground: How Does Frozen Ground Affect Land?* nsidc.org/cryosphere/frozenground/how_fg_affects_land.html. Accessed 11/25/2020.

³⁰ <https://www.blm.gov/>

The West Wide Drought Tracker was used to provide a chart of drought events in the State of Oregon Region 5 NHMP. In this section the Tracker database was used to provide a chart of drought events specific to Wasco County using the Standard Precipitation-Evapotranspiration Index from 1895 to 2023.

The Standard Precipitation-Evapotranspiration Index (SPEI) is designed to evaluate both precipitation and potential evapotranspiration (PET) in determining drought. Thus, unlike the Standard Precipitation Index, the SPEI captures the main impact of increased temperatures on crop water demand and water supply (agricultural and hydrological drought).³¹

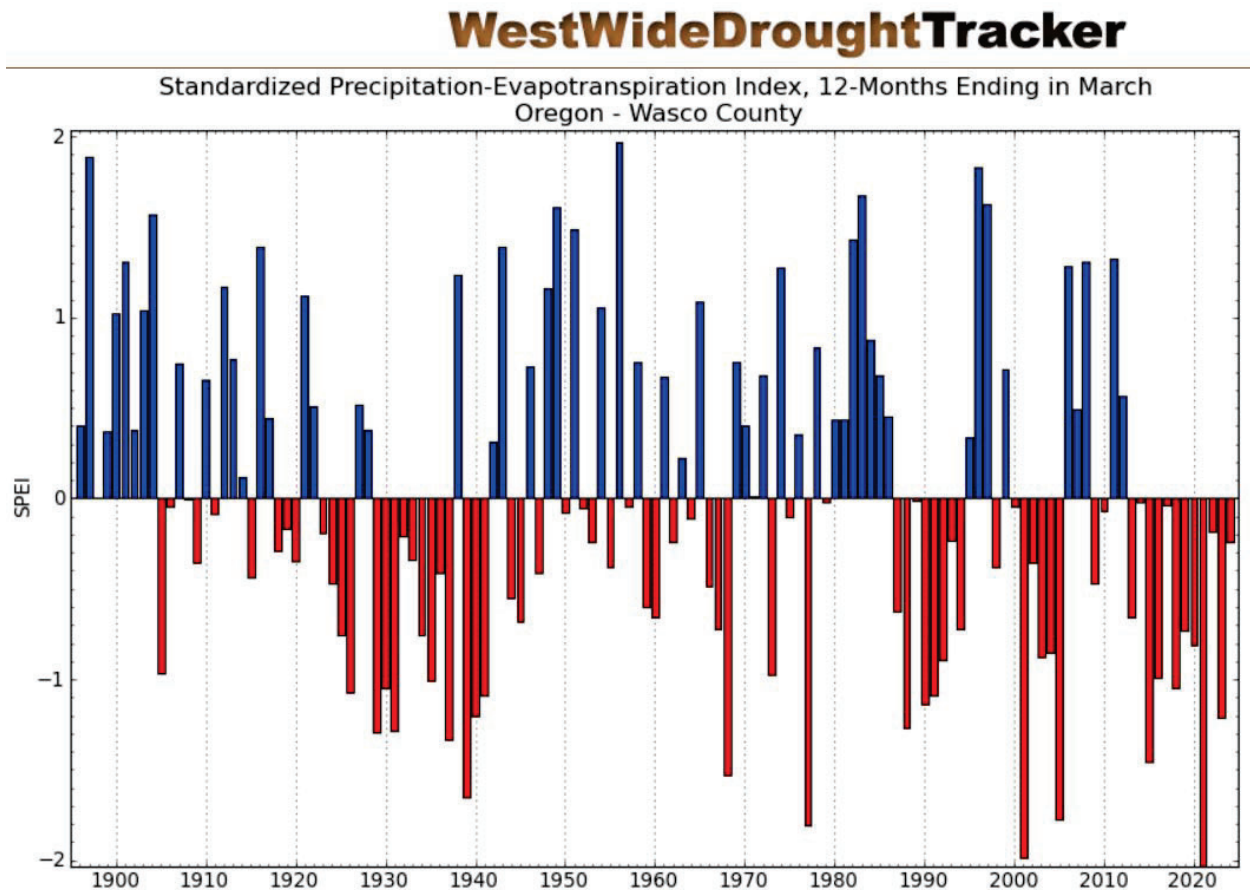


Figure 1: Drought Severity Scale: -1 to -1.49 = moderate drought; -1.5 to -1.99 = severe drought; -2.0 or less = extreme drought Source: University of Idaho West Wide Drought Tracker. (database accessed 4/9/2024) Western Regional Climate Center. wrcc.dri.edu/wwdt/time/

³¹ National Center for Atmospheric Research. (n.d.). Standardized Precipitation-Evapotranspiration Index (SPEI). Retrieved from NCAR Climate Guide Data: <https://climatedataguide.ucar.edu/climate-data/standardized-precipitation-evapotranspiration-index-spei>. Accessed 4/10/2024

Table 11: Recent Drought History – City of Maupin

Year	ENSO Condition ³²	12-mo. SPEI	Declaration
2005	El Niño most of the year ³³	-1.8	EO-05-06 DETERMINATION OF A STATE OF DROUGHT EMERGENCY IN DESCHUTES, LAKE, WALLOWA, WASCO AND WHEELER COUNTIES DUE TO DROUGHT AND LOW WATER CONDITIONS. May 25, 2005; Expired December 31, 2005
2015	El Niño all year – 3 rd strongest on record ³⁴	-1.5	EO-15-05 DETERMINATION OF A STATE OF DROUGHT EMERGENCY IN DESCHUTES, GRANT, JACKSON, JOSEPHINE, LANE, MORROW, UMATILLA, AND WASCO COUNTIES DUE TO DROUGHT, LOW SNOW PACK LEVELS, AND LOW WATER CONDITIONS, May 21, 2015; Expired December 31, 2015
2020	Neutral moving to La Niña JAS	-0.8	EO-20-31 DETERMINATION OF A STATE OF DROUGHT EMERGENCY IN DOUGLAS, GILLIAM, JOSEPHINE, CROOK, DESCHUTES, JEFFERSON AND WASCO COUNTIES DUE TO UNUSUALLY LOW WATER SUPPLIES AND HOT, DRY CONDITIONS, July 1, 2020; Expired December 31, 2020.

³² Climate Prediction Center/National Center for Environmental Prediction. (2024, April 8). *ENSO: Recent Evolution, Current Status and Predictions*. Retrieved from Climate Prediction Center: cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf. Accessed 4/11/2024.

³³ National Oceanic and Atmospheric Administration. (2005). Annual 2005 El Nino/Southern Oscillation. Retrieved from National Centers for Environmental Information: ncei.noaa.gov/access/monitoring/monthly-report/enso/200513. Accessed 4/11/2024.

³⁴ National Oceanic and Atmospheric Administration. (2016, August 2). *2015 State of the Climate: El Nino came, saw, and conquered*. Retrieved from Climate.gov: climate.gov/news-features/understanding-climate/2015-state-climate-el-ni%C3%B1o-came-saw-and-conquered. Accessed 4/11/2024.

Year	ENSO Condition ³²	12-mo. SPEI	Declaration
2021	La Niña except MJJ-JJA	-2.0	EO-21-16 DETERMINATION OF A STATE OF DROUGHT EMERGENCY IN GRANT, UMATILLA, UNION, AND WASCO COUNTIES DUE TO LACK OF PRECIPITATION, UNUSUALLY LOW SNOWPACK AND STREAMFLOW. June 29, 2021; Expired December 31, 2021. EO-21-20 DIRECTING STATE AGENCIES TO SUPPORT COMMUNITIES IN DROUGHT BY CURTAILING NONESSENTIAL WATER USE, IMPLEMENTING WATER CONSERVATION MEASURES, AND ENCOURAGING DROUGHT RESILIENCY. July 7, 2021; Expired December 31, 2021. EO-21-27 DETERMINATION OF STATE OF EMERGENCY IN THE STATE OF OREGON DUE TO EXCESSIVE HIGH TEMPERATURES CAUSING A THREAT TO LIFE, HEALTH, AND INFRASTRUCTURE. August 10, 2021; Expired August 20, 2021.
2022	La Niña all year	-0.2	EO-22-10 DETERMINATION OF STATE OF EMERGENCY IN MULTIPLE COUNTIES DUE TO THE NEED FOR STATE WIDE COORDINATION TO ADDRESS PERSISTENT EXTREME DROUGHT CONDITIONS. June 7, 2022; Expired December 31, 2022. EO-22-13 DETERMINATION OF

Year	ENSO Condition ³²	12-mo. SPEI	Declaration
			STATE OF EMERGENCY IN COLUMBIA, CLACKAMAS, CROOK, CURRY, DESCHUTES, DOUGLAS, GILLIAM, GRANT, HOOD RIVER, JACKSON, JEFFERSON, JOSEPHINE, KLAMATH, MARION, MORROW, MULTNOMAH, POLK, SHERMAN, UMATILLA, UNION, WALLOWA, WASCO, WASHINGTON, WHEELER, AND YAMHILL COUNTIES DUE TO EXCESSIVE HIGH TEMPERATURES CAUSING A THREAT TO LIFE, HEALTH, AND INFRASTRUCTURE. July 25, 2022; Expired July 31, 2022.
2023	El Niño AMJ-NDJ	-1.2	EO-23-10 DETERMINATION OF A STATE OF DROUGHT EMERGENCY IN WASCO COUNTY. April 13, 2023; Expired December 31, 2023.

Drought Probability

The State of Oregon 2020 NHMP lists Wasco County as a medium probability of drought. The probability was calculated based on the number of drought declarations since 1992.

Climate Change

The Oregon Climate Change Research Institute issued a report specific to Wasco County in August 2018. They modeled high and low greenhouse gas emissions scenarios. Their predictions for changes in extreme heat and drought probabilities by the 2050s based on their higher emissions scenario:

- Drought conditions are projected to become more frequent compared to the historical record.³⁵

Drought Vulnerability

The State of Oregon 2020 NHMP notes a difference between the local drought vulnerability assessment (high in Wasco County) compared to the State of Oregon assessment (very high in Wasco County). Though Oregon has not conducted a comprehensive statewide analysis, the Centers for Disease Control (CDC) social vulnerability index informed the State assessment.

“Wasco County’s high vulnerability is driven by moderately high scores across the CDC index. Notably, however, the county scores in the 80th percentile for its share of residents without a high school diploma, percentage of residents that speak English less than “well,” and percentage of persons living in institutionalized group quarters.”³⁶

80-percent of the City’s water supply is contingent on the snow pack (particularly from the forested Cascade foothills east of Mt. Hood), which may fluctuate greatly from year to year.

Droughts impact individual farm owners, the agricultural industry as a whole, and other agricultural related sectors.

Drought Resilience

Maupin’s 2022 Water System Master Plan indicates that Maupin Springs is the only source of water for the City, and if it fails to produce or is contaminated, the City will be without water.

The City currently has three operating storage reservoirs, the 280,000-gallon Lower Reservoir, the 1,030,000-gallon Upper Reservoir, and the 4,200-gallon East Maupin Reservoir.³⁷ Though the city has deemed this storage to be sufficient for typical conditions in a 20 year period, additional contingency plans may need to be developed to meet water needs in times of drought.

Drought Risk

With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life. Based on the history of drought declarations, Wasco County’s social vulnerability index, and the potential for drought to impact the economy, Maupin is considered to be at low risk from drought by the City, and high by Wasco County.

