State of Oregon
Oregon Department of Geology and Mineral Industries
Ruarri Day-Stirrat, State Geologist

OPEN-FILE REPORT O-25-01

EARTHQUAKE AND TSUNAMI IMPACT ANALYSIS FOR THE OREGON COAST

Tillamook County Community Profiles

By Jonathan C. Allan[1] and Fletcher E. O'Brien[2]

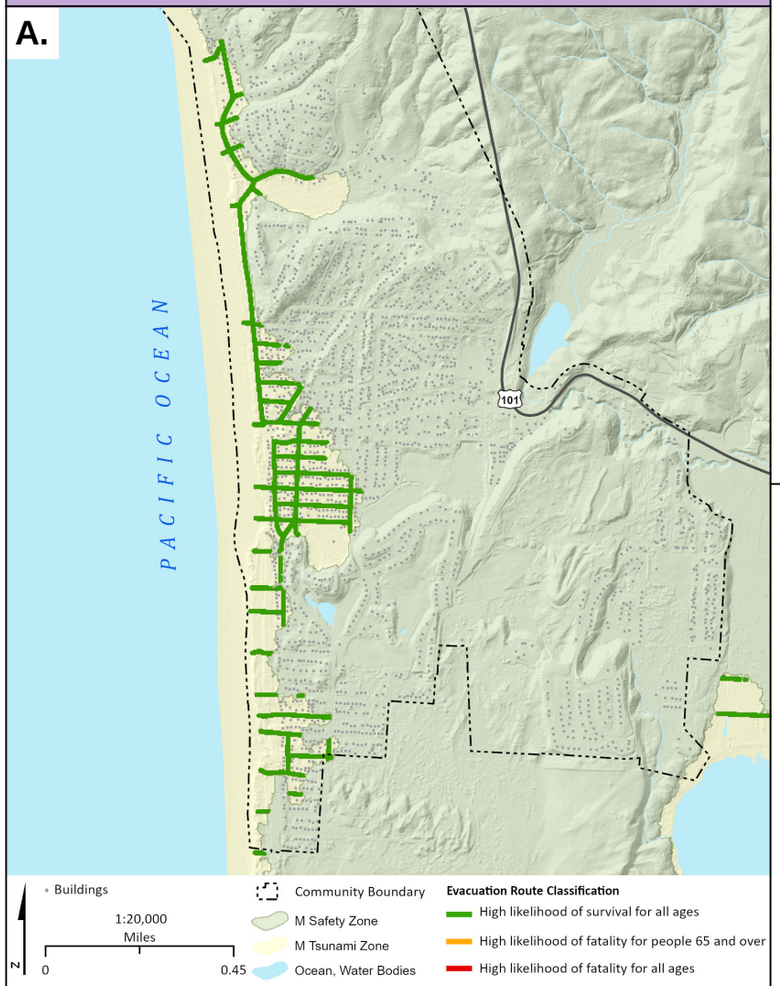
2025

[1]Oregon Department of Geology and Mineral Industries, Coastal Field Office, P.O. Box 1033, Newport, OR 97365
[2]Oregon Department of Geology and Mineral Industries, 800 NE Oregon Street, Suite 965, Portland, OR 97232

Manzanita - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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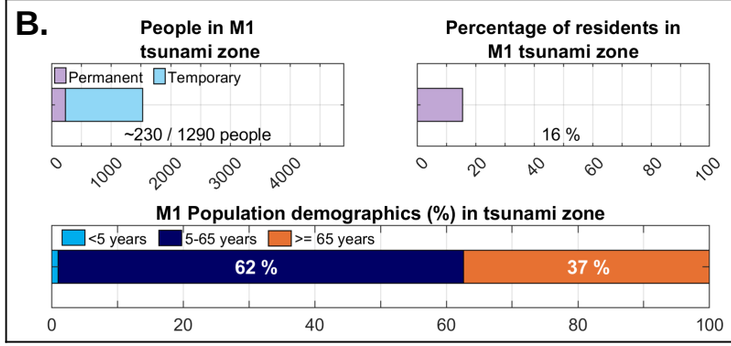

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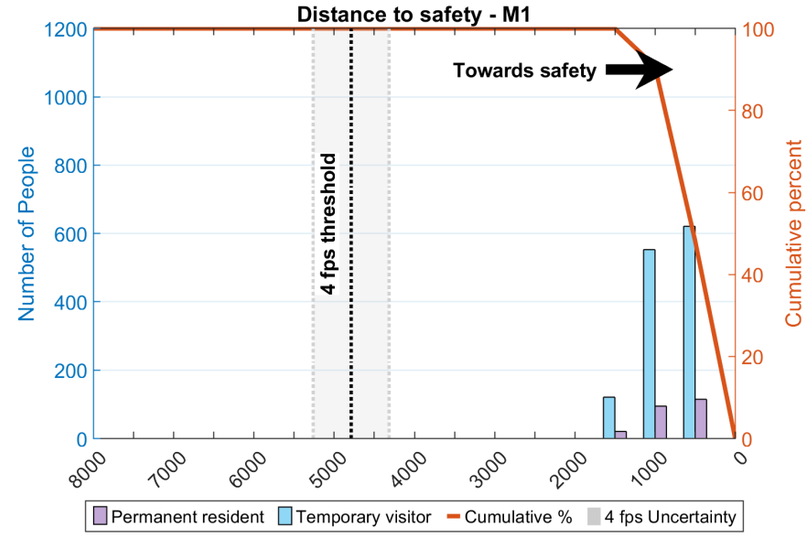

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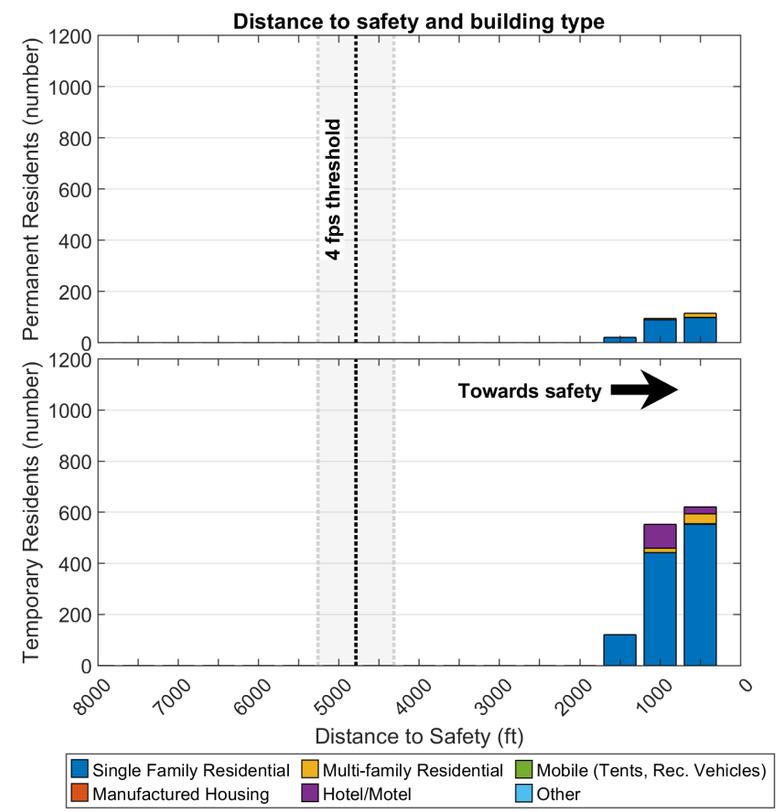

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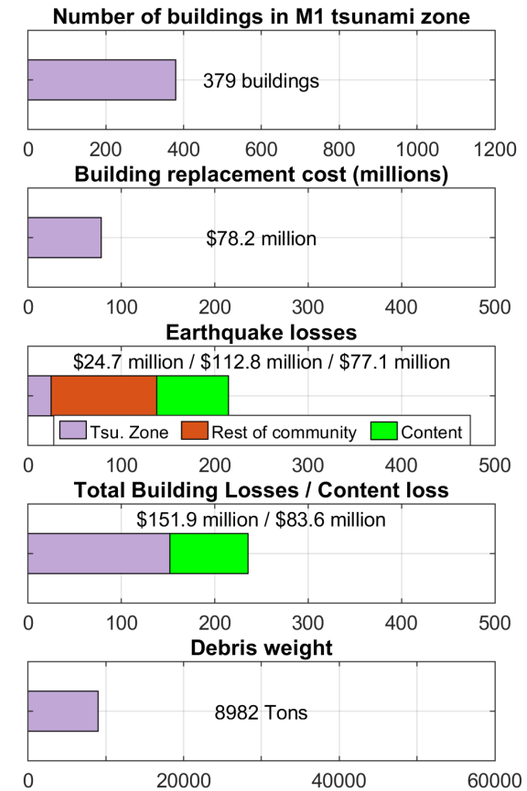

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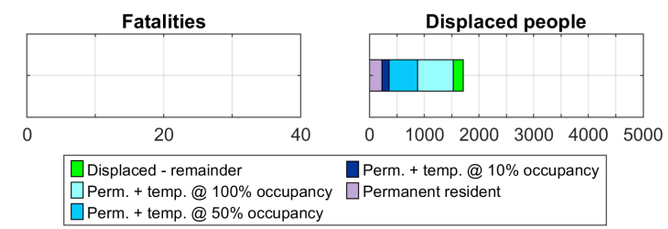
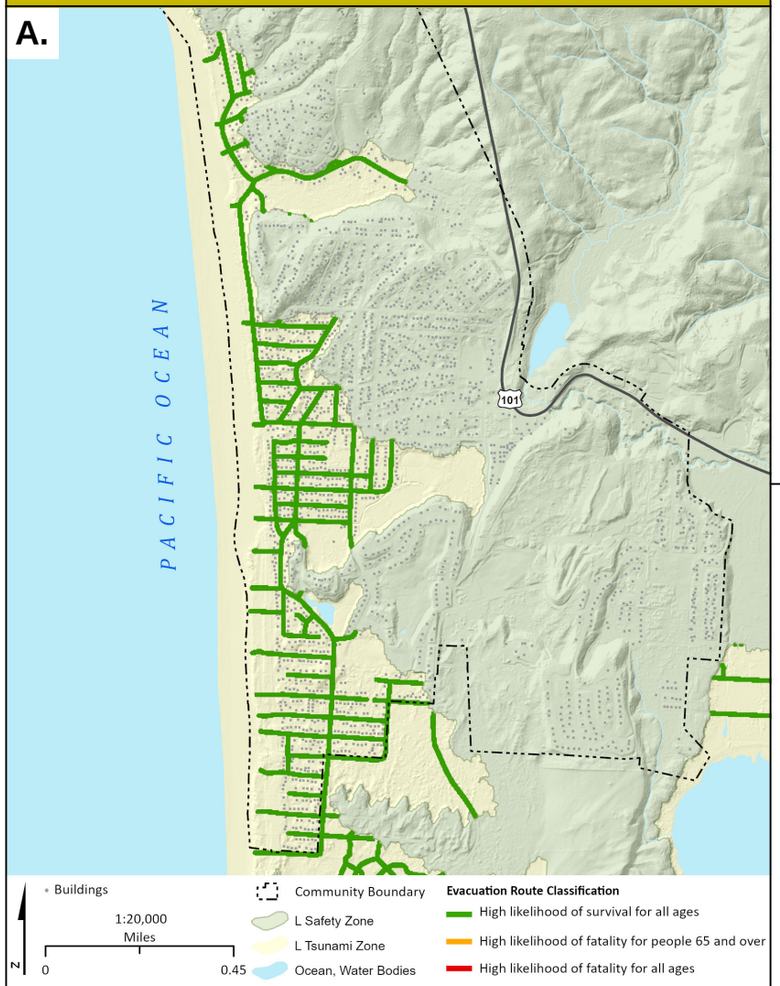


Description	Total
Earthquake Injuries (Entire Community)	160
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	300
Displaced Population - Permanent + Temporary	1,710

Manzanita - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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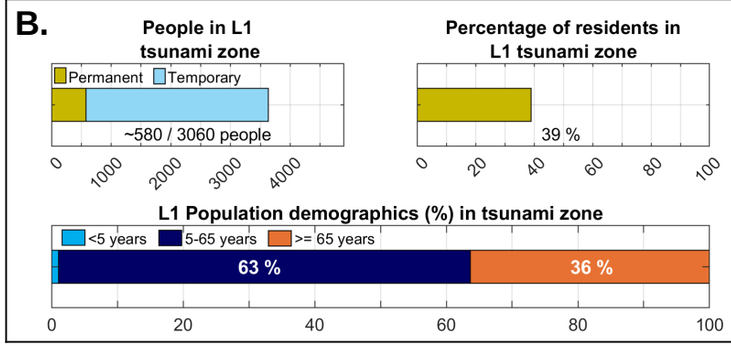

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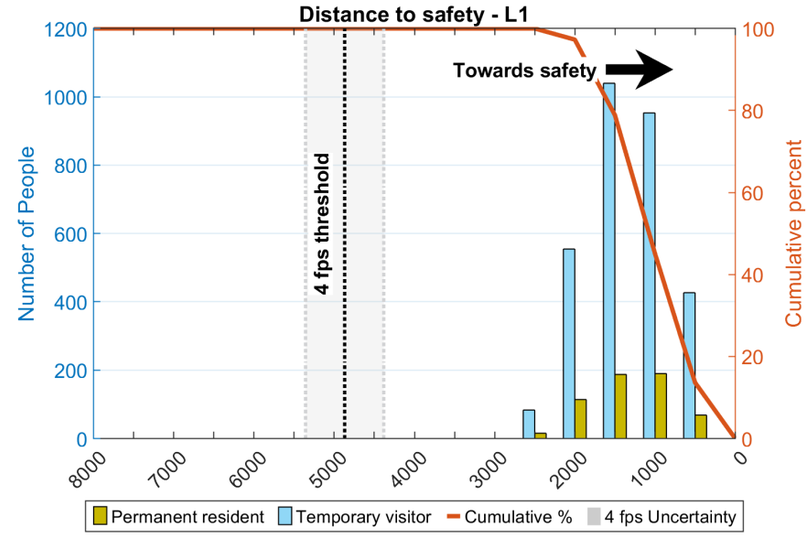

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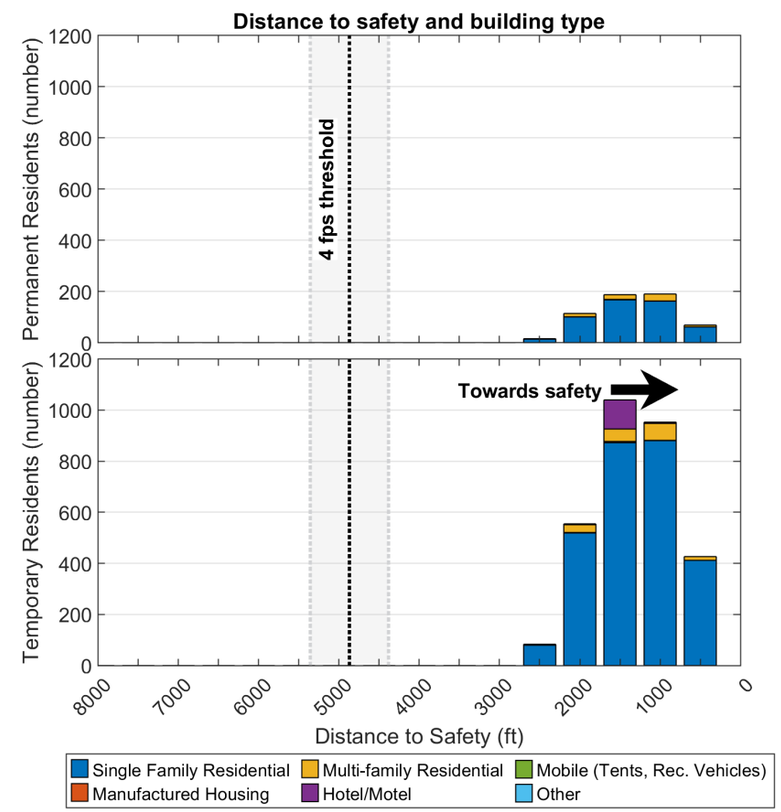

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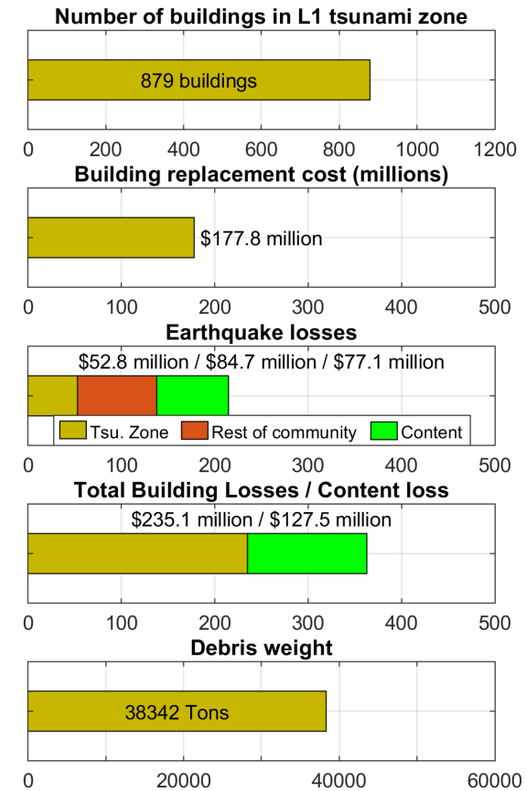

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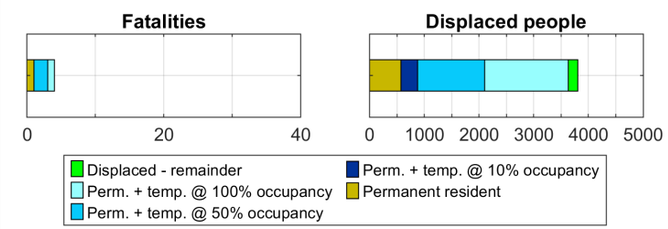
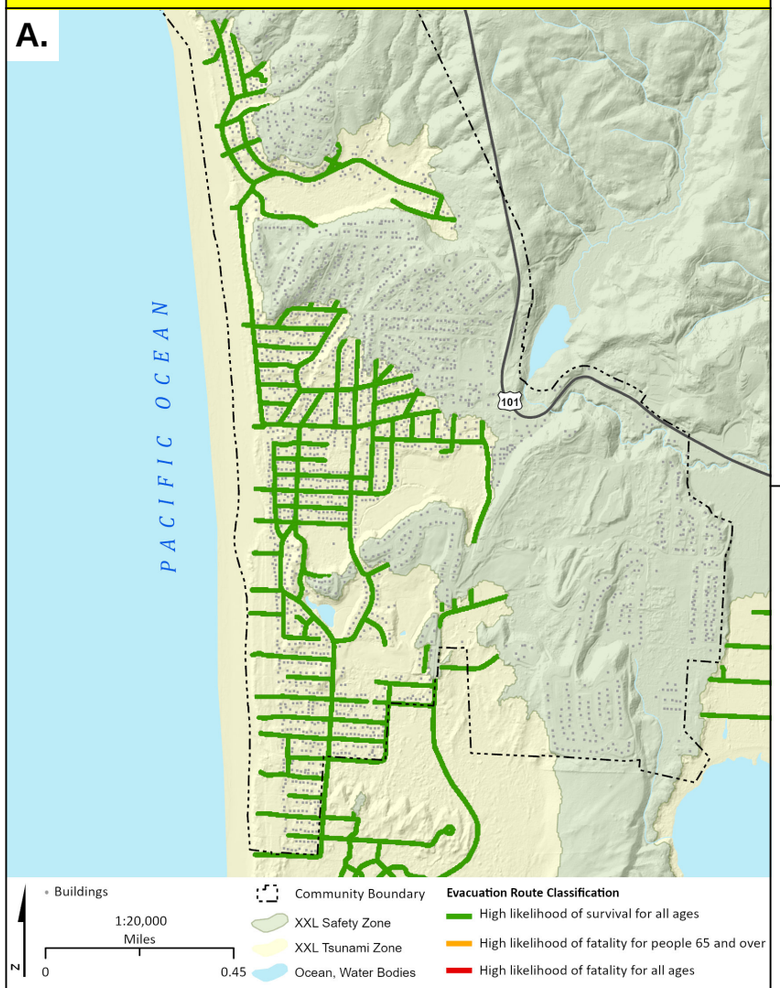


Description	Total
Earthquake Injuries (Entire Community)	160
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	640
Displaced Population - Permanent + Temporary	3,810

Manzanita - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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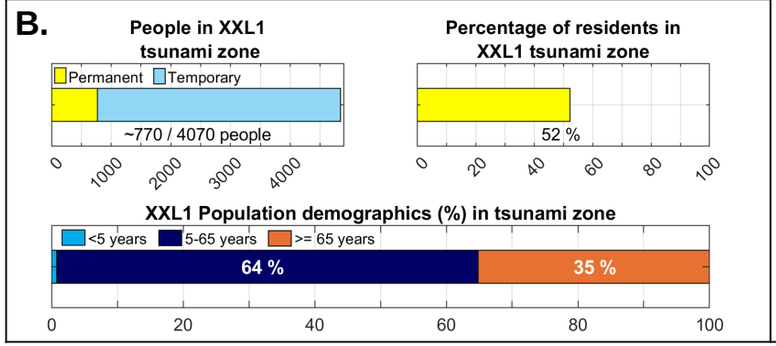

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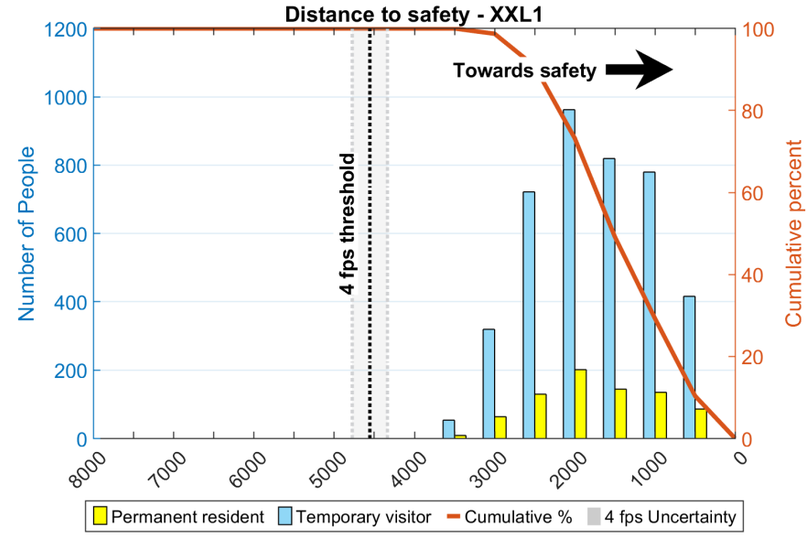

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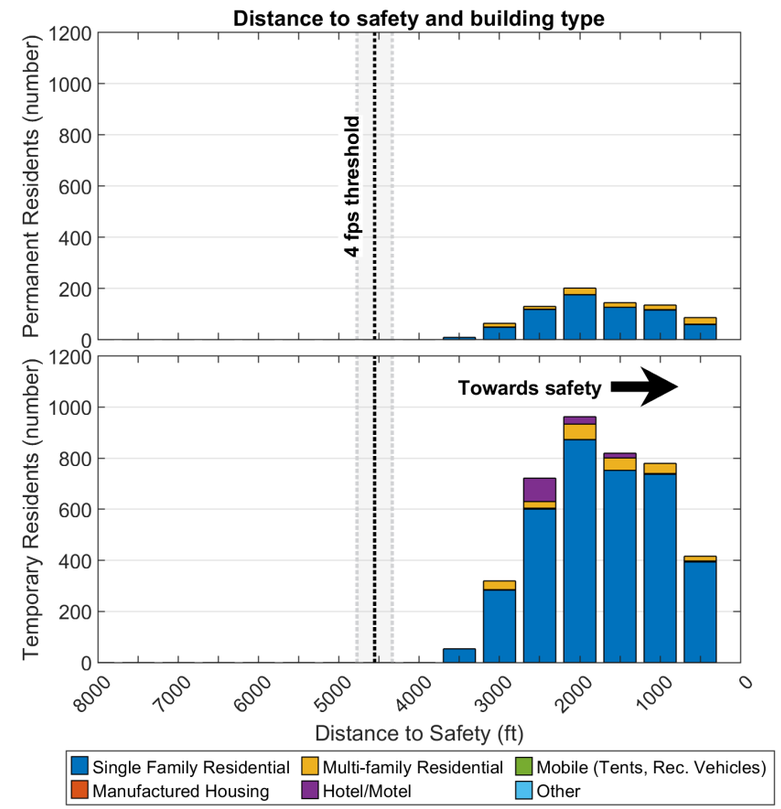

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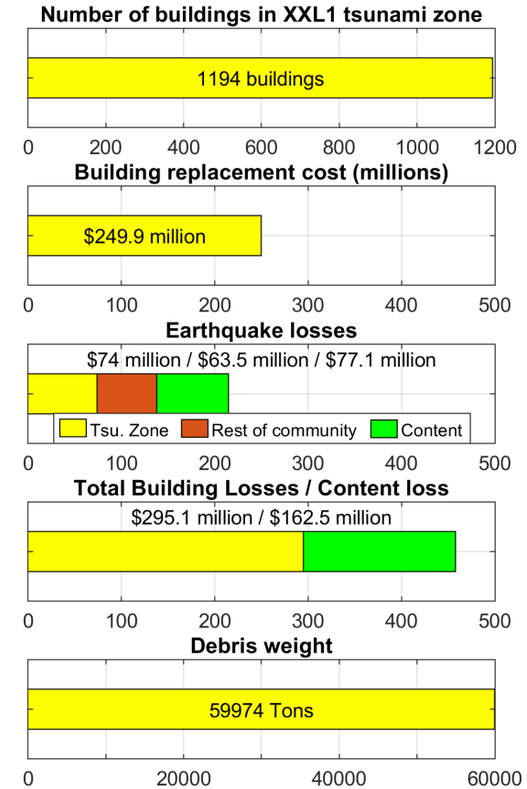

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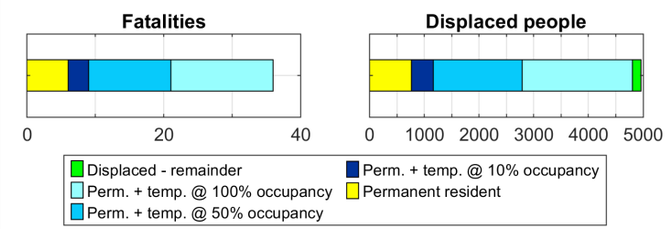
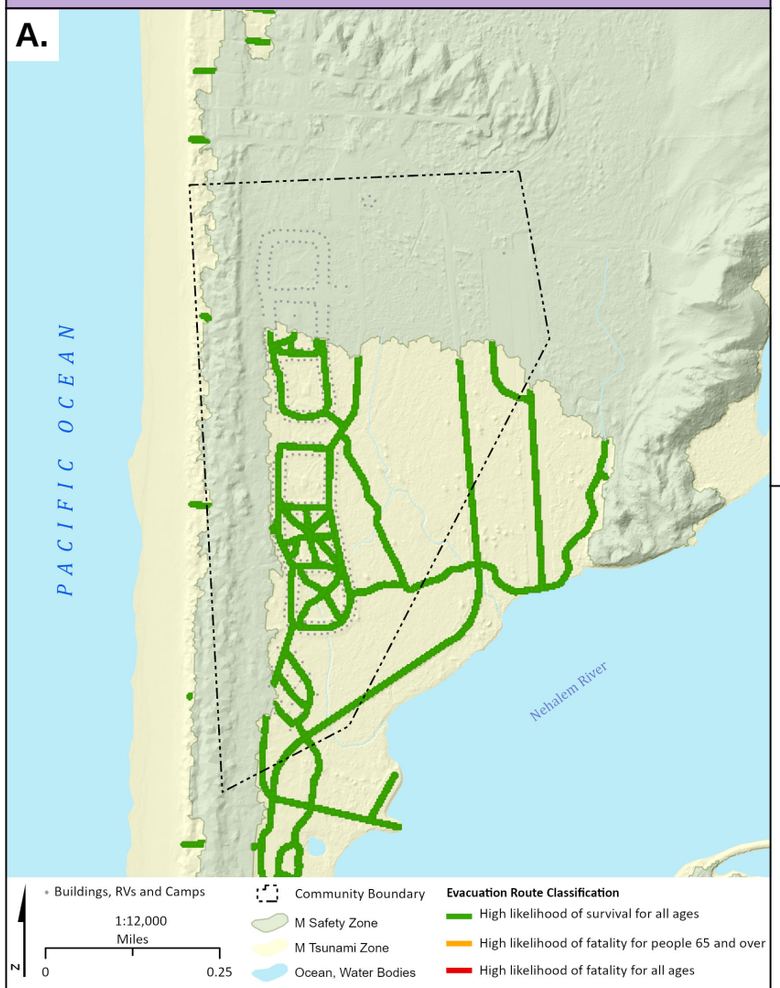


Description	Total
Earthquake Injuries (Entire Community)	160
Tsunami Injuries - Permanent + Temporary	20
Tsunami Fatalities - Permanent	10
Tsunami Fatalities - Temporary @ ~100% occupancy	30
Displaced Population - Permanent	830
Displaced Population - Permanent + Temporary	4,960

Nehalem Bay State Park - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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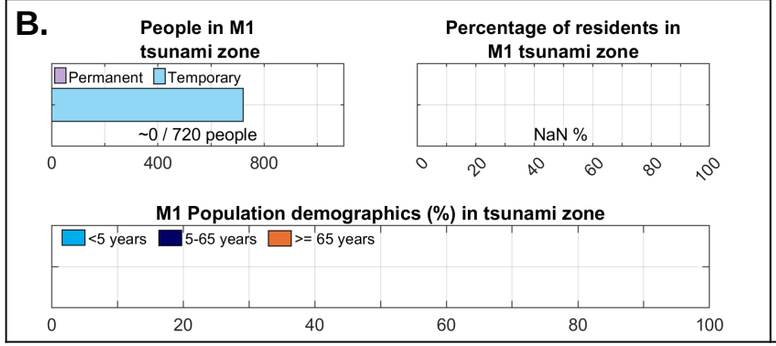

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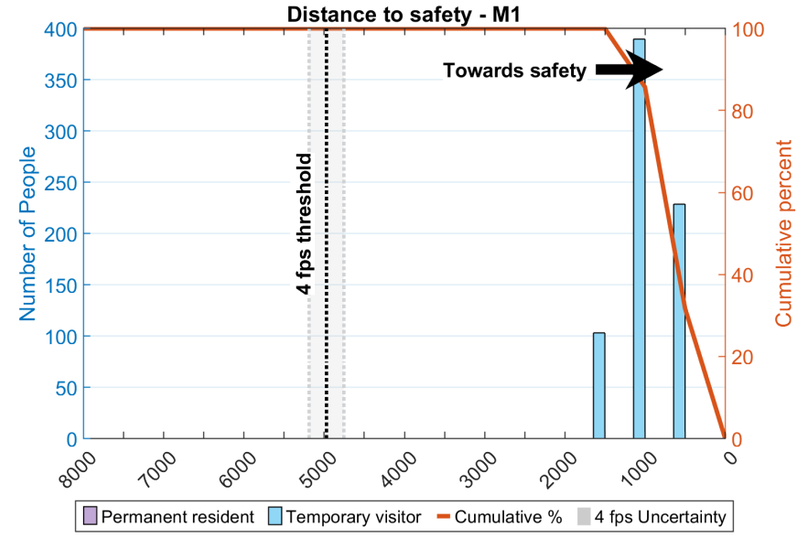

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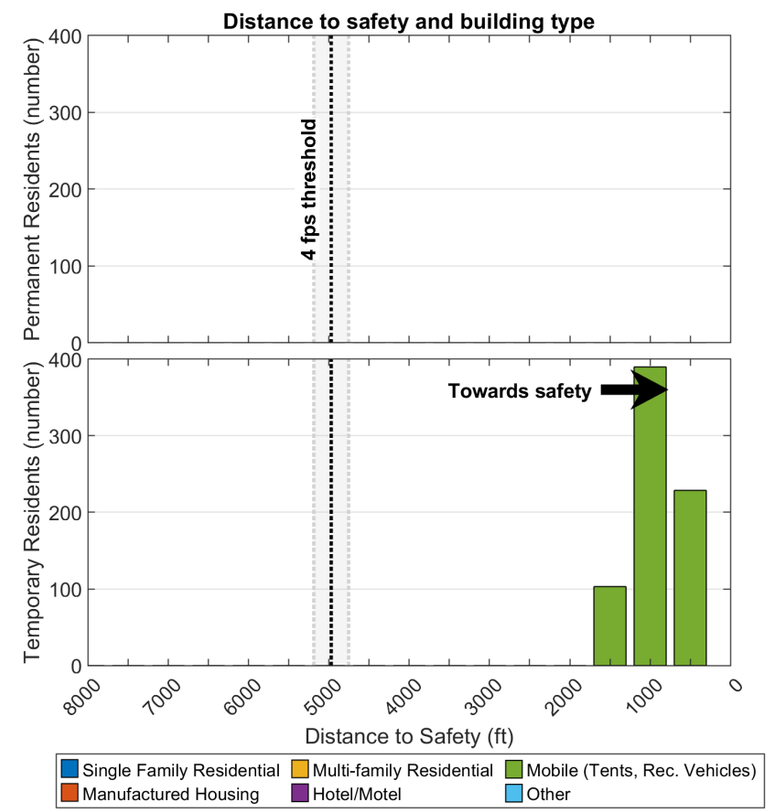

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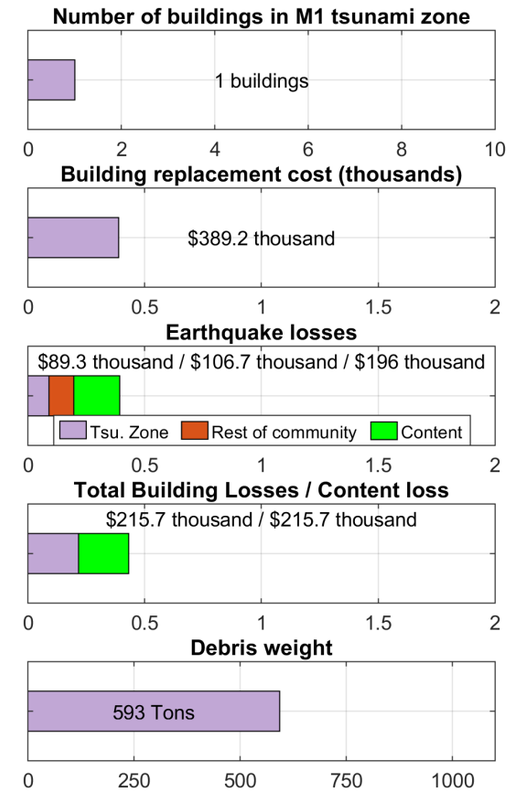

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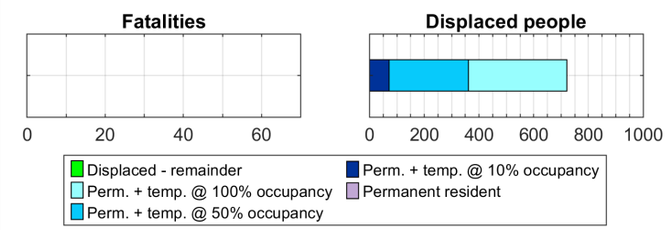
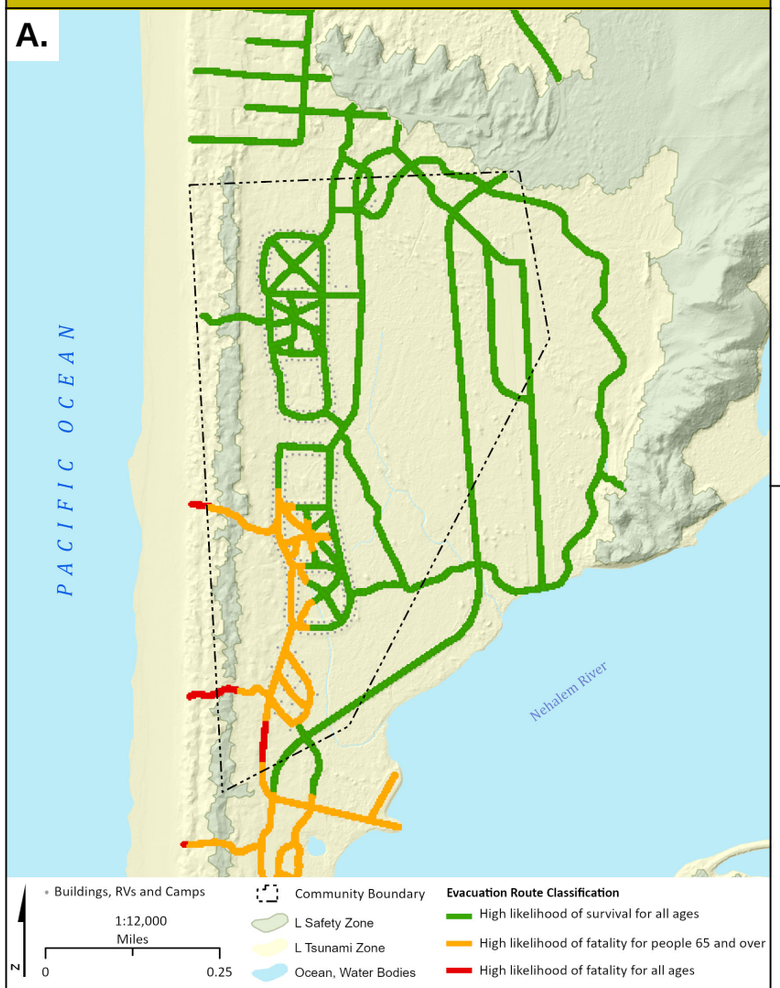


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	720

Nehalem Bay State Park - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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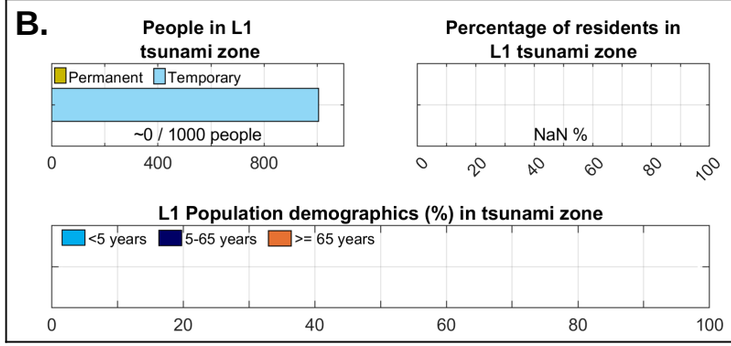

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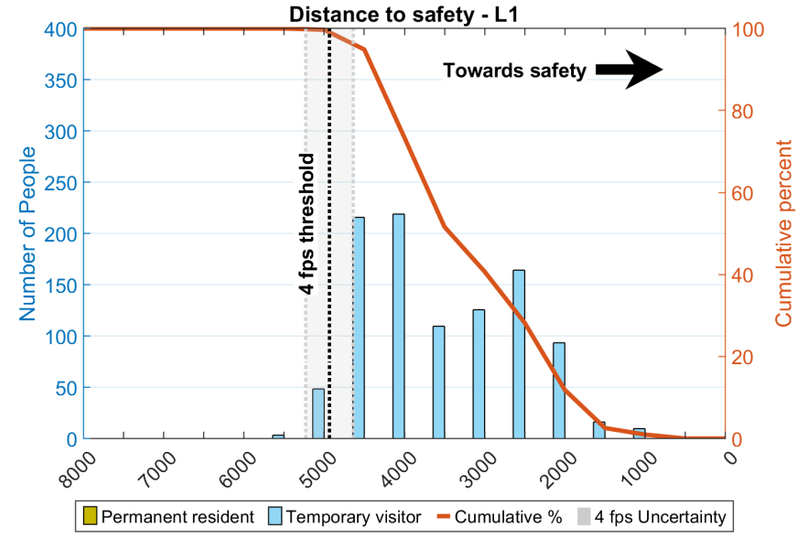

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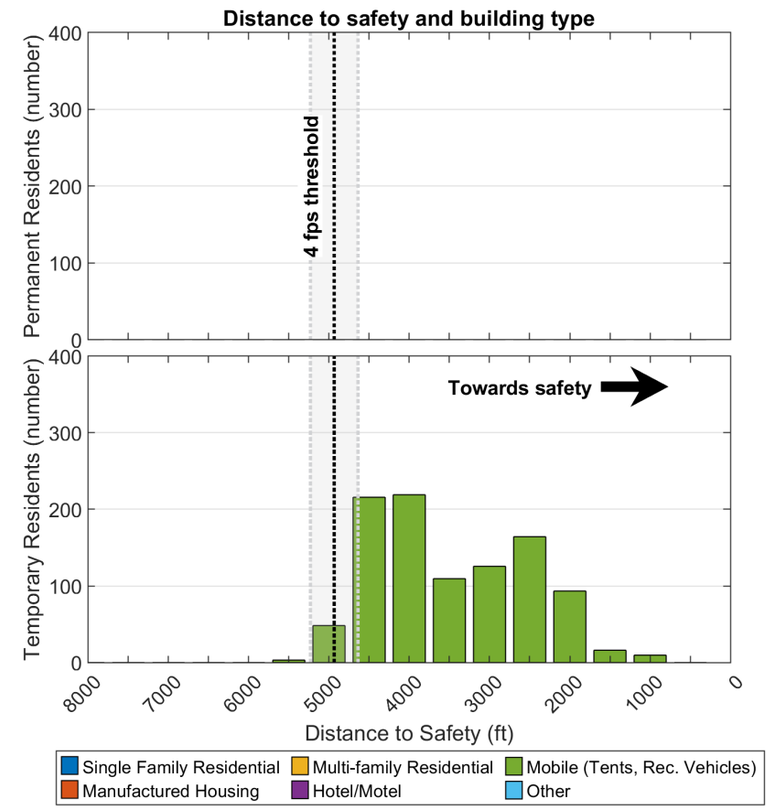

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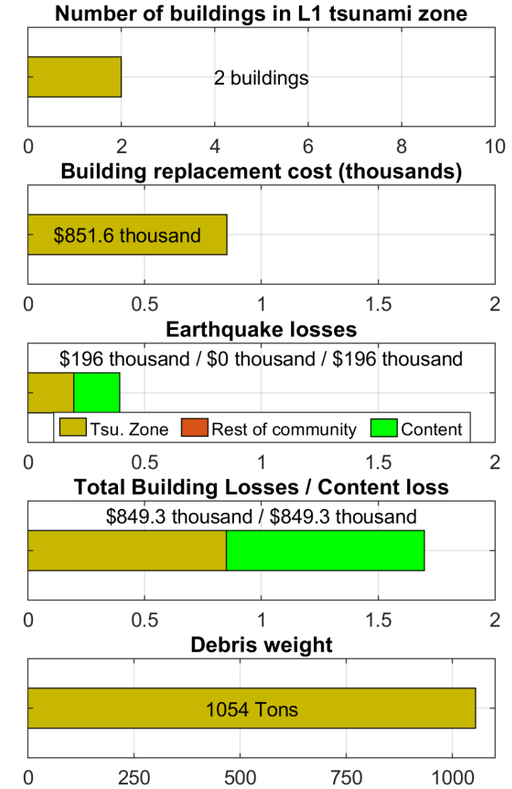

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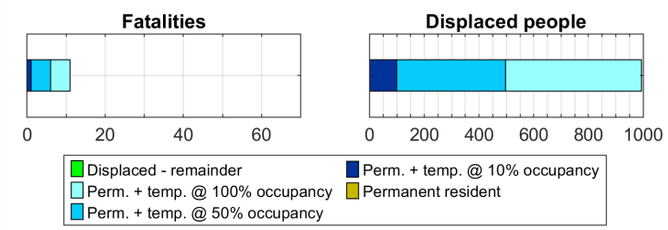
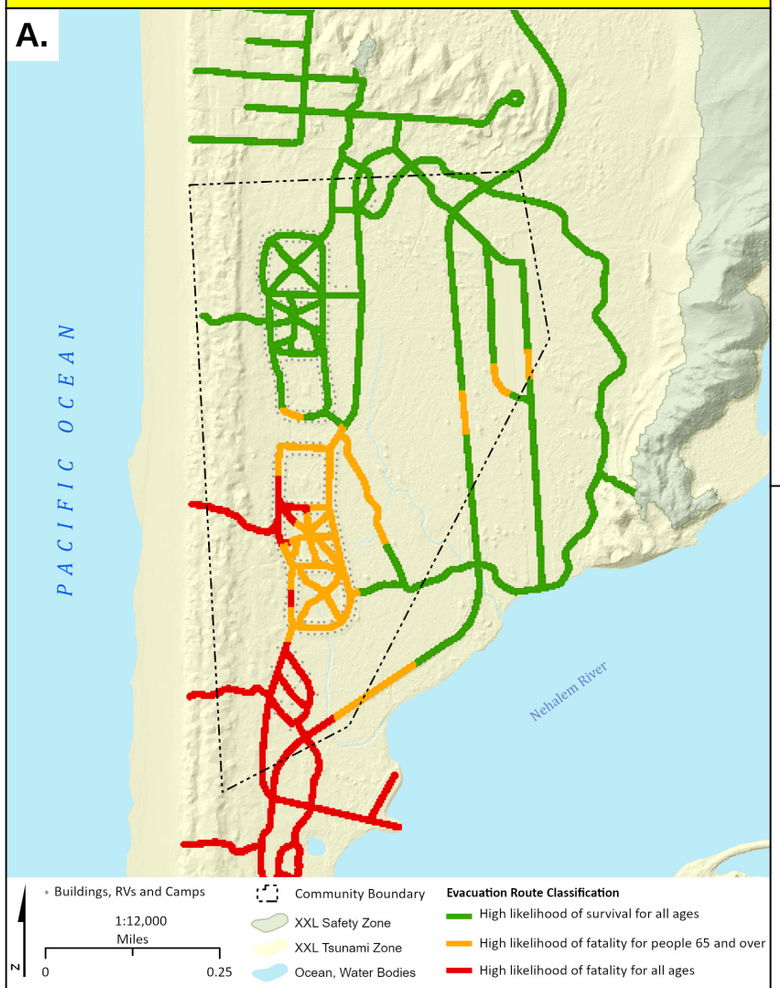


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	10
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	10
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	990

Nehalem Bay State Park - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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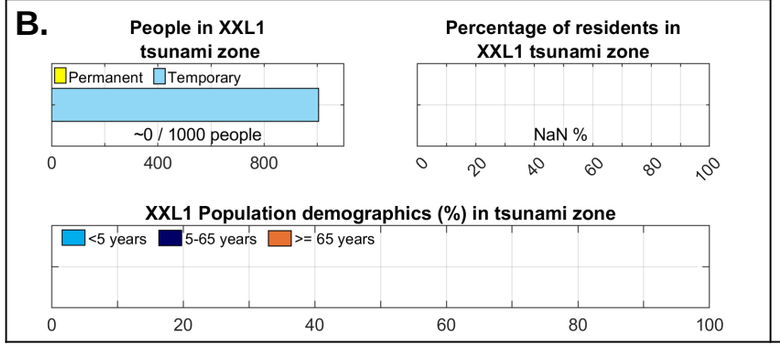

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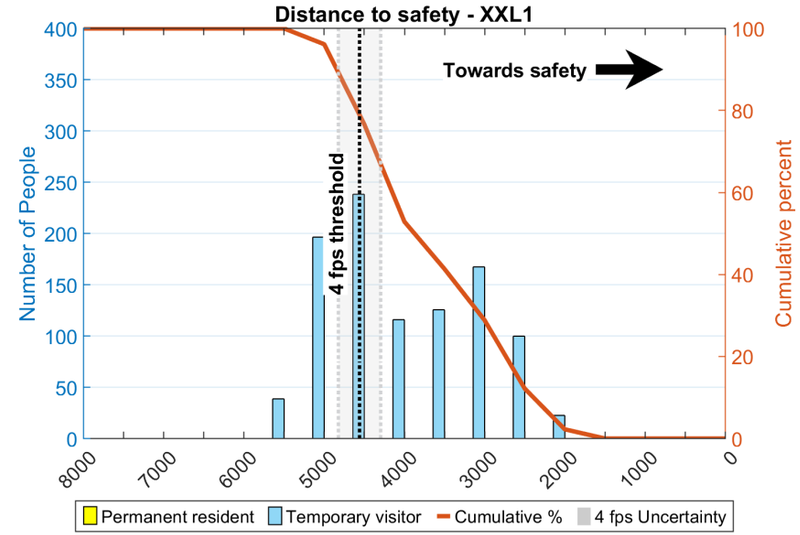

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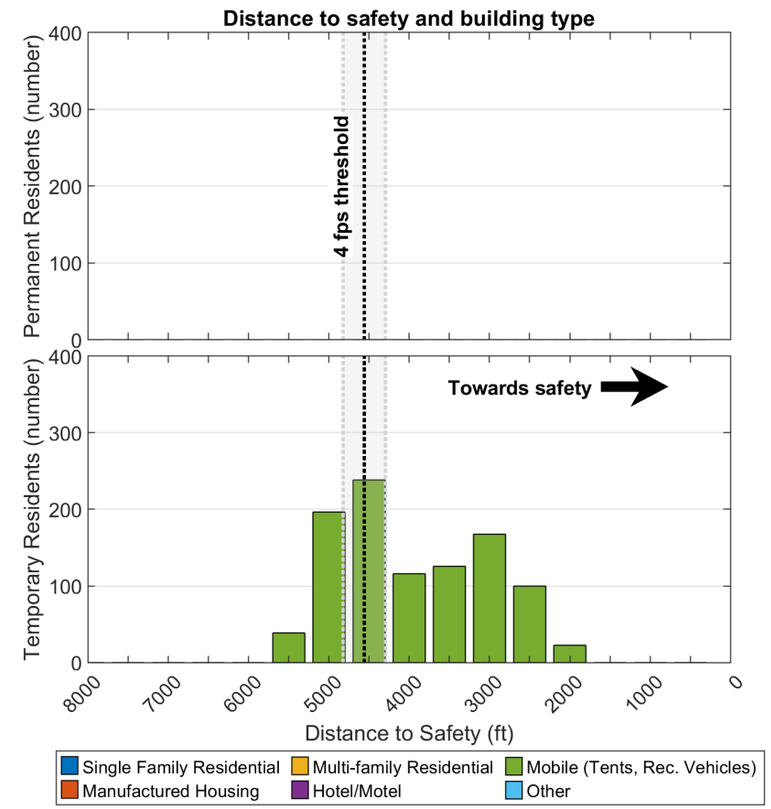

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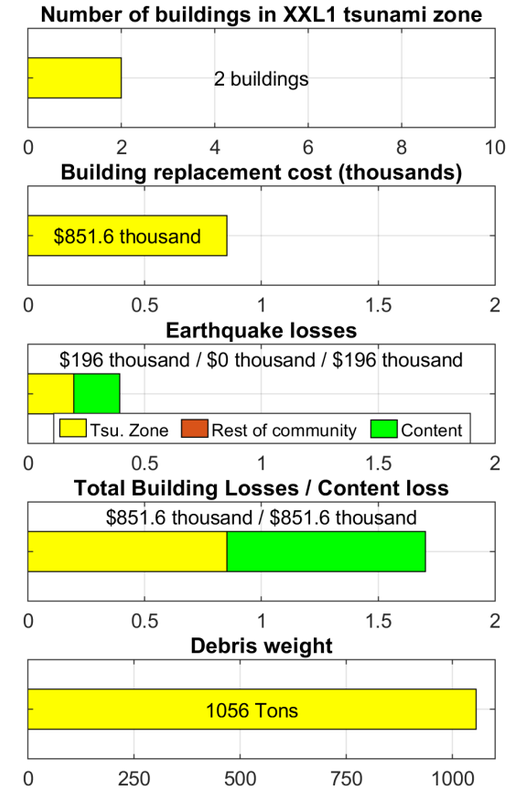

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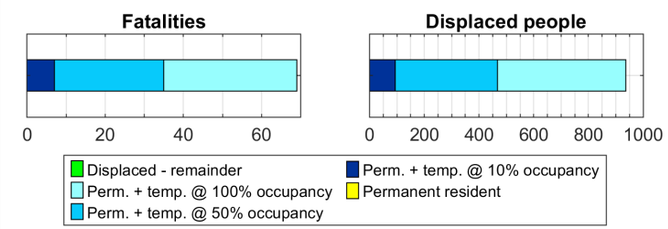
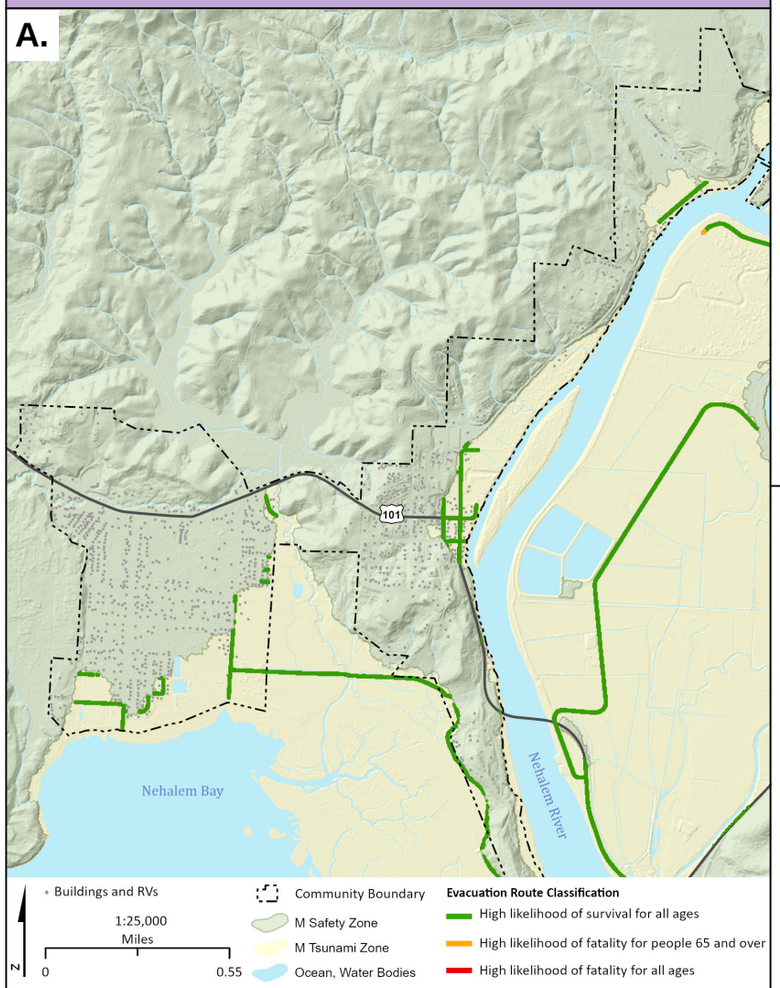


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	10
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	70
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	940

Nehalem - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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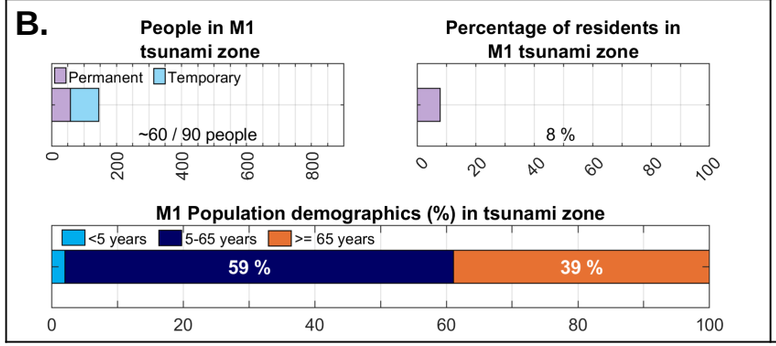

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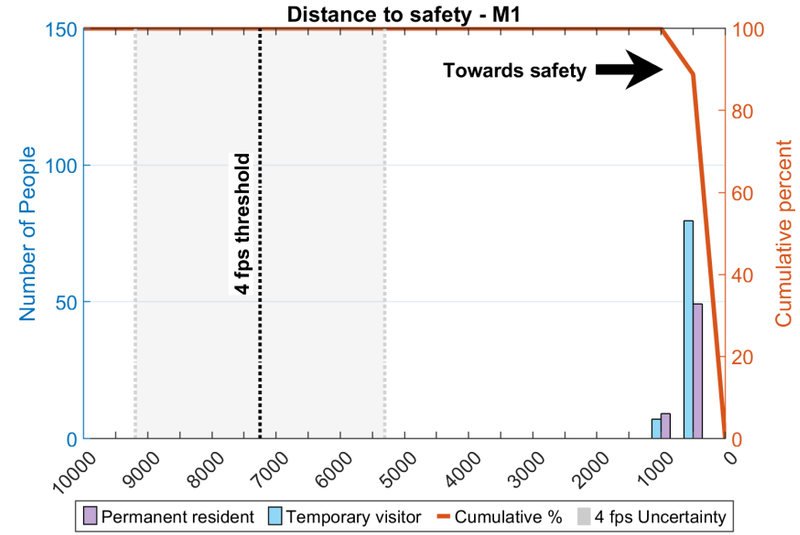

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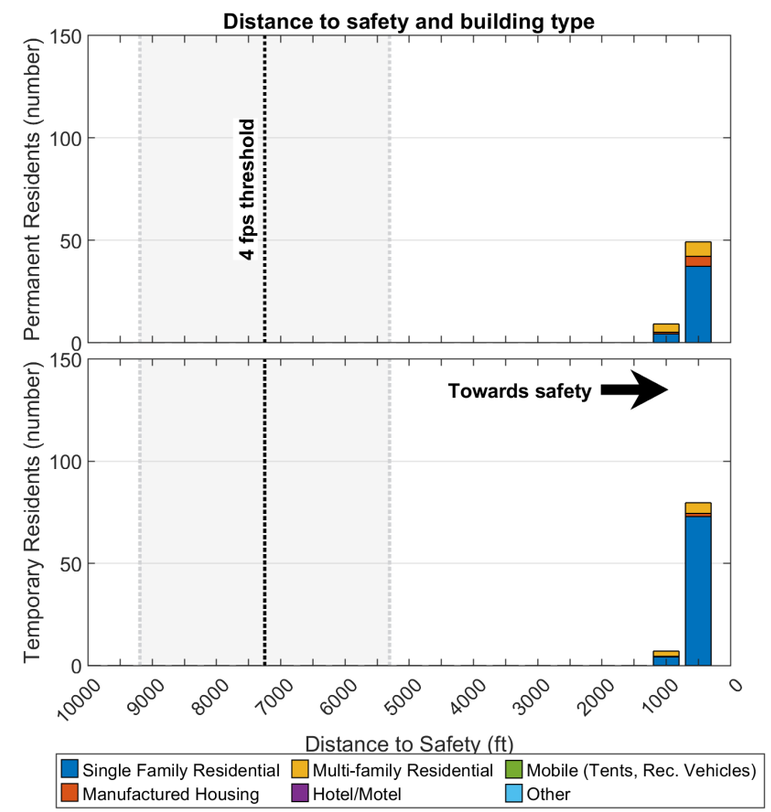

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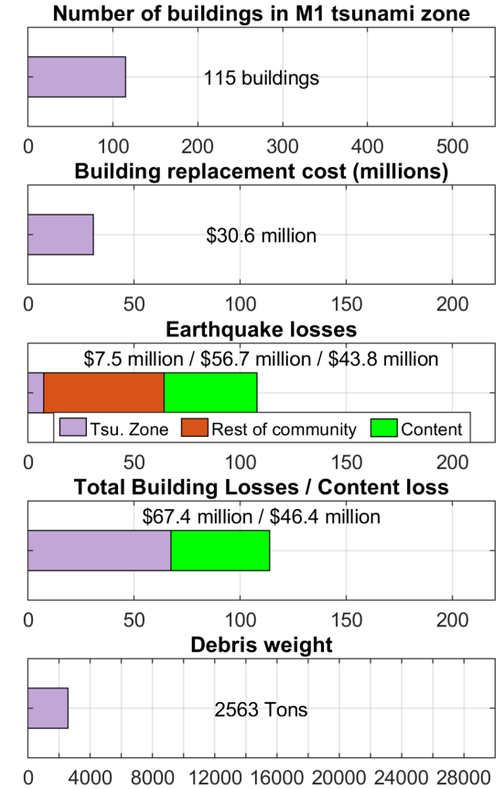

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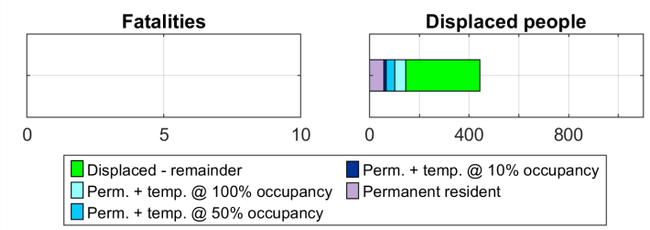
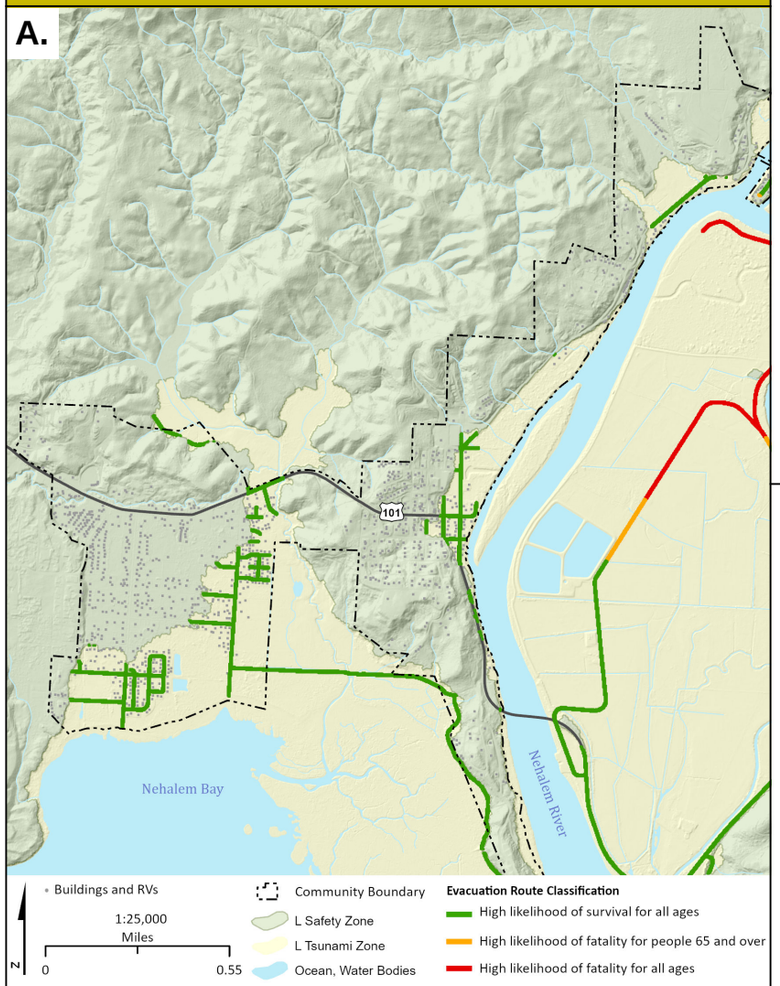


Description	Total
Earthquake Injuries (Entire Community)	30
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	270
Displaced Population - Permanent + Temporary	440

Nehalem - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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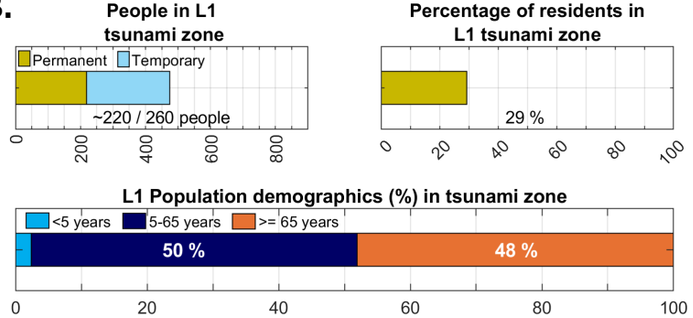

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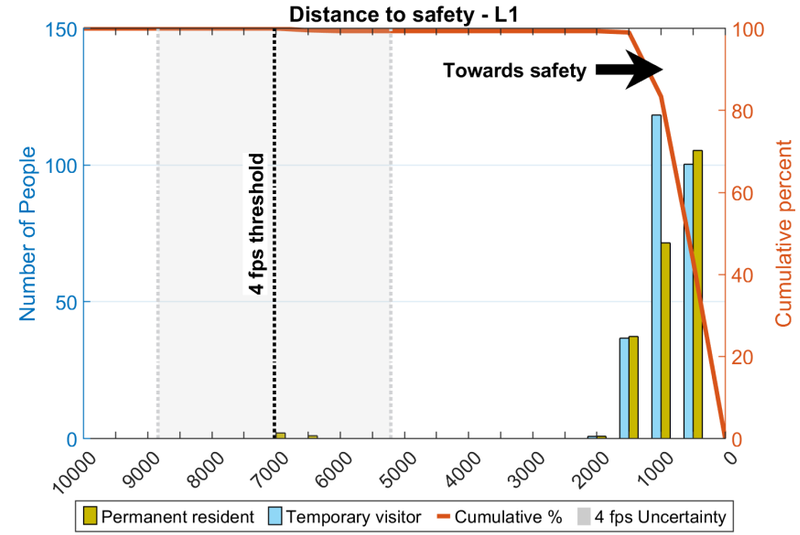

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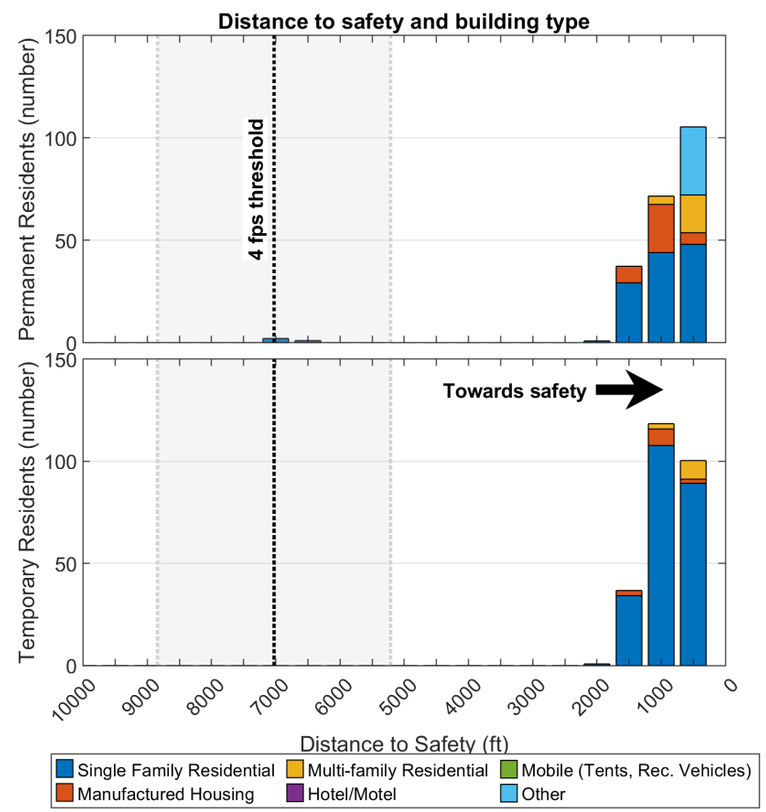

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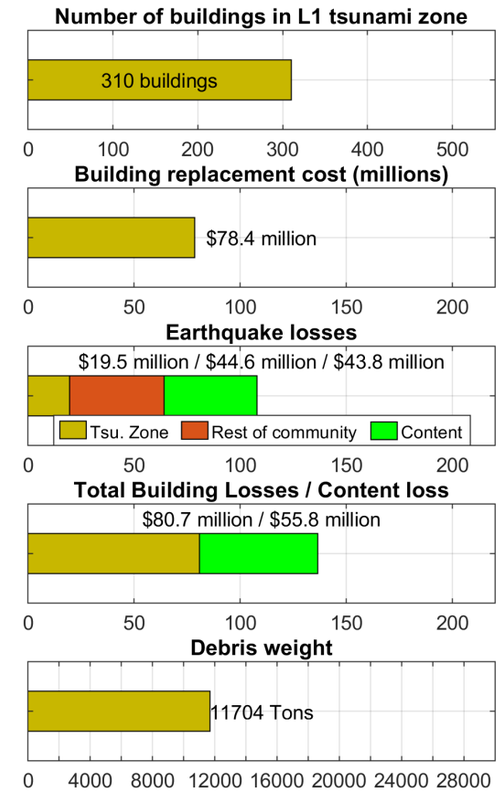

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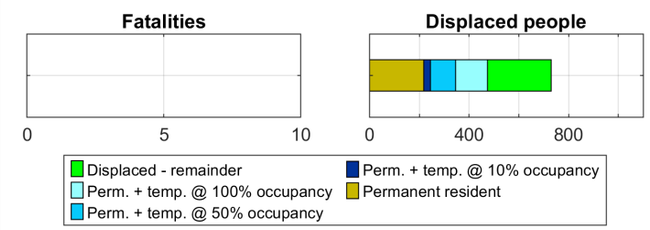
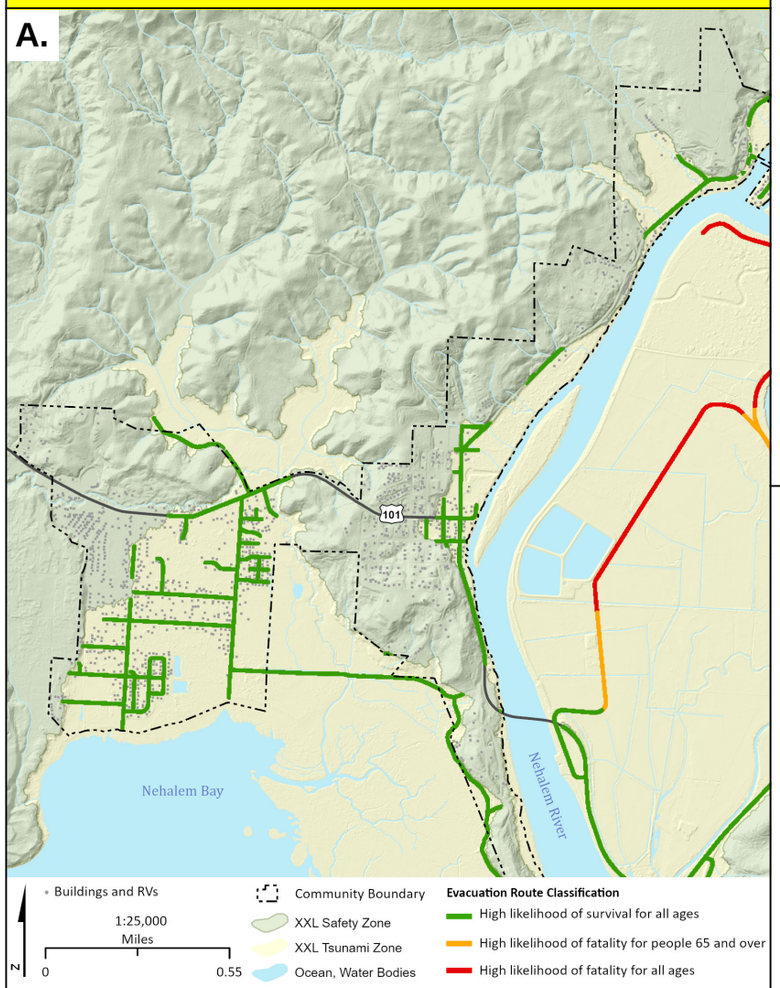


Description	Total
Earthquake Injuries (Entire Community)	30
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	400
Displaced Population - Permanent + Temporary	730

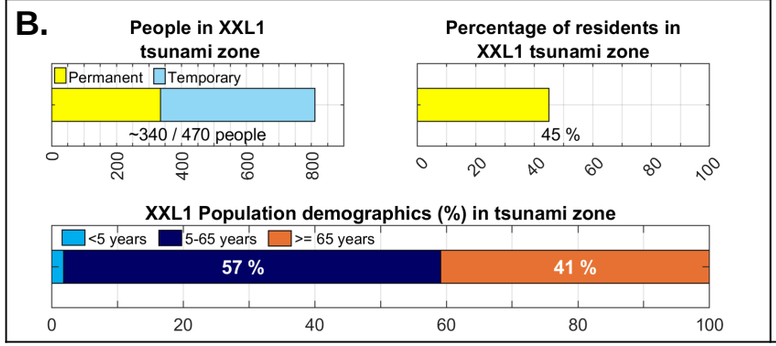
Nehalem - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

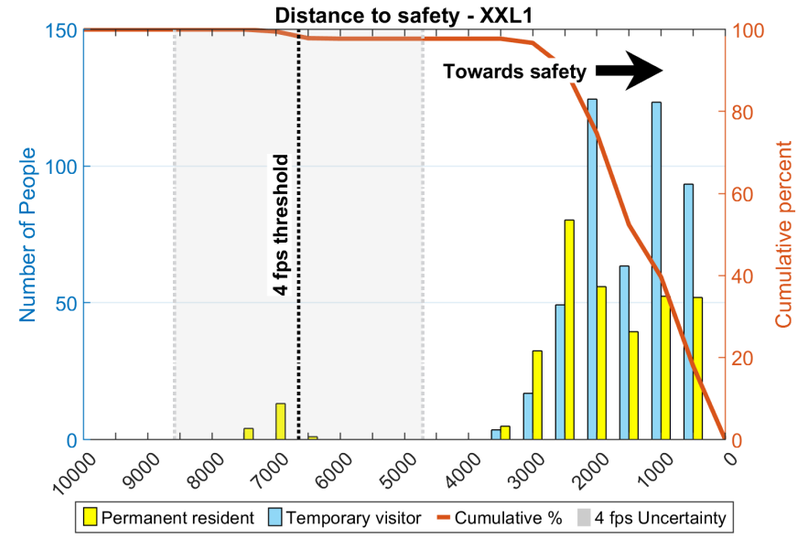
A.



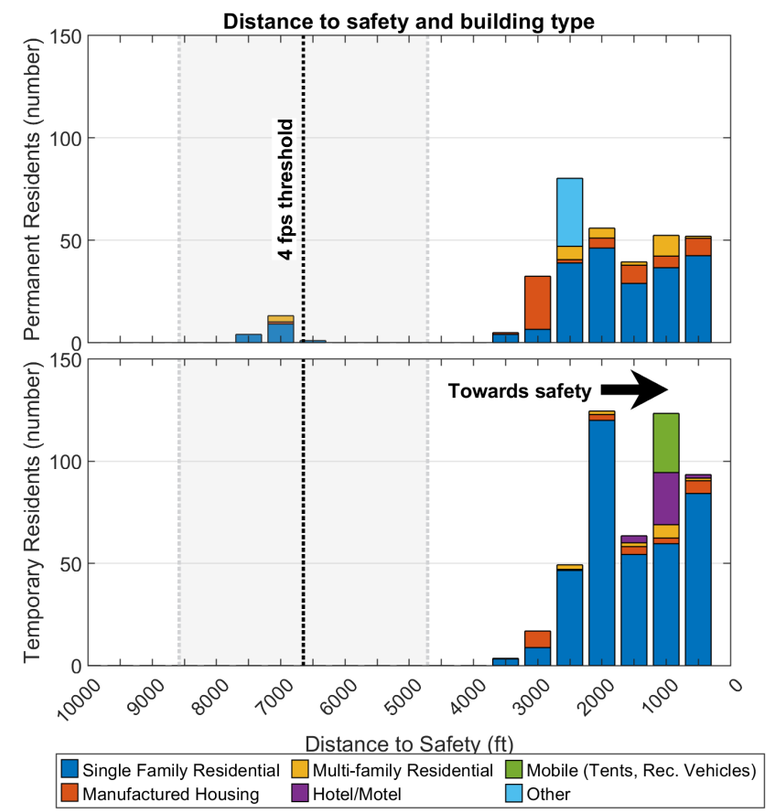
B.



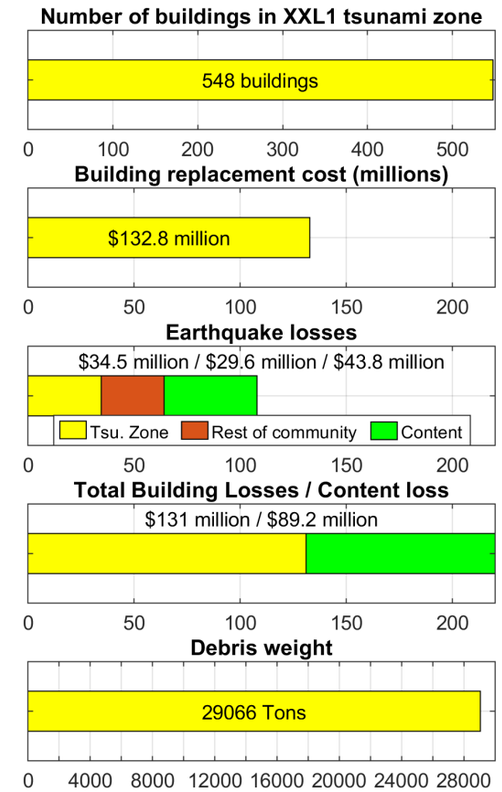
C.