Earthquake

The working group determined that the City’s risk to earthquake is moderate, which is the same as that of the County. There is no past “recent” history of earthquakes in Wasco County or Maupin. However,

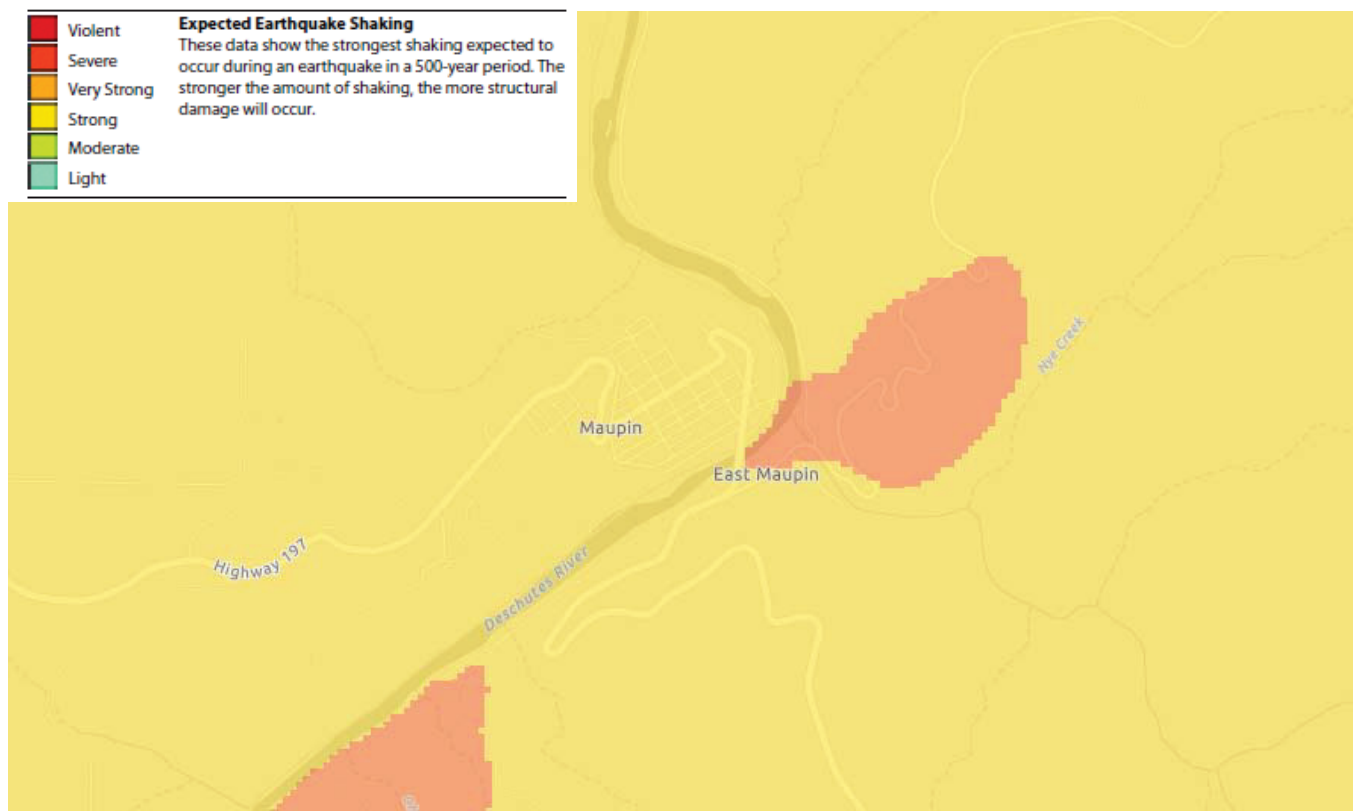
³⁵ The Oregon Climate Change Research Institute. (2018) *Future Climate Projections Wasco County*. Salem, OR: Oregon Department of Land Conservation and Development.

³⁶ State Interagency Hazard Mitigation Team. (2020). *Oregon Natural Hazards Mitigation Plan*. Salem, OR: Oregon Department of Land Conservation and Development.

³⁷ <https://cityofmaupin.org/wp-content/uploads/2022/03/Maupin-Final-WSMP.pdf>

the County’s NHMP indicated that, “It is difficult to identify a part of the community that is not vulnerable to an earthquake. People, buildings, emergency services, hospitals, transportation lifelines, and water and wastewater utilities are susceptible to the effects of an earthquake.” In the event of an earthquake, many of Maupin’s pre-code or low code structures would suffer great impacts. The City’s drinking water treatment plant, treated water storage reservoirs, pipelines, sewage collection system, and sewage treatment plant have not been upgraded to withstand a seismic event and may be susceptible to significant damage. Although Maupin is currently working towards the construction of new and upgraded water and wastewater facilities and infrastructure, if an earthquake were to happen before those projects are completed the current systems may be severely damaged.

Figure 1.1: City of Maupin Earthquake Hazard Map



Source: Oregon HazVu: Statewide Geohazards Viewer, Oregon Department of Geology and Mineral Industries, accessed 6/12/2024

Earthquake Characteristics

Earthquakes in Wasco County are most likely to originate from two sources: 1) the Cascadia Subduction Zone and 2) Class A Quaternary faults that could impact Maupin.³⁸

Cascadia Subduction Zone

Figure 1.2: Maupin Cascadia Earthquake Hazard Map

³⁸ Wasco County. (2019). *Wasco County Multi-Jurisdictional Natural Hazard Mitigation Plan*.



Source: Oregon HazVu: Statewide Geohazards Viewer, Oregon Department of Geology and Mineral Industries, accessed 7/29/2024

Class A Quaternary Faults

Faults that could impact Maupin have been identified by the U.S. Geological Survey. Class A faults are those that geologic evidence demonstrates the existence of a Quaternary fault of tectonic origin, whether the fault is exposed for mapping or inferred from liquefaction or other deformational features³⁹. Quaternary faults are those that have been recognized at the surface and which have moved in the past 1,600,000 years, the duration of the Quaternary epoch.⁴⁰ A fault is designated as well constrained if an identifiable piercing line or feature (typically at or near the surface) is well documented or can be independently verified from mapping or logs. If an offset feature of the fault is in the subsurface, data is presented and correlations appear reliable; offset features of the fault are described or documented⁴¹.

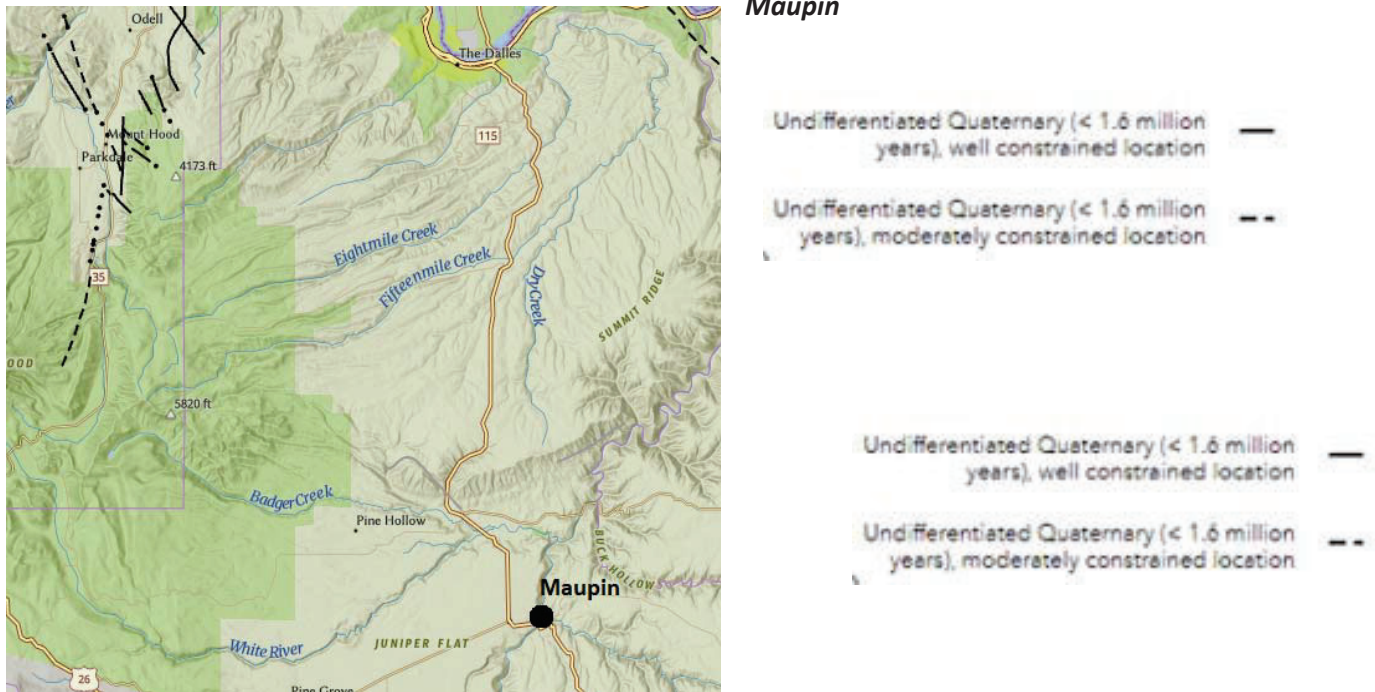
Figure 1.2: Quaternary faults located near Dufur

³⁹ U.S. Geologic Survey. n.d. *Faults*. Retrieved April 1, 2021 from Earthquake Hazards: usgs.gov/programs/earthquake-hazards/faults

⁴⁰ U.S. Geological Survey. (2009, October 27). *FAQs – Quaternary Faults*. Retrieved April 1, 2021, from Earthquake Hazards Program: [web.archive.org/web/20111127121851/http://earthquake.usgs.gov/learn/faq/?faqID=267](http://earthquake.usgs.gov/learn/faq/?faqID=267)

⁴¹ Dawson, T.E., & Weldon, R.J. (2017). *Uniform California Earthquake Rupture Forecast, Version 3 (USERF3) Appendix B – Geological Slip-Rate Data and Geologic*. Menlo Park, CA: USGS Southern California Earthquake Center.

Figure 1.3: Quaternary faults located near Maupin



Source: U.S. Geologic Survey. n.d. *Faults*. Retrieved April 1, 2021 from Earthquake Hazards: usgs.gov/programs/earthquake-hazards/faults

Earthquake Probability

There's no "recent" history of earthquakes in Wasco County or Dufur. The 2020 State of Oregon NHMP included a new Earthquake probability ranking for Oregon counties that is based on the average probability of experiencing damaging shaking during the next 100 years.

- Category 1 100-year probability < 10-percent
- Category 2 100-year probability 10-20-percent
- Category 3 100-year probability 21-31-percent
- Category 4 100-year probability 32-45-percent
- Category 5 100-year probability > 45-percent

Map of Senegal showing the percentage of the population aged 15 years and over by region. The map is color-coded into five categories, with values ranging from 10% to 61%.

Region	Percentage (%)	Category
Diourbel	10	Category 1
Fatick	15	Category 1
Kaolack	15	Category 1
Kolda	14	Category 1
Matamoras	17	Category 1
Niakhar	18	Category 1
Thiès	17	Category 1
Diourbel	16	Category 2
Fatick	16	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
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Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
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Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
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Thiès	16	Category 2
Diourbel	14	Category 2
Fatick	13	Category 2
Kaolack	13	Category 2
Kolda	19	Category 2
Matamoras	14	Category 2
Niakhar	13	Category 2
Thiès	16	Category 2
Diourbel	14	Category 2
F		

Note: Counties with hatching had their probability category increased one step due to newly discovered faults.

However, the County's NHMP indicated that, "It is difficult to identify a part of the community that is not vulnerable to an earthquake. People, buildings, emergency services, hospitals, transportation lifelines, and water and wastewater utilities are susceptible to the effects of an earthquake." In the event of an earthquake, the Maupin Civic Center building may be threatened. Additionally, many other buildings in downtown are constructed of un-reinforced masonry. Buildings of this construction type, as has been documented, are particularly vulnerable to sustain detrimental impacts from an earthquake. The City's drinking water treatment plant, treated water storage reservoirs, pipelines, sewage collection system, and sewage treatment plant have not been upgraded to withstand a seismic event and may be susceptible to significant damage.

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Earthquake Resilience

The Oregon Resilience Plan sets a target timeframe for recover of 90% operation within 24 hours after the event for water utilities in Central/Eastern Oregon⁴². Though damage potential is expected to be light, the City has taken steps to mitigate impacts to the water utility. The Water Master Plan includes capital improvement plans for seismic resilience projects identified in the 2014 Steel Tank Seismic Evaluation as well as replacement of the Dog River Pipeline which was completed in 2024. Other components of the water system will be evaluated during development of an updated Water Master Plan expect to be complete in 2024.

Maupin's Fire Department and Public Works buildings were not built to seismic standards. Continuity of operations planning accounts for possible damage to these facilities.

Mitigation for other natural hazards are associated with mitigations for potential damage caused by earthquakes.

Earthquake Risk

With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life. Based on the proximity of local faults, vulnerable topography in Maupin, Wasco County's social vulnerability index, and the high value of properties within City Limits, Maupin is considered to be at low risk from earthquakes by the City, and Wasco County.

In the event of an earthquake, the Civic Center building, where City Hall is located, may be threatened. Aside from the Civic Center, many other buildings in downtown are constructed of un-reinforced masonry. Buildings of this construction type, as has been documented, are particularly vulnerable to sustain detrimental impacts from an earthquake. The City's drinking water treatment plant, treated water storage reservoirs, pipelines, sewage collection system, and sewage treatment plant have not been upgraded to withstand a seismic event and may susceptible to significant damage. Although Maupin is currently working towards the construction of a new transmission pipeline for its water supply, if an earthquake were to happen before the project is completed (approximately within the next five years), the current pipeline may be damaged.

Flood

The Federal Emergency Management Agency defines a flood as a general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties⁴³.

According to the 2018 DOGAMI Natural Hazard Risk Report for Wasco County, Oregon, flooding is the most common natural hazard in the county and accounts for a significant amount of damage to persons and property⁴⁴.

⁴² State of Oregon. (2012). *Oregon Resilience Plan*. Salem, OR: State of Oregon.

⁴³ Federal Emergency Management Agency. (2020, July 18). *FEMA Flood Insurance Terminology Index*. Retrieved November 18, 2020, from Federal Emergency Management Agency: [fema.gov/flood-insurance/terminology-index](https://www.fema.gov/flood-insurance/terminology-index)

Flood Probability

The Oregon Climate Change Research Institute issued a report specific to Wasco County in August 2018. They modeled high and low greenhouse gas emissions scenarios. Their predictions for changes in extreme heat and drought probabilities by the 2050s based on their higher emissions scenario:

The intensity of extreme precipitation events is expected to increase slightly in the future as the atmosphere warms and is able to hold more water vapor.