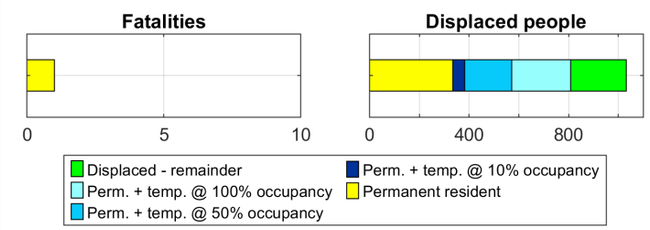
D.



E.



F.

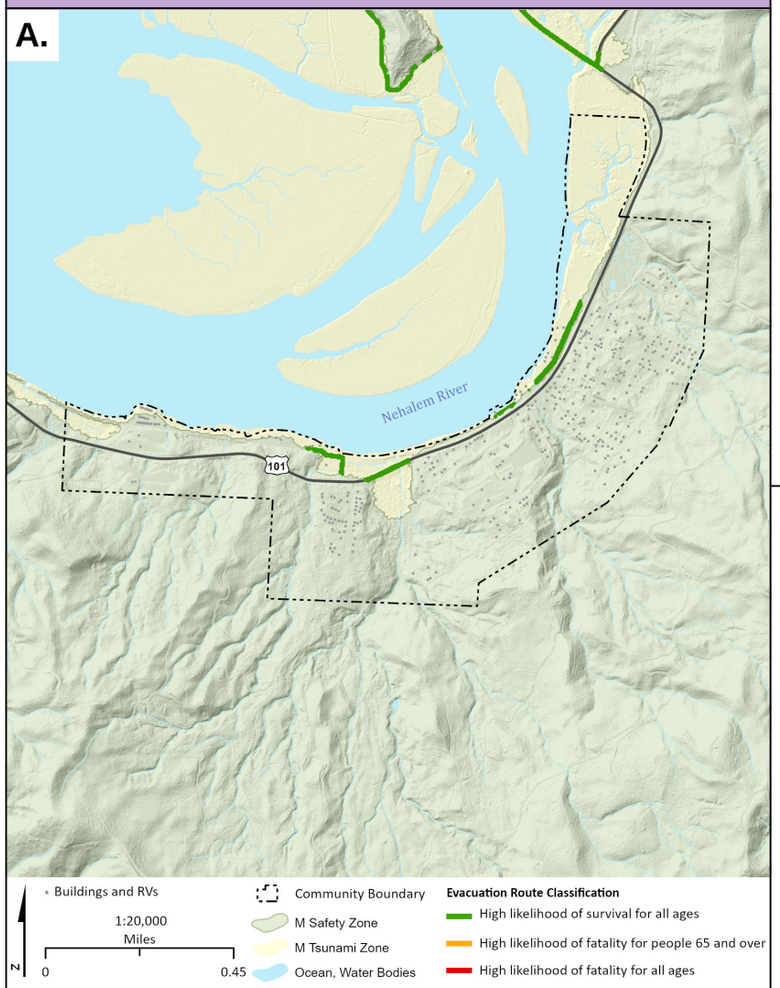


Description	Total
Earthquake Injuries (Entire Community)	30
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	500
Displaced Population - Permanent + Temporary	1,030

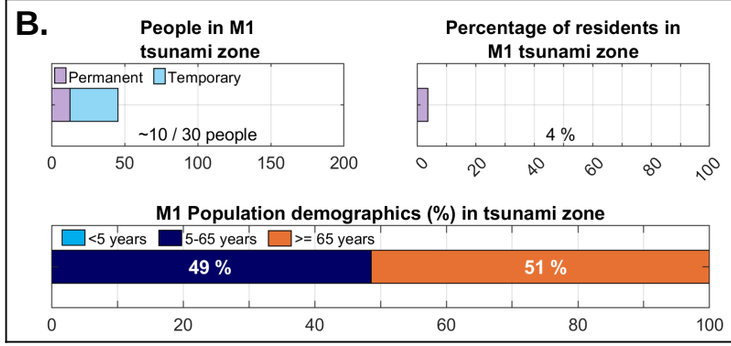
Wheeler - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

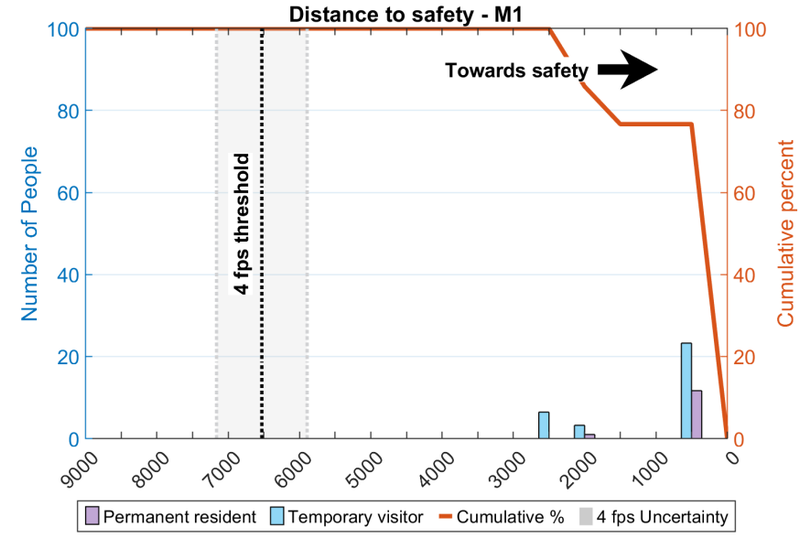
A.



B.



C.



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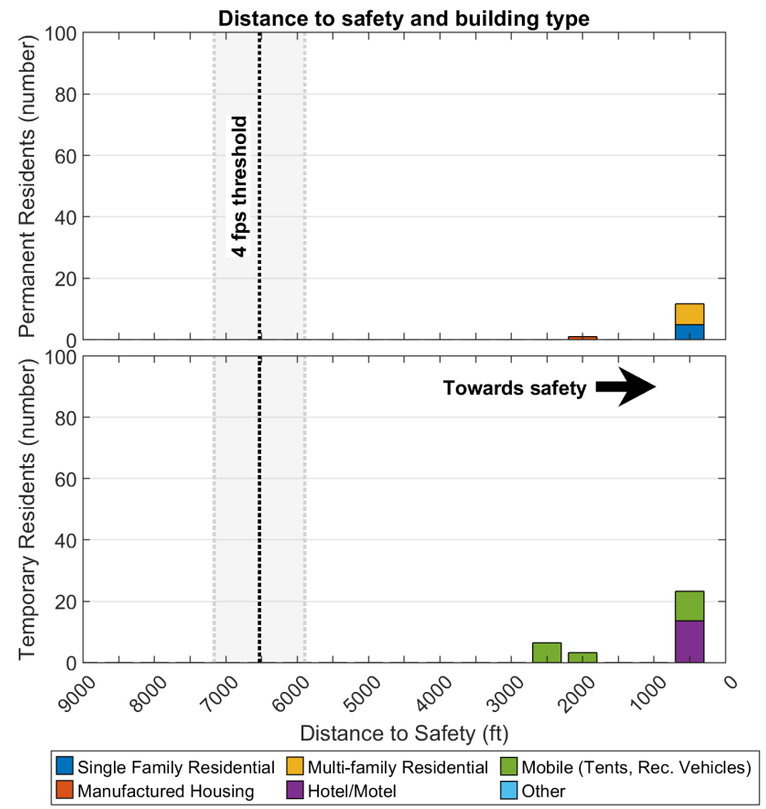

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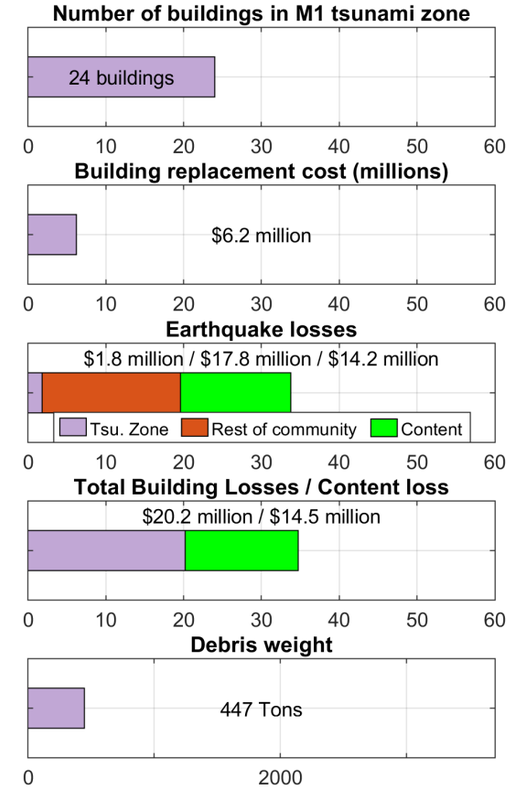
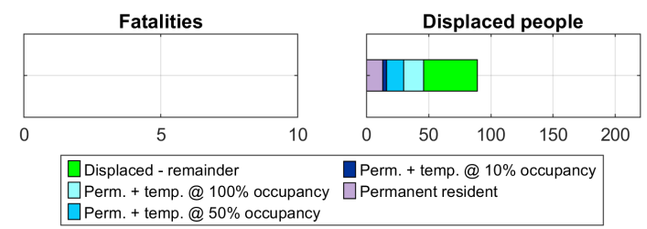


F.

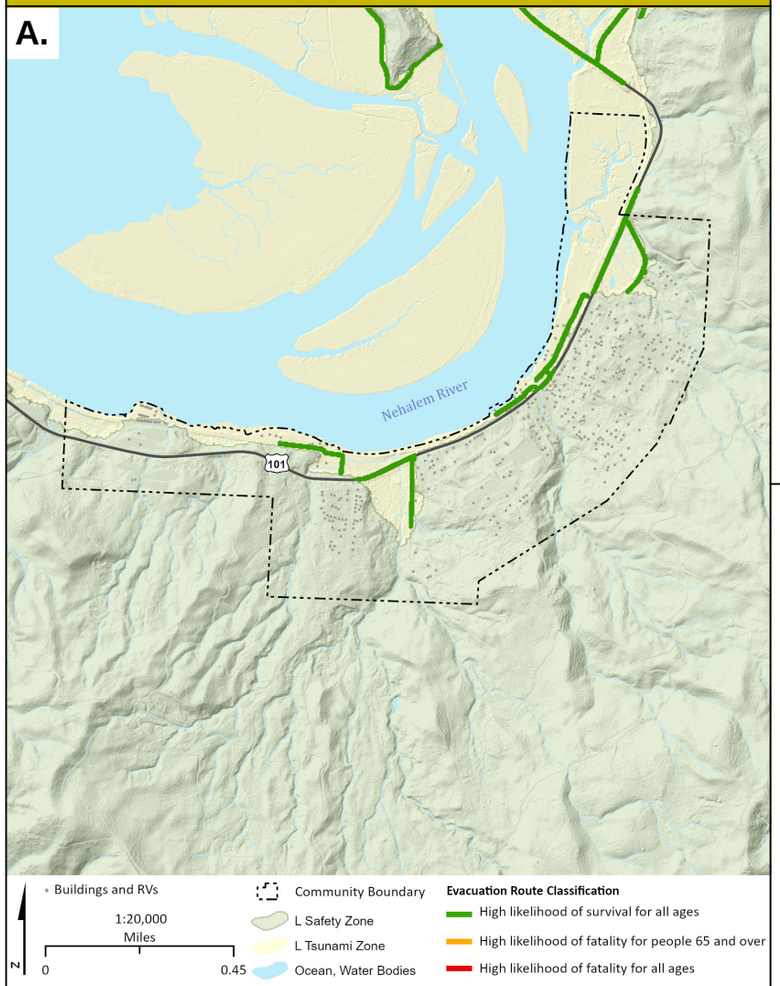


Description	Total
Earthquake Injuries (Entire Community)	10
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	40
Displaced Population - Permanent + Temporary	90

Wheeler - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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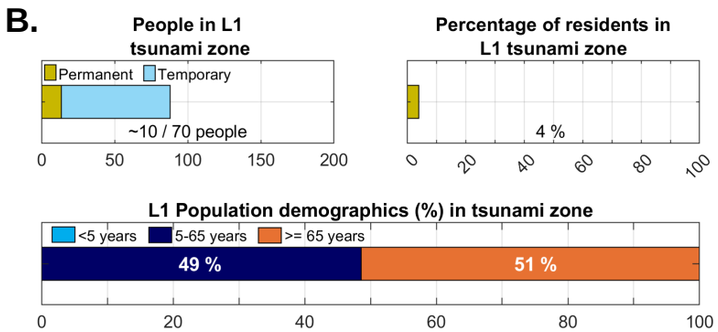

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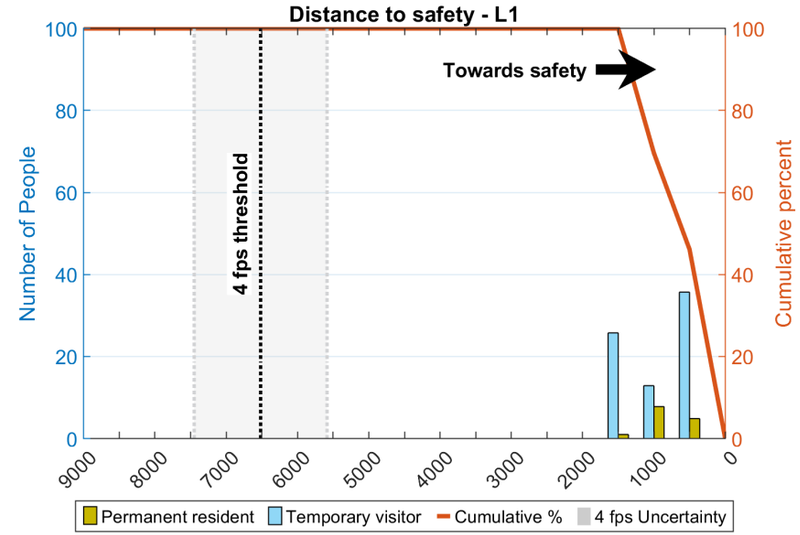
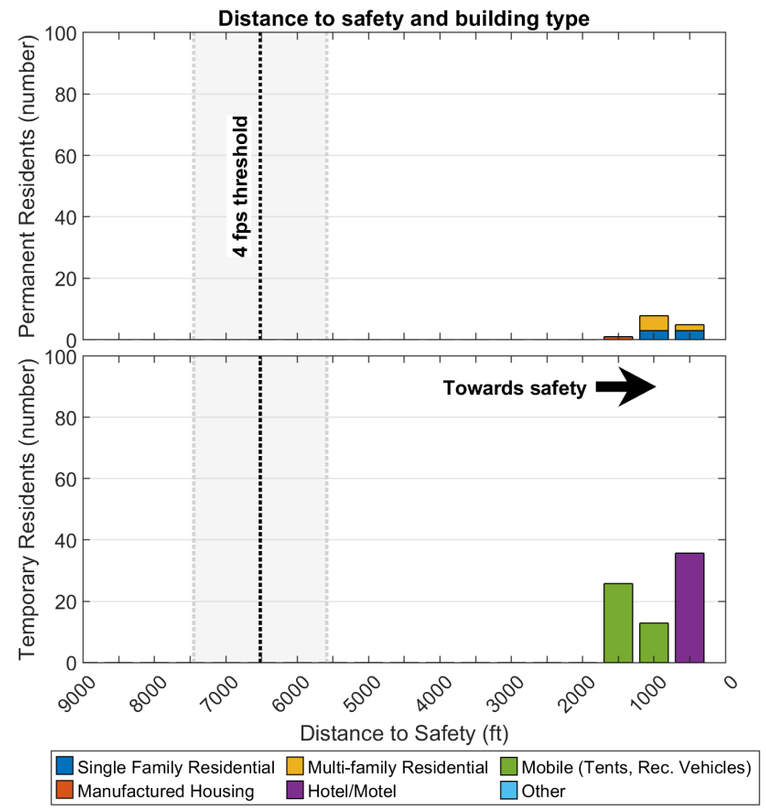


D.



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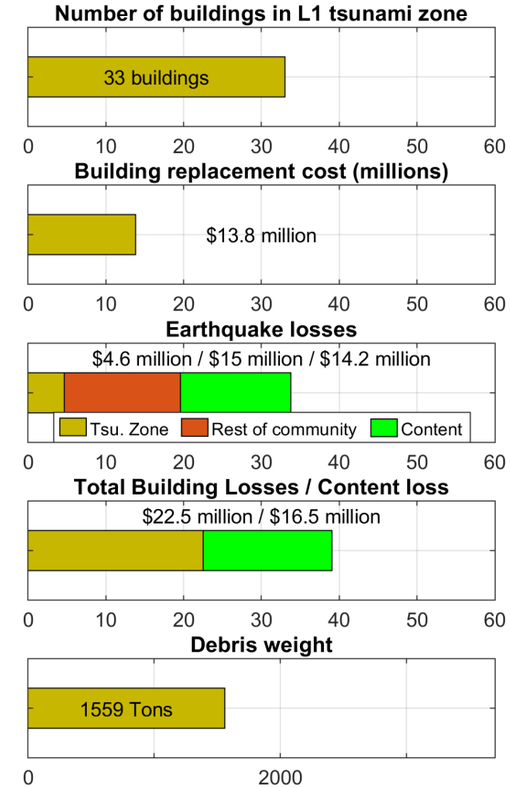
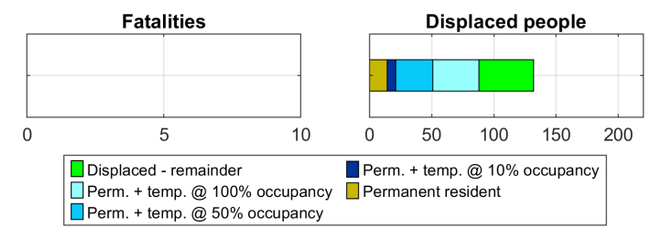


F.

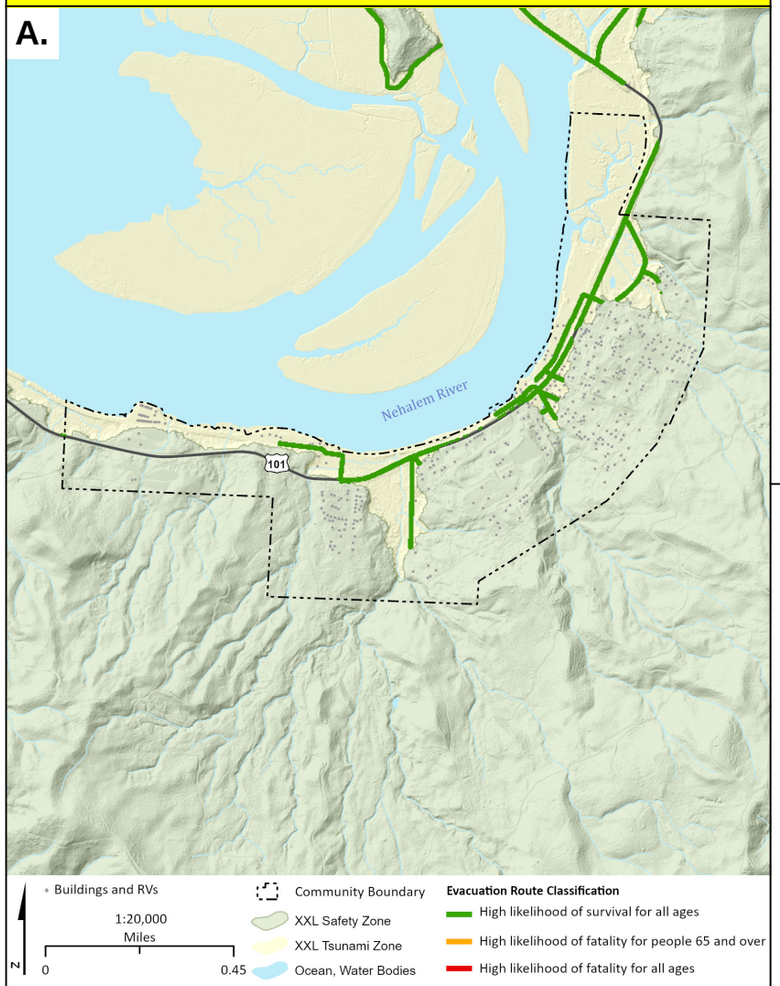


Description	Total
Earthquake Injuries (Entire Community)	10
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	40
Displaced Population - Permanent + Temporary	130

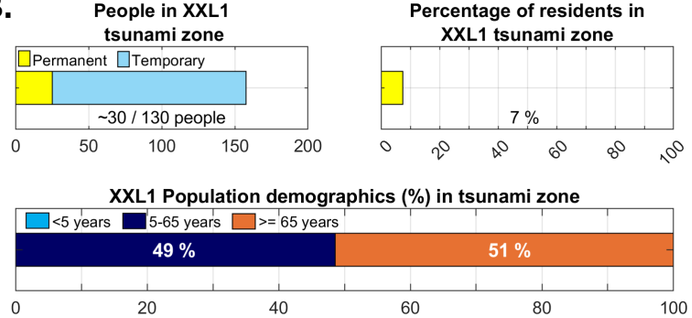
Wheeler - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

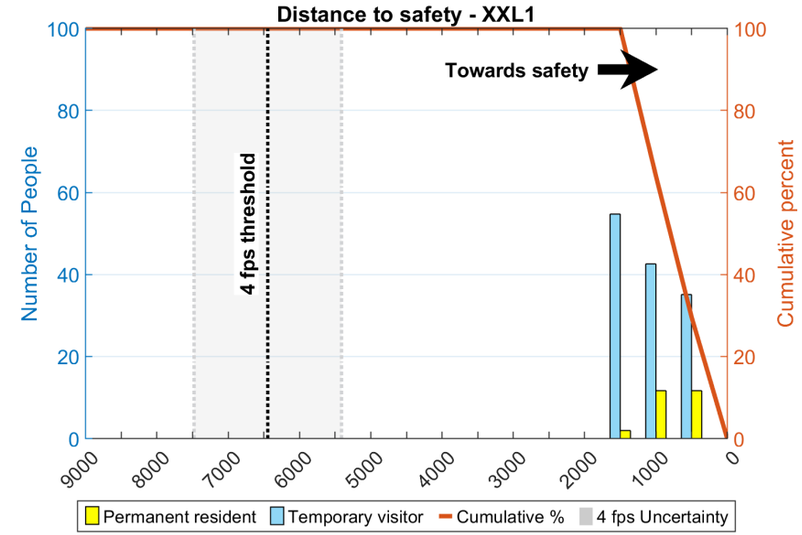
A.



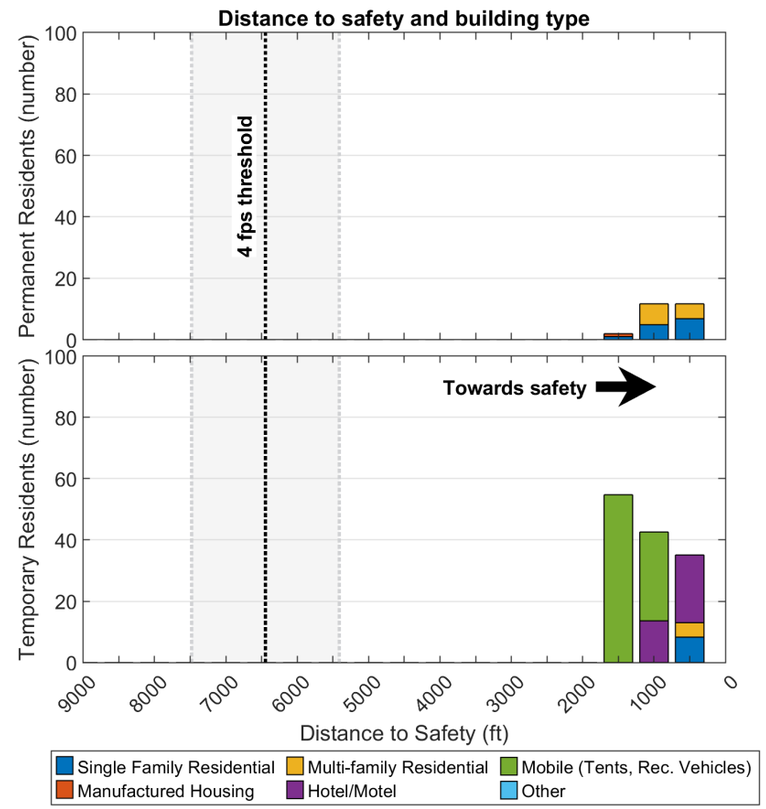
B.



C.



D.



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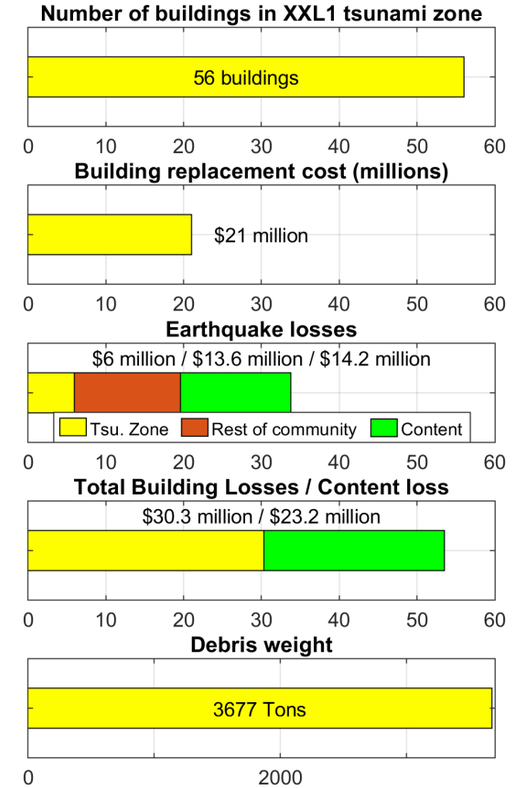

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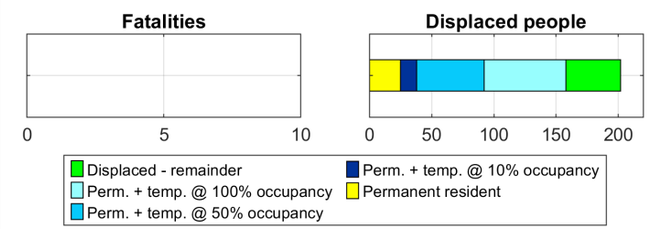
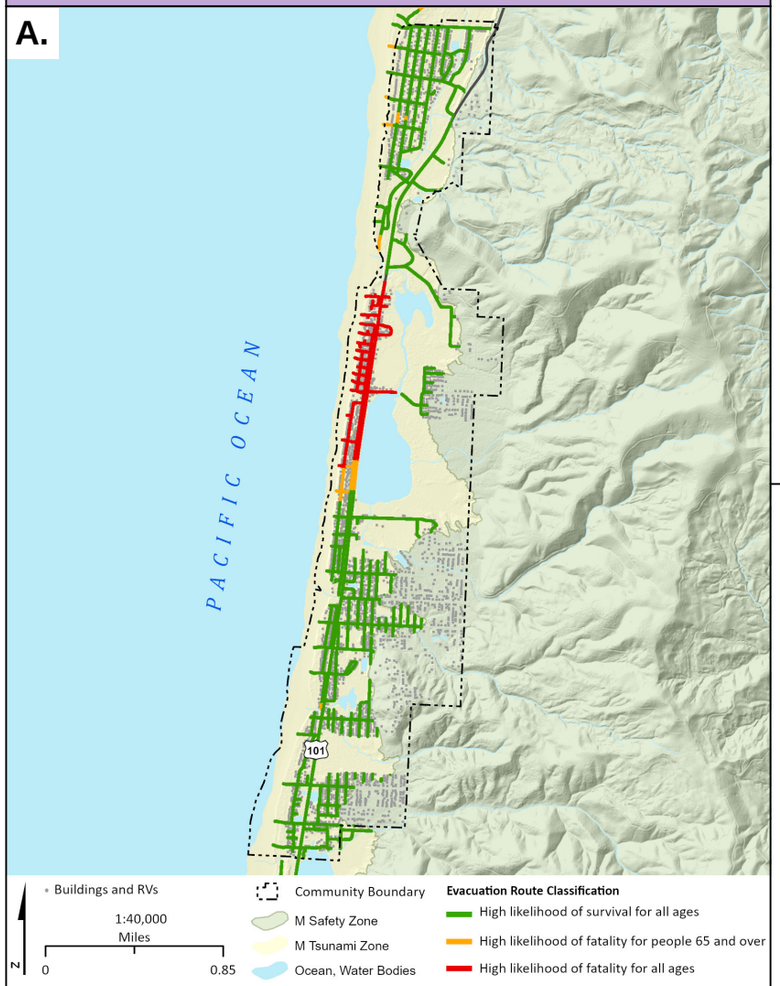


Description	Total
Earthquake Injuries (Entire Community)	10
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	50
Displaced Population - Permanent + Temporary	200

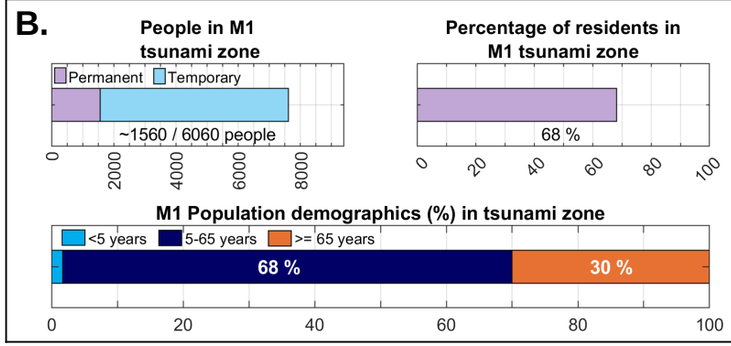
Rockaway Beach - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

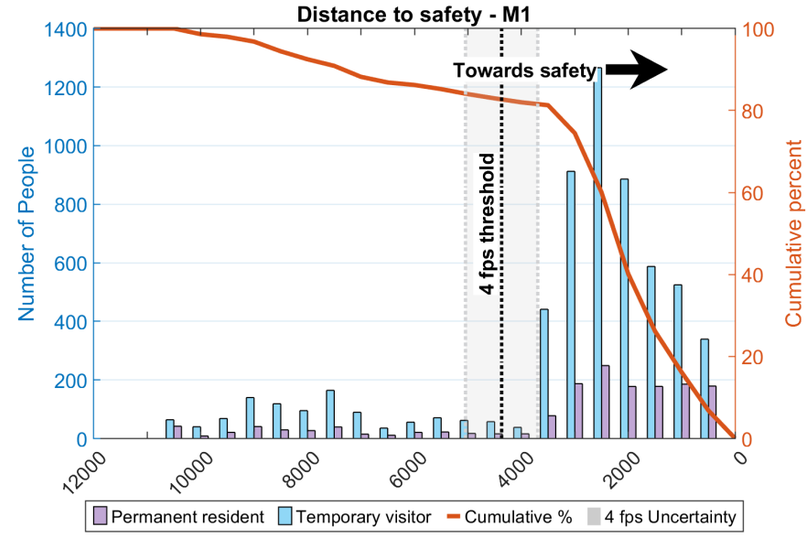
A.



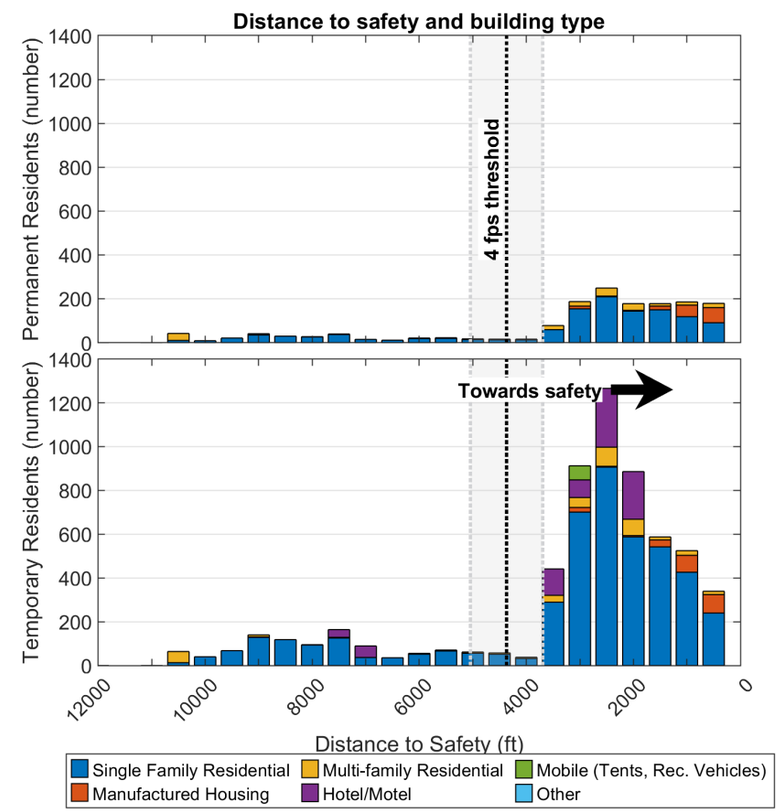
B.



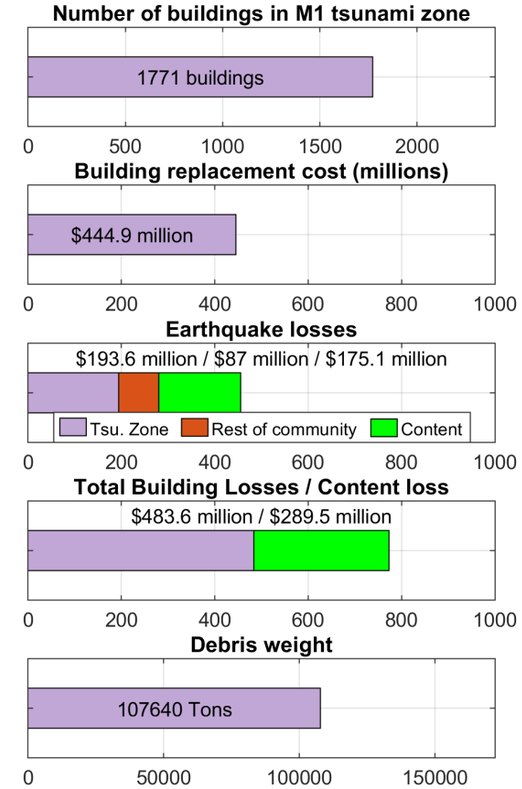
C.



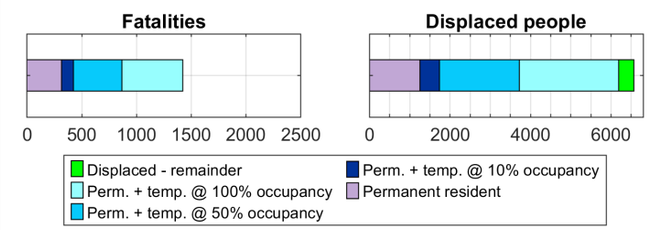
D.



E.



F.