- In Wasco County, the magnitude of precipitation on the wettest day and wettest consecutive five days per year is expected to increase on average about 17-percent and 12-percent, respectively, by the 2050s under the higher emissions scenario compared to the historical baseline.
- In Wasco County, the frequency of days with at least 0.75-inches of precipitation and the frequency of days exceeding a threshold for landslide risk is not projected to change substantially.

Mid to low elevation tributaries that are near freezing level in winter, receiving a mix of rain and snow, may experience an increase in winter flood risk due to warmer winter temperatures causing precipitation to fall more as rain and less as snow.⁴⁵

Climate Change

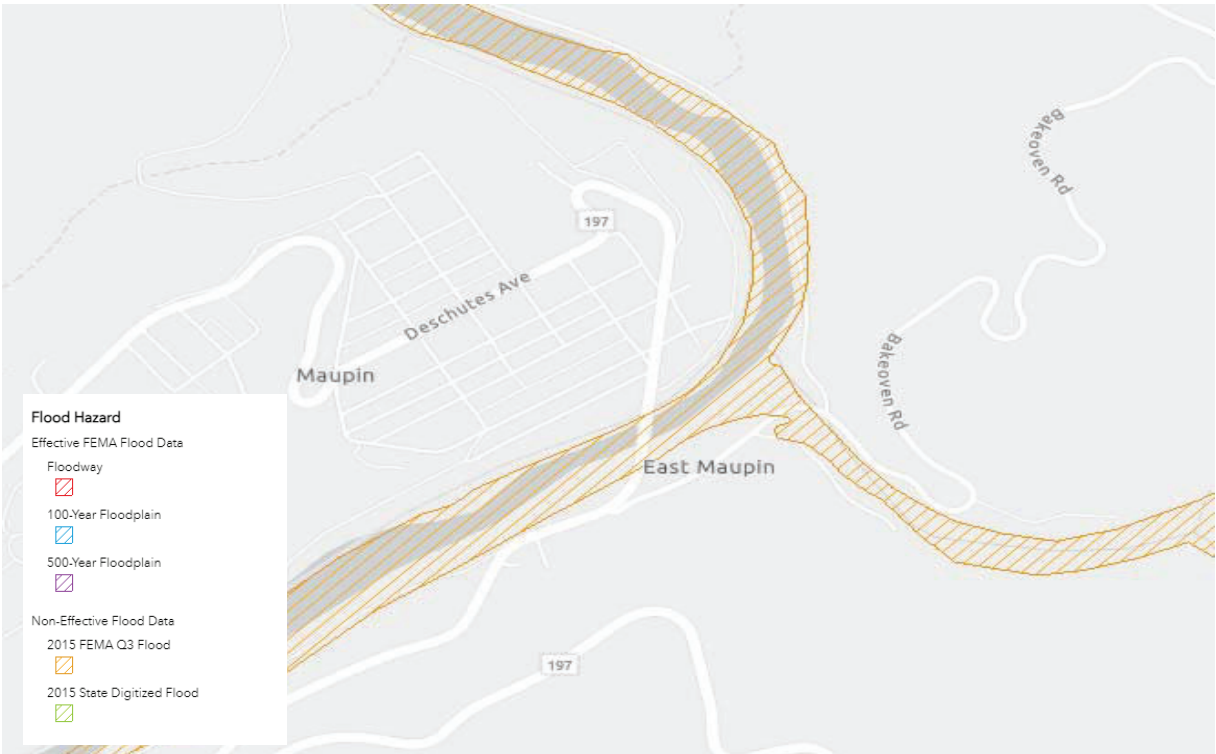
According to the 2020 Oregon NHMP, it is very likely (>90%) that Oregon will experience an increase in the frequency of extreme precipitation events and extreme river flows (high confidence). Furthermore, the likelihood of increases in extreme precipitation events is greater east of Cascades than west. Extreme river flow, while affected by extreme precipitation, is also driven by other conditions: soil moisture, water table, snowmelt, river network morphology, and local variability in precipitation and snowmelt. Increases in extreme river flows leading to damaging floods will be less likely where storm water management (urban) and/or reservoir operations (river) have capacity to offset increases in flood peak.⁴⁶

⁴⁴ Wasco County. (2019). *Wasco County Multi-Jurisdiction Natural Hazard Mitigation Plan*.

⁴⁵ The Oregon Climate Change Research Institute. (2018) *Future Climate Projections Wasco County*. Salem, OR: Oregon Department of Land Conservation and Development.

⁴⁶ State of Oregon. (2020). *Oregon Natural Hazard Mitigation Plan*. Salem, OR: State of Oregon Department of Land Conservation and Development.

Figure 1.2: City of Maupin Flood Hazard Map



Source: Oregon HazVu: Statewide Geohazards Viewer, Oregon Department of Geology and Mineral Industries, accessed 6/12/2024

Table 13: Recent Flood History – City of The Dalles

Year	Type of Flood	Description/Declaration
1996	Rain on snow	February 1996: In February 1996 widespread flooding in the Pacific Northwest resulted from heavy rain and warming on a substantial mid elevation snowpack. The Columbia River crested at 27.1 ft. on February 9. This flood occurred because of the confluence of several factors. The winter of 1995/96 was extremely rainy. Prior to the flooding period, the region experienced a cold snap with low elevation freezing, ice, and snow.
Annual	Spring snow melt	Union Street Undercrossing is at an elevation subject to seasonal flooding. Occasionally in the spring, the road is closed during the flood event and until the road bed dries out to full weight bearing specifications.

Flood Vulnerability

Maupin, as an urban center, has a higher density of high value properties. Flooding has the potential to significantly impact economically valuable commercial and industrial properties. Maupin also has a complex, and expensive, support infrastructure that is subject to flood risk including transportation, water and wastewater systems.

The working group determined that the City’s risk to flood is high, which is greater than the County’s risk. Flooding has the potential to significantly impact economically valuable commercial and industrial

properties along the Deschutes River and Bakeoven Creek. Flood waters and rapidly moving debris also pose a threat to the Deschutes River Bridge, a critical part of Maupin’s transportation infrastructure as it connects residents of East Maupin to emergency services and necessary supplies.

Flood hazards include torrential flooding in major canyons and localized lowland flooding of alluvial units along the Deschutes River. For example, the 1964 flood washed a house down Bakeoven Creek and against an industrial building near the confluence of the Deschutes River.⁴⁷

The City’s floodplain ordinance, Maupin Municipal Code 14.10.050, updated most recently in 1987, tries to mitigate the impact flooding may have on the city by preventing or controlling development in the flood plain.

Flood Resilience

The Federal Emergency Management Agency (FEMA) has mapped most flood-prone streams in Oregon. The maps depict the 1% flood (100-year) upon which the National Flood Insurance Program is based. Maupin Flood Insurance Rate Maps (FIRM) were in the process of update during the writing of this plan with an expected publish date of December 2024.

Flood Risk

With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life. Based the proximity of the Deschutes River and Bakeoven Creek, vulnerable streamside topography in Maupin, Wasco County’s social vulnerability ratings, and the high value of properties that have experienced historical floods, Maupin is considered to be at high risk from floods by the City, and medium risk by Wasco County.

Extreme Heat

Extreme Heat Characteristics

Heat domes have recently emerged as a deadly extreme weather event in the Pacific Northwest. A heat dome occurs when a persistent region of high-pressure traps heat over a particular area, and it can linger for days to weeks and causing extremely high temperatures. Heat domes are typically linked to the behavior of the jet stream, which is a band of fast-moving winds high in the atmosphere that move in meandering wavelike patterns. When the jet stream meanders north, it moves slower and can sink, which lowers humidity. This allows the sun to create progressively hotter conditions on the ground. Air descending down mountains can also contribute to heat domes, as it warms even more.⁴⁸

Extreme heat can affect commerce, agriculture, outdoor recreation, and overall quality of life.

⁴⁷ <https://cityofmaupin.org/wp-content/uploads/2020/04/Maupin-Comprehensive-Land-Use-Plan.pdf>

⁴⁸ National Oceanic and Atmospheric Administration. National Environmental Satellite Data and Information Service. *Extreme Heat and Severe Weather Plague Parts of North America*. June 30, 2023. Accessed 3/28/2024

Extreme Heat Probability

The State of Oregon 2020 NHMP states that the probability of future events is *extremely likely* (>95%) and that the frequency and severity of extreme heat events will increase over the next several decades (*very high confidence*).

Climate Change

The Oregon Climate Change Research Institute issued a report specific to Wasco County in August 2018. They modeled high and low greenhouse gas emissions scenarios. Their predictions for changes in extreme heat and drought probabilities by the 2050s based on their higher emissions scenario:

- The frequency and intensity of extreme heat events is expected to increase due to warming temperatures. The frequency of temperatures at or above 90°F is projected to increase on average by 28 days. The hottest day of the year (intensity) is projected to increase by 8°F.⁴⁹
- Current average maximum temperature range in Maupin is 85°-85.9°F during July and August.

Table 14: Recent Extreme Heat History – City of Maupin (Oregon NHMP Region 5)

Year	ENSO Condition ⁵⁰	Description/Declaration
2006	La Niña moving to neutral in AMJ rapidly warming to El Niño by JAS ⁵¹	June 24–26, 2006: A broad upper ridge of unusually high height coupled with a thermally induced surface trough of low pressure lingered over the Pacific Northwest for several days. This pattern resulted in persistent offshore flow, and therefore many days of record-smashing high temperatures. Many cities in Oregon saw record-breaking daily high temperatures for multiple days in a row. July 20-24, 2006: An unusually strong ridge of high pressure brought several days of record breaking hot and humid weather to NW Oregon. Many cities in Oregon saw record-breaking daily high temperatures for multiple days in a row. Many daily maximums were

⁴⁹ The Oregon Climate Change Research Institute. (2018) *Future Climate Projections Wasco County*. Salem, OR: Oregon Department of Land Conservation and Development.

⁵⁰ Climate Prediction Center/National Center for Environmental Prediction. (2024, April 8). *ENSO: Recent Evolution, Current Status and Predictions*. Retrieved from Climate Prediction Center: cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf. Accessed 4/11/2024.

⁵¹ National Oceanic and Atmospheric Administration. (2005). *Annual 2005 El Niño/Southern Oscillation*. Retrieved from National Centers for Environmental Information: ncei.noaa.gov/access/monitoring/monthly-report/enso/200513. Accessed 4/11/2024.

Year	ENSO Condition ⁵⁰	Description/Declaration
		between 10 and 20 degrees above normal. A few sites reported record high minimum temperatures during this very humid event; a couple broke all-time record high minimums as well. 4500 homes lost power during this event. In north central and eastern Oregon, daily maximum temperatures between 100 and 113 degrees were observed at lower elevations, with temperatures 90 to 100 degrees at elevations up to 4000 feet. Several people were treated for heat related illness. ⁵²
2008	La Niña moving to neutral in AMJ through Dec. ⁵³	June 28–30, 2008: An upper level ridge and thermal trough across the Pacific Northwest produced temperatures above 100 degrees for two consecutive days breaking records in many locations. Two people died of heat-related illness. August 15–17, 2008: Excessive Heat Event: An upper level ridge and dry air brought excessive heat into eastern Oregon. Many locations experienced multiple days of at least 100-degree temperatures.⁵⁴
2010	El Niño JFM moving to neutral in AMJ to La Niña JAS ⁵⁵	July 25–26, 2010: Excessive Heat Event: Temperatures topped 100 degrees for two successive days in Hermiston, Pendleton, 5 miles northeast of Pendleton, Ione, Echo, Arlington, and Umatilla.
2011	La Niña, the warmest among all Januaries	August 1, 2011: A dry weak westerly flow aloft under a broad upper level high pressure system combined with a surface thermal trough to bring several days of

⁵² State of Oregon. (2020). *Oregon Natural Hazard Mitigation Plan*. Salem, OR: State of Oregon Department of Land Conservation and Development.

⁵³ National Oceanic and Atmospheric Administration. (2005). *Annual 2005 El Nino/Southern Oscillation*. Retrieved from National Centers for Environmental Information: ncei.noaa.gov/access/monitoring/monthly-report/enso/200513. Accessed 4/11/2024.

⁵⁴ State of Oregon. (2020). *Oregon Natural Hazard Mitigation Plan*. Salem, OR: State of Oregon Department of Land Conservation and Development.