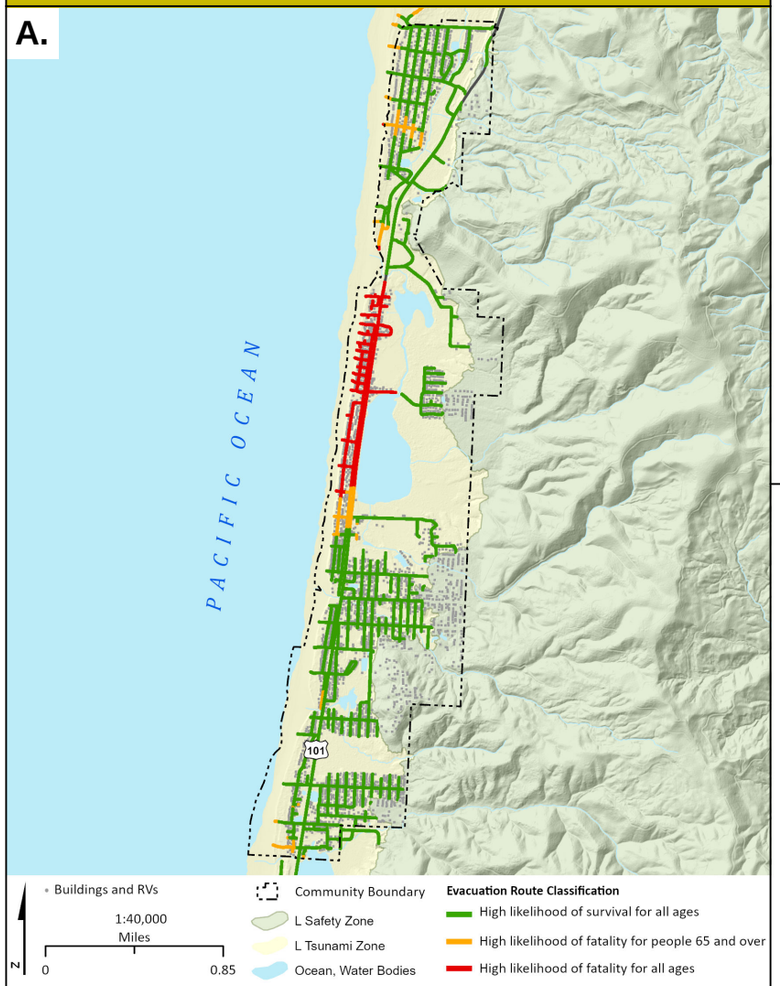


Description	Total
Earthquake Injuries (Entire Community)	270
Tsunami Injuries - Permanent + Temporary	200
Tsunami Fatalities - Permanent	310
Tsunami Fatalities - Temporary @ ~100% occupancy	1,110
Displaced Population - Permanent	1,420
Displaced Population - Permanent + Temporary	6,560

Rockaway Beach - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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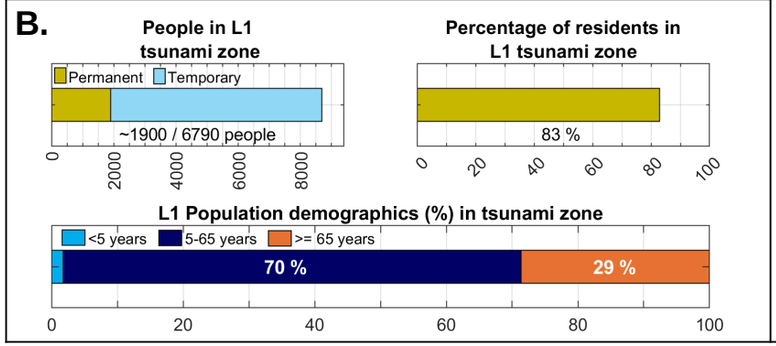
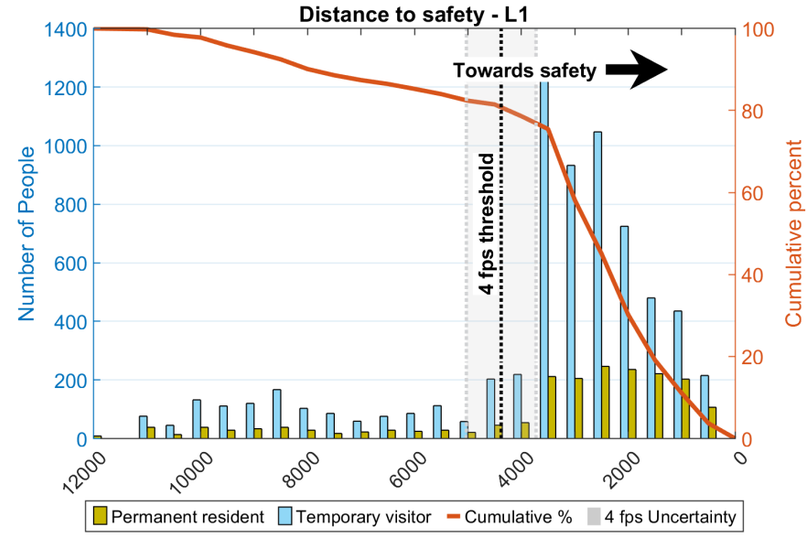
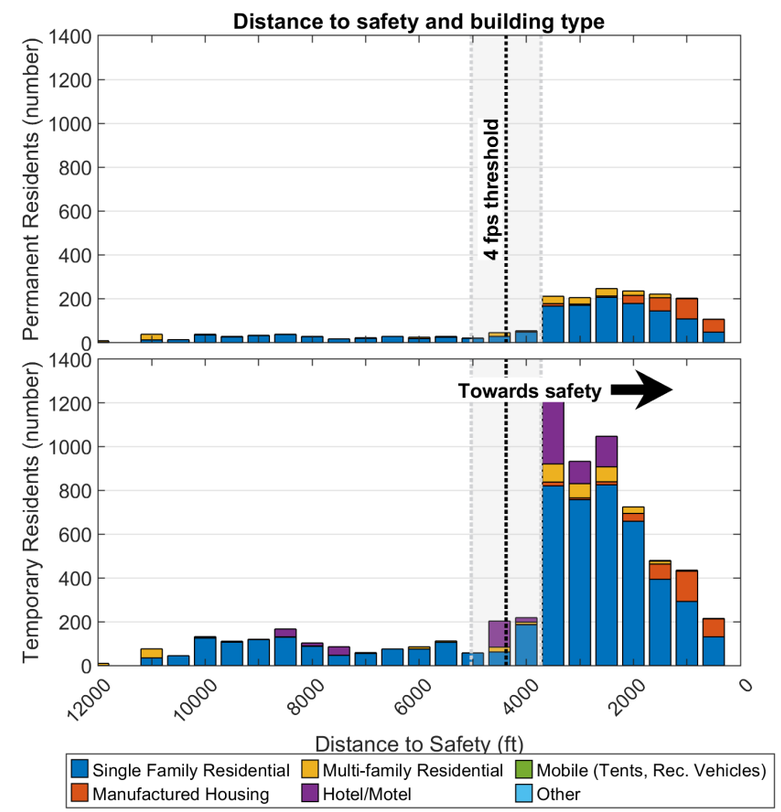


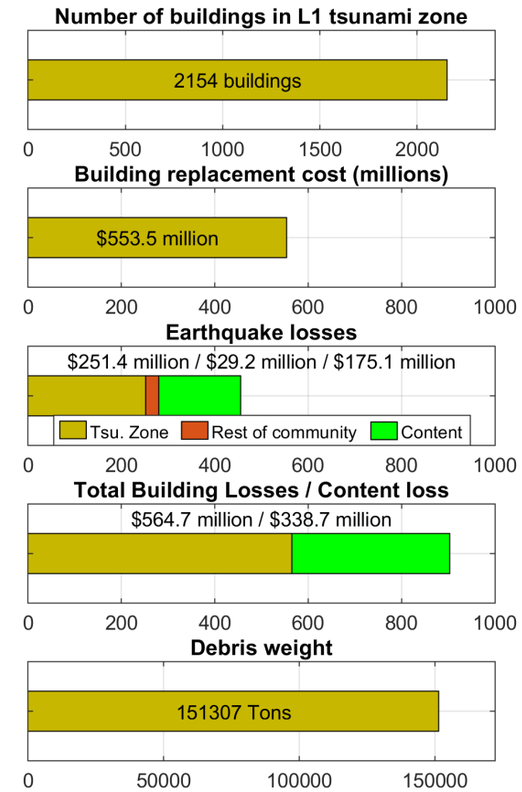
C.



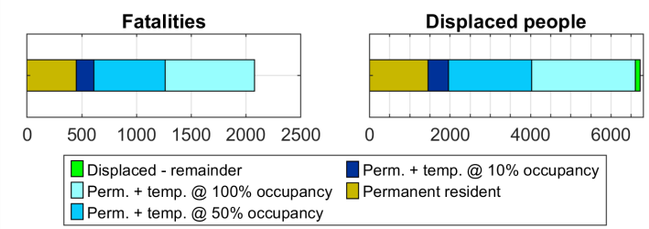
D.



E.



F.

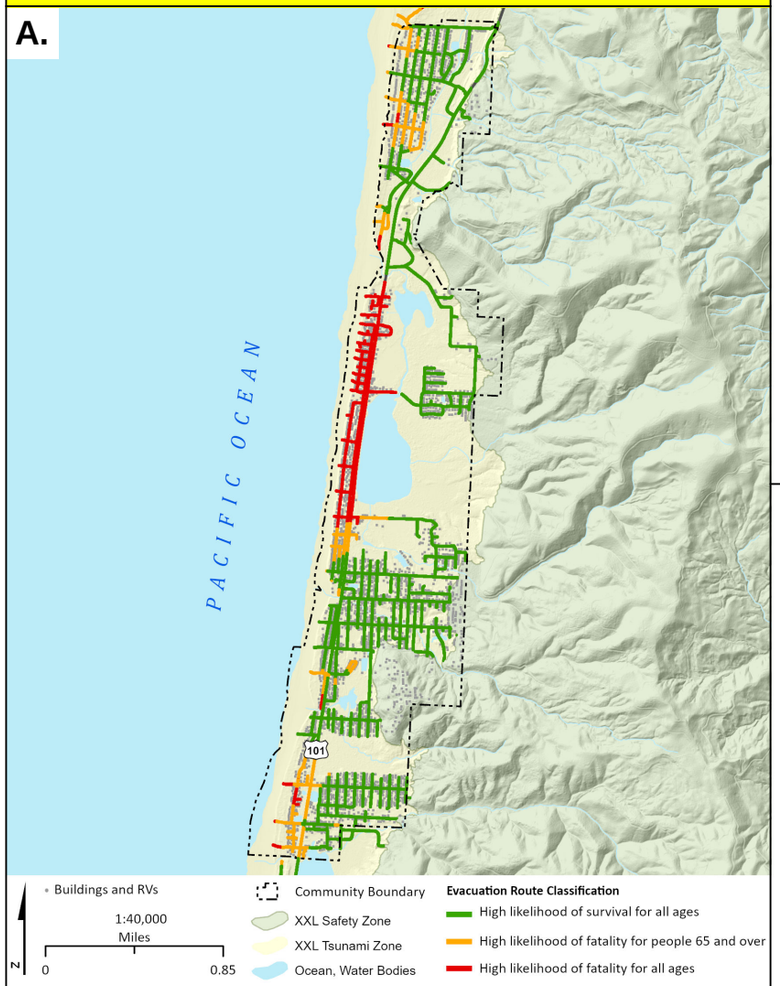


Description	Total
Earthquake Injuries (Entire Community)	270
Tsunami Injuries - Permanent + Temporary	190
Tsunami Fatalities - Permanent	450
Tsunami Fatalities - Temporary @ ~100% occupancy	1,630
Displaced Population - Permanent	1,510
Displaced Population - Permanent + Temporary	6,720

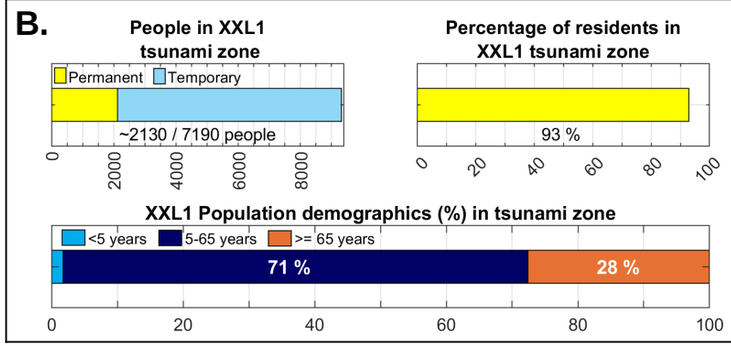
Rockaway Beach - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

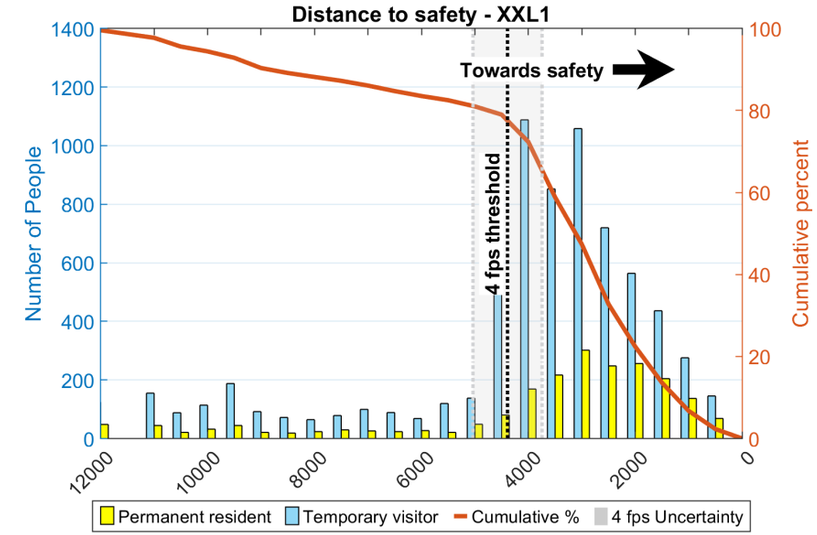
A.



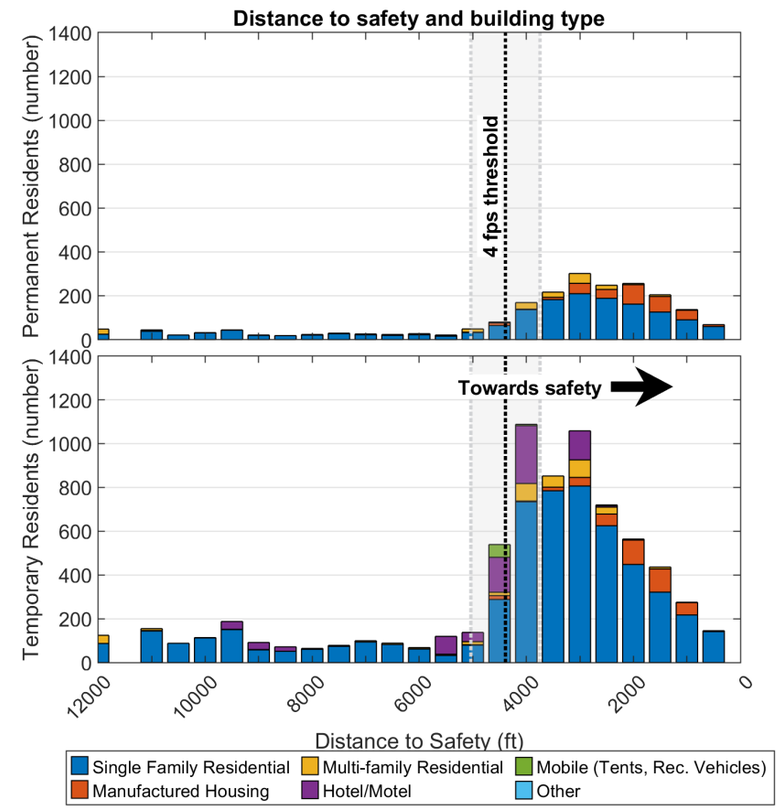
B.



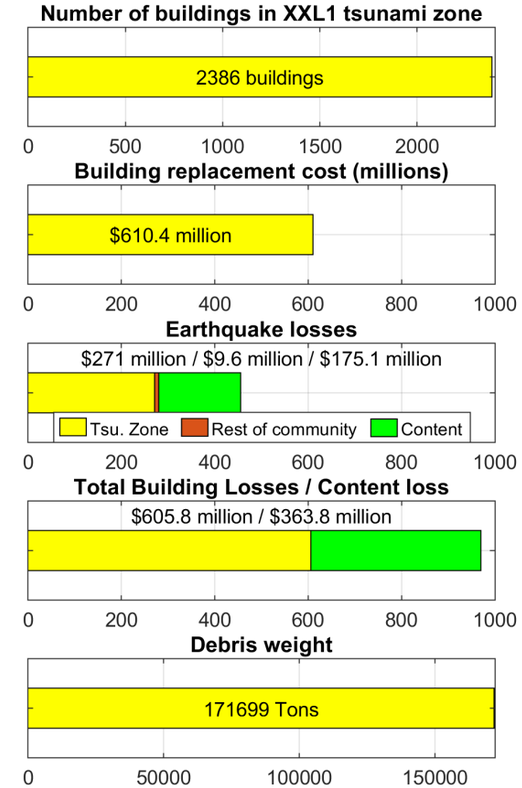
C.



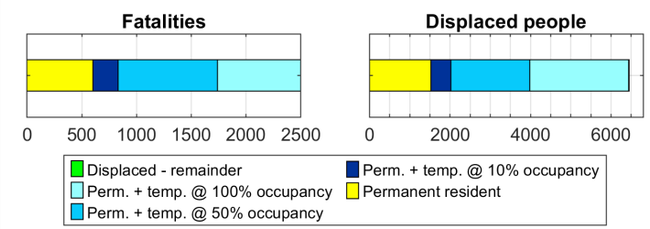
D.



E.



F.

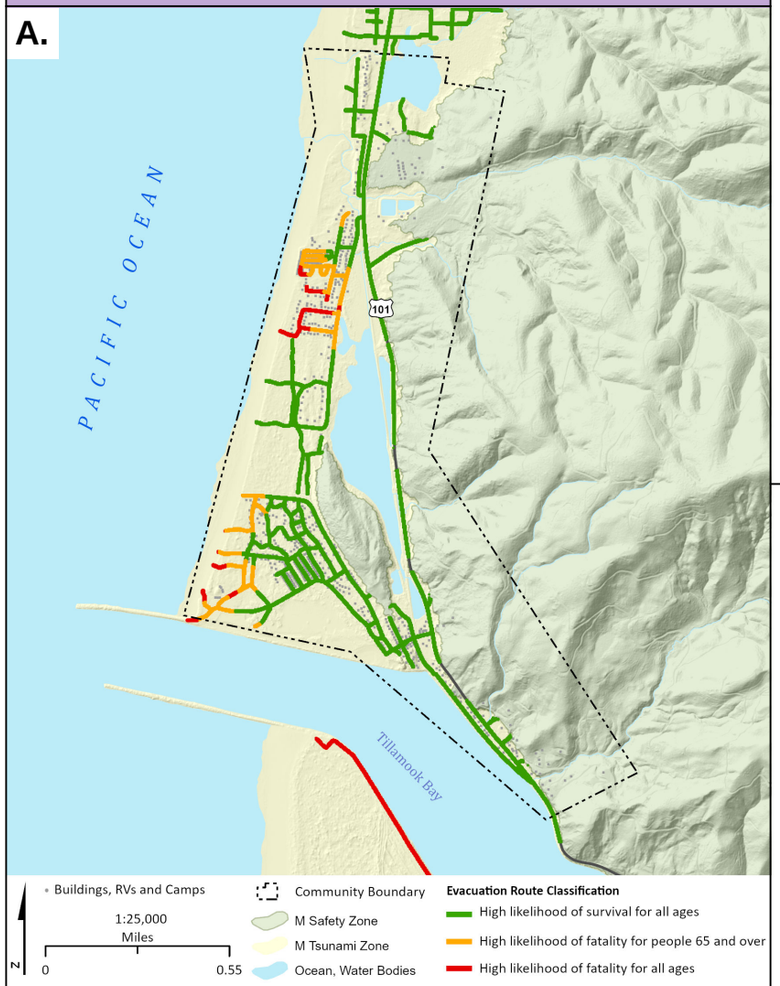


Description	Total
Earthquake Injuries (Entire Community)	270
Tsunami Injuries - Permanent + Temporary	240
Tsunami Fatalities - Permanent	600
Tsunami Fatalities - Temporary @ ~100% occupancy	2,280
Displaced Population - Permanent	1,530
Displaced Population - Permanent + Temporary	6,460

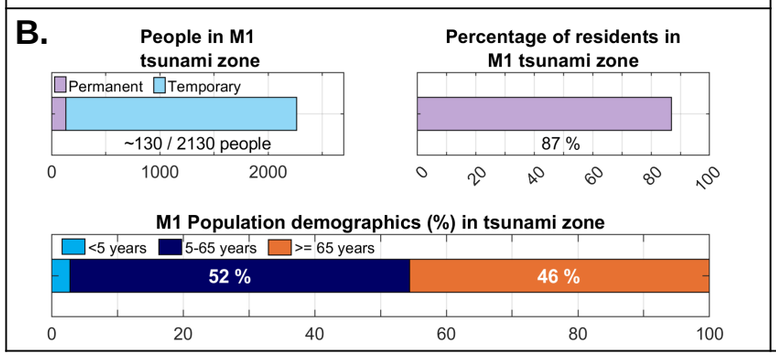
Barview - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

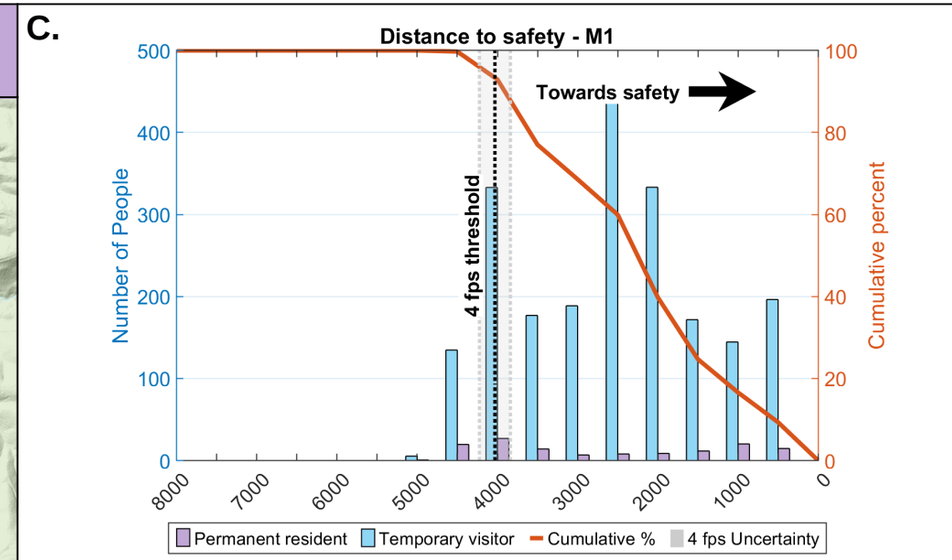
A.



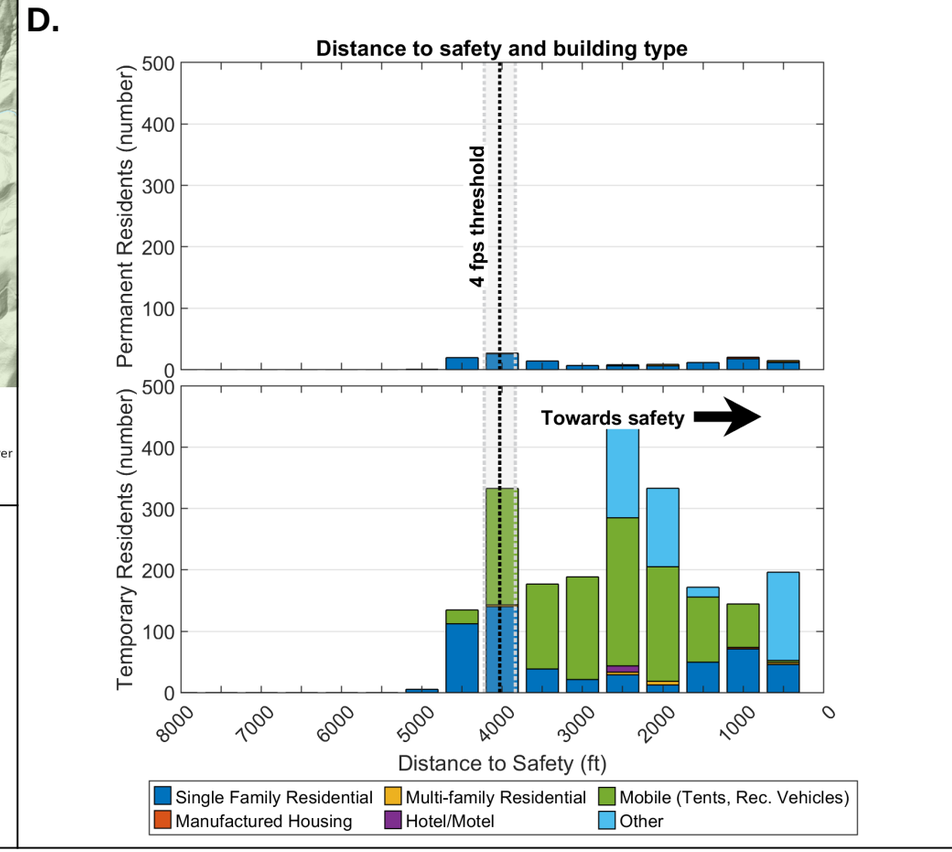
B.



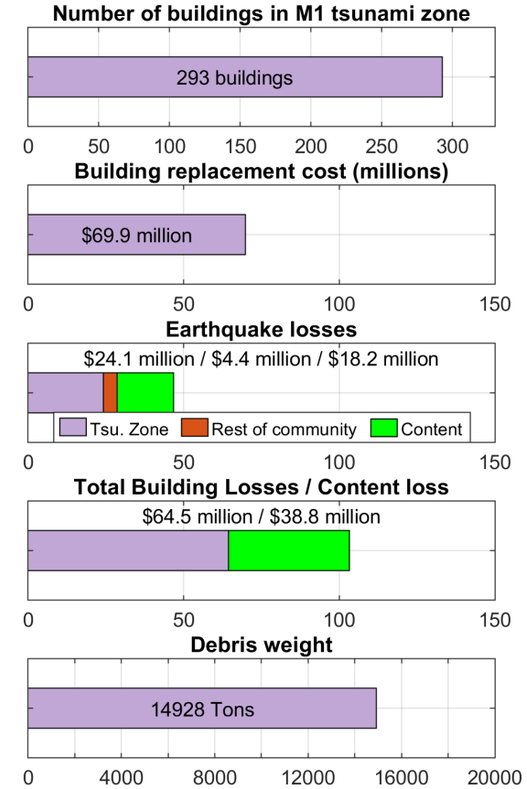
C.



D.



E.



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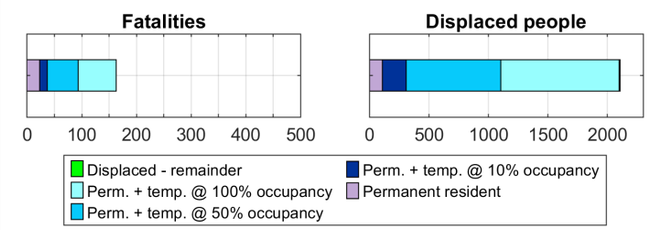
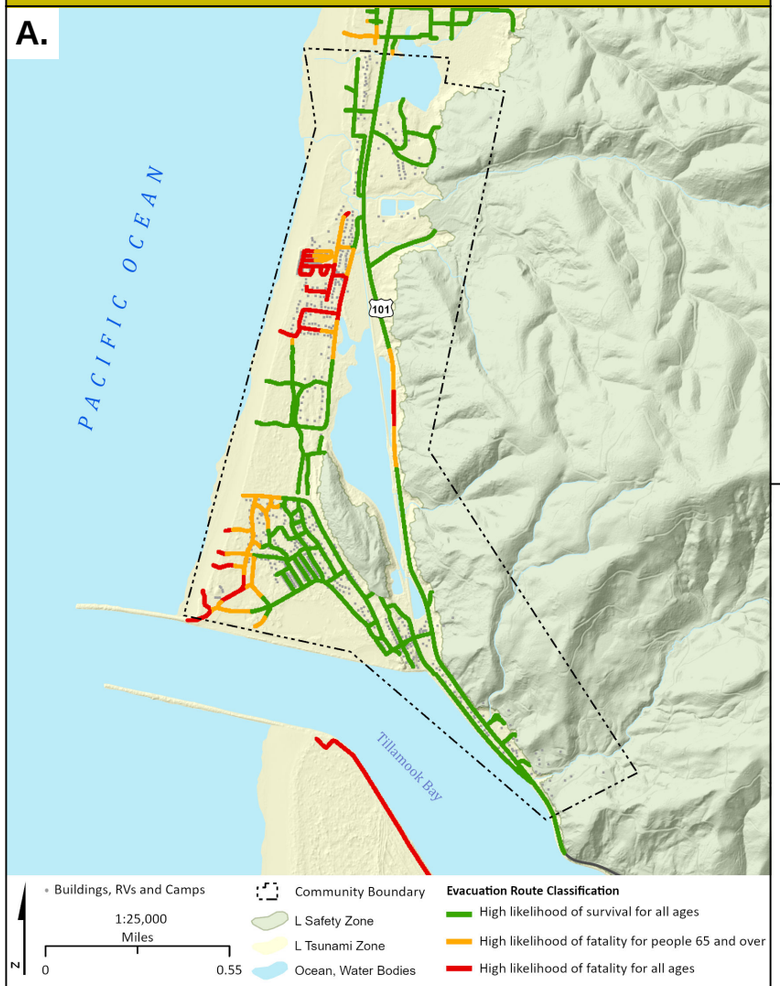


Description	Total
Earthquake Injuries (Entire Community)	40
Tsunami Injuries - Permanent + Temporary	130
Tsunami Fatalities - Permanent	20
Tsunami Fatalities - Temporary @ ~100% occupancy	140
Displaced Population - Permanent	110
Displaced Population - Permanent + Temporary	2,110

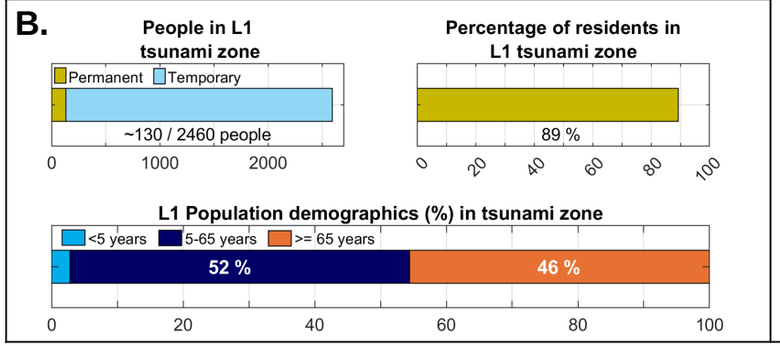
Barview - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



B.



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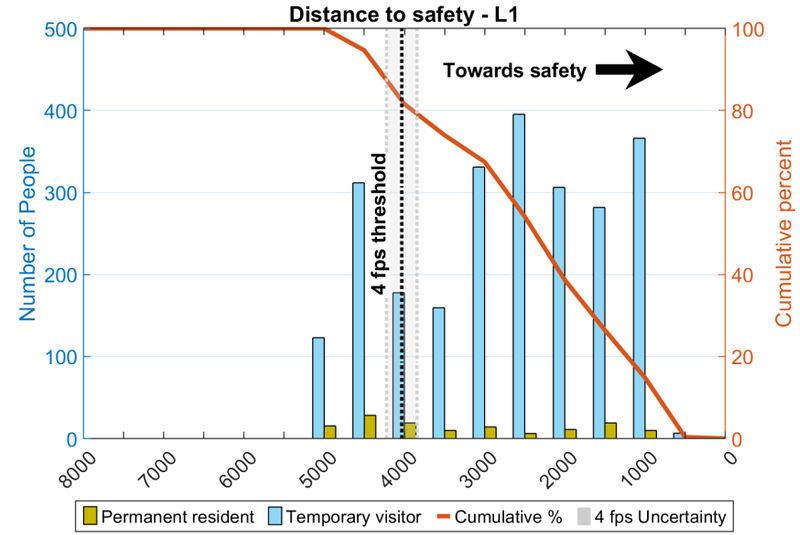

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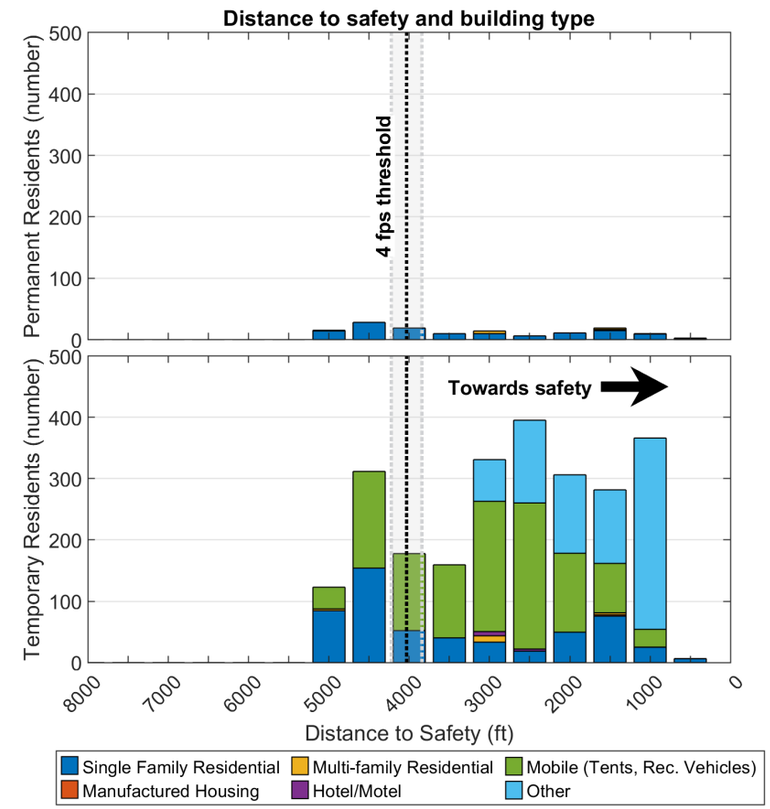

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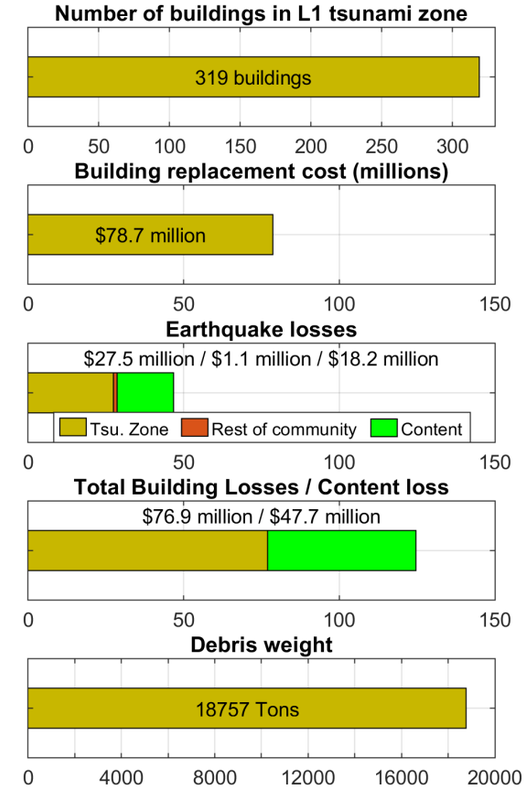
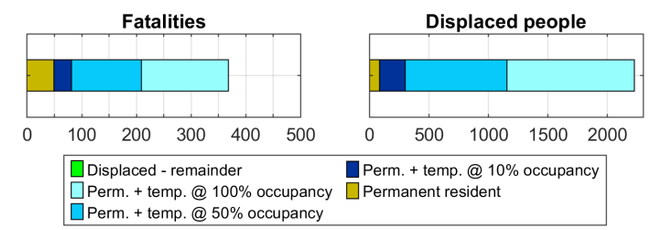


F.

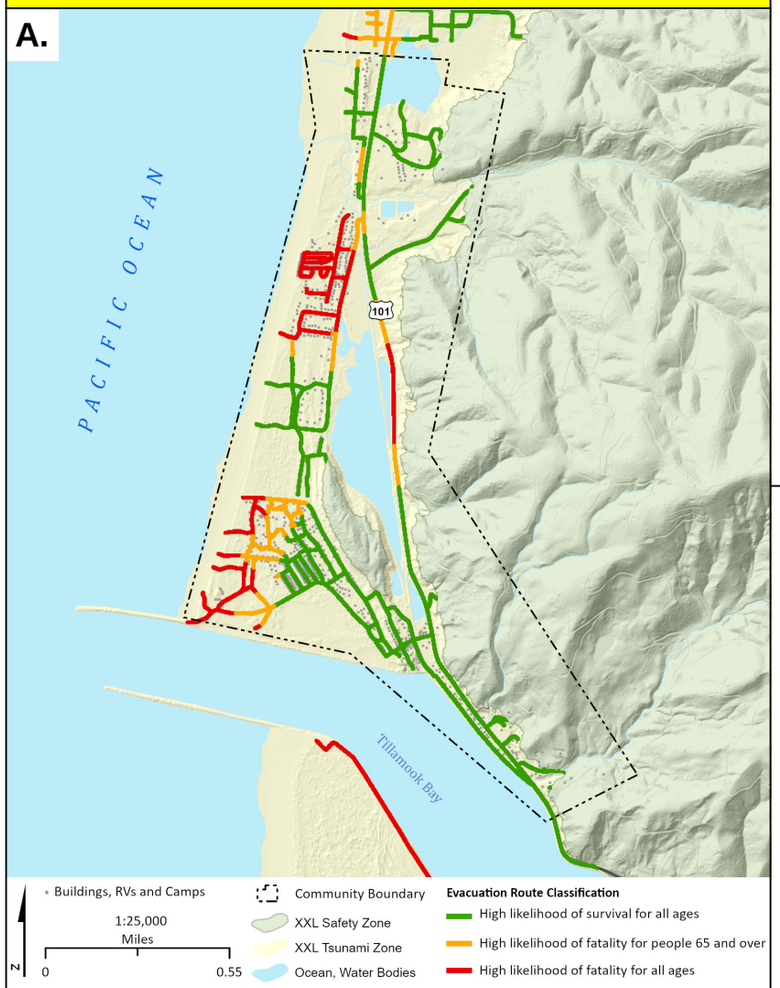


Description	Total
Earthquake Injuries (Entire Community)	40
Tsunami Injuries - Permanent + Temporary	60
Tsunami Fatalities - Permanent	50
Tsunami Fatalities - Temporary @ ~100% occupancy	320
Displaced Population - Permanent	90
Displaced Population - Permanent + Temporary	2,230

Barview - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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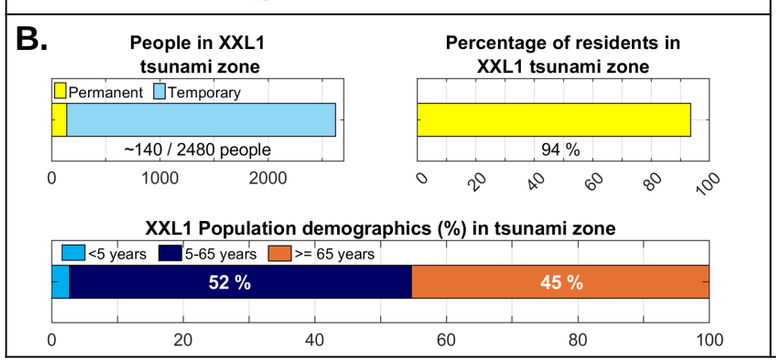

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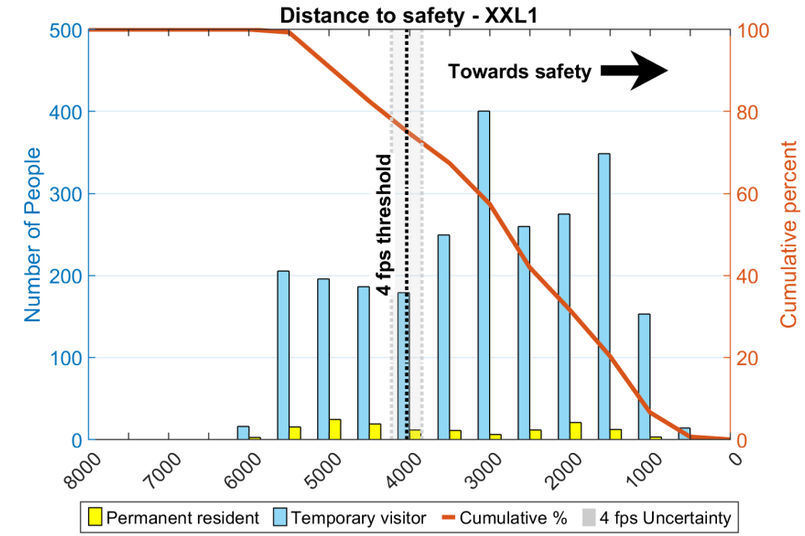