⁵⁵ National Oceanic and Atmospheric Administration. (2011, August 17). 2010 Climate Events Connected to El Nino or La Nina. Retrieved from Climate.gov: climate.gov/news-features/features/2010-climate-events-connected-el-niño-or-la-niña

Year	ENSO Condition ⁵⁰	Description/Declaration
	when La Niña was present moving to neutral in the spring, ending in La Niña OND ⁵⁶	temperatures in the 90s.
2021	La Niña except MJJ-JJA	In the summer of 2021, the Northwest experienced record-breaking high temperatures from late June through mid-July due to a heat dome.⁵⁷ More than 80 people died in Multnomah County and one heat related death occurred in The Dalles. The extreme heat caused significant crop losses for wheat and cherry growers locally.⁵⁸ Hundreds of heat related emergency room visits were noted throughout the Pacific Northwest. In addition to health impacts, there were impacts to infrastructure such as melted electric train power lines in Portland and buckling due to softened asphalt in Washington.⁵⁹ It was one of the most extreme weather events recorded globally in 2021.⁶⁰ An event such as the Pacific Northwest 2021 heatwave is still rare or extremely rare in today's climate, yet would be virtually impossible without human-caused climate change. As warming continues, it will become a lot less rare.⁶¹ EO-21-27 DETERMINATION OF STATE OF EMERGENCY

⁵⁶ National Oceanic and Atmospheric Administration. (2012, January). *Annual 2011 Global Climate Report*. Retrieved from National Centers for Environmental Information: ncei.noaa.gov/access/monitoring/monthly-report/global/201113. Accessed 4/15/2024.

⁵⁷ U.S. Department of Agriculture. Climate Hubs. 2021 Northwest Heat Dome: Causes, Impacts and Future Outlook. Not dated. Accessed 3/28/2024.

⁵⁸ Reuters. 'Wither away and die:' U.S. Pacific Northwest heat wave bakes wheat, fruit crops. July 12, 2021. Accessed 3/28/2024

⁵⁹ National Public Radio. PHOTOS: The Record-Breaking Heat Wave That's Scorching The Pacific Northwest. June 29, 2022. Accessed 3/28/2024.

⁶⁰ U.S. Department of Agriculture. Climate Hubs. 2021 Northwest Heat Dome: Causes, Impacts and Future Outlook. Not dated. Accessed 3/28/2024.

⁶¹ Sjoukje Y Philip, et al. (2021). *Rapid attribution analysis of the extraordinary heatwave on the Pacific Coast of the US and Canada June 2021*. London, UK. World Weather Attribution.

Year	ENSO Condition ⁵⁰	Description/Declaration
		IN THE STATE OF OREGON DUE TO EXCESSIVE HIGH TEMPERATURES CAUSING A THREAT TO LIFE, HEALTH, AND INFRASTRUCTURE. August 10, 2021; Expired August 20, 2021.
2022	La Niña all year	EO-22-13 DETERMINATION OF STATE OF EMERGENCY IN COLUMBIA, CLACKAMAS, CROOK, CURRY, DESCHUTES, DOUGLAS, GILLIAM, GRANT, HOOD RIVER, JACKSON, JEFFERSON, JOSEPHINE, KLAMATH, MARION, MORROW, MULTNOMAH, POLK, SHERMAN, UMATILLA, UNION, WALLOWA, WASCO, WASHINGTON, WHEELER, AND YAMHILL COUNTIES DUE TO EXCESSIVE HIGH TEMPERATURES CAUSING A THREAT TO LIFE, HEALTH, AND INFRASTRUCTURE. July 25, 2022; Expired July 31, 2022.

Extreme Heat Vulnerability

Vulnerability is defined as the combination of sensitivity to extreme heat and level of adaptive capacity in response to extreme heat.

Adaptive capacity to extreme heat is defined here as percent of homes with air conditioning; however, the authors of the

Oregon Natural Hazard Mitigation Plan note that this measure has its flaws. First, it assumes that people who have access to cooling systems are able to afford to use them. Second, the data only includes single-family homes, which omits populations living in multi-family housing or who are house-less.

Because extreme heat is common in Region 5 (“high” probability), many people are accustomed or prepared in terms of air conditioning when an extreme heat event occurs (“high” adaptive capacity).⁶² A Northwest Energy Efficiency Alliance (NEEA) Residential Building Stock Assessment Single Family Homes 2016-12, estimated that 91% of Wasco County single-family homes have air-conditioning.⁶³ The NEEA follow up study did not assess regions in a similar manner. But did note that by 2022 there has been an increase in the number of homes in Oregon that have cooling systems in at least one room, with the

⁶² State of Oregon. (2020). *Oregon Natural Hazard Mitigation Plan*. Salem, OR: State of Oregon Department of Land Conservation and Development.

⁶³ Northwest Energy Efficiency Alliance. (2019). *Residential Build Stock Assessment Single Family Homes 2016-17*. Portland, OR.: Northwest Energy Efficiency Alliance.

largest increase in ductless mini-split heat pumps.⁶⁴ After nearly 100 Oregonians died in the 2021 heat dome event, the 2022 Legislature passed a bill giving tenants the right to have portable air conditioning units in rental properties. The new law added criteria that includes at least one air-conditioned room in the definition of habitability of rental properties. Owners of new or renovated rental properties are required to install cooling systems after April 2024.⁶⁵

Sustained heat can also damage roads, bridges and railroad tracks, and the increased demand for electricity from air-conditioning use can result in power outages.⁶⁶ The increased demand for irrigation and cooling water can strain water utility infrastructure.

The medium relative vulnerability of Wasco County to extreme heat was determined by the State of Oregon by adding the rankings for sensitivity (social vulnerability) and adaptive capacity (availability of air conditioning).

Extreme Heat Resilience

The City's Civic Center, which houses City Hall and the South Wasco County Library, is intended to be utilized in both extreme heat and winter weather events as a warming and cooling center for residents. Similarly, the Deschutes Rim Health Clinic has historically offered bottled water and been open to the public as a cooling center during extreme heat events. The completion of construction on the upper floor of the Civic Center, with a targeted timeline for completion of five years, will allow a greater portion of the building to be utilized as a resilience hub during extreme weather conditions and natural disasters.

Extreme Heat Risk

With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life. Based on the combination of the probability of extreme heat events, sensitivity to extreme heat, and level of adaptive capacity in response to extreme heat and Wasco County's social vulnerability index, Maupin is considered to be at high risk from extreme heat by the City and by Wasco County.

Landslide

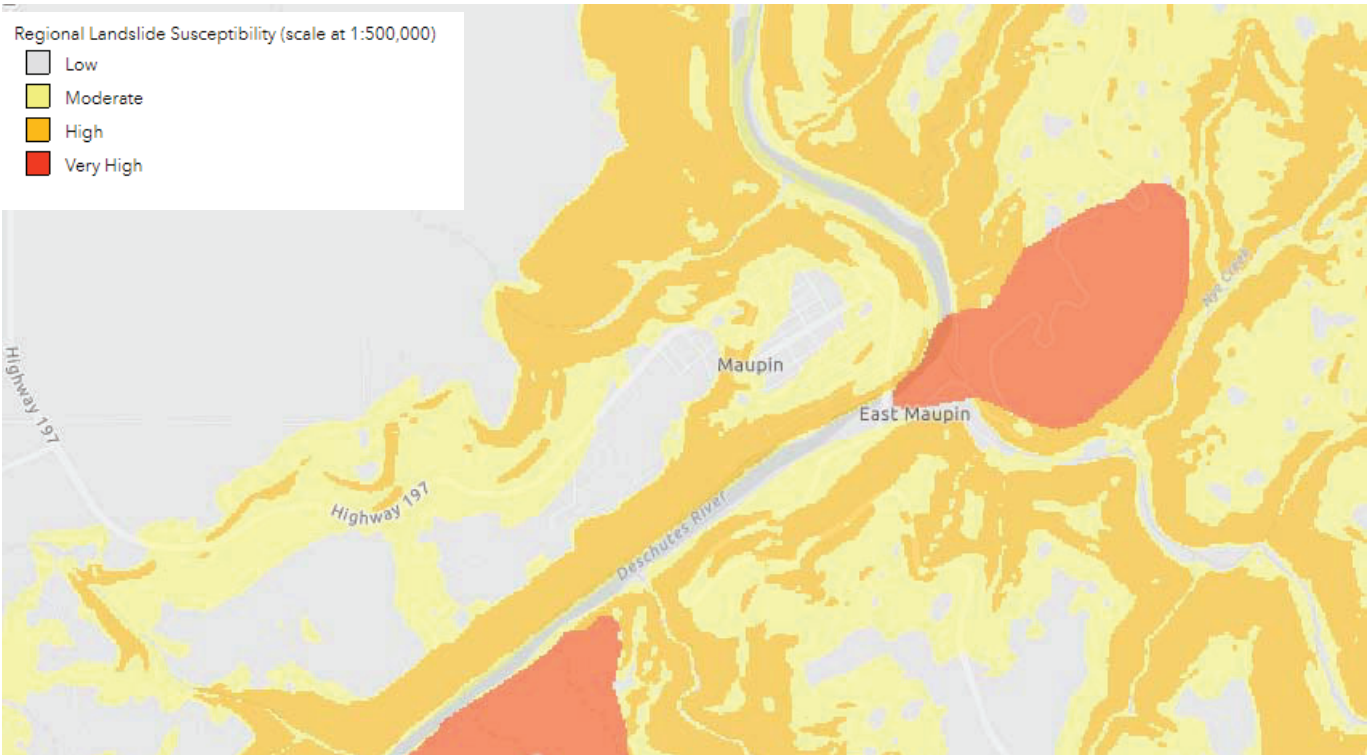
The working group determined that the City's risk to landslide is moderate, which is higher than the County's risk. While in general the risk of landslide in Maupin is moderate, there are areas in the City where the risk is higher, specifically on the east side of the Deschutes River along Bakeoven Creek.

⁶⁴ Northwest Energy Efficiency Alliance. (2024). *2022 Residential Build Stock Assessment*. Portland, OR.: Northwest Energy Efficiency Alliance.

⁶⁵ Oregon State Legislature. (2022, March 23). 2022 Regular Session. Retrieved from Oregon Legislative Information: olis.oregonlegislature.gov/liz/2022R1/Measures/Overview/SB1536

⁶⁶ Oregon Capital Chronicle. Oregon Gov. Brown declares emergency as heatwave continues. Julye 27, 2022. Accessed 3/29/2024.

Figure 1.4: City of Maupin Landslide Hazard Map



Source: Oregon HazVu: Statewide Geohazards Viewer, Oregon Department of Geology and Mineral Industries, accessed 6/12/2024

Landslide Vulnerability

As Figure 1.4 shows, areas that are considered moderate or high risk follow Bakeoven Creek, as well as the eastern portions of city limits. The potential for sliding is produced by geologic factors and aggravated by acts of man which increase the amount of water in the ground, such as lawn watering, extensive irrigation of upslope farmland, and blocking of springs by the construction of houses and roads.

Landslide Risk

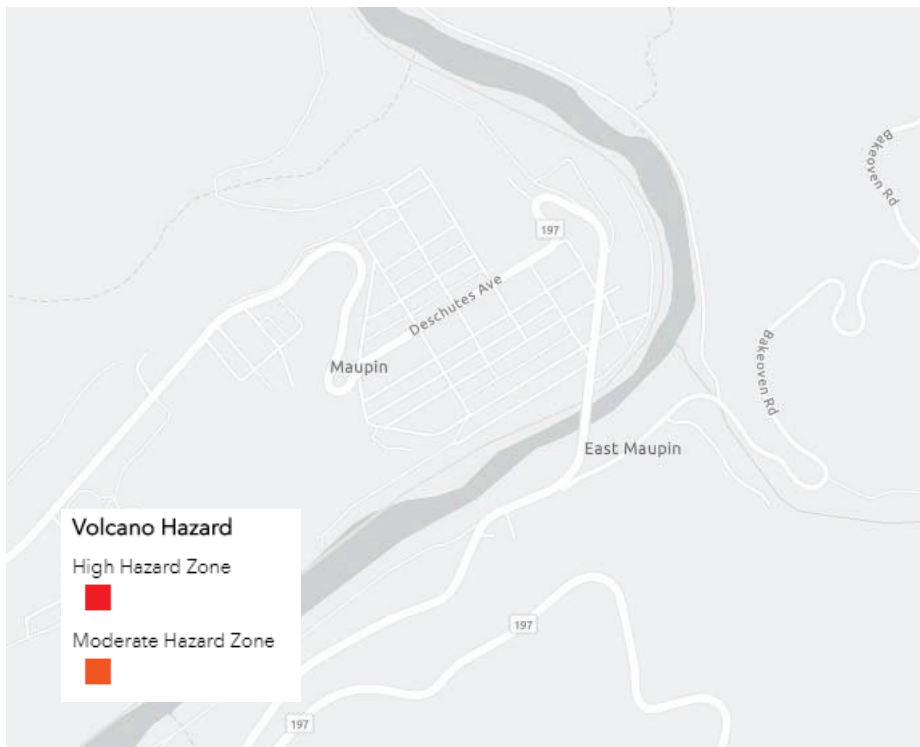
With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life. Based on geohazard conditions in Maupin and the high value of properties that may experience impacts from landslide activity, weighed against active landslide mitigation and monitoring, the working group determined that the City’s risk to landslide is moderate, which is higher than the County’s risk. While in general the risk of landslide in Maupin is

moderate, there are areas in the City where the risk is higher, specifically on the east side of the Deschutes River along Bakeoven Creek.

Volcanic Event

The working group determined that the City's risk to a volcanic event is low, even lower than the County's low risk. In addition to information found in the County's portion of the NHMP, the working group identified other issues specific to Maupin. Maupin may be subject to tephra fallout and the secondary impacts of lahar flows along river and stream channels which may not occur in all areas of the County. The City's primary water supply from Dufur Springs is also directly at risk.

Figure 1.5: The City of Maupin Volcanic Event Map



Source: Oregon HazVu: Statewide Geohazards Viewer, Oregon Department of Geology and Mineral Industries, accessed 6/14/24

Volcanic Event

The working group determined that the City's risk to a volcanic event is low, which is the same as the county. In addition to information found in the County's portion of the NHMP, the working group identified other issues specific to Maupin. Maupin may be subject to tephra fallout and the secondary impacts of lahar flows along river and stream channels which may not occur in all areas of the County. The City's primary water supply from Dufur Springs is also directly at risk.

Volcano Probability

Mount Adams is considered to be an active volcano. It was designated as a high threat volcano by the U.S. Geological Survey (USGS) in its 2018 Update to National Volcanic Threat Assessment. The risk of eruption was ranked 34 of 161 volcanoes assessed in the Cascade Range⁶⁷.

Mount Adams is located about 75 miles northwest of Maupin. The prevailing winds in the area are out of the West so ash fall is not expected to severely impact the city under normal weather conditions. The impact of an eruption is expected to be similar to impacts experienced during the 1980 eruption of Mount St. Helens.

Mount Hood is an active volcano. It was designated as a very high threat volcano by the U.S. Geological Survey (USGS) in its 2018 Update to National Volcanic Threat Assessment because of how it erupts and the communities within its reach. The risk of eruption was ranked 6 of 161 volcanoes assessed in the Cascade Range⁶⁸. USGS–Cascades Volcano Observatory and its partners currently operate eleven seismometers and six GPS receivers on and near Mount Hood⁶⁹.

Mount Hood is located 10 miles west of the Wasco County border, and 53 miles from Maupin. The prevailing winds in the area are out of the West.

Ash fall from Mount Hood could have a significant impact across the entire County⁷⁰. Depending on the season of the eruption, wildfires caused by falling ash, ash fall in the surface water supply, or the blast itself could impact operations at Maupin’s wastewater treatments plant or water aquifers, reservoirs and pumps.

Lahars can be generated by hot volcanic flows that melt snow and ice or by landslides from the steep upper flanks of the volcano. Maupin is located outside of the area expected to experience significant impact from lahars sweeping down the entire length of the Sandy (including the Zigzag) and White River valleys⁷¹.

Mount St. Helens erupted in 1980. Though located 138 miles northwest of Maupin, areas of Wasco County were covered by up to an inch or more of ash and some vehicles could not operate as their air intakes were clogged⁷². However, the eruption of Mount St. Helens did not significantly impact operations at Maupin’s Waste water treatment plant or water reservoirs⁷³.

Volcano Vulnerability

Maupin’s water supply is subsurface and should be safe from ash events.

⁶⁷ Ewert, J.W., Diefenbach, A.K., & Ramsey, D.W. (2018). *2018 Update to the U.S. Geological Survey National Volcanic Threat Assessment*. Reston, VA: U.S. Department of the Interior.

⁶⁸ Ewert, J.W., Diefenbach, A.K., & Ramsey, D.W. (2018). *2018 Update to the U.S. Geological Survey National Volcanic Threat Assessment*. Reston, VA: U.S. Department of the Interior.

⁶⁹ Mize, J. (2019, September 19). *Three additional monitoring stations to be installed on Mount Hood*. columbian.com/news/2019/sep/19/three-additional-monitoring-stations-to-be-installed-on-mount-hood/. Accessed 5/8/2024.

⁷⁰ Wasco County. (2019). *Wasco County Multi-Jurisdiction Natural Hazard Mitigation Plan*. The Dalles, OR: Wasco County.

⁷¹ Wasco County. (2019). *Wasco County Multi-Jurisdiction Natural Hazard Mitigation Plan*. The Dalles, OR: Wasco County.

⁷² Wasco County. (2019). *Wasco County Multi-Jurisdiction Natural Hazard Mitigation Plan*. The Dalles, OR: Wasco County.

⁷³ Anderson, D. (2020) City of The Dalles Public Work Director. (J. Hoyenga Interviewer)

The primary danger area around a volcano covers an approximately 20-mile radius, although there is some danger to people within 100 miles or more. Airborne ash from a volcano can affect people hundreds of miles away from the eruption. The most common volcano-related hazards are ash (tephra), lahars (volcanic mud flows), lava and debris flows, avalanches, and pyroclastic flows.

Volcano Risk

With respect to natural hazards, risk can be expressed as the probability of a hazard occurring combined with the potential for property damage and loss of life based on the proximity of Mount Hood to the City of Maupin and its water and wastewater infrastructure. Maupin is considered to be at low risk by Wasco County and low risk by the City of Maupin.

Goals and Action Items

What are the Plan Goals?

The plan goals help to guide the direction of future activities aimed at reducing risk and preventing loss from future natural hazard events. In order to align with the Wasco County Natural Hazards Mitigation Plan, The City of Maupin is adopting Wasco County's goals, with no City-specific revisions.

Table 1.10. 2024 Wasco County NHMP Goals

Goal	Statement
Protection of Life and Property	Develop and implement activities to protect human life, commerce, property, and natural resource systems.
	Reduce insurance losses and repetitive claims for chronic hazard events while promoting insurance for catastrophic hazards.
	Evaluate guideline/codes and permitting processes in addressing hazard mitigation; emphasize non-structural means of mitigating hazard impact.
	Actively acknowledge amount of loss the County is susceptible to and develop efforts to overcome that loss without significant reliance on outside resources.
	Utilize mitigation activities to minimize risks associated with hazard events.
Emergency Services Enhancement	Evaluate performance of critical facilities during a natural hazard event; implement measures to improve performance.
	Minimize threat to life safety issues.
	Ensure resources, staffing, and volunteer base keeps pace with County growth and needs.
Education & Outreach & Inclusion, Diversity, Equity and Accessibility	Develop and implement education programs to increase awareness among citizens; local, county and regional agencies; non-profit organization; businesses; and industry.
	Develop and conduct outreach programs to increase the number of local activities implemented by public and private sector organizations.
	Build community consensus through outreach, education, and activities.
	Ensure that the cultural, racial, and economic status of citizens is considered during the public planning process, and account for and incorporate underserved communities
Facilitate Partnerships & Coordination	Strengthen communication and coordination of public/private partnership and emergency services among local, county, and regional governments and the private sector.
	Incorporate hazard mitigation into the greater social, economic, and natural resource goal framework.
	Incorporate hazard mitigation as part of the County leadership's routine decision making process.
	Foster a diverse economy to reduce the impacts of a hazard event on any one sector.
	Create the conditions for a transitional economy that welcomes new development and innovative ideas that are sensitive to potential hazard risks faced by the County.
Natural Resource Systems Protection	Link watershed planning, natural resource management, and land use planning with natural hazard mitigation activities.

	Preserve and rehabilitate natural systems to serve natural hazard mitigation functions and protect recreation resources.
	Coordinate programs to increase natural hazard knowledge base and use technology to better record events and model vulnerability.
	Protect recreation and tourism industries by raising awareness of potential hazard impacts.
	Provide support for agricultural and forest industries to help them prepare for hazardous events.
Climate Change	Commit to efforts that will increase understanding of how climate change will increase the frequency and severity of identified hazards.
	Consider the increase in hazard frequency, duration, and severity due to climate change during the development and implementation of activities to protect human life, commerce, property, and natural resource systems.

Source: Wasco County NHMP Steering Committee, May 29, 2024

Action Items

What are the Plan Action Items?

Short and long-term mitigation action items identified through the plan update process, including the issues identification process, risk assessment, and community profile, 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. The mitigation action items identified by the plan are intended to help the City move toward achieving the plan goals. The mitigation action items address both multi-hazard and hazard-specific issues for the hazards addressed in this plan.

In summary, there are 10 multi-hazard mitigation actions, 3 Severe Weather/Winter Storm Hazard, 3 flood, and 3 wildfire actions. There are no volcano, extreme heat, earthquake, drought, or landslide specific mitigation actions.

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. To facilitate implementation, worksheets have been filled out describing each action item with the following information.

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 from a number of sources including participants of the planning process, noted deficiencies in local capability, or issues identified through the risk assessment.

Coordinating Organization

The coordinating organization is the lead public agency with 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 Partners

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

External Partners

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.

The internal and external partner organizations listed in the Action Item Worksheets are potential partners recommended by the project working group, 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 towards completion of the action items.

Plan Goals Addressed

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.

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 within one to two years.
- *Long-term action items* (LT) may require new or additional resources and/or authorities, and may take between one and five years to implement.

Mitigation Action Item Proposal Form

Each mitigation action is described in detail in the Mitigation Action Item Proposal Form and also in summary in the Mitigation Action Items Summary Matrix.

Proposed Action Item:		Alignment with Plan Goals:	
Type of Hazard #1 – Mitigation Proposal Title		Must align with a Wasco County Goal	
Alignment with Existing Plans/Policies:			
List agency and plan that supports the mitigation proposal			
Rationale for Proposed Action Item:			
Rationale should be based on studies and data analysis, may or may not be associated with a plan			
Ideas for Implementation:			
Ideas from plan development working groups and public input sessions			
Coordinating Organization:	City Department that will lead the mitigation effort		
Internal Partners:		External Partners:	
City Departments		Other public and private sector organizations	
Potential Funding Sources:		Estimated cost:	Timeline: (check one)
As identified during plan development		If available	☐ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:	Author or Department		
Action Item Status:	Track from original submittal year. Example: Submitted July 2006 – Revised 2012 – Revised 2018		

City of Maupin NHMP Mitigation Action Items Matrix

Table 1.12: City of The Maupin Mitigation Action Items Matrix Key

Hazard	Summary	Abbreviation
Multi-Hazard	A combination of two or more identified hazards.	MH
Drought	A prolonged period of abnormally low precipitation.	DH
Earthquake	The shaking of the ground caused by an abrupt shift of rock along a fracture in the earth, called a fault.	EH
Flood	An overflow of a large amount of water beyond its normal confines, especially over what is normally dry land.	FH
Landslide	The sliding movement of masses of loosened rock and soil down a hillside or slope.	LH
Severe Heat	Heat events	HH
Volcanic Event	A vent in the earth's crust through which molten rock, rock fragments, gases or ashes are ejected	VH
Wildland-Wildfire	Any instance of uncontrolled burning within a forested area.	WH
Severe Storms/ Winter Storms	Storm hazards include ice, snow and windstorms; Tornadoes are a violent subset of severe storms caused by the intersection of a strong cross wind with a strong warm updraft.	SH

City of Maupin Mitigation Action Items Summary Matrix

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Table 1.13. The City of Maupin NHMP Mitigation Action Item Matrix

Action Item	Priority L=Low M=Med H=Hi	Proposed Action Title	Coordinating Organization	Partner Organizations	Timeline LT=Long ST=Short	Alignment with plan goals				
						Protection of Life & Property	Emergency Services Enhancement	Education & Outreach, and IDEA	Facilitate Partnerships & Coordination	Natural Resource Systems Protection
Multi-Hazard (MH)										
MH #1	M	Evaluate and Prioritize Critical Infrastructure for Hazard Resilience (e.g. Seismic Retrofit, Wildfire Protections)	Public Works	City Council, Engineering Firms, DOGAMI, OEM, FEMA	LT	X				
MH#2	M	Seek Implementation Funding for Hazard Resilient Modifications to Critical Infrastructure	Public Works	City Council, Engineering Firms, DOGAMI, OEM, FEMA	LT	X				X
MH#3	M	Partner with the County for the Coordination of Disaster Education/Outreach & Response	City Council	Oregon Department of Health and Human Services, Red Cross, Adventist Health Columbia Gorge, RFPD's	LT			X		
MH#4	M	Identification and Pursuit of Implementation Funding for Mitigation Actions	Planning	City Council, Wasco County	LT				X	
MH#5	M	Annual Review of Natural Hazards Mitigation Plan / Complete Review/Update/Adoption by City Council Every Five Years	Planning	City Council, OR Office of Emergency Management Federal Emergency Management Agency	ST		X			

Alignment with plan goals											
Action Item	Priority L=Low M=Med H=Hi	Proposed Action Title	Coordinating Organization	Partner Organizations	Timeline LT=Long ST=Short						
						Protection of Life & Property	Emergency Services Enhancement	Education & Outreach, and IDEA	Facilitate Partnerships & Coordination	Natural Resource Systems Protection	Climate Resilience
Multi-Hazard (MH)											
MH#6	M	Secure Emergency Power Supply to Critical Facilities	City Council	Planning, Fire, Public Works, State Fire Marshal, Wasco Electric Co-Op	LT		X				
MH#7	M	Small Business Awareness and Continuity Planning	Chamber of Commerce	Oregon Continuity Planner Association, Wasco County	LT			X			X
MH#8	M	Partner with County on All-Hazard Emergency Preparedness	City Council	Planning, Wasco County Emergency Management	LT				X		
MH#9	M	Enter Into Supply Contracts and Mutual Aid Agreements	City Council	Public Works, Wasco County Emergency Management, National Guard, Private Sector	ST				X		