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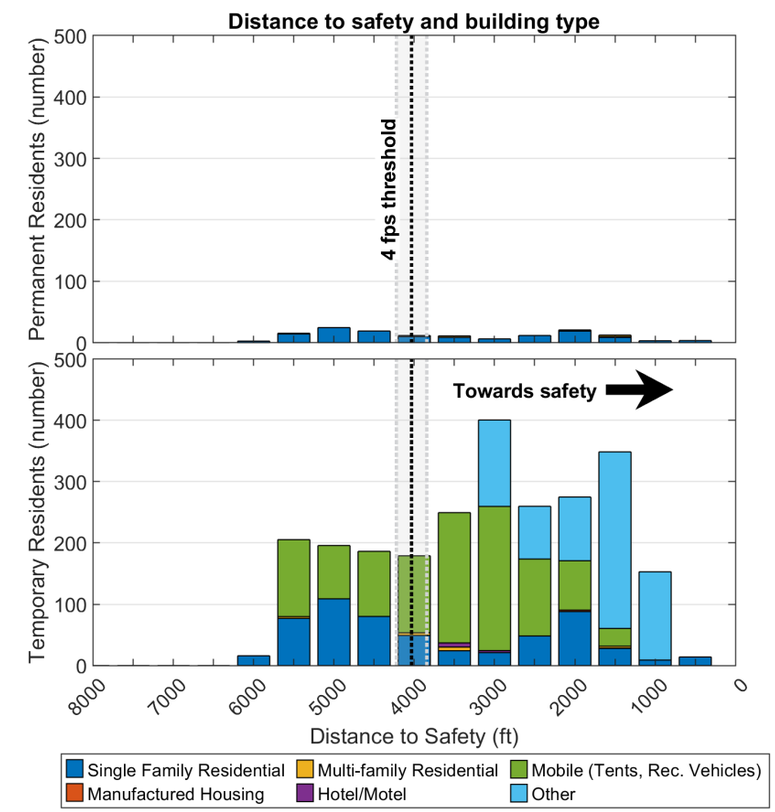

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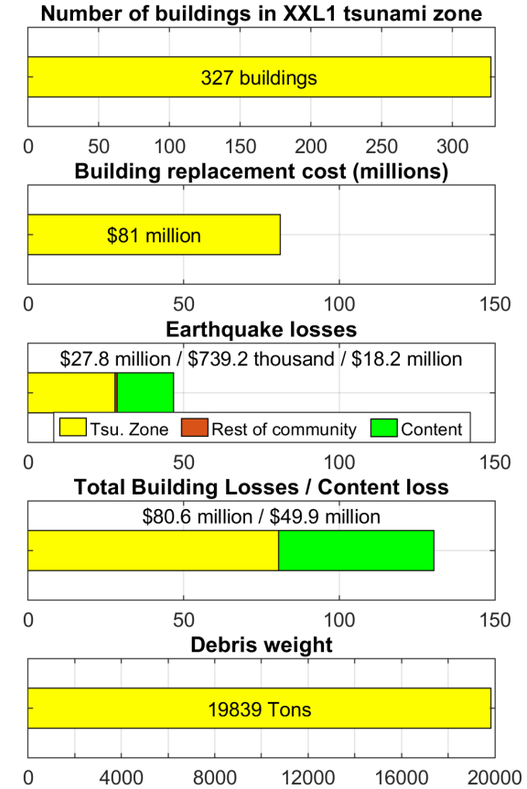

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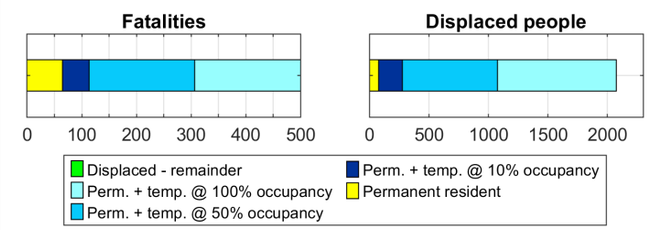
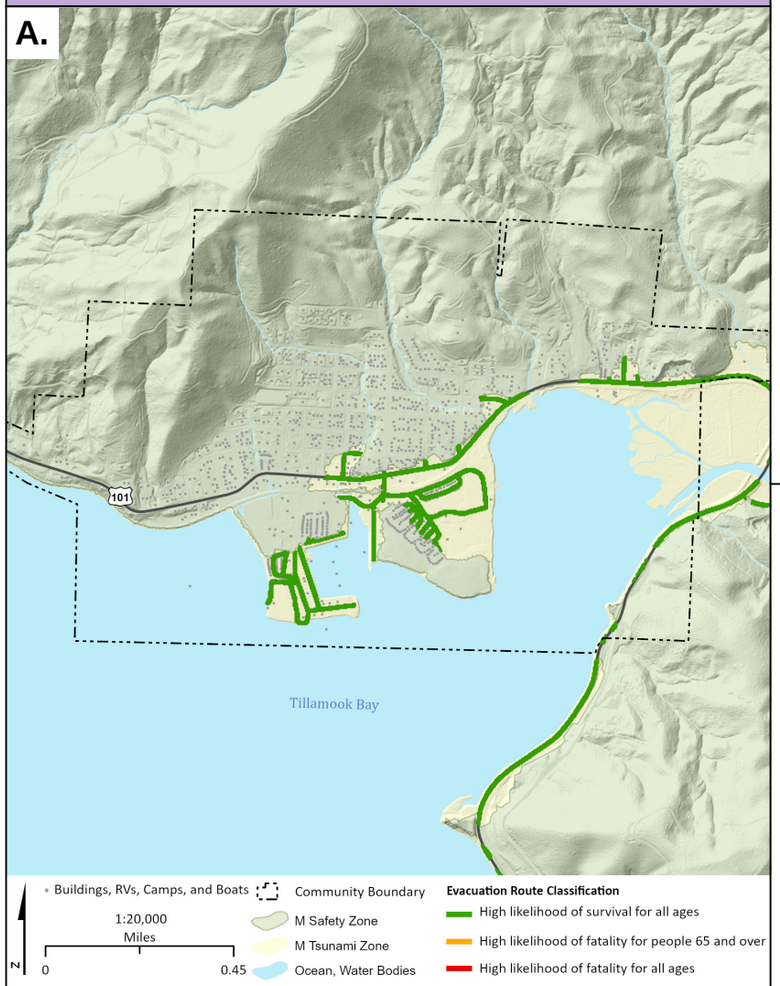


Description	Total
Earthquake Injuries (Entire Community)	40
Tsunami Injuries - Permanent + Temporary	50
Tsunami Fatalities - Permanent	60
Tsunami Fatalities - Temporary @ ~100% occupancy	480
Displaced Population - Permanent	80
Displaced Population - Permanent + Temporary	2,080

Garibaldi - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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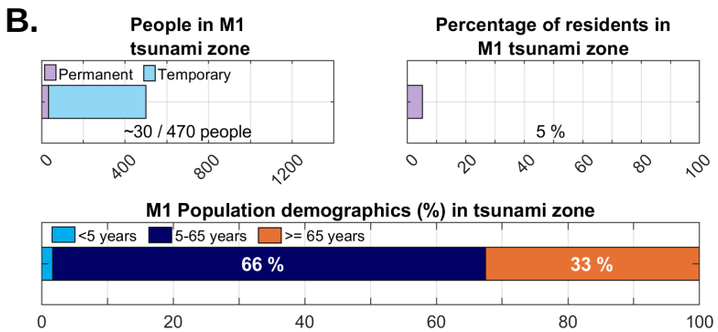

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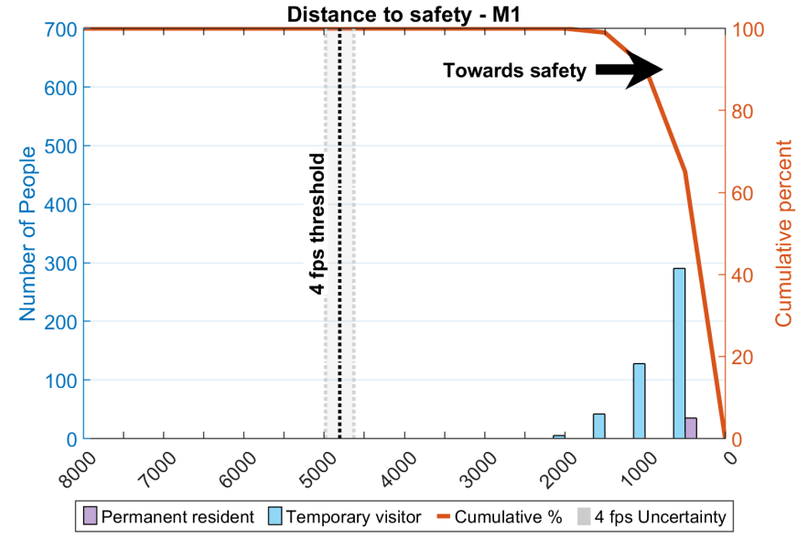
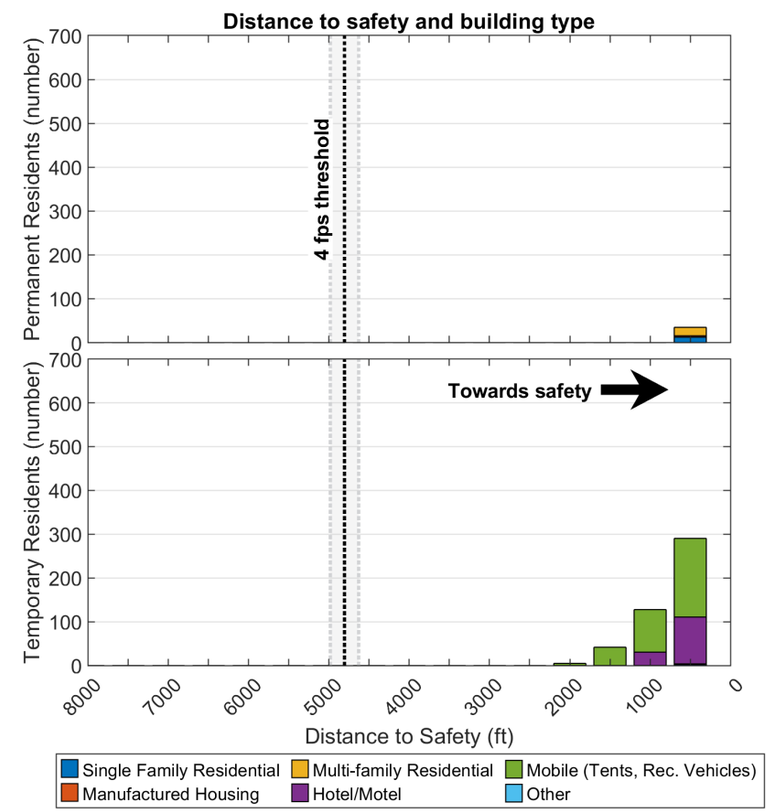


D.



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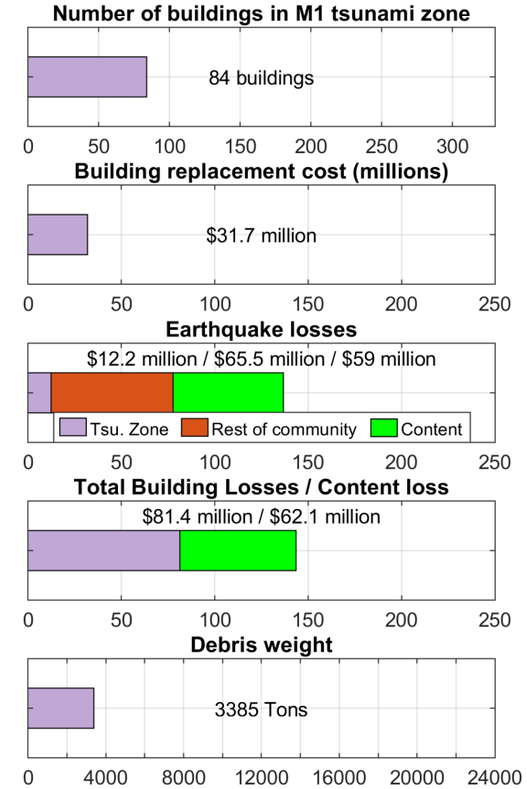

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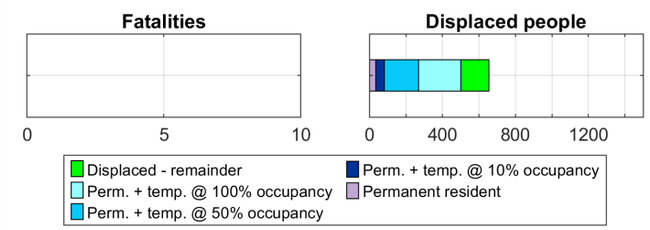
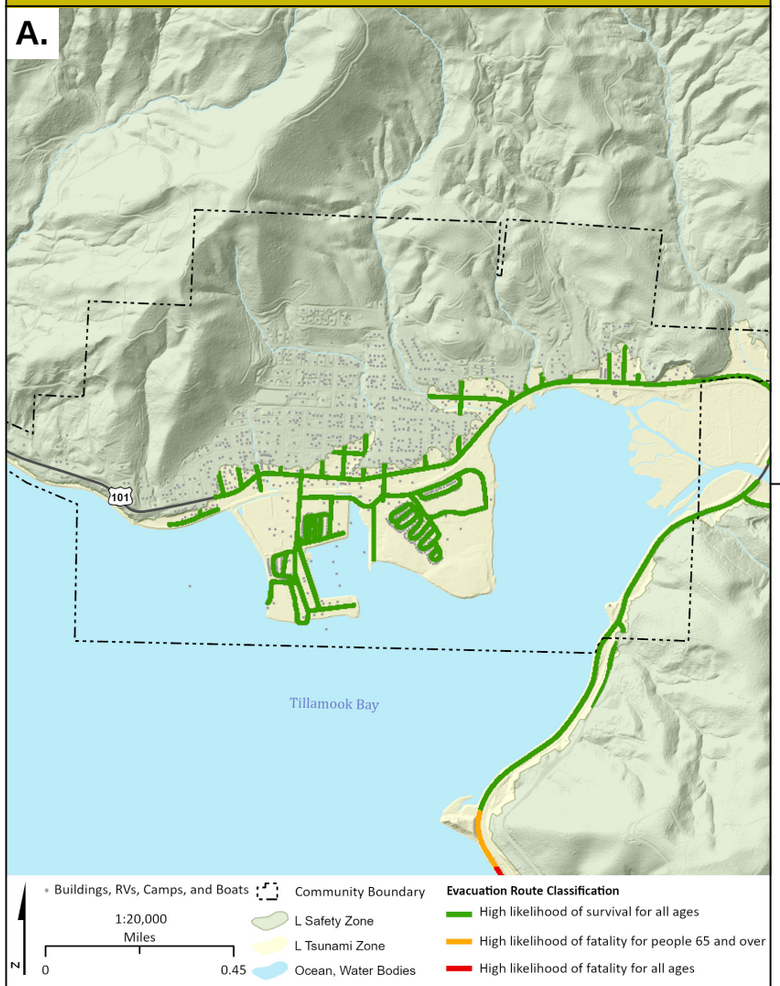


Description	Total
Earthquake Injuries (Entire Community)	40
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	150
Displaced Population - Permanent + Temporary	650

Garibaldi - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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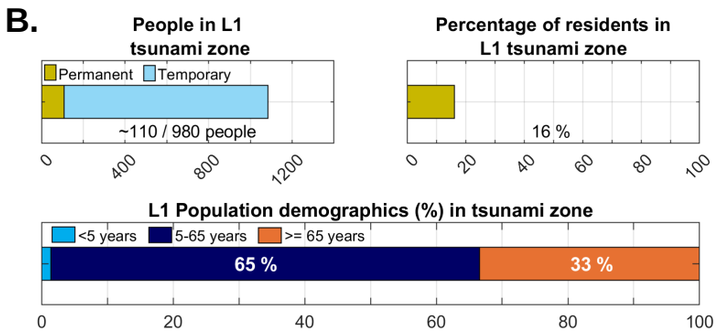

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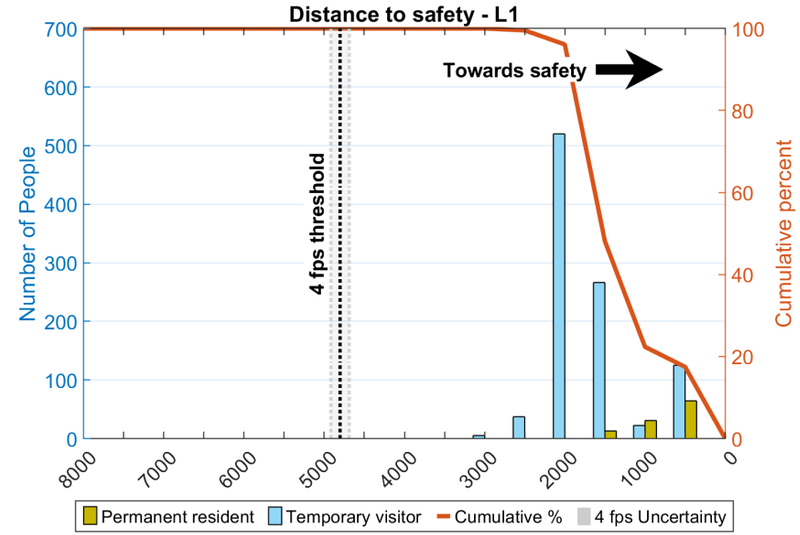
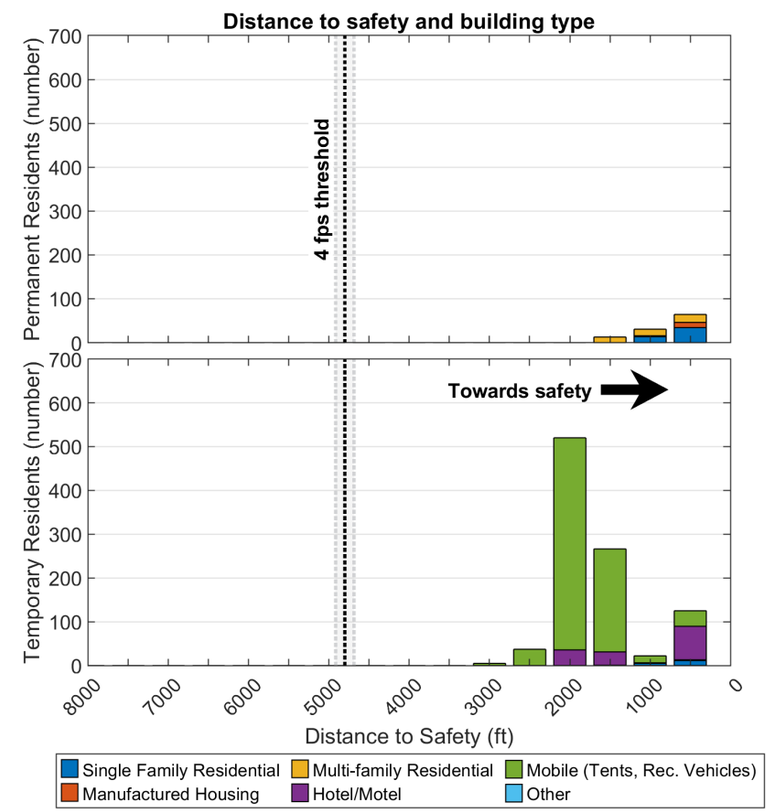
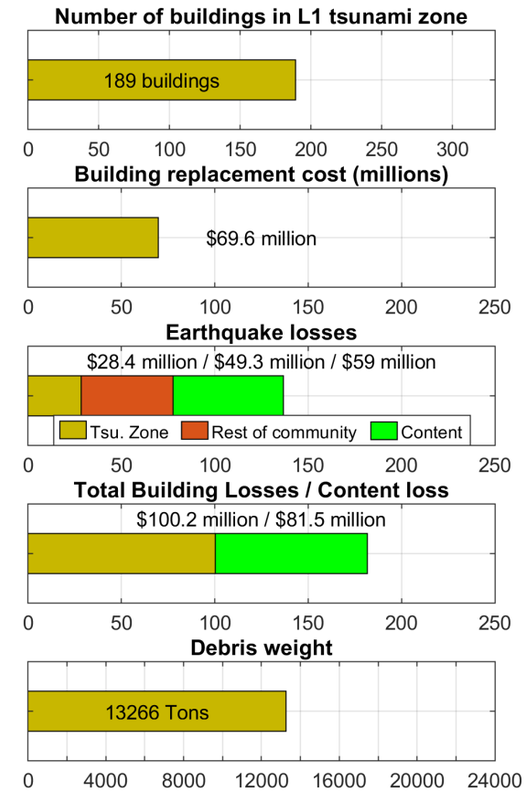


D.



E.



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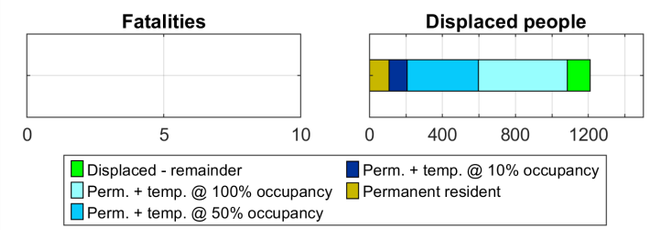
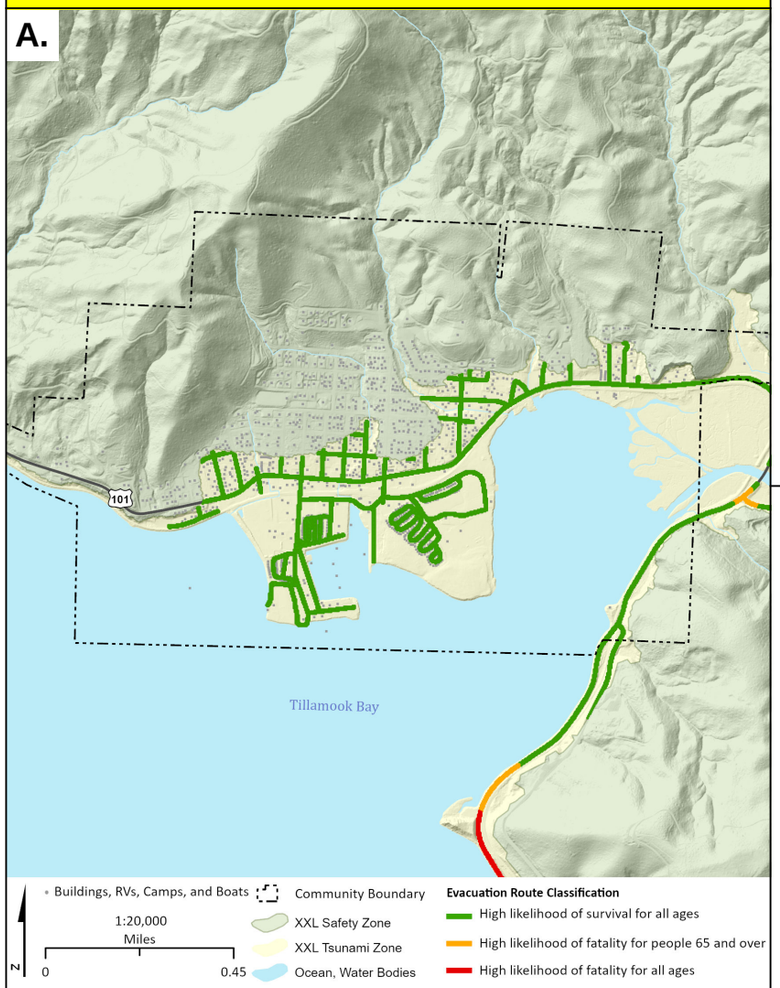


Description	Total
Earthquake Injuries (Entire Community)	40
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	190
Displaced Population - Permanent + Temporary	1,210

Garibaldi - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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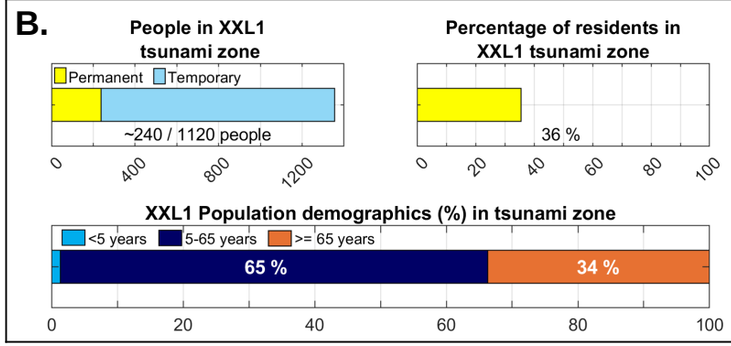

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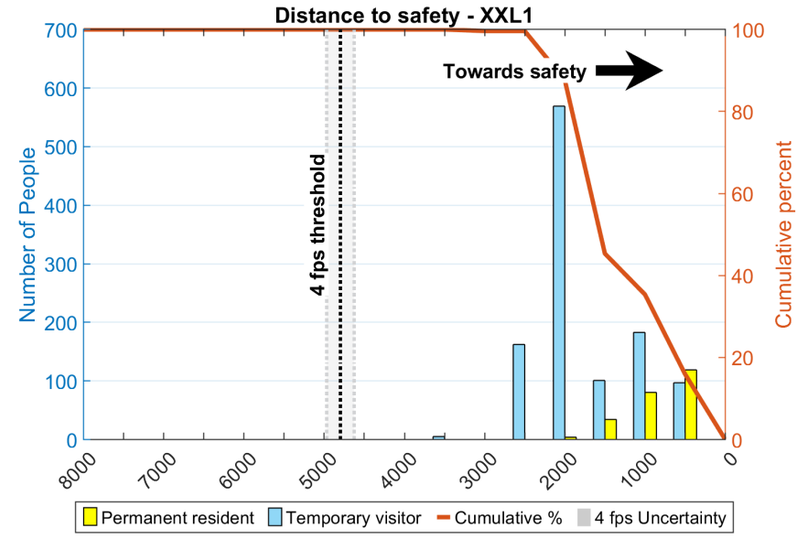

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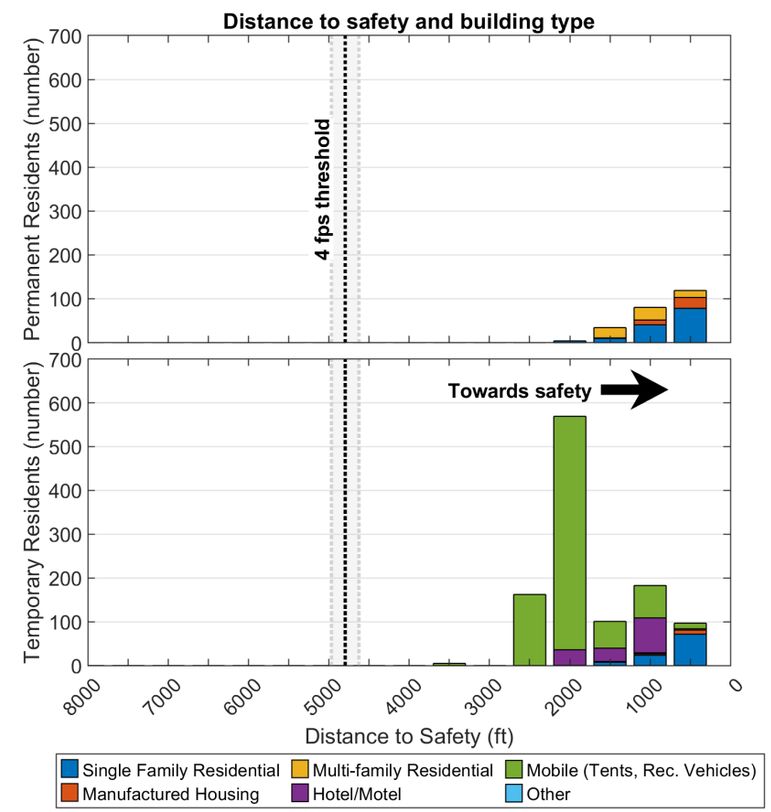

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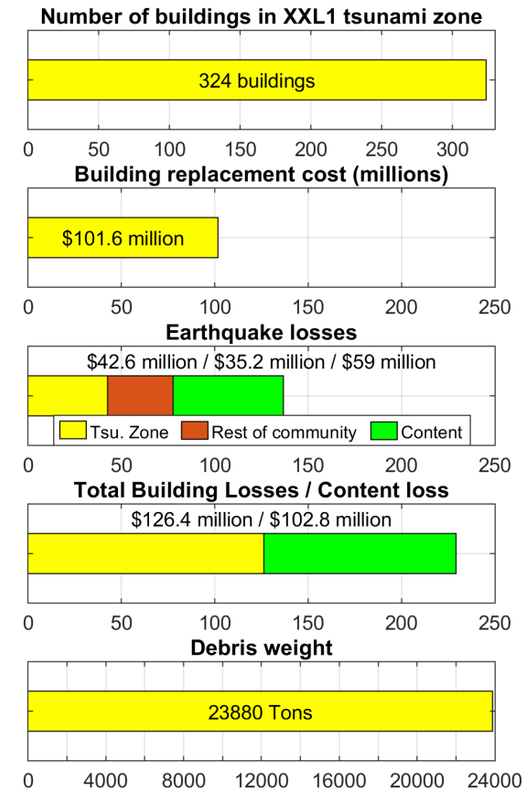

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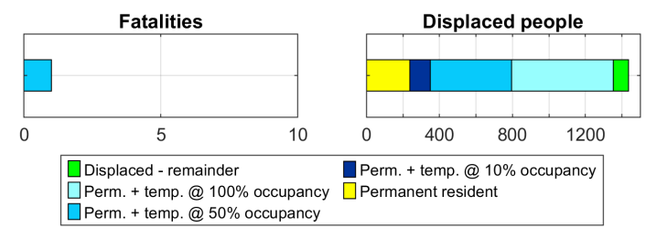
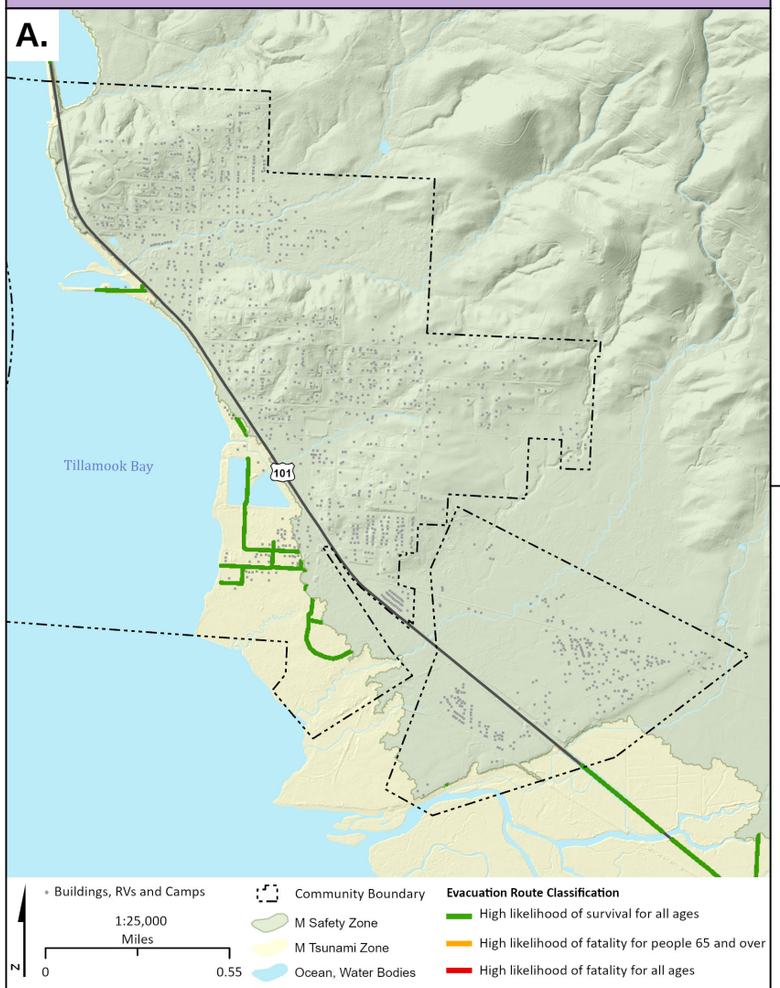


Description	Total
Earthquake Injuries (Entire Community)	40
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	290
Displaced Population - Permanent + Temporary	1,430

Bay City - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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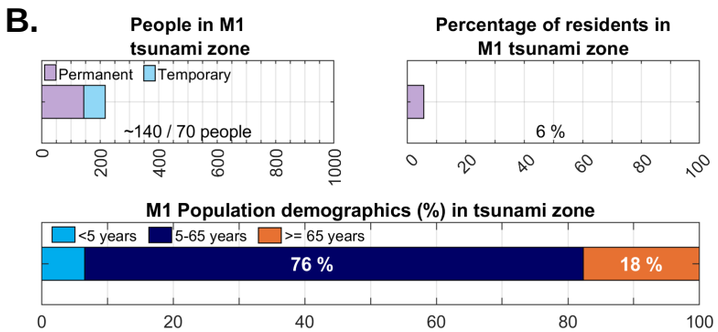

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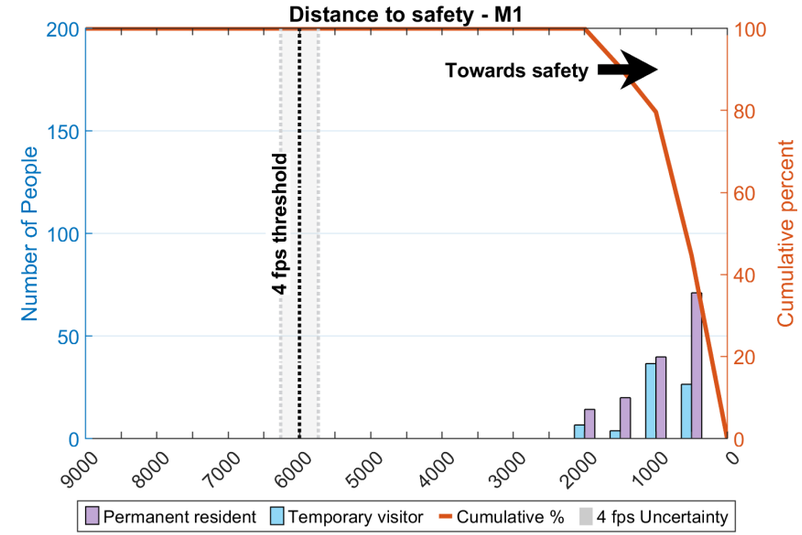
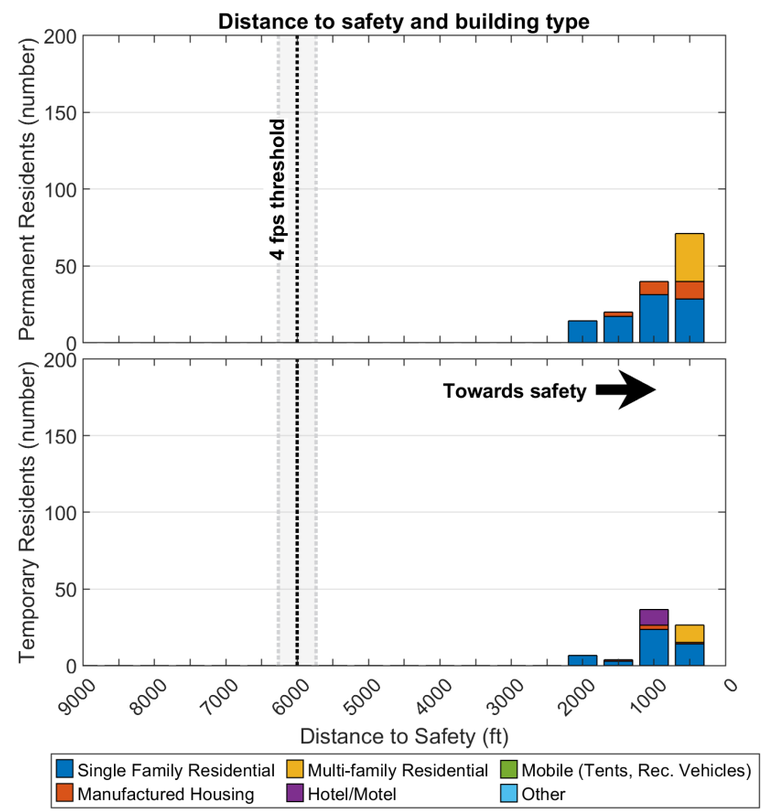


D.