Alignment with plan goals										
Action Item	Priority L=Low M=Med H=Hi	Proposed Action Title	Coordinating Organization	Partner Organizations	Timeline LT=Long ST=Short	Alignment with plan goals				
						Protection of Life & Property	Emergency Services Enhancement	Education & Outreach, and IDEA	Facilitate Partnerships & Coordination	Natural Resource Systems Protection
Multi-Hazard (MH)										
MH#10	H	Identify and Train critical staff in the NIMS-FEMA Compliant Incident Command System (ICS)	City Council	Public Works, ICS Training Providers, Wasco County Emergency Mgmt	LT				X	
Severe Winter Weather Hazard (SH)										
SH#1	H	Reduce Impacts to Roadways	Public Works	City Council, ODOT, Wasco County Emergency Mgmt.,	LT	X				

Alignment with plan goals											
Action Item	Priority L=Low M=Med H=Hi	Proposed Action Title	Coordinating Organization	Partner Organizations	Timeline LT=Long ST=Short						
						Protection of Life & Property	Emergency Services Enhancement	Education & Outreach, and IDEA	Facilitate Partnerships & Coordination	Natural Resource Systems Protection	Climate Resilience
Severe Winter Weather Hazard (SH)											
SH#2	H	Conduct Severe Weather Risk Awareness Activities	City Council	Wasco County Emergency Mgmt., OEM, Maupin Volunteer Fire Dept	LT			X			X
SH#3	M	Assist Vulnerable Populations	City Council	Wasco Co. Emergency Mgmt., OEM	LT	X					
Flood Hazard (FH)											
FH #1	M	Explore the potential for Maupin to participate in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP)	City Council	Wasco County Emergency Management	ST	X		X			
FH#2	M	Explore acquisition and management strategies to preserve parks, trails, and open space in the floodplain	City Council	Planning, Wasco County Emergency Management, DLCD, OEM, FEMA	LT	X				X	
FH#3	H	Ensure Continued Compliance with the National Flood Insurance Program	City Council	Wasco County Emergency Management, DLCD, OEM, FEMA	LT	X					

Alignment with plan goals											
Action Item	Priority L=Low M=Med H=Hi	Proposed Action Title	Coordinating Organization	Partner Organizations	Timeline LT=Long ST=Short	Protection of Life & Property					Climate Resilience
						Emergency Services Enhancement	Education & Outreach, and IDEA	Facilitate Partnerships & Coordination	Natural Resource Systems Protection		
Wildfire Hazard (WH)											
WH#1	H	Partner with the County to Implement the Community Wildfire Protection Plan (CWPP)	City Council	Fire, Planning, Public Works	LT			X			
WH#2	H	Incorporate Wildfire Mitigation in the Comprehensive Plan	City Council	Wasco County Emergency Management, Oregon Office of State Fire Marshal	LT	X				X	
WH#3	H	Implement Ongoing Fuels Management Program	City Council	Maupin Volunteer Fire Department, Wasco County Emergency Management, OSFM, ODF	LT	X	X	X		X	

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Mitigation Action Items Proposal Forms

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Proposed Action Item:		Alignment with Plan Goals:	
MH #1 – Evaluate and Prioritize Critical Infrastructure for Hazard Resilience (e.g., Seismic Retrofit, Wildfire Protections)		Protection of Life & Property	
Alignment with Existing Plans/Policies:			
City of Maupin Water System Master Plan Maupin Public Water System Emergency Response Plan City of Maupin Wastewater Facilities Plan		City of Maupin Comprehensive Plan City of Maupin Capital Improvement Plan	
Rationale for Proposed Action Item:			
• The City’s 2024 work group acknowledged that most of the City’s municipal buildings and infrastructure are old and that these facilities will require evaluation to better understand their vulnerabilities. • Assessing risk to critical infrastructure will assist in identifying potential mitigation strategies that will reduce future damage caused by natural disasters.			
Ideas for Implementation:			
• The City could utilize Rapid Visual Screening techniques to quickly assess structures in terms of seismic and wildfire vulnerability. • A Steel Tank Seismic Evaluation report on City reservoirs should be performed to evaluate risk. • Evaluation of risk of wildfire to critical facilities and infrastructure, particularly those in the wildland urban interface (WUI).			
Coordinating Organization:	Public Works Department		
Internal Partners:		External Partners:	
City Council		Engineering Firms, DOGAMI, OEM, FEMA	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☒ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:	Submitted June 2024		

Proposed Action Item:		Alignment with Plan Goals:	
MH#2 – Seek Implementation Funding for Hazard Resilient Modifications to Critical Infrastructure		Protection of Life & Property, Climate Resilience	
Alignment with Existing Plans/Policies:			
City of Maupin Water System Master Plan City of Maupin Wastewater Facilities Plan City of Maupin Comprehensive Land Use Plan		2012 Oregon Resilience Plan City of Maupin Capital Improvement Plan	
Rationale for Proposed Action Item:			
As a small rural city, Maupin does not have the ability to fund large-scale Hazard Resilient Modifications to Critical Infrastructure			
Ideas for Implementation:			
- Ensure that critical infrastructure is documented in the Natural Hazard Mitigation Plan and in the Comprehensive Plan so facilities might be more eligible for upgrade grants. - Evaluate funding opportunities. - Complete benefit cost analysis as applicable - Identify funding partners or other jurisdictions interested in similar retrofits. - Write grant applications for funding. - Seek Oregon State Fire Marshal assistance dollars for wildfire related mitigation actions addressing wildfire risk to critical facilities			
Coordinating Organization:		Public Works	
Internal Partners:		External Partners:	
City Council		Engineering Firm, DOGAMI, OEM, FEMA	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:	Alignment with Plan Goals:
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MH#3 - Partner with the County for the Coordination of Disaster Education/Outreach & Response		Education & Outreach
Alignment with Existing Plans/Policies:		
Wasco County Natural Hazard Mitigation Plan Wasco County Community Wildfire Protection Plan		
Rationale for Proposed Action Item:		
- The City's working group recognized that Maupin's vulnerability to wildfire and other disasters is greater than some areas of Wasco County due to limited ingress and egress routes which could prevent citizens from evacuating or receiving needed goods and services. Preparedness education and actions may lessen this impact. - The Community Profile indicates that a substantial portion of Maupin's population is aging and below median income, suggesting a potential for greater vulnerability to disaster and more difficulty recovering if one occurs. - This action was identified in the Wasco County plan.		
Ideas for Implementation:		
- Conduct a Household Survey. FEMA has determined that better practices for disaster communication and education have changed radically since the introduction of the iPhone in 2007. - Efforts should focus on the following populations: Elderly, Low income, Non-English speakers, Mobile Homes, and Schools/day care. - For improving effectiveness of outreach, partner with the Red Cross and utility providers to create informative mailings about natural hazard mitigation. Also, collaborate with the Red Cross and utility providers to create news stories about natural hazard mitigation. - Explore forming a multi-agency South Wasco Preparedness Coalition to coordinate emergency preparedness and hazard awareness education.		
Coordinating Organization:	City Council	
Internal Partners:		External Partners:
Maupin Volunteer Fire Department		Oregon Department of Health and Human Services, Red Cross, Wasco County Emergency Management, Local RFPD's, Adventist Health Columbia Gorge
Potential Funding Sources:	Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds		Short Term (0-2 years) ✓ Long Term (2-4+ years)
Form Submitted by:		
Action Item Status:	Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#4 - Identification and Pursuit of Implementation Funding for Mitigation Actions		Facilitate Partnerships & Coordination	
Alignment with Existing Plans/Policies:			
Wasco County Natural Hazard Mitigation Plan			
Rationale for Proposed Action Item:			
- The reduction of risk in a community typically requires identifying and seeking external funding to implement identified actions. - Creating an action focusing on identifying and pursuing funding will assist the City follow through on the actions identified in the plan - This action was identified in the Wasco County plan.			
Ideas for Implementation:			
- Ensure the City remains an active participant of the County planning efforts. - Identify opportunities to partner with the County or other jurisdictions to submit grant applications to leverage limited resources.			
Coordinating Organization:		Planning	
Internal Partners:		External Partners:	
City Council		Wasco County	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#5 - Annual Review of Natural Hazards Mitigation Plan / Complete Review/Update/Adoption by City Council Every Five Years		Emergency Service Enhancement	
Alignment with Existing Plans/Policies:			
Emergency Management Performance Grant funding from Oregon Office of Emergency Management and FEMA requires the NHMP to be reviewed twice per year.			
Rationale for Proposed Action Item:			
- FEMA requires NHMP update every 5 years to maintain HMGP funding eligibility. - Annual review/update ensures operability of plans and makes 5-year update easier			
Ideas for Implementation:			
- Designate a convener to be responsible for ensuring that the review and update process take place. - Include review and update on departmental work plans. - Incorporate NHMP action items into Department and Division objectives and benchmarks.			
Coordinating Organization:		Planning	
Internal Partners:		External Partners:	
City Council		Oregon Military Department, Office of Emergency Management, Federal Emergency Management Agency	
Potential Funding Sources:		Estimated cost:	Timeline:
			☒ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#6 - Secure Emergency Power Supply to Critical Facilities		Emergency Services Enhancement	
Alignment with Existing Plans/Policies:			
City of Maupin Water Master Plan City of Maupin Wastewater Facilities Plan			
Rationale for Proposed Action Item:			
- Ensuring that critical facilities have emergency power stores is part of protecting critical facilities, because without power, emergency facilities are severely compromised. - Critical facilities typically require emergency back-up power to be able to function during and after a disaster. - Severe storms can knock down power lines and disrupt the electrical grid. - Critical facilities are crucial to emergency response, and all rely on electrical power to provide service. Mitigating the possibility of a sudden power outage makes the facilities more robust in the event of an incident and supports City staff in their efforts to maintain an acceptable level of service for a longer duration. - The working group identified the lack of emergency backup power at critical facilities.			
Ideas for Implementation:			
- Seek capital improvements funding for emergency power supplies for all identified critical City facilities - Identify additional funding sources - Apply for funding and implement acquisition of back-up power as prioritized			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Planning, Fire, Public Works		State Fire Marshal, Wasco Electric Co-Op	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#7 - Small Business Awareness and Continuity Planning		Education & Outreach, Climate Resilience	
Alignment with Existing Plans/Policies:			
Maupin and South Wasco County Strategic Plan of Action			
Rationale for Proposed Action Item:			
- During the issues identification work session, the working group identified that the majority of businesses are small ‘mom and pop’ shops that may lack resources to recover from a disaster - Continuity planning would assist business get back on their feet quicker - Businesses that are prepared will help keep the local economy going - According to the Institute for Business & Home Safety, more than 25% of businesses that close due to a natural hazard never reopen.			
Ideas for Implementation:			
- Explore forming a multi-agency South Wasco Preparedness Coalition to coordinate emergency preparedness and hazard awareness education. - SWPC membership could include state and local government agencies, private businesses and non-profit organizations working toward a mission to support and coordinate community efforts to mitigate, respond to and recover from disasters large and small. Potential business association partners include – The South Wasco Chamber of Commerce, The South Wasco Alliance, and Wasco County Emergency Management. - Utilize existing resources such as the Institute for Business & Home Safety’s Open for Business Toolkit - Work with the Oregon Continuity Planners Association to hold a continuity planning workshop for local businesses			
Coordinating Organization:		Chamber of Commerce	
Internal Partners:		External Partners:	
Planning		Oregon Continuity Planner Association, Wasco County	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#8 - Partner with County on All-Hazard Emergency Preparedness		Facilitation of Partnerships & Coordination	
Alignment with Existing Plans/Policies:			
Maupin Public Water System Emergency Response Plan Wasco County Emergency Operations Plan Wasco County Natural Hazard Mitigation Plan			
Rationale for Proposed Action Item:			
The working group identified a lack of human resources available to undertake preparedness activities.			
Ideas for Implementation:			
- Partner with County when possible, to leverage limited human and financial resources - Partner with state and local government agencies, private businesses and non-profit organizations to identify and establish shelter sites. - Partner with state and local government agencies, private businesses and non-profit organizations to establish emergency notification systems (e.g. sirens, reverse 911, etc.) - Once emergency notification systems are in place, develop coordinated plans for all-hazard communications			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Planning		Wasco County Emergency Management	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#9 – Enter into Supply Contracts and Mutual Aid Agreements		Facilitation of Partnerships & Coordination	
Alignment with Existing Plans/Policies:			
Oregon Public Works Emergency Response Cooperative Assistance Agreement through ODOT			
Rationale for Proposed Action Item:			
- The 2024 working group identified the need to enter into supply and service contracts to establish level of service expectations and invoice processing capability before an emergency incident. - FEMA requires agreements to be in place before an emergency incident for many City response and recovery activities to be eligible for reimbursement.			
Ideas for Implementation:			
- Supply vendors may include fuel, oil, rock, sand, water haulers, pipes and fittings, Equipment rental, etc. - Service providers may include clean-up services, waste haulers, etc.			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Public Works		Wasco County Emergency Management, National Guard, Private Sector	
Potential Funding Sources:		Estimated cost:	Timeline:
			☒ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted 2024	

Proposed Action Item:		Alignment with Plan Goals:	
MH#10 – Ensure Critical Staff Are Identified and Trained in the NIMS-FEMA Compliant Incident Command System (ICS)		Facilitation of Partnerships & Coordination	
Alignment with Existing Plans/Policies:			
Wasco County Emergency Operations Plan			
Rationale for Proposed Action Item:			
- The 2024 working group identified the need to identify and train staff that will be expected to deploy during emergencies. - Training needs may be identified beyond the executive level because field staff need to know ICS deployment protocols to ensure FEMA reimbursement eligibility.			
Ideas for Implementation:			
- Conduct initial ICS training for those identified. - Conduct tabletop exercises planned incidents and other experiential opportunities to practice ICS protocols after initial training. - Activate the Incident Command System during smaller scale emergencies to practice ICS protocols. - Conduct an interagency tabletop exercise or planned incident within the five-year planning period			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Public Works		ICS Training Providers, Wasco County Emergency Management	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted 2024	

Proposed Action Item:		Alignment with Plan Goals:	
SH#1- Reduce Impacts to Roadways		Protection of Life and Property	
Alignment with Existing Plans/Policies:			
Rationale for Proposed Action Item:			
• Maupin's steep hills and curves, as well as several unpaved roads, make extreme winter weather treacherous to navigate. • Maupin's current fleet of road maintenance equipment is aging and insufficient.			
Ideas for Implementation:			
• Planning for and maintaining adequate road and debris clearing capabilities. • Installing roadway heating technology to prevent ice/snow buildup.			
Coordinating Organization:	Public Works		
Internal Partners:		External Partners:	
		ODOT, Wasco County Emergency Management, OEM	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, city funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:	Submitted 2024		

Proposed Action Item:		Alignment with Plan Goals:	
SH #2 – Conduct Severe Weather Risk Awareness Activities		Education and Outreach, Climate Resilience	
Alignment with Existing Plans/Policies:			
Wasco County Emergency Operations Plan Wasco County Natural Hazard Mitigation Plan			
Rationale for Proposed Action Item:			
- The 2024 Working Group determined that Maupin’s aging population may have limited access to computers/internet service, may have limited financial resources and could benefit from ongoing education regarding severe weather risk. - The Working Group determined that many of Maupin’s homes are heated with wood heat, which may present risks to residents. - The Working Group determined that Maupin’s distance from medical services and supplies may require citizens to travel up to 50 miles during severe weather events.			
Ideas for Implementation:			
- Inform the public about severe weather impacts. - Producing and distributing family and traveler emergency preparedness information about severe winter weather hazards. - Encourage homeowners to install carbon monoxide monitors and alarms. - Educating citizens that all fuel-burning equipment should be vented to the outside. - Educate homeowners about freezing pipes and winterization activities			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Maupin Volunteer Fire Dept		Wasco County Emergency Management, OEM	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☒ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
SH#3 – Assist Vulnerable Populations		Protection of Life and Property	
Alignment with Existing Plans/Policies:			
Wasco County Emergency Operations Plan			
Wasco County Natural Hazard Mitigation Plan			
Rationale for Proposed Action Item:			
- Maupin’s 2024 Working Group determined that Maupin’s aging population and households below the median income level make most Maupin residents vulnerable in the event of a severe winter storm. - Maupin is home to Canyon Rim Assisted Living Facility, which may require assistance in a severe winter storm or power outage.			
Ideas for Implementation:			
- Identify specific at-risk populations that may be exceptionally vulnerable in the event of long-term power outages. - Organizing outreach to vulnerable populations, including establishing and promoting accessible heating centers/shelters in the community. - Educate citizens about severe weather risk and local resources.			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Maupin Volunteer Fire Department		Wasco County Emergency Management, OEM,	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☒ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted 2024	

Proposed Action Item:		Alignment with Plan Goals:	
FH#1 - Explore the potential for Maupin to participate in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP)		Protection of Life & Property Education & Outreach	
Alignment with Existing Plans/Policies:			
City of Maupin Comprehensive Land Use Plan			
Rationale for Proposed Action Item:			
- The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community flood plain management activities that exceed the minimum NFIP requirements. As a result, insurance premiums under the NFIP are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. - The Disaster Mitigation Act of 2000 requires communities to identify mitigation actions that address existing buildings and infrastructure [201.6(c)(3)(ii)]. Inclusion into the Community Rating System program can help communities in Wasco County to enhance mitigation efforts and decrease the vulnerability to floods.			
Ideas for Implementation:			
- Determine CRS eligibility requirements. - Determine the best means of outreach to floodplain residents (mailing? Public meeting? Other methods?) - Coordinate with the Department of Land Conservation and Development (DLCD) and FEMA to join the Community Rating System. - Educate businesses and homeowners currently under the NFIP program about the CRS program and any mitigation actions they can implement to reduce their insurance premiums.			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Public Works, Planning		Wasco County Emergency Management	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants			☒ Short Term (0-2 years) ☐ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
FH#2 - Explore acquisition and management strategies to preserve parks, trails, and open space in the floodplain		Protection of Life & Property Natural Resource Systems Protection	
Alignment with Existing Plans/Policies:			
City of Maupin Comprehensive Land Use Plan City of Maupin Capital Improvement Plan			
Rationale for Proposed Action Item:			
- The Disaster Mitigation Act of 2000 requires communities to identify mitigation actions that address future development [201.6(c)(3)(ii)]. Developing acquisition and management strategies to preserve open spaces in the floodplain will prevent flood hazards by limiting or prohibiting development in these areas. - Goal 7 of Oregon's Land Use Planning Goals requires that local governments "adopt or amend, as necessary, based on the evaluation of risk, plan policies and implementing measures...[that prohibit] the siting of essential facilities, major structures, hazardous facilities and special occupancy structures, as defined in the state building code (ORS 455.447(1) (a)(b)(c) and (e)), in identified hazard areas..." Developing acquisition and management strategies to preserve open spaces in the floodplain will fulfill goal 7 by preventing the siting of major facilities in a flood-hazard area.			
Ideas for Implementation:			
- Identify potential opportunities to acquire lands in the floodplain for use as parks, trails, or open space. - Work with the Department of Land Conservation and Development, Oregon Military Department, Office of Emergency Management and FEMA to identify potential funding sources.			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Planning		Wasco County Emergency Management, DLCD, OEM, FEMA	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, Urban Renewal Agency, Private Sector			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
FH#3 - Ensure continued compliance with the National Flood Insurance Program		Protection of Life & Property Education & Outreach	
Alignment with Existing Plans/Policies:			
City of Maupin Comprehensive Land Use Plan			
Rationale for Proposed Action Item:			
- The Disaster Mitigation Act of 2000 requires communities to identify a comprehensive range of mitigation actions. - Ensuring that the City remains in compliance with the National Flood Insurance Program will assist the community in continuing to maintain eligibility for the Flood Mitigation Assistance Program. - At this time, the City has no repetitive loss properties, keeping up on participation in the National Flood Insurance Program may help ensure that repetitive loss properties are mitigated, and that future development does not become repetitive loss property.			
Ideas for Implementation:			
- Partner with Wasco County on continuing compliance activities. - Explore opportunities to update floodplain ordinances based on new hazard knowledge provided by 2023 Wasco County FIRM. - Explore forming a multi-agency South Wasco Preparedness Coalition to coordinate flood hazard and floodplain ordinance awareness education.			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
		Wasco County Emergency Management, DLCD, OEM, FEMA	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
WH#1 - Partner with the County to Implement the Community Wildfire Protection Plan (CWPP)		Facilitation of Partnerships & Coordination	
Alignment with Existing Plans/Policies:			
Wasco County Natural Hazards Mitigation Plan Wasco County Community Wildfire Protection Plan			
Rationale for Proposed Action Item:			
• The City's working group identified that their risk to wildfire is equal to that of the County. • The 2021 DOGAMI Natural Hazard Risk Report for Wasco County listed the homes in the Wildland Urban Interface around Maupin as being an Area of Significant Risk for wildfire. • The City participated in the development of the County Community Wildfire Protection Plan. • The working group identified the need to continue to work with the County, ODF, and USFS on wildfire issues.			
Ideas for Implementation:			
• Participate in further planning and project activities with the County. • Partner with the County on education and outreach related activities • Explore potential to distribute wildfire brochures (available through Institute for Business & Home Safety) to residents pulling building permits, who are located in the urban fringe. • Pursue fire fuels reduction opportunities within the Wildland Urban Interface (WUI).			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Fire, Planning, Public Works		Wasco County Emergency Management, Wasco County Planning, Oregon Department of Forestry, USFS, OSFM	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants, city funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
WH#2 – Incorporate Wildfire Mitigation in the Comprehensive Plan		Protection of Life and Property, Natural Resource System Protection,	
Alignment with Existing Plans/Policies:			
City of Maupin Comprehensive Land Use Plan			
Rationale for Proposed Action Item:			
• The City’s working group identified that their risk to wildfire is equal to that of the County. • The 2021 DOGAMI Natural Hazard Risk Report for Wasco County listed the homes in the Wildland Urban Interface around Maupin as being an Area of Significant Risk for wildfire. • The Working Group acknowledged that multiple factors have increased Maupin’s risk to wildfire since the Comprehensive Plan was last updated in 2005 and that these changes necessitate the inclusion of wildfire mitigation strategies into City Planning.			
Ideas for Implementation:			
• Recognize the existence of wildfire hazards and identify areas of risk based on a wildfire vulnerability assessment. • Write policies and recommendations for addressing wildfire risk and discouraging expansion in the Wildland Urban Interface (WUI). • Include considerations of wildfire hazards in land use, public safety, and other elements of the Comprehensive Plan.			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Planning		Wasco County	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State and Federal Grants/Loans, City Funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	

Proposed Action Item:		Alignment with Plan Goals:	
WH#3 – Implement Ongoing Fuels Management Program		Protection of Life and Property, Education and Outreach, Facilitate Partnerships and Coordination Natural Resource System Protection	
Alignment with Existing Plans/Policies:			
Wasco County Community Wildfire Protection Plan			
Rationale for Proposed Action Item:			
- The City’s working group identified that the City’s risk to wildfire as greater than that of the County. - The 2021 DOGAMI Natural Hazard Risk Report for Wasco County listed the homes in the Wildland Urban Interface around Maupin as being an Area of Significant Risk for wildfire. - Maupin’s upper water reservoir, the city’s wastewater treatment plant and Canyon Rim Assisted Living Facility, a 35-bed senior care facility- are located in the Wildland Urban Interface. Fire fuels management and defensible space work are critical to the protection of these community assets.			
Ideas for Implementation:			
- Seek funding for continued fire fuel reduction efforts in the Wildland Urban Interface and within city limits. - Purchase air- burner for the removal of fire fuels. - Purchase large-scale chipper for semi-annual chipping events. - Distribute Defensible Space educational materials via mail, print advertising and social media. - Partner with Wasco County to host annual wildfire/disaster preparedness event in South Wasco County			
Coordinating Organization:		City Council	
Internal Partners:		External Partners:	
Maupin Volunteer Fire Department		OSFM, USFS, ODF	
Potential Funding Sources:		Estimated cost:	Timeline:
FEMA, State, Federal Grants, city funds			☐ Short Term (0-2 years) ☒ Long Term (2-4+ years)
Form Submitted by:			
Action Item Status:		Submitted June 2024	



DISCUSSION: DARK SKY

7:15 p.m.

DOCUMENTS

[Antelope Web page information](#)

[Dark Sky Fact Sheet light pollution](#)

MOTION

With significant support from DarkSky Oregon, the City of Antelope took the following steps below to earn their Dark Sky designation:

Adopted a new outdoor lighting ordinance.

Installed a recording sky quality meter & conducted periodic hand-held sky quality meter measurements at representative locations, accumulating now 16 months' worth of data, scientifically documenting the darkness of their night sky.

Conducted an outdoor lighting inventory.

Removed non-compliant, nonessential streetlights.

Replaced remaining streetlights with Dark Sky Approved fixtures in collaboration with the local electrical utility provider.

Revised city website to include Dark Sky resource materials and updated notifications.

Hosted public star parties.

Hosted Community Outreach events open to the public to learn about intrusive lighting and provided Dark Sky education materials and resources.

Provided a resource table at the Community Center during all public events that includes Dark Sky resource materials along with Dark Sky approved light bulbs.

Posted Dark Sky education materials at public locations and in the local post office bulletin boards.

Provided free Dark Sky approved outdoor light bulbs to residents.

Received three telescopes from Rose City Astronomers Club to help with outreach and engagement efforts for residents.

Partnered with 13 individuals and entities for support letters in conjunction with applying for Dark Sky designation.

Submitted a detailed and successful written application for dark sky certification

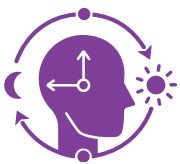
These efforts had three primary goals, to raise awareness of the importance of preserving the natural night environment, to promote dark sky-friendly practices, and to put Antelope on the map as an example to inspire other small communities who treasure and desire to protect their beautiful night sky.