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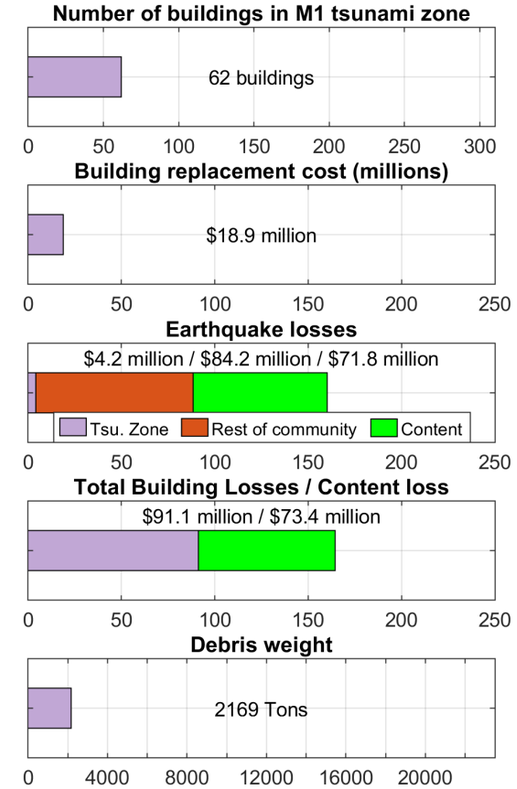

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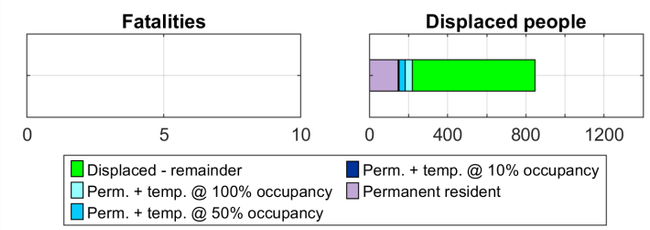
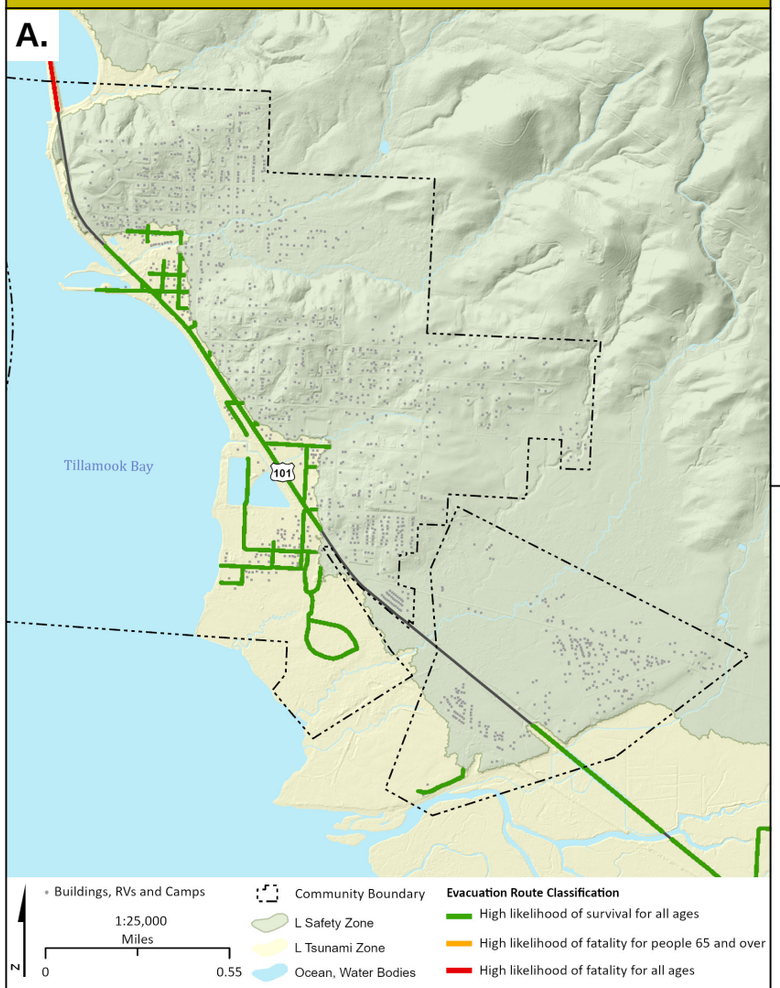


Description	Total
Earthquake Injuries (Entire Community)	60
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	680
Displaced Population - Permanent + Temporary	850

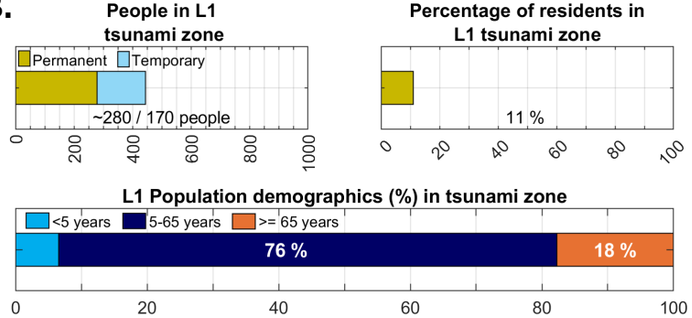
Bay City - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

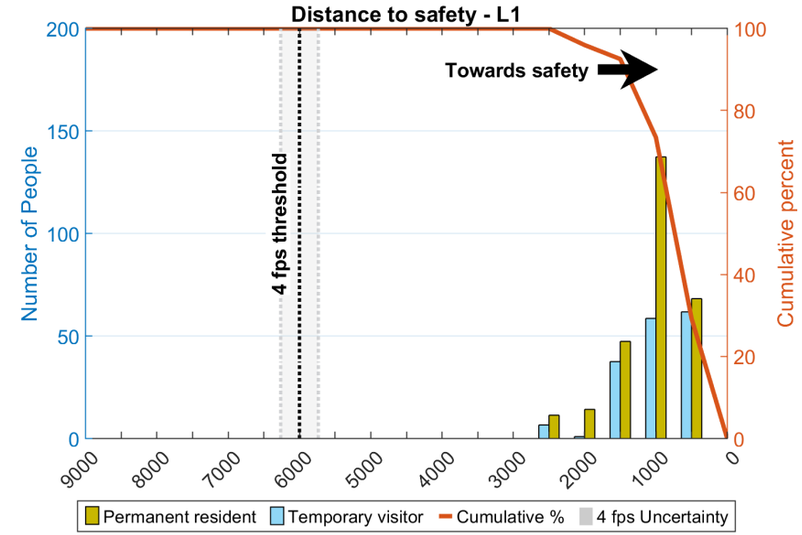
A.



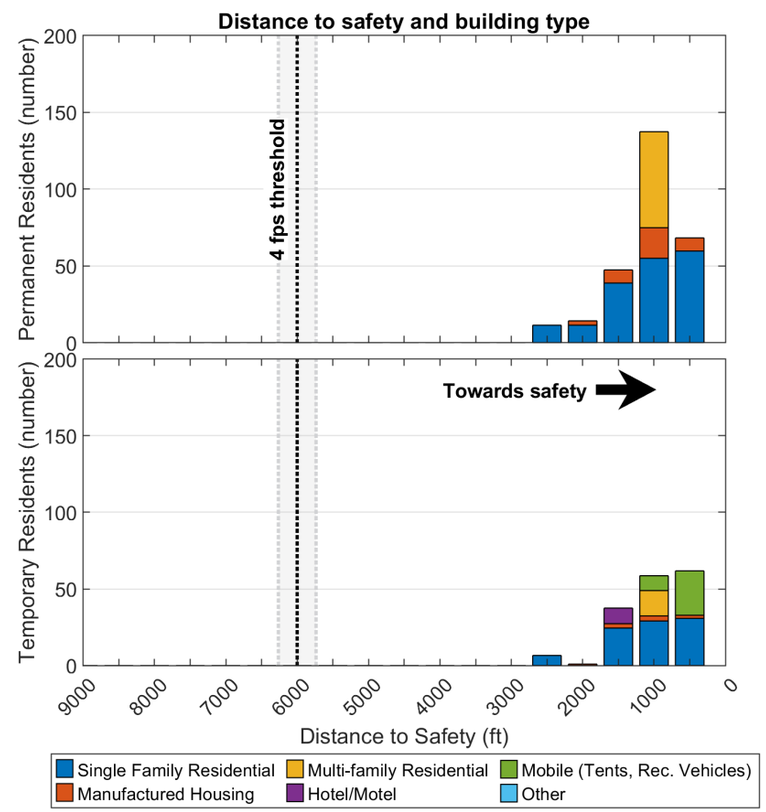
B.



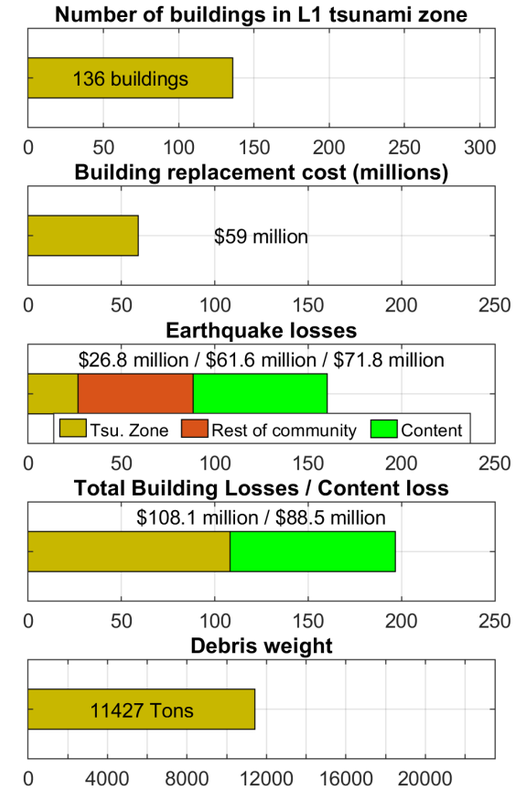
C.



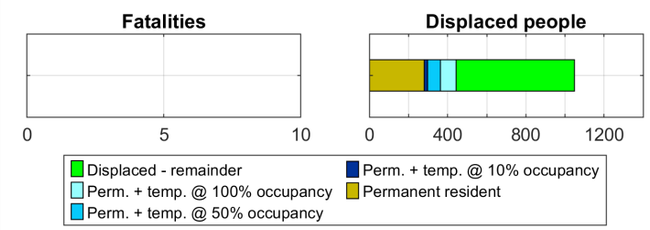
D.



E.



F.

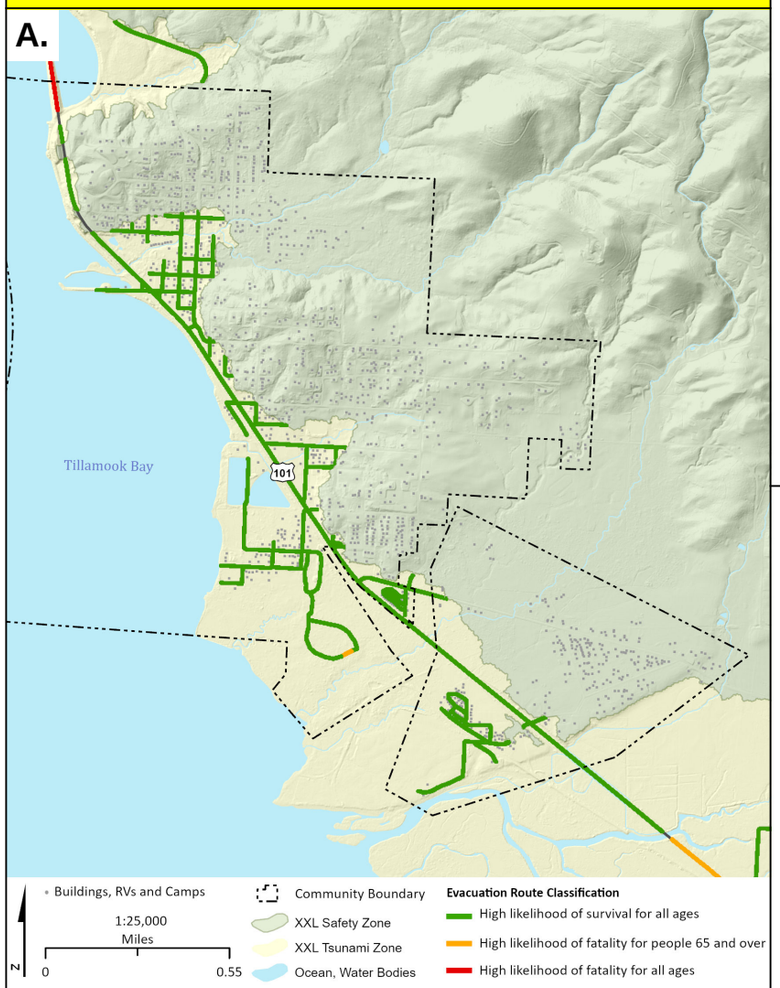


Description	Total
Earthquake Injuries (Entire Community)	60
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	790
Displaced Population - Permanent + Temporary	1,050

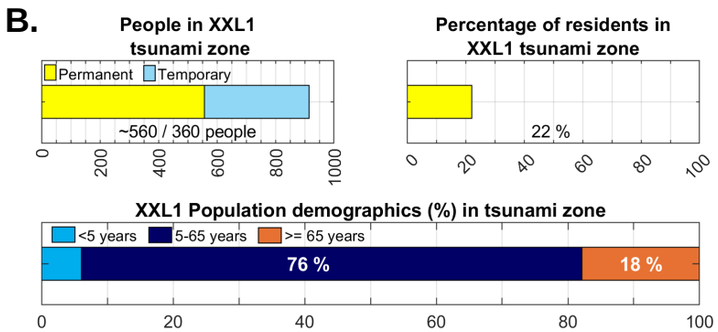
Bay City - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

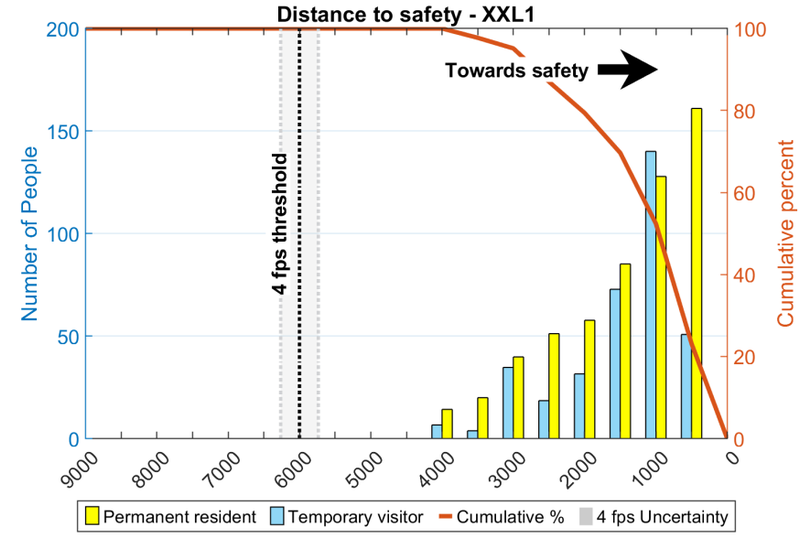
A.



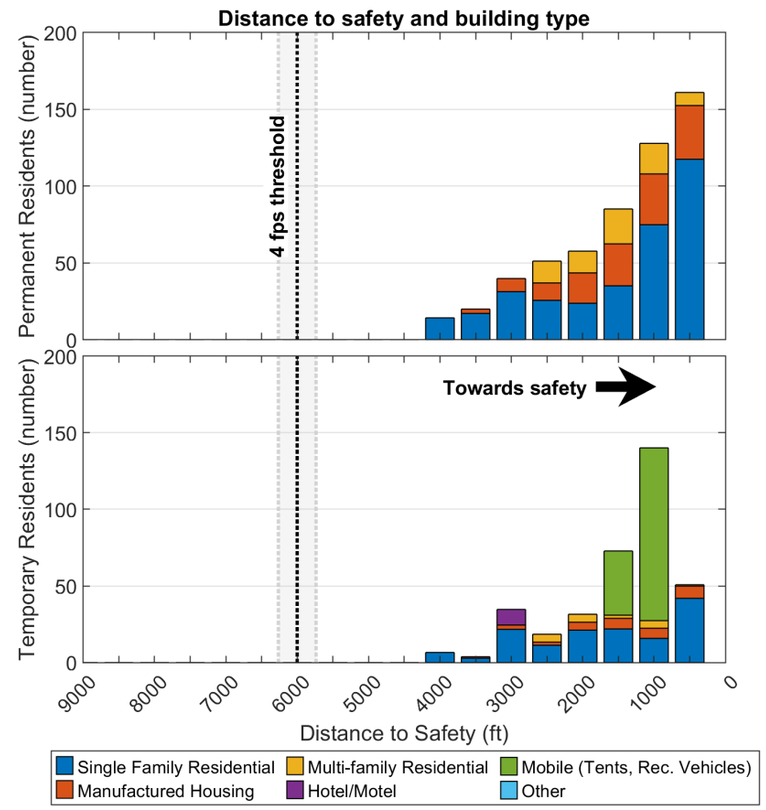
B.



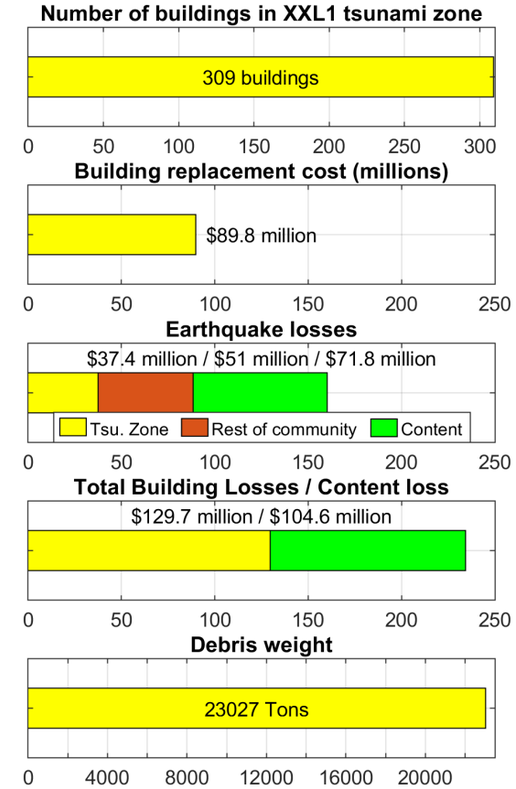
C.



D.



E.



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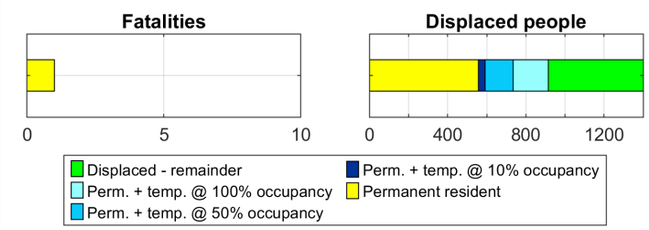
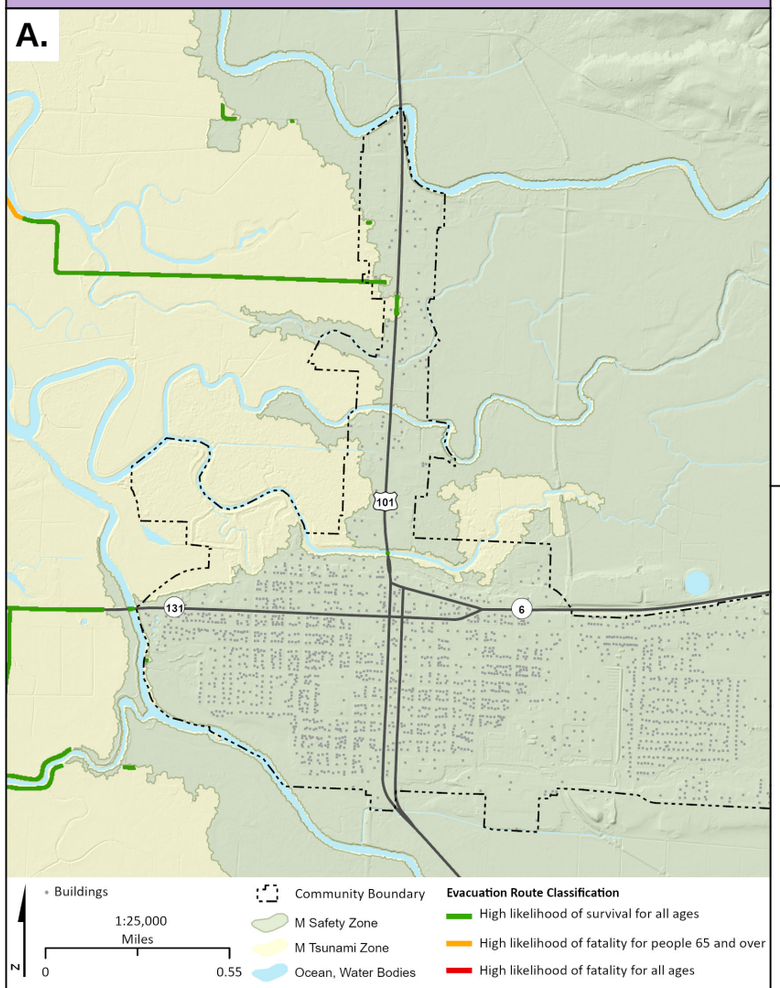


Description	Total
Earthquake Injuries (Entire Community)	60
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	970
Displaced Population - Permanent + Temporary	1,400

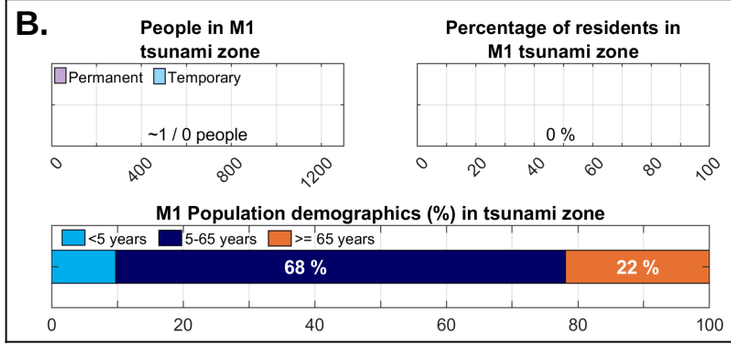
Tillamook - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



B.



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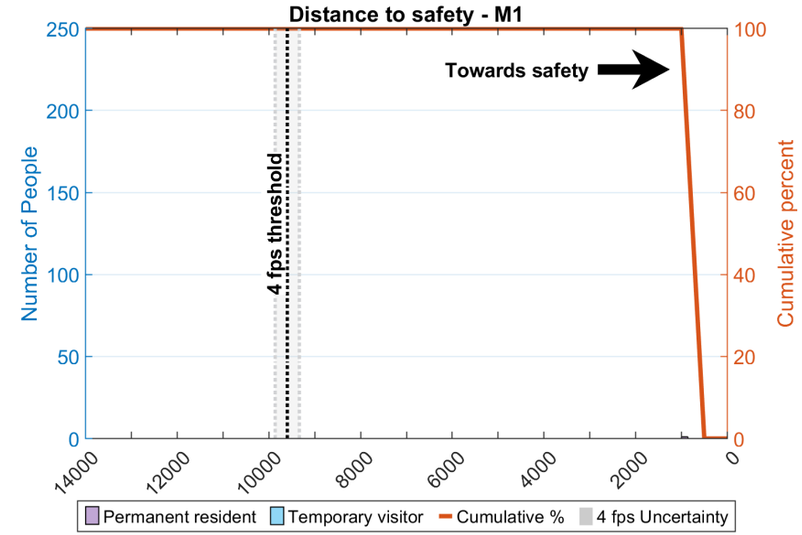

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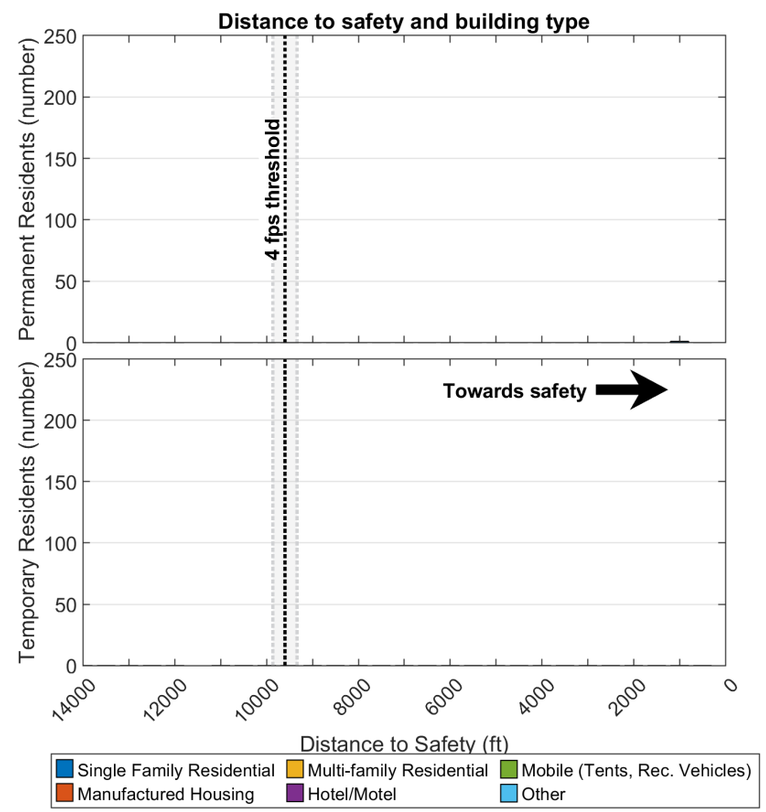

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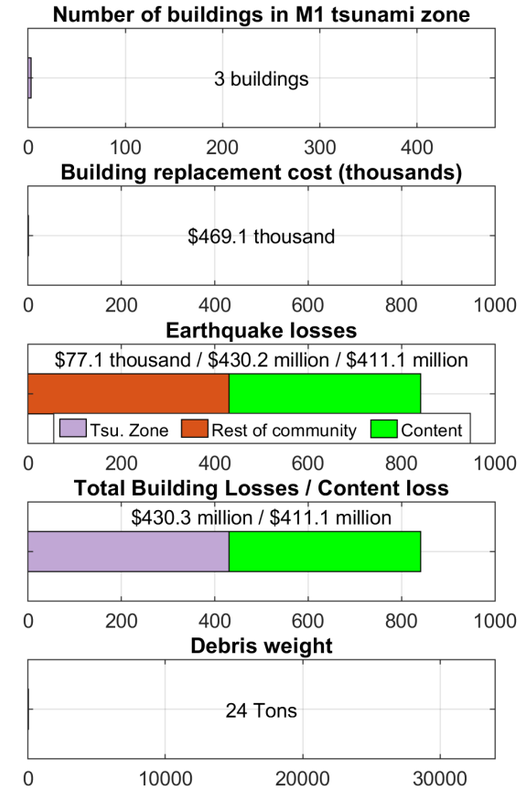

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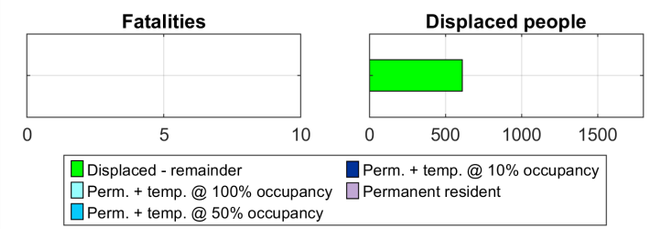
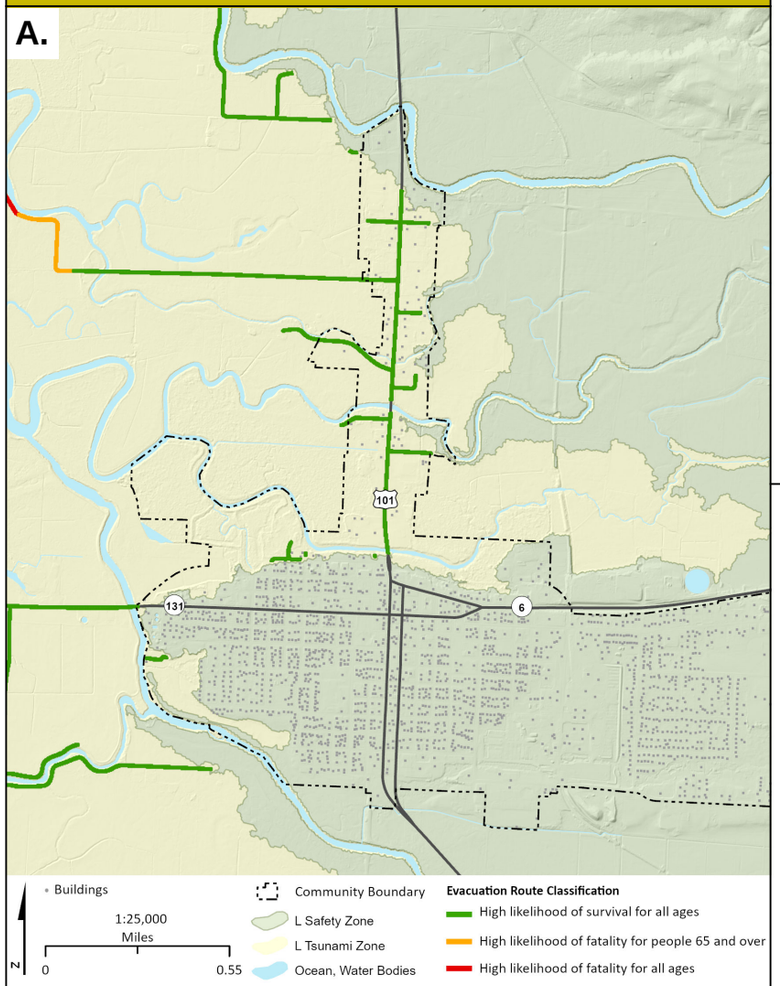


Description	Total
Earthquake Injuries (Entire Community)	80
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	560
Displaced Population - Permanent + Temporary	610

Tillamook - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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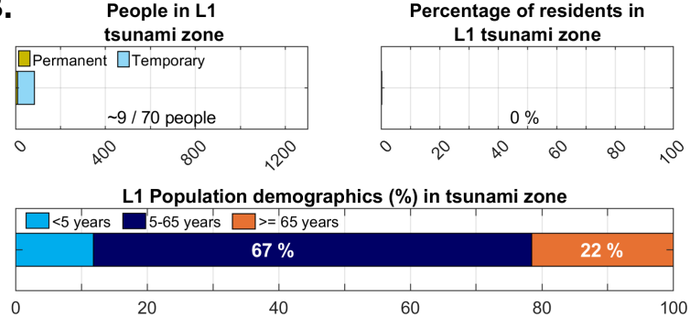

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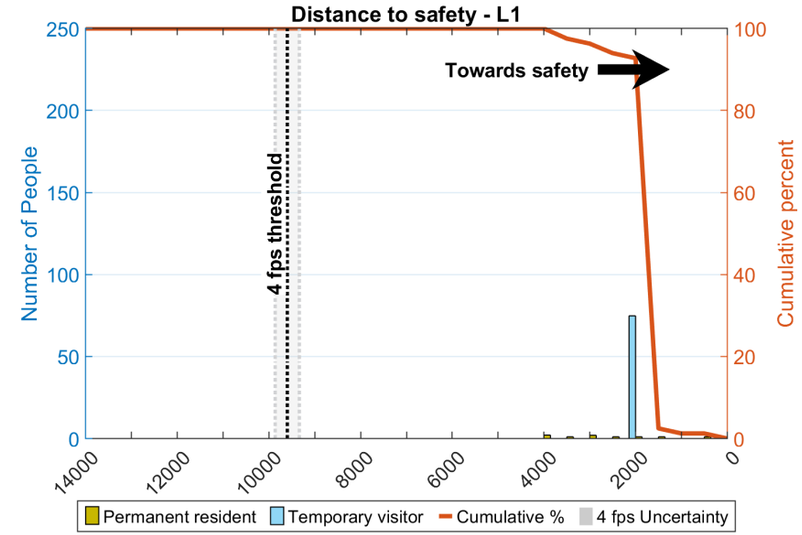

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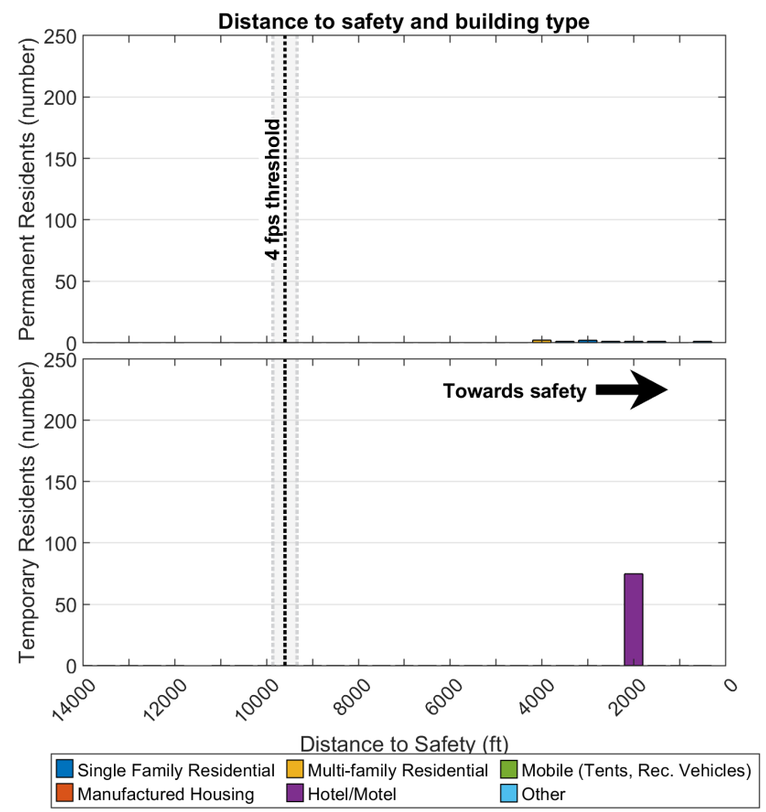

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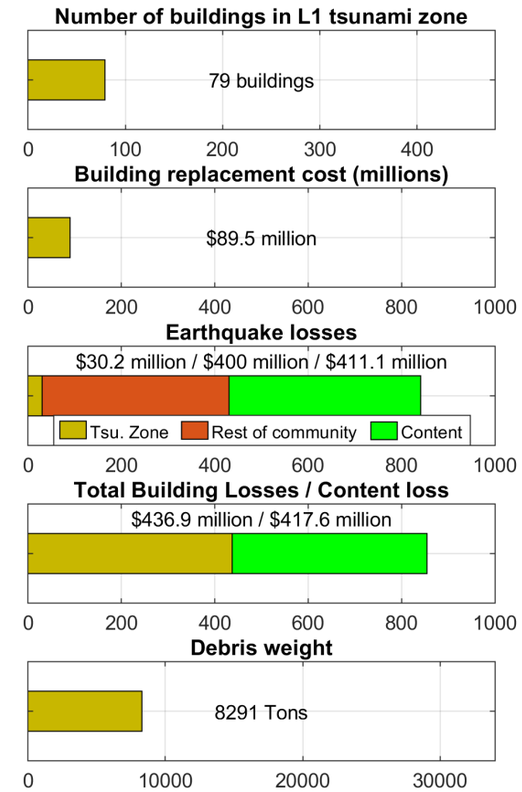


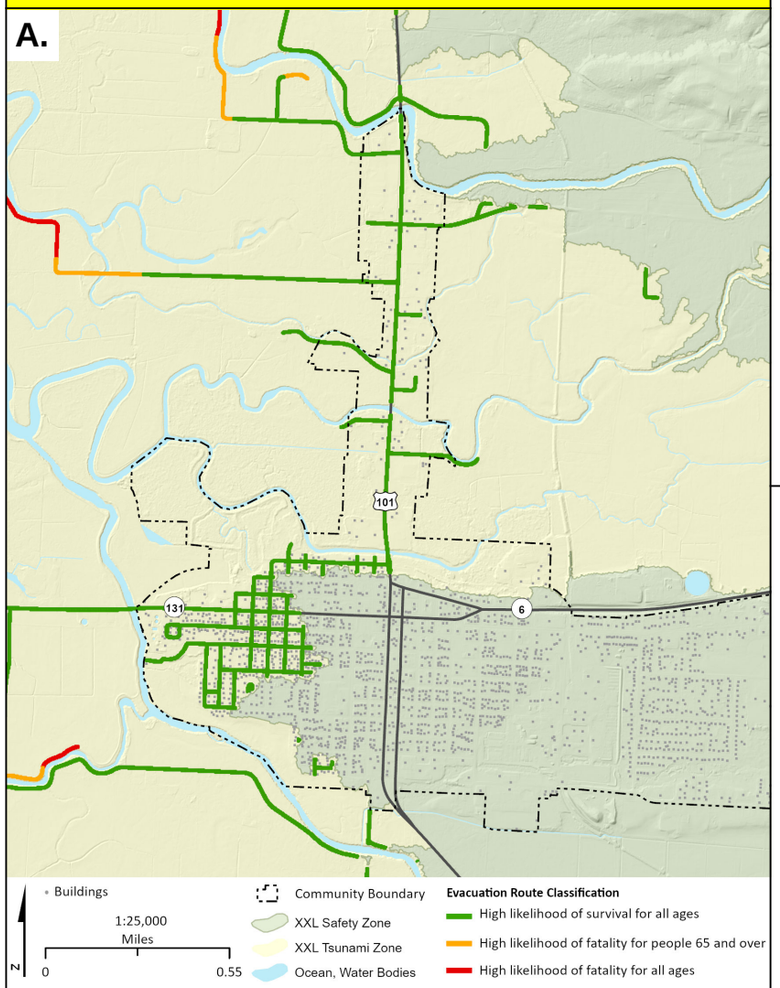
F.