After receiving Dark Sky Community designation, the City of Antelope plans to continue its efforts to preserve and enhance its night sky. This includes expanding public education programs to raise awareness about the benefits of dark skies, promoting responsible outdoor lighting practices, and engaging with local businesses and residents to maintain the standards that earned this designation. The city also aims to attract astronomy enthusiasts, eco-tourists, and public events that highlight the beauty of the night sky, further fostering a sense of community and environmental stewardship. Additionally, Antelope plans to work with surrounding areas to expand dark sky initiatives and protect the region's natural nocturnal environment.

Light pollution harms our health and wellbeing.



Over the past 100 years, humans have transformed the night, erasing the natural darkness with which we evolved. While artificial light at night is crucial to our modern world, it comes at a cost. Increasing scientific research indicates that artificial light at night has detrimental effects on human health and well-being.



Circadian rhythm disruption

Largely influenced by the light and dark, our circadian rhythm is our body's natural 24-hour regulating clock. Circadian disruption occurs when our internal clock is out of sync with the day-night cycle. Circadian disruption has been linked to an increased risk of obesity, diabetes, mood disorders, reproductive problems, and cancers.



Decreased melatonin production

While we are still learning about the relationship between artificial light and human health, we know that exposure to light at night—even at dim levels—can suppress the body's production of melatonin, a hormone that regulates our sleep-wake cycle, metabolism, and immune system.



Glare impairs vision

Irresponsible outdoor lighting at night can increase dangers rather than safety. Overly bright and poorly shielded lighting creates blinding glare, impairing vision, leading to dangerous missteps and accidents. Blue light, often used in newer LED streetlights, is more likely to create dangerous glare.

WHAT CAN I DO?



Live a healthy life in a world filled with artificial light.

- Use fully shielded outdoor light fixtures to minimize the light that streams into your home.
- Use indoor light bulbs that emit warm white light with a color temp. of 3000K or lower.
- When it's time for bed, keep your bedroom dark by using blackout curtains and covering all light sources such as clock radios and charging stations.
- If you need a nightlight, use one with dim red or amber light. Red light is least likely to be disruptive.
- Try not to use devices with screens 30-minutes prior to sleeping. If you must use devices at night, install a color temperature app that reduces blue light levels.
- Work with your neighbors and local government to reduce light pollution in your community.



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Learn more about light pollution and human health.

darksky.org/resources/what-is-light-pollution/effects/human-health

Light pollution destroys critical wildlife habitat.



Plants and animals depend on natural light cycles to govern life-sustaining behaviors such as reproduction, nourishment, sleep, and protection from predators. Scientific evidence suggests that artificial light at night has deadly effects on many creatures, contributing to the decline of biodiversity worldwide.



Migratory birds

Artificial lights can cause migrating birds to wander off course towards dangerous nighttime landscapes and cities. Millions of birds die colliding with needlessly illuminated buildings and towers every year.



Sea turtles

Hatchling sea turtles find the sea by detecting the bright horizon over the ocean. Artificial lights draw them away from the ocean. In Florida alone, millions of hatchlings die this way every year.



And many more...

We are just starting to understand the devastating effects of artificial light on habitats. Every year, new research adds even more wildlife to the list of affected animals, including:

- | | | | |
|------------------|-------------|-------------------|-------------|
| • Hummingbirds | • Songbirds | • Seabirds | • Insects |
| • Wallabies | • Peahens | • Monarchs | • Geckos |
| • Little penguin | • Bats | • Atlantic salmon | • Fireflies |
| • Zebrafish | • Owls | • Zooplankton | |
| • Sweat bees | • Mice | • European perch | |

WHAT CAN I DO?



Protect wildlife through sensitive lighting choices.

- Get to know your neighborhood at night. It's hard to protect what you're not familiar with.
- Use only fully shielded, fixtures for all outdoor lighting, so lights shine down, not up.
- Use only the right amount of light needed. Too much light is wasteful and harms wildlife.
- Install timers and dimmer switches and turn off lights when not in use. If you must have security lighting, use motion sensors.
- Turn off lights in office buildings and homes when not in use.
- Use only lighting with a color temperature of 3000 and below to reduce the blue cool light that is more harmful to wildlife.
- Work with your neighbors and local governments to ensure outdoor lighting isn't harming the wildlife in your area.



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Learn more about light pollution and wildlife habitats.

darksky.org/resources/what-is-light-pollution/effects/wildlife-ecosystems

Bright lights do not equate to greater safety.



Glare from unshielded lighting reduces safety.

Lighting up the nighttime environment does not necessarily increase safety and security. Effective lighting that helps people be safe—not just feel safe—is a win-win situation for everyone.

Busting the myth of bright lights and safety.



At home: Poor lighting can create a false sense of security.

Poorly designed outdoor lighting can backfire on safety. Bright and misdirected lights create shadows for criminals to hide, and some crimes, like vandalism, thrive in well-lit areas. Floodlights, for example, may highlight potential targets.



In town: Light for light's sake doesn't equal increased safety.

While towns, cities, and businesses aim to enhance safety with lighting, poorly aimed and inadequately shielded lights can attract criminals. A Chicago study identified a correlation between increased crime and overly bright alleyways.



On the road: bad lighting creates unsafe driving conditions.

Inadequate roadway lighting causes glare, contributing to accidents, especially affecting older individuals. A 2015 Journal of Epidemiology and Community Health study revealed that streetlights don't effectively prevent accidents or crime but they do cost a lot of money.

WHAT CAN I DO?



Make your home safer with **smart** lighting choices.

- Use fully shielded, dark-sky friendly fixtures so light shines where it's needed and does not create glare or extreme contrasts.
- Only use lights when and where needed. Install timers and dimmer switches, and turn off lights when not in use. If you must have security lighting, use motion sensors.
- Use the right amount of light. Too much light is wasteful and impairs vision.
- Use long-wavelength lights with a red or yellow tint to minimize negative health effects.
- Work with your local government and community to improve lighting conditions along roadways and shared spaces.
- Cities and towns can restrict the use of bright signs and flashing lights near roadways.



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Learn more about light pollution, crime, and safety.

darksky.org/resources/what-is-light-pollution/effects/safety

Light pollution wastes money and resources.



Lighting levels that are higher than necessary and light that shines when and where it's not needed is wasteful. Wasting energy on bad lighting design has huge economic and environmental consequences.

Tracking the cost of light pollution.



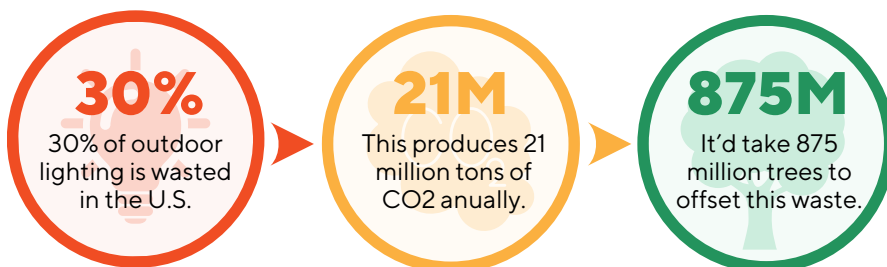
Light pollution wastes billions of dollars.

DarkSky estimates that 30 percent of all outdoor lighting in the U.S. is wasted, mostly due to unshielded or excessively bright lights. This adds up to \$3.3 billion dollars wasted annually. Installing quality outdoor lighting could cut energy use by 60 to 70 percent, saving billions of dollars.



Light pollution contributes to the growing climate crisis.

Artificial lighting at night and the energy required to produce it has a large carbon footprint. In the U.S. alone, unnecessary lighting produces 21 million tons of carbon dioxide each year! 875 million trees would need to be planted annually to offset this waste.



WHAT CAN I DO?



Maximize the efficiency of your home lighting.

- Outdoor lighting should be fully shielded and directed downward where it is needed. Fully shielded fixtures can provide the same level of illumination on the ground as unshielded ones, but with less energy and cost.
- Unnecessary indoor lighting – particularly in empty office buildings at night – should be turned off, preventing leakage of that light into the night sky.
- LEDs and compact fluorescents (CFLs) can help reduce energy use and protect the environment, but only warm-white bulbs should be used.
- Dimmers, motion sensors, and timers can help to reduce average illumination levels and save even more energy.



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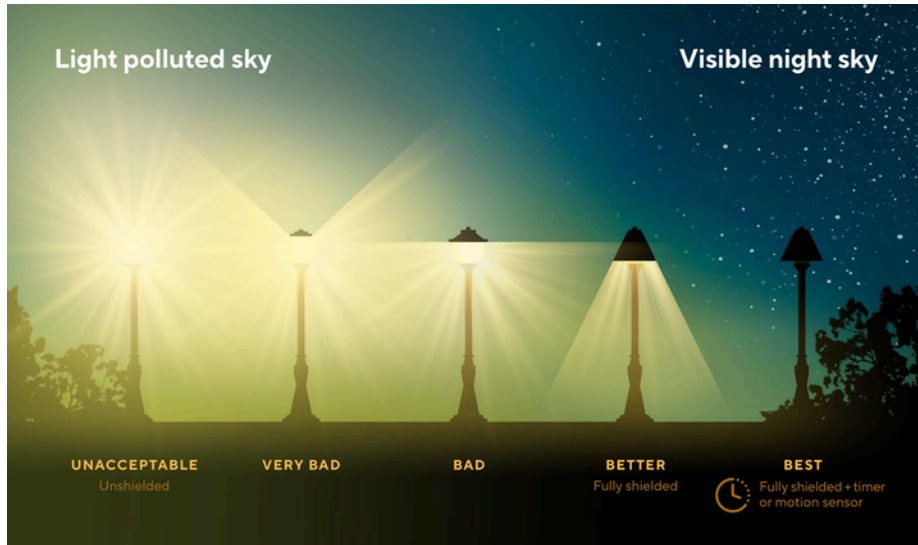
Learn more about light pollution and waste.

darksky.org/resources/what-is-light-pollution/effects/energy-climate

What is light pollution?

Light pollution is the human-made alteration of outdoor light levels from those occurring naturally.

When we over-light, fail to use timers and sensors, or use the wrong color of light, we can negatively affect many parts of our world, including migratory birds, pollinators, sea turtles, and mammals, including humans.



What can I do about it?

The good news is that light pollution, unlike many other forms of pollution, is reversible, and each one of us can make a difference! Just being aware that light pollution is a problem is not enough — we need to take action.

- ✓ Use only fully shielded, DarkSky Approved fixtures for all outdoor lighting, so lights shine down, not up.
- ✓ Use only the right amount of light needed. Too much light is wasteful and harms wildlife.
- ✓ Install timers and dimmer switches and turn off lights when not in use. If you must have security lighting, use motion sensors.



- ✓ Turn off lights in office buildings and homes when not in use.
- ✓ Use only lighting with a color temperature of 3000 K and below to reduce the blue cool light that's more harmful to many animal species.
- ✓ Work with your neighbors and local governments to ensure outdoor lighting isn't harming the wildlife in your area.

Learn more at www.DarkSky.org

LIGHT POLLUTION FACTS

Components of light pollution

- **Glare** — excessive brightness that causes visual discomfort
- **Sky glow** — brightening of the night sky over inhabited areas
- **Light trespass** — light falling where it is not intended or needed
- **Clutter** — bright, confusing, and excessive groupings of light sources

Harmful effects of light pollution

A growing body of evidence links the brightening night sky directly to measurable negative impacts on:

- [Wildlife and ecosystems](#)
- [Human health](#)
- [Energy and climate change](#)
- [Crime and safety](#)
- [Night sky heritage](#)
- [Scientific research](#)

The problem is growing

Research indicates that light pollution is increasing at a global average rate of ten percent per year.

YOUR LOCAL CHAPTER



DarkSkyMissouri.org
facebook.com/DarkSkyMissouri/
instagram.com/darkskymissouri/
 636-851-9630

Join us!

Learn more by signing up for DarkSky e-news





DISCUSSION: PLANNING COMMISSION DIRECTION

7:25 p.m.

DOCUMENTS

[No Documents](#)

MOTION



COMMUNICATION

[Letter of Thanks from Susan Wright](#)

Sent: Thursday, August 14, 2025 2:31 PM
To: Nick Smith <nsmith@cityofmaupin.org>
Subject: Tree and Shrub Removal

Nick,

Thanks to the City for assisting in getting our dead aspen and juniper shrubs removed. We are glad to not have wildfire hazard plants on our property. The contractor was great to work with - careful around drip sprinklers and plantings. Be sure to let council and the mayor know that we appreciate the City's support.

Susan Wright



ADJOURN

NEXT PLANNING COMMISSION MEETING

October 14, 2025, at 4:30 p.m. in person and virtual

SUGGESTED TOPICS FOR NEXT CITY COUNCIL MEETING

Council meeting date change for November and December

NEXT CITY COUNCIL MEETING

October 22, 2025, at 6:30 p.m. in person and virtual

MAYOR ADJOURNS THE MEETING