Description	Total
Earthquake Injuries (Entire Community)	80
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	570
Displaced Population - Permanent + Temporary	690

Tillamook - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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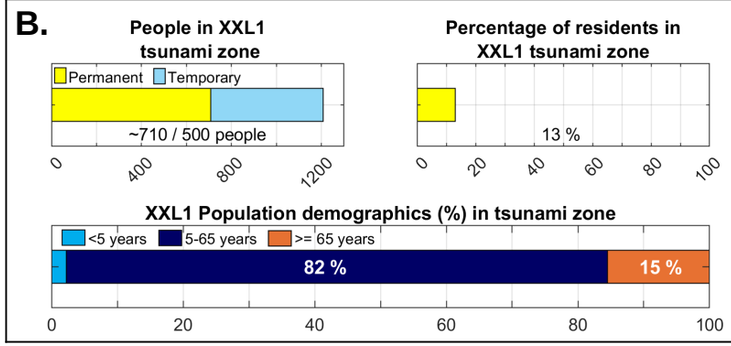

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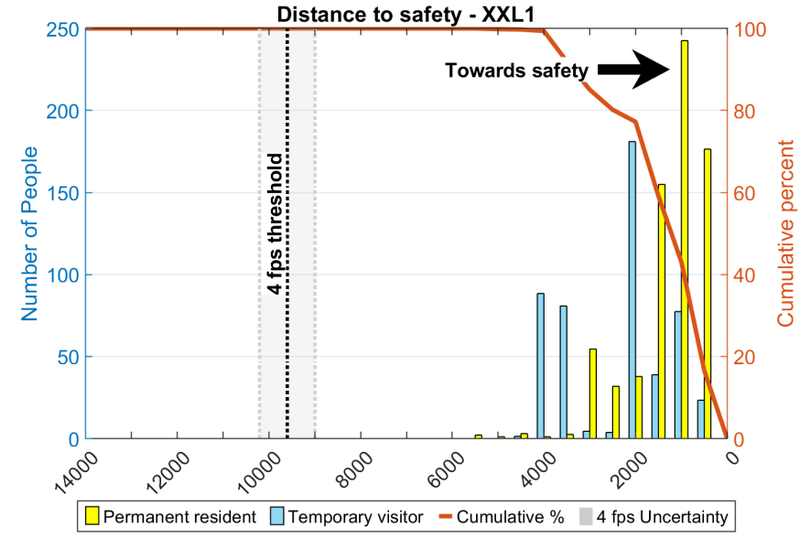

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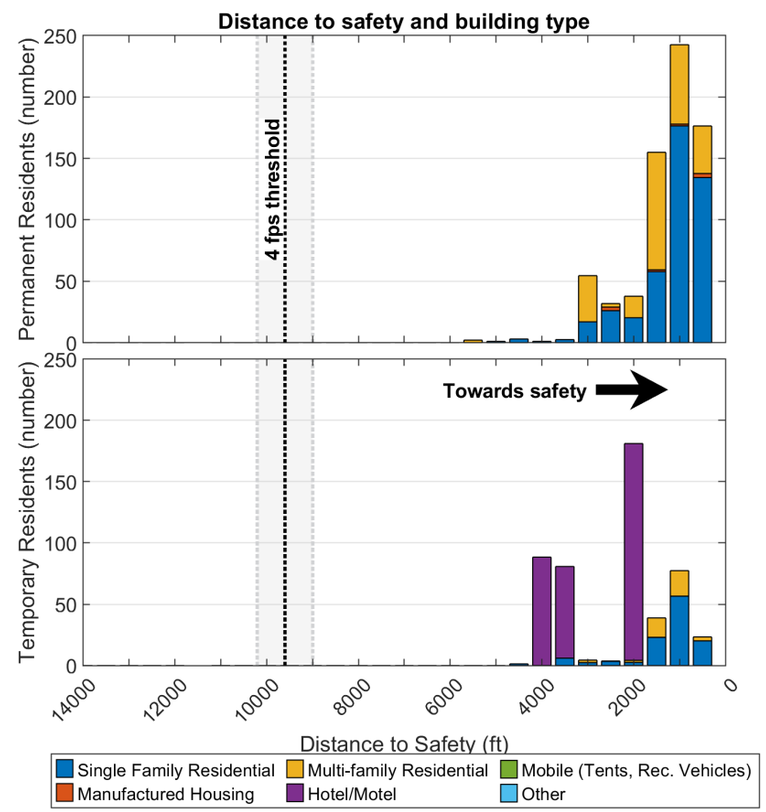

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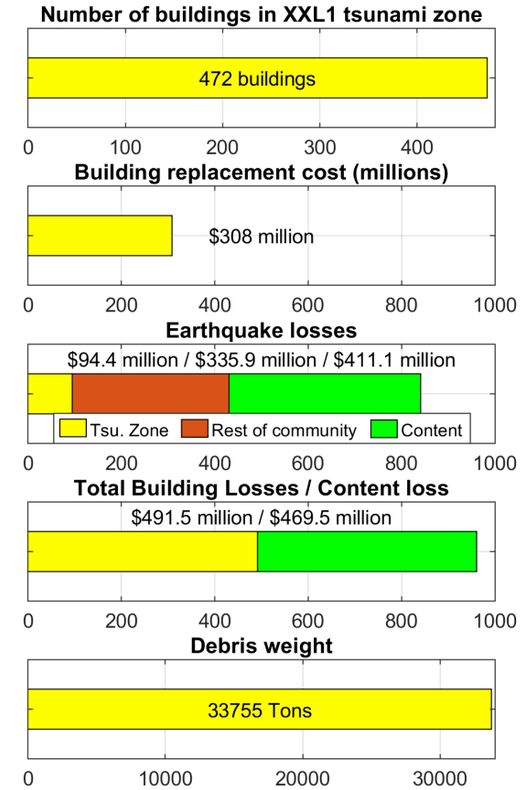


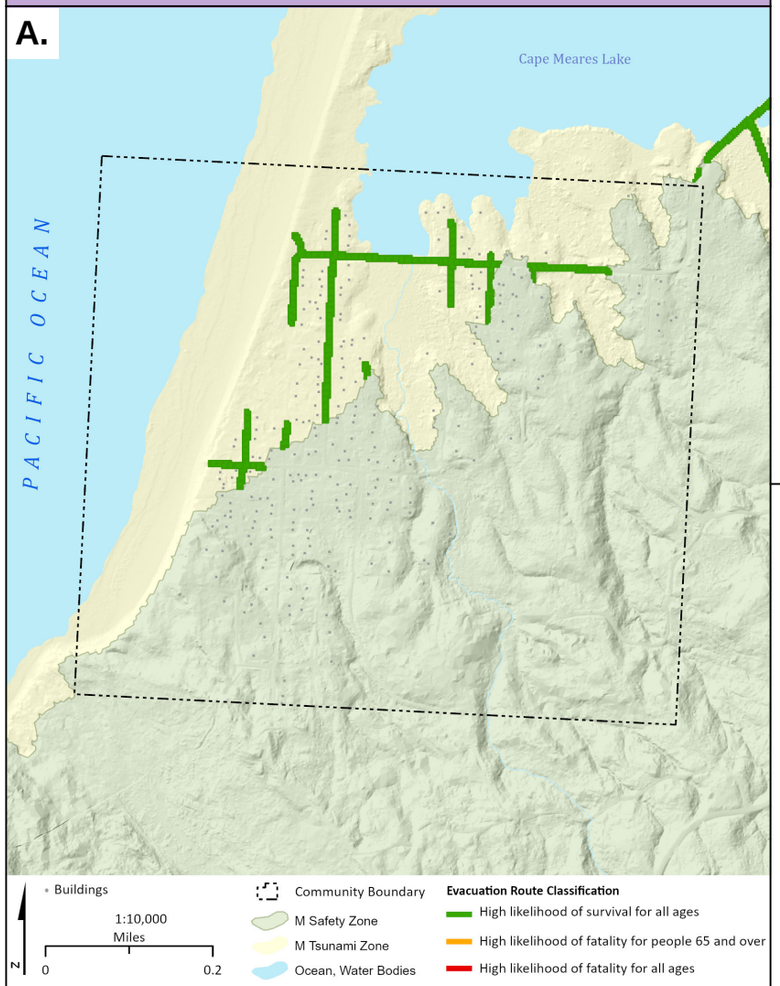
F.

Description	Total
Earthquake Injuries (Entire Community)	80
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	1,180
Displaced Population - Permanent + Temporary	1,720

Cape Meares - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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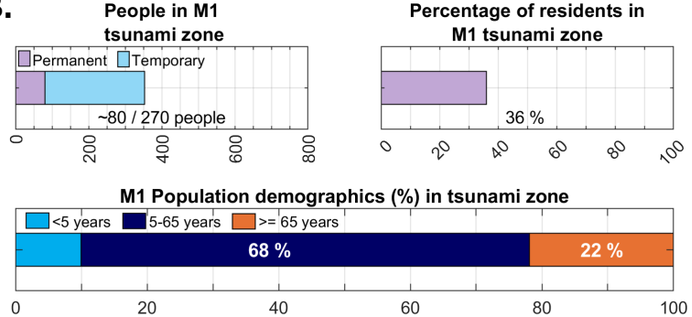

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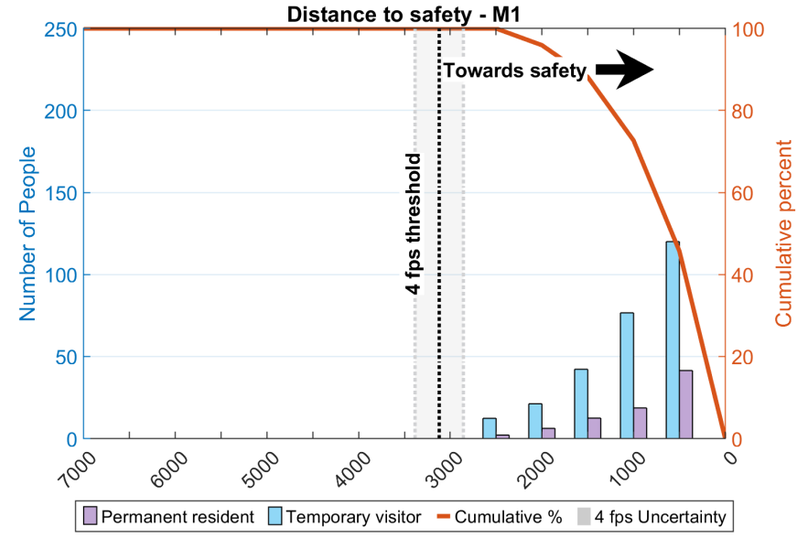
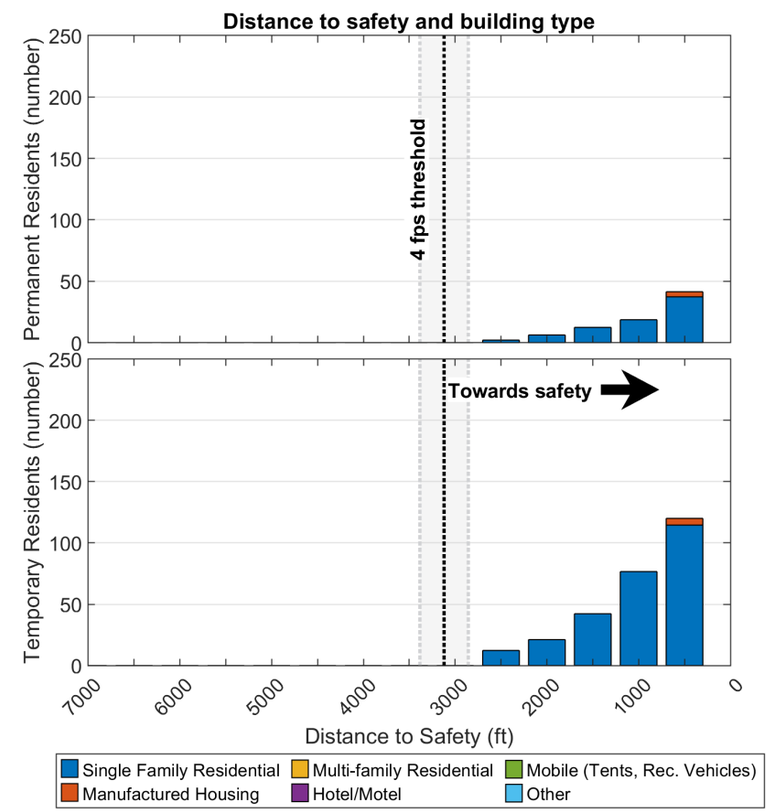


D.



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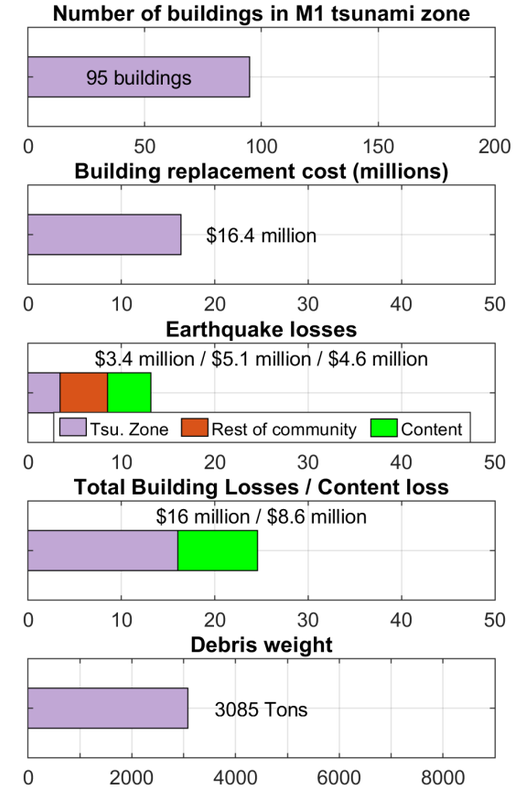

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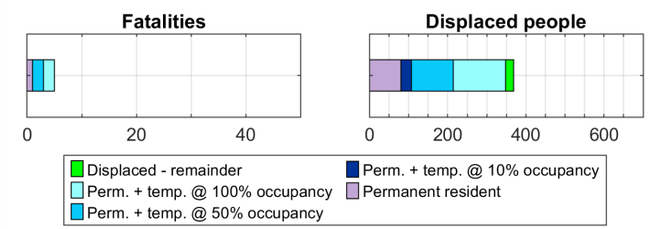
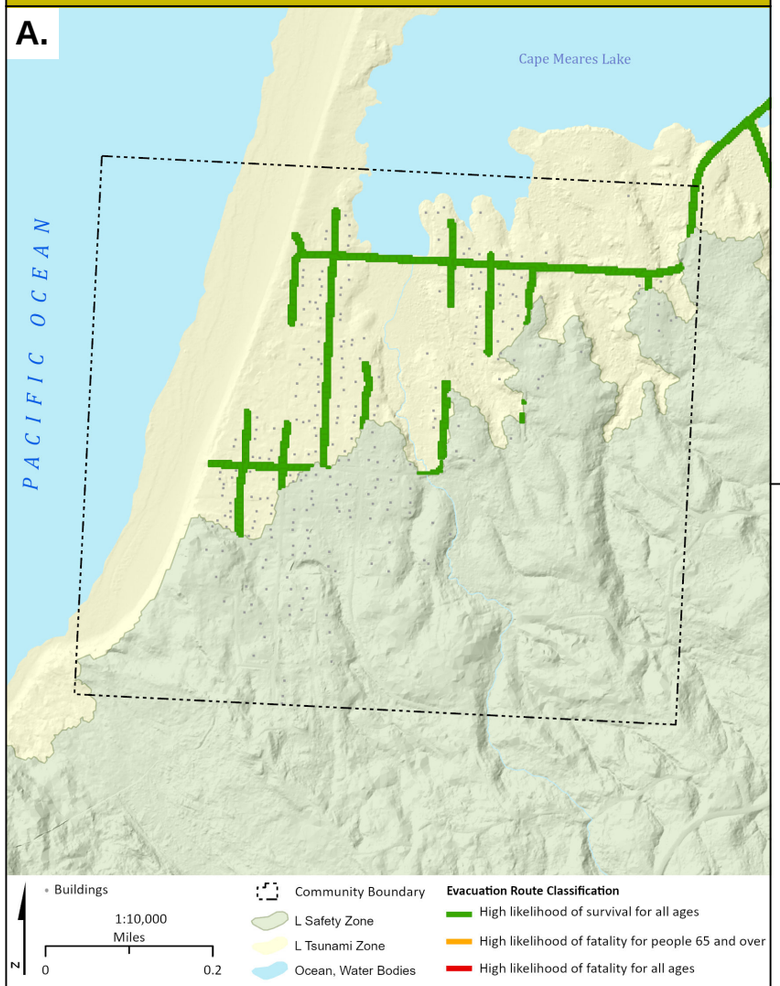
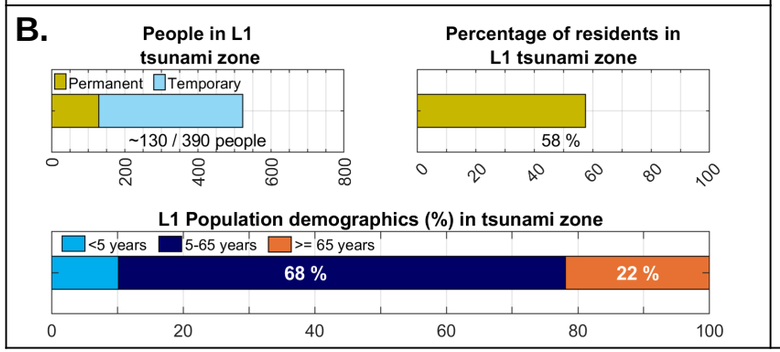


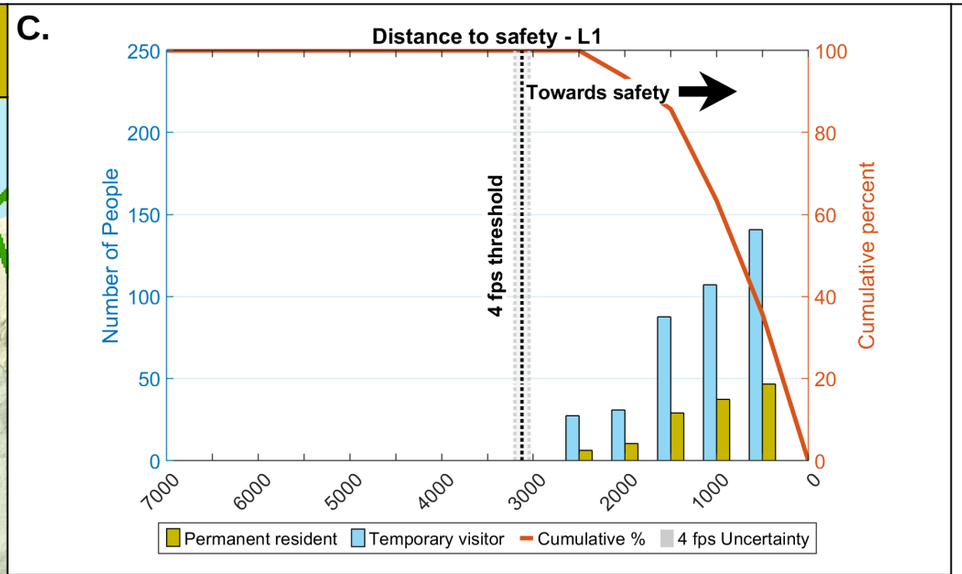
Description	Total
Earthquake Injuries (Entire Community)	10
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	90
Displaced Population - Permanent + Temporary	370

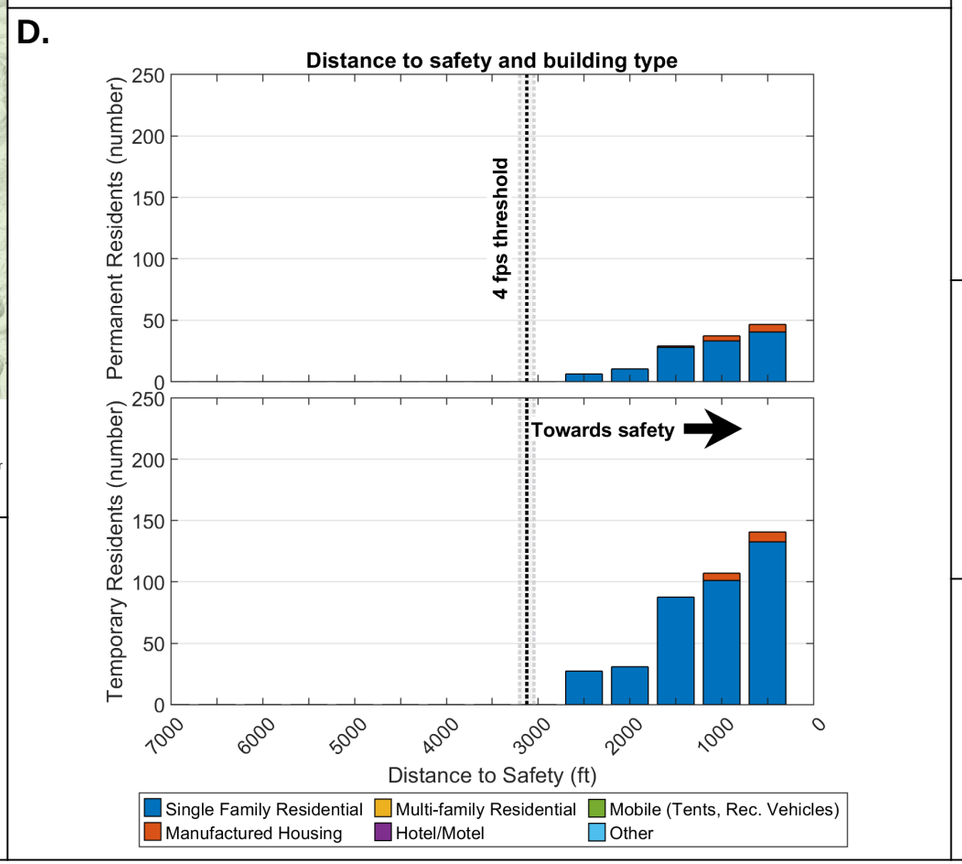
Cape Meares - L1

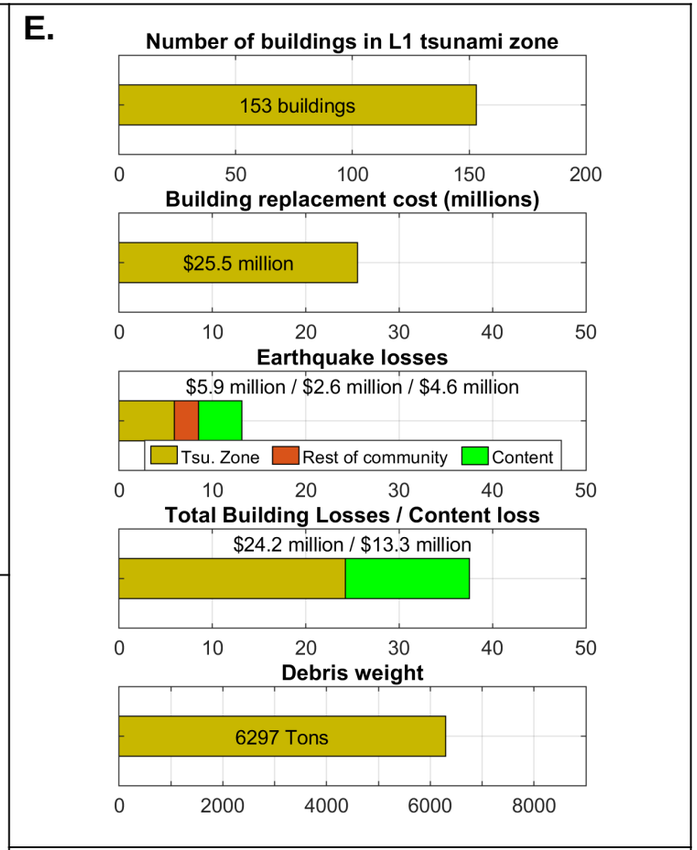
Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

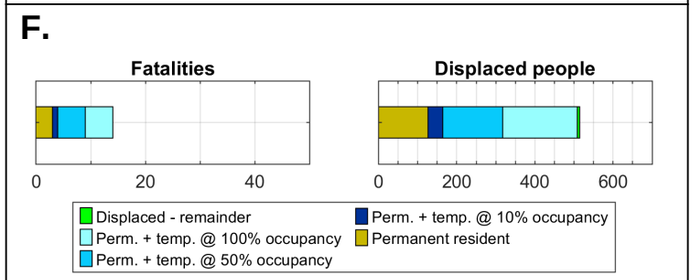








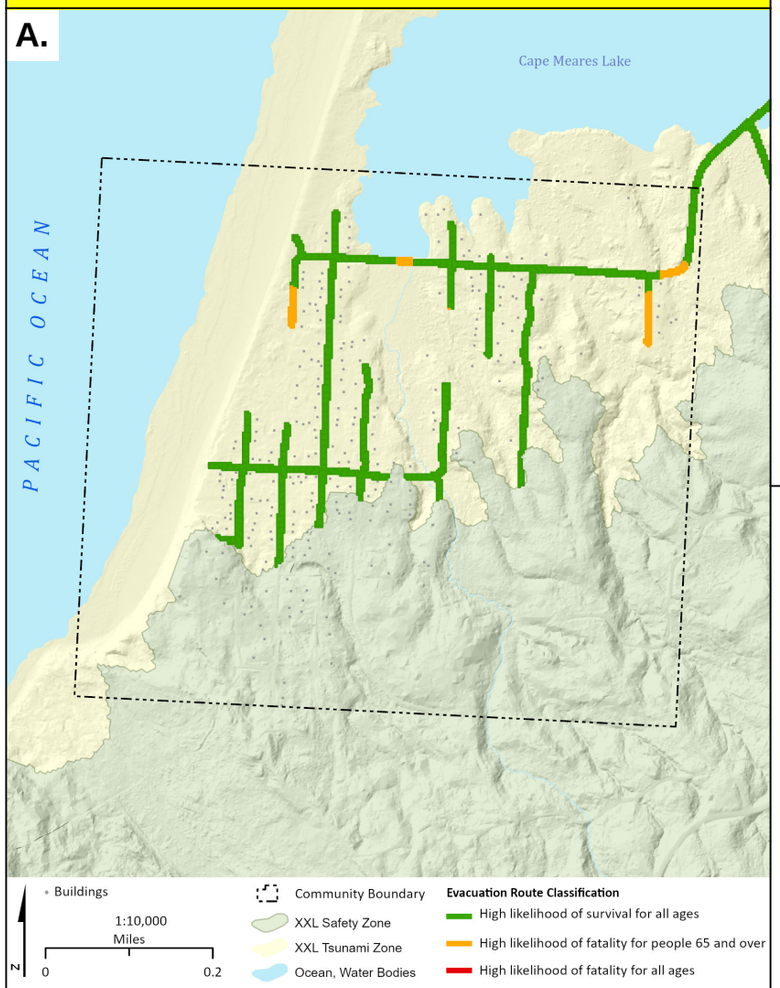


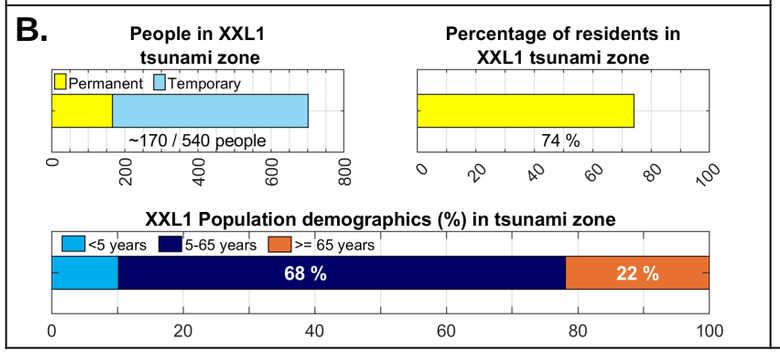


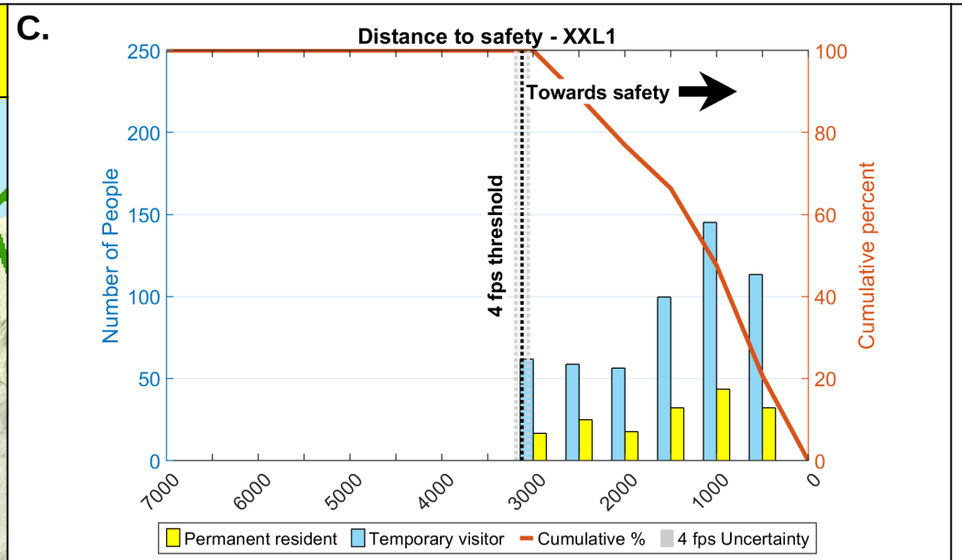
Description	Total
Earthquake Injuries (Entire Community)	10
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	10
Displaced Population - Permanent	130
Displaced Population - Permanent + Temporary	510

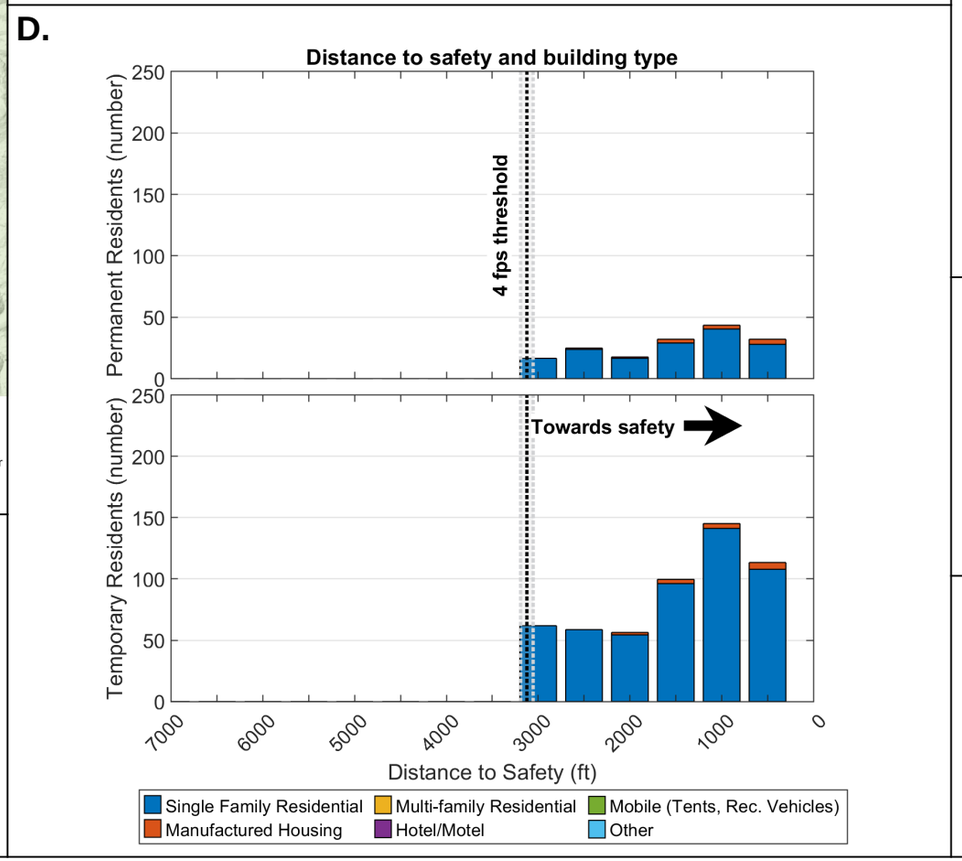
Cape Meares - XXL1

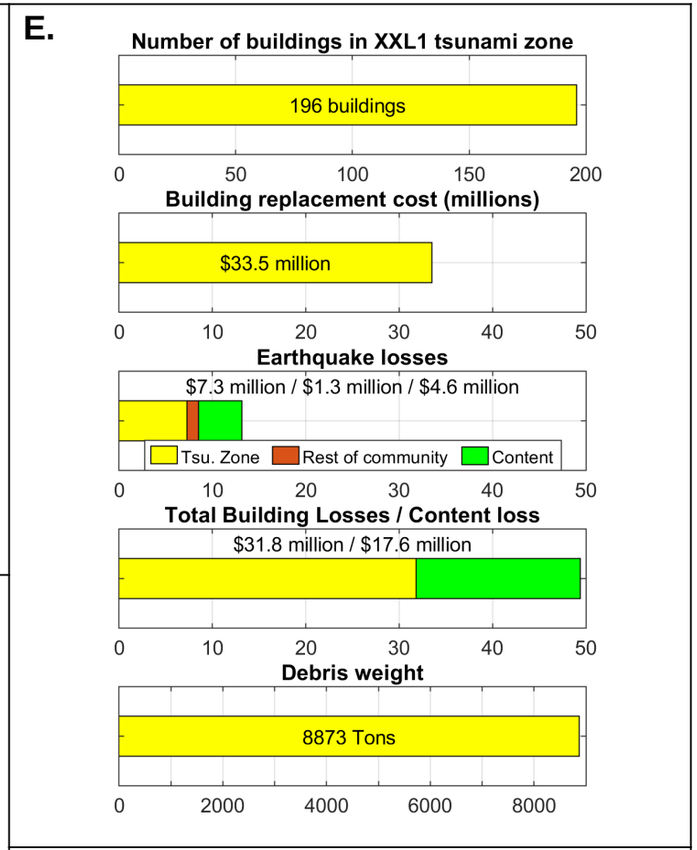
Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

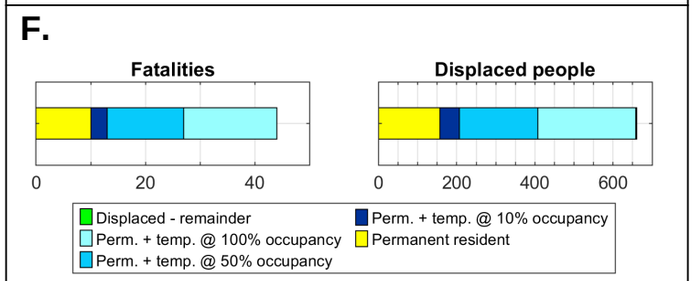










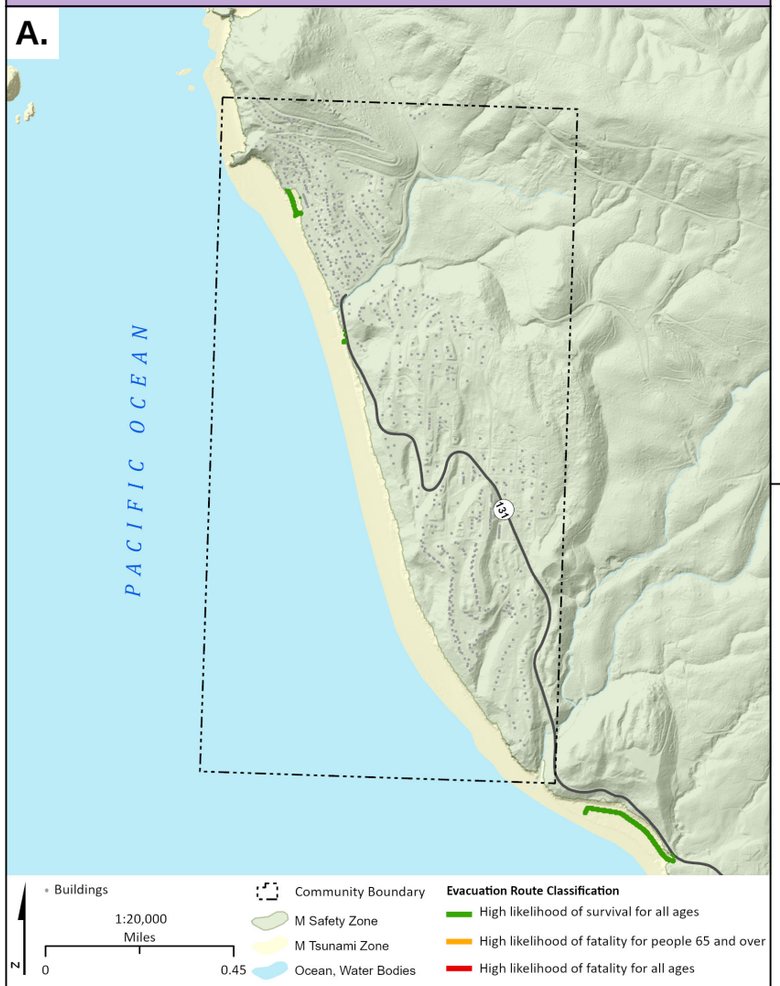


Description	Total
Earthquake Injuries (Entire Community)	10
Tsunami Injuries - Permanent + Temporary	20
Tsunami Fatalities - Permanent	10
Tsunami Fatalities - Temporary @ ~100% occupancy	30
Displaced Population - Permanent	160
Displaced Population - Permanent + Temporary	660

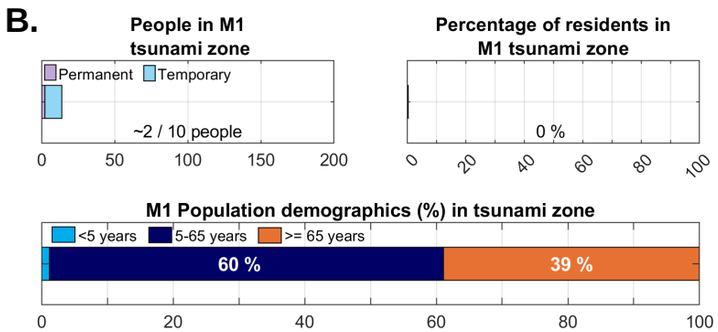
Oceanside - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



B.



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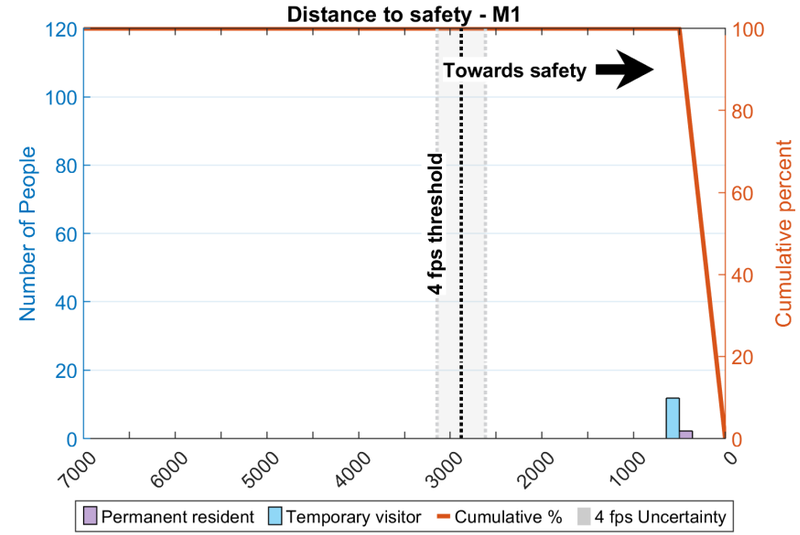
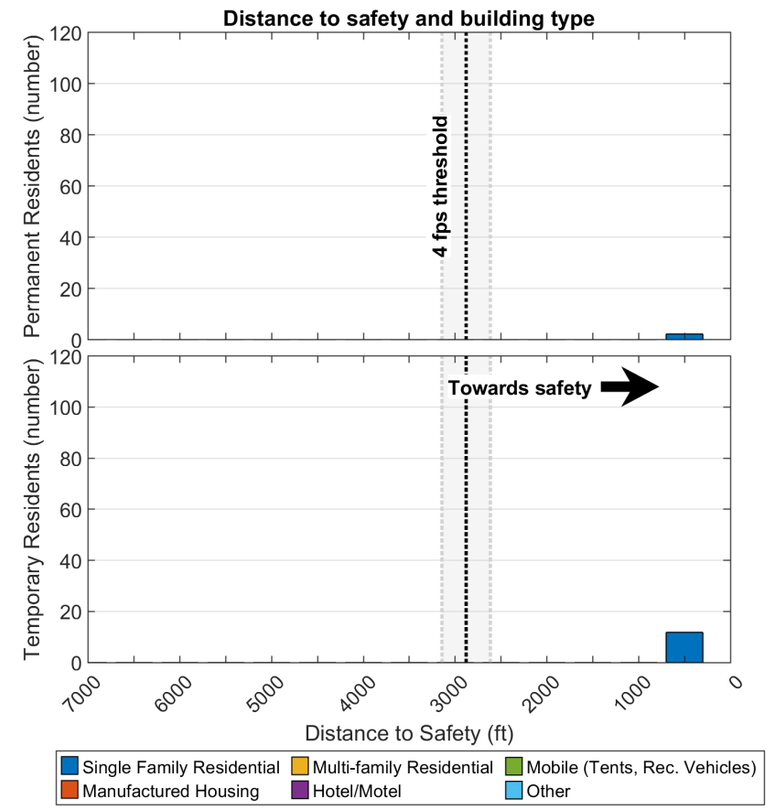
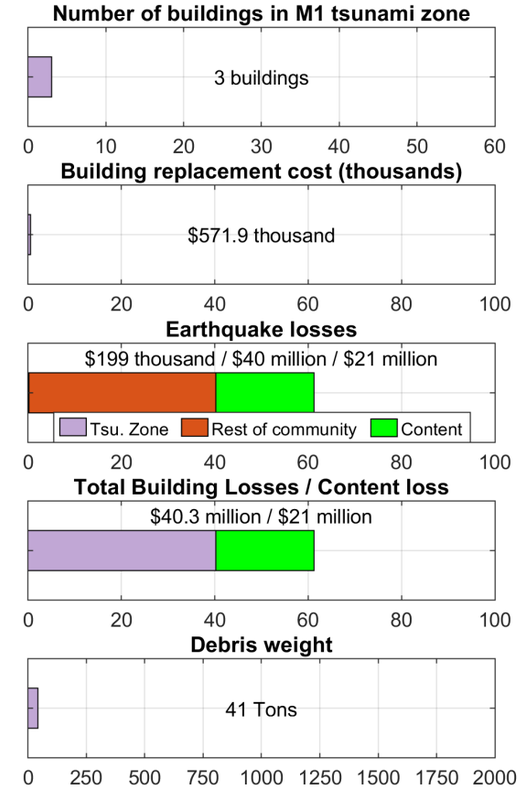


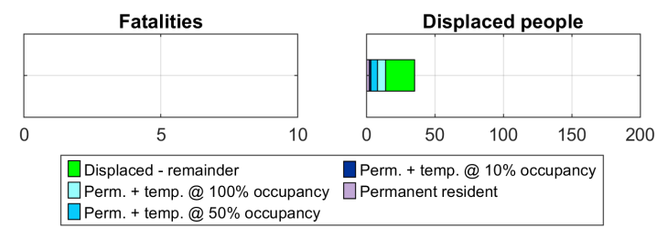
D.



E.



F.

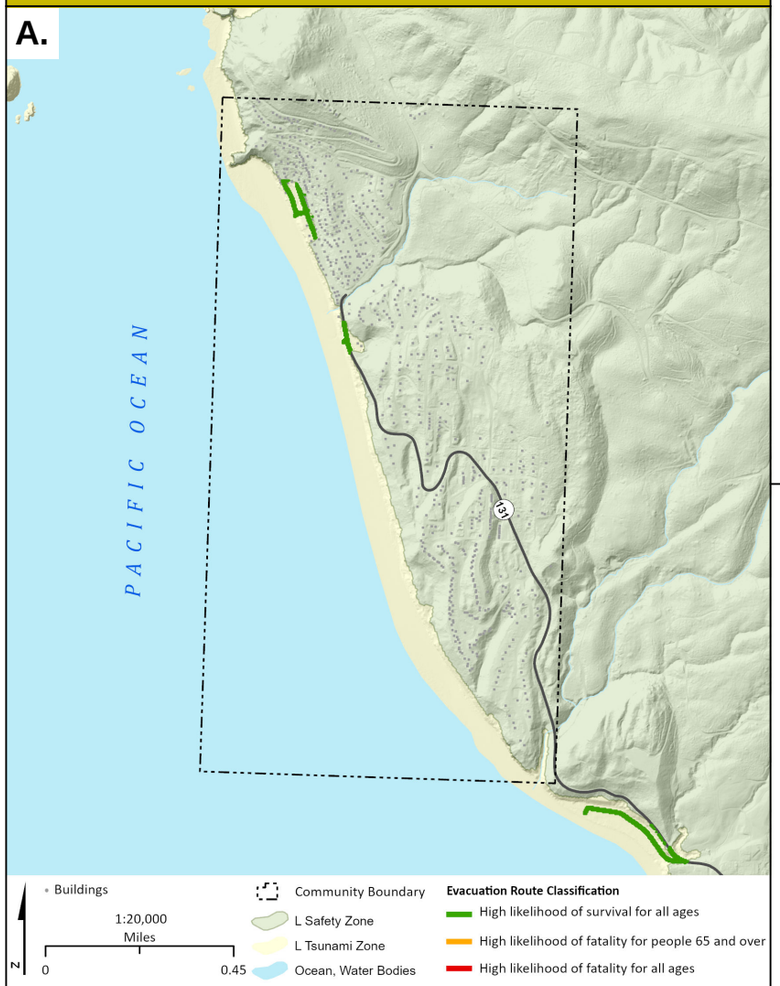


Description	Total
Earthquake Injuries (Entire Community)	50
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	40

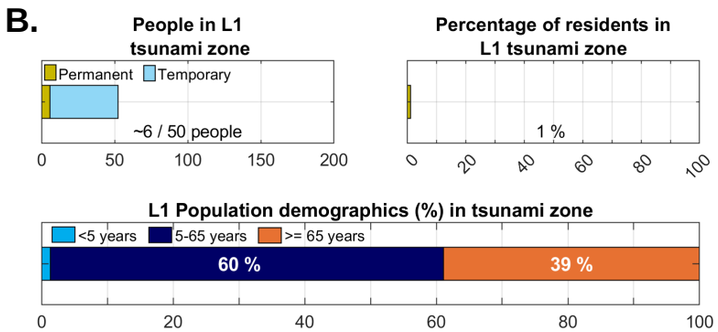
Oceanside - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

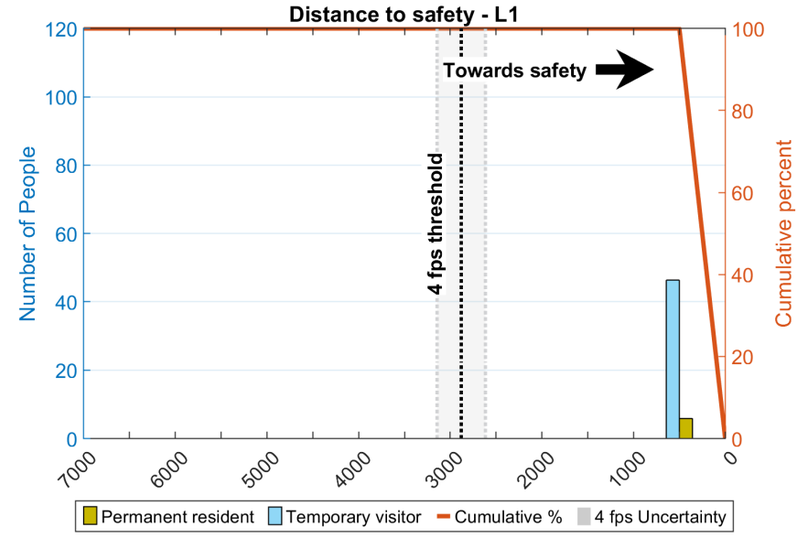
A.



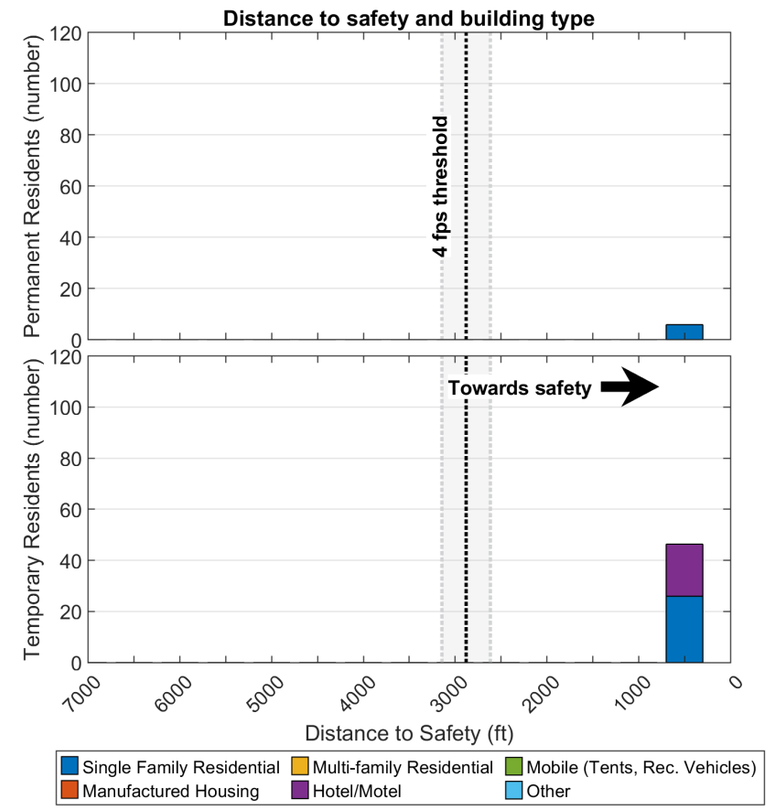
B.



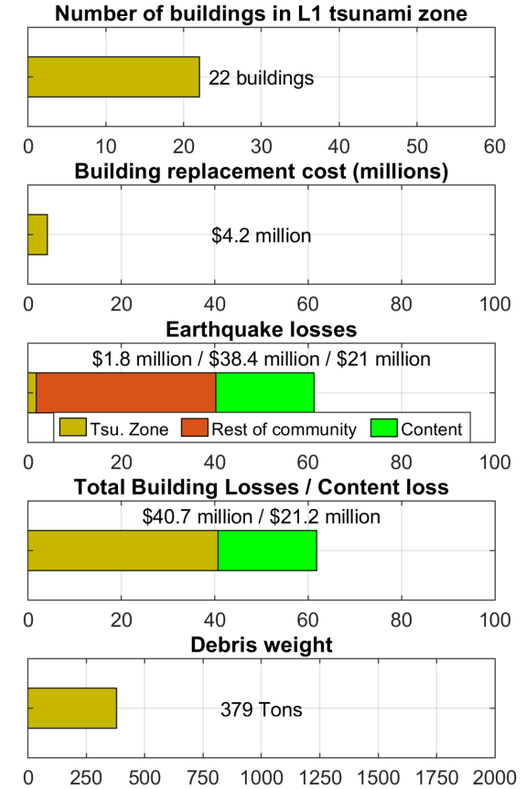
C.



D.



E.



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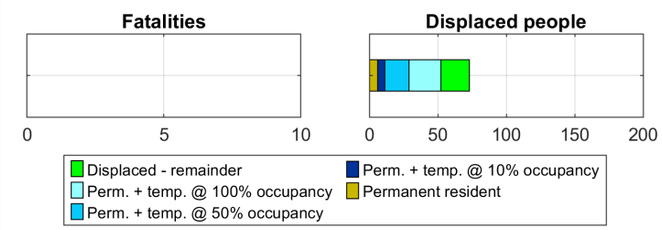
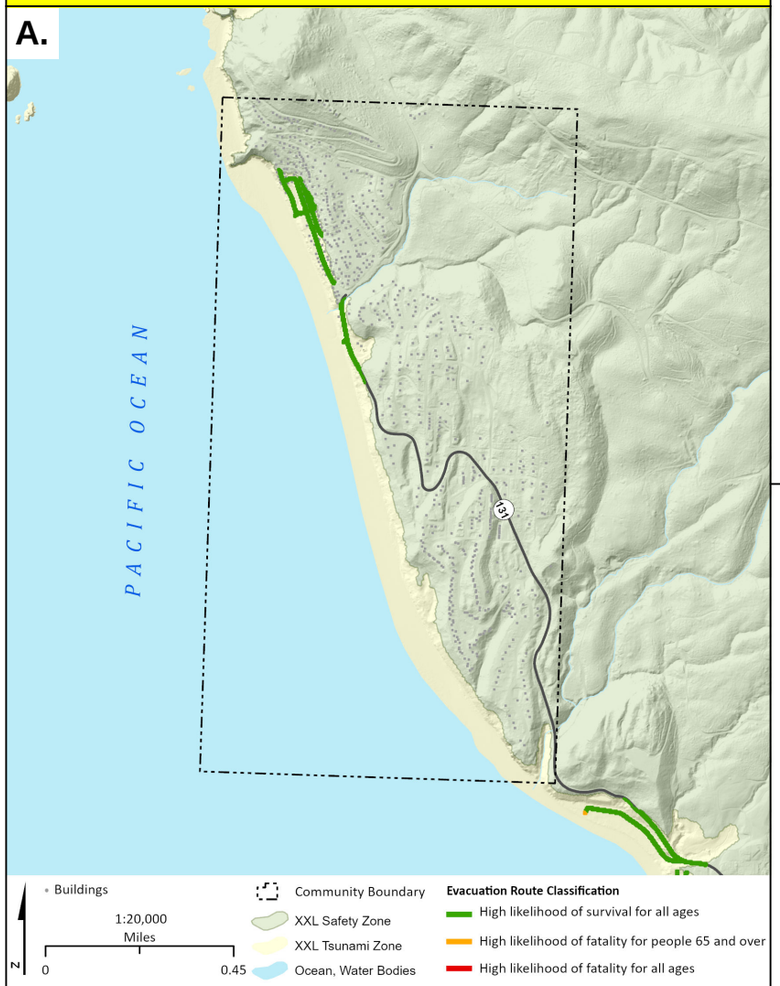


Description	Total
Earthquake Injuries (Entire Community)	50
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	10
Displaced Population - Permanent + Temporary	70

Oceanside - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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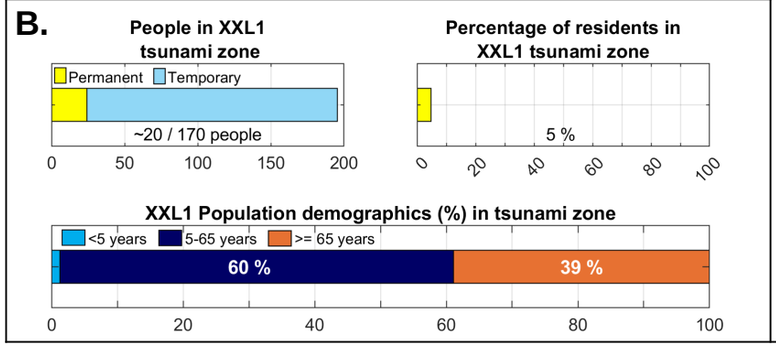

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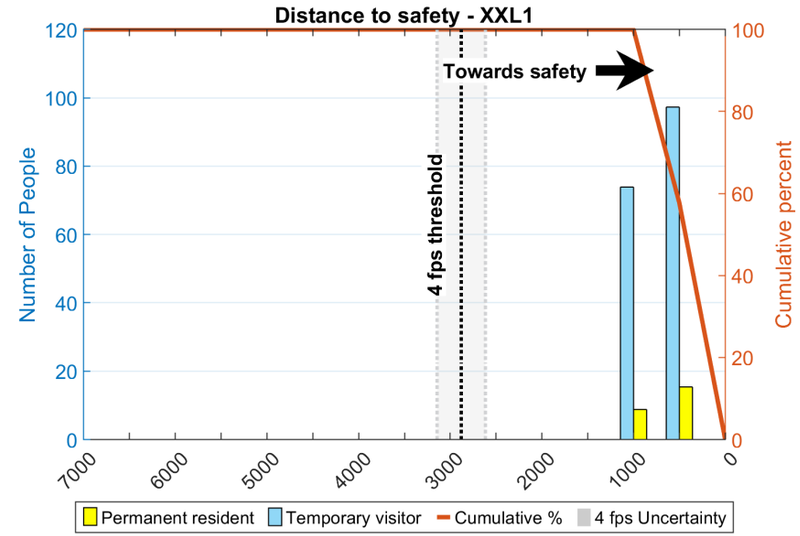
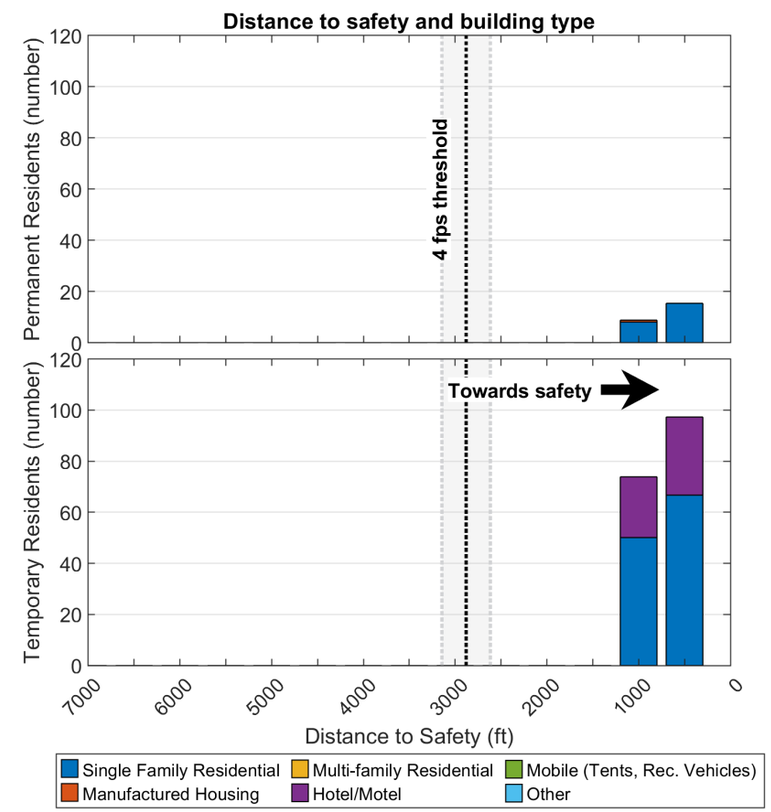


D.



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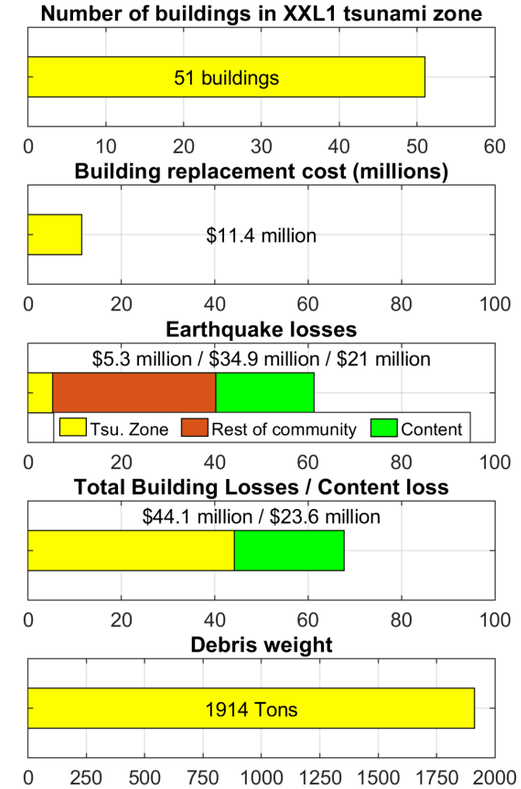

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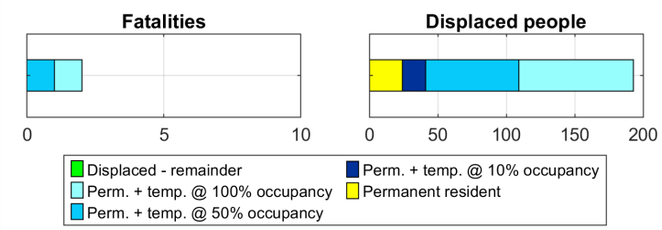
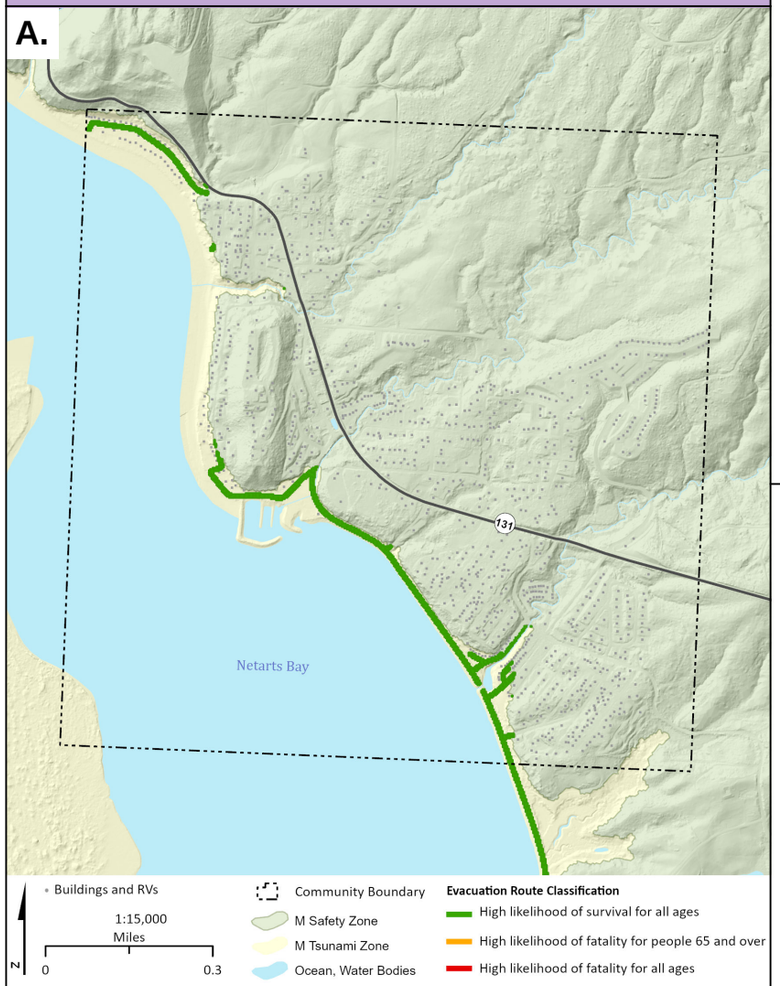


Description	Total
Earthquake Injuries (Entire Community)	50
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	20
Displaced Population - Permanent + Temporary	190

Netarts - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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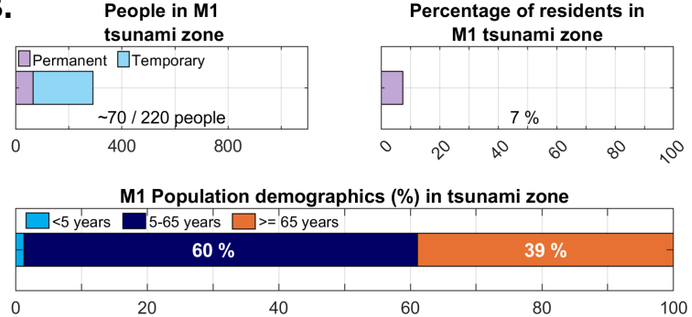

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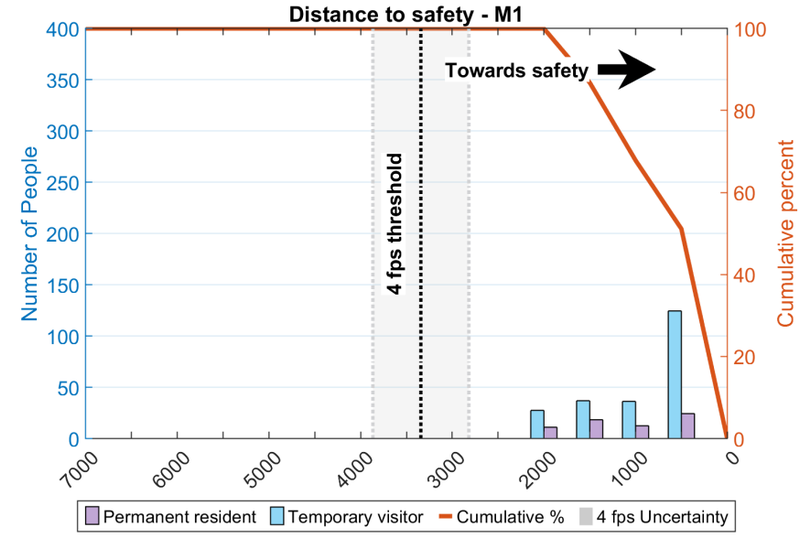

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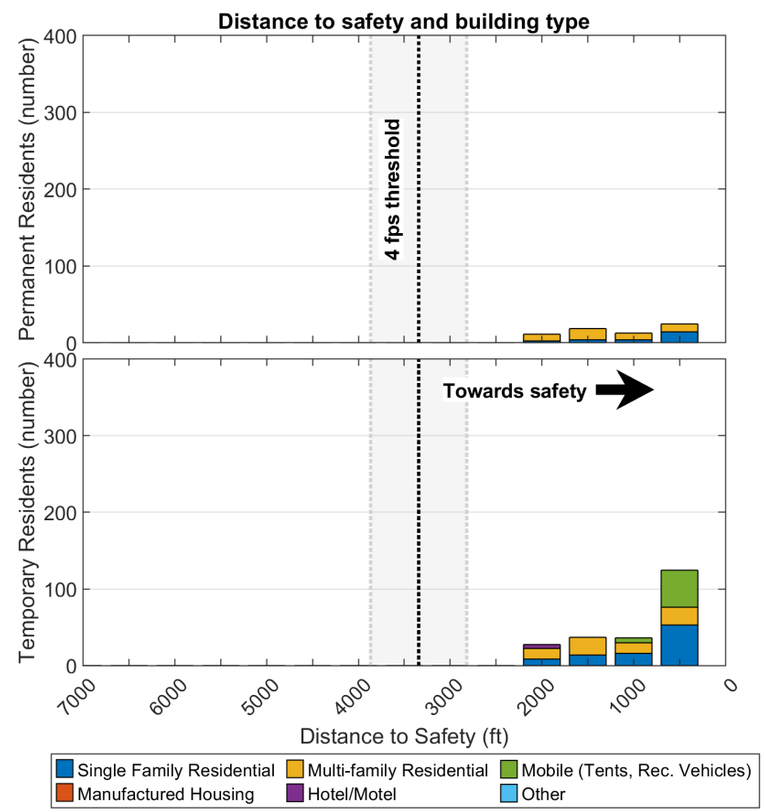

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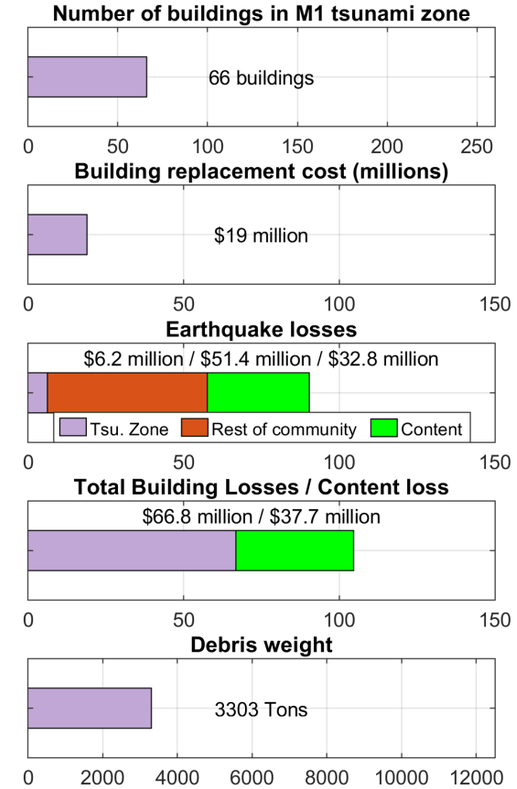

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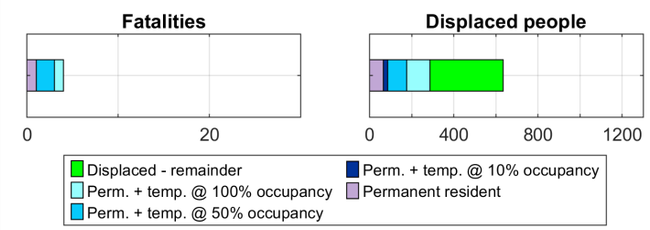
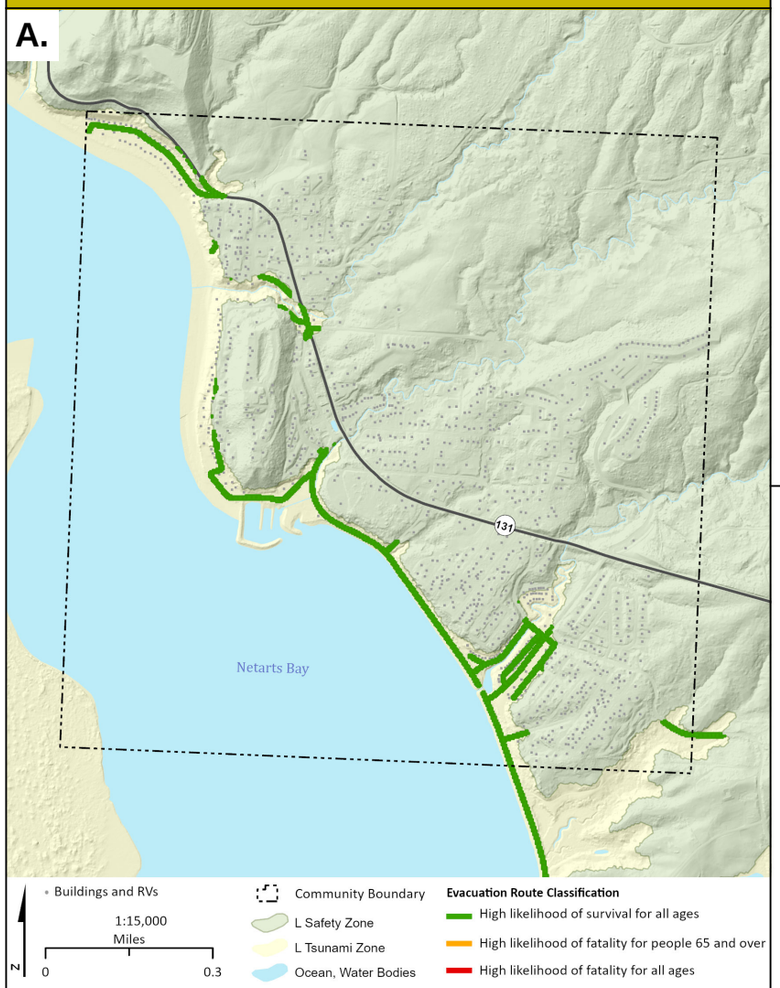


Description	Total
Earthquake Injuries (Entire Community)	60
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	260
Displaced Population - Permanent + Temporary	640

Netarts - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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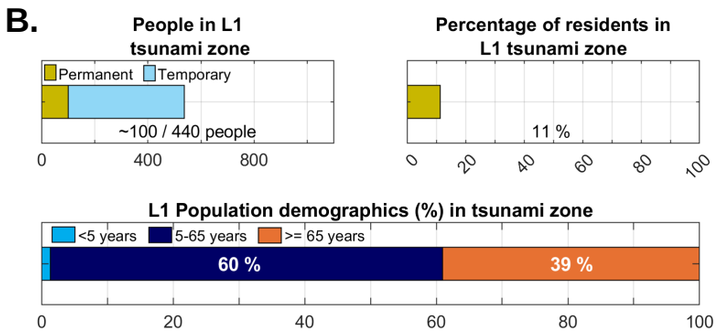

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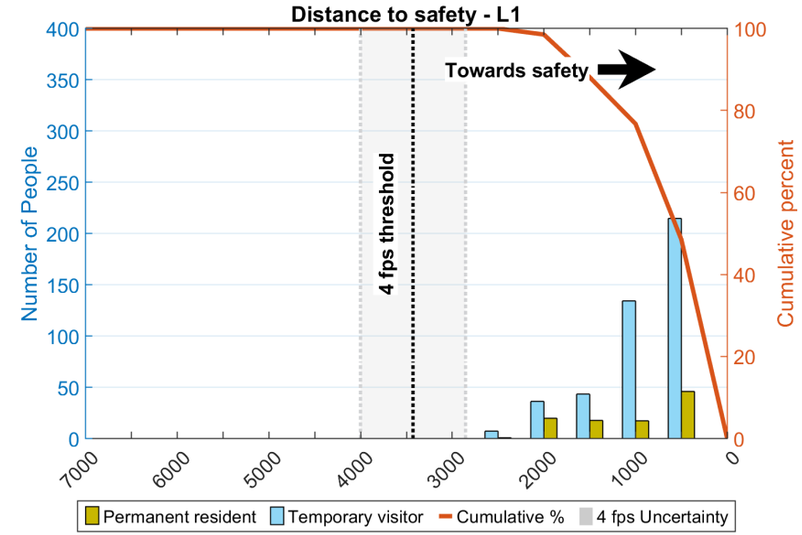

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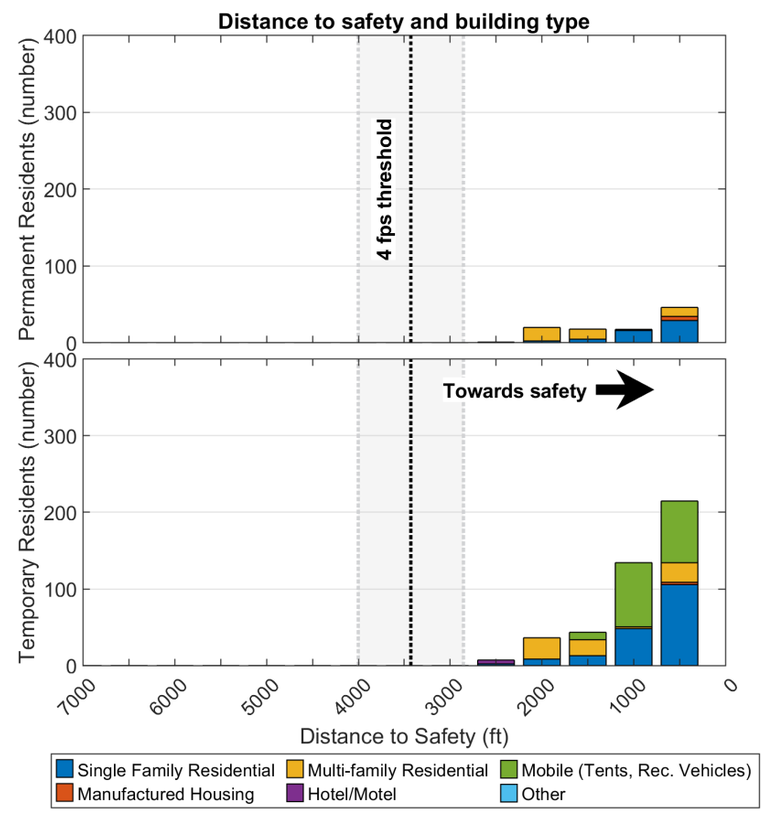

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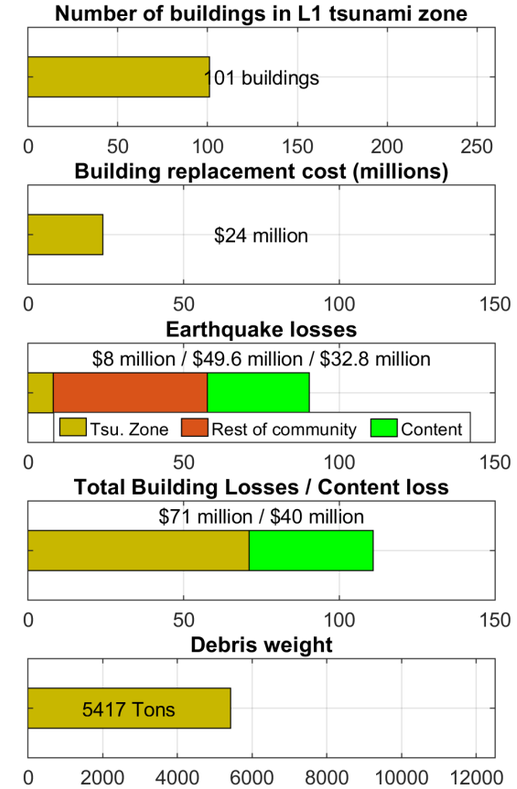

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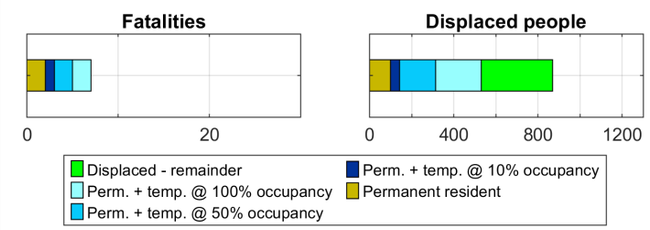
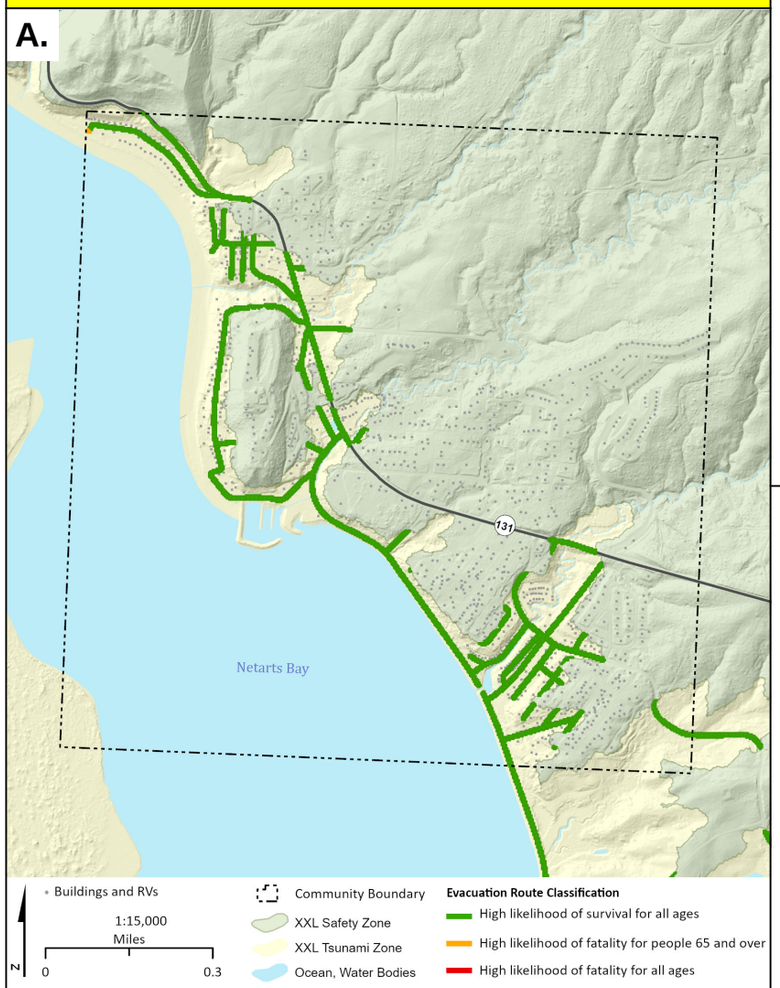


Description	Total
Earthquake Injuries (Entire Community)	60
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	290
Displaced Population - Permanent + Temporary	870

Netarts - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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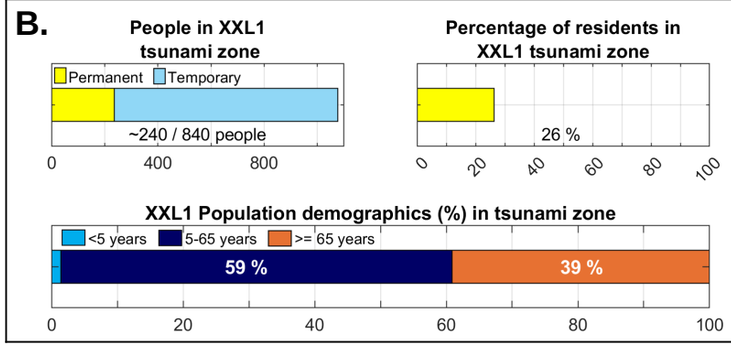

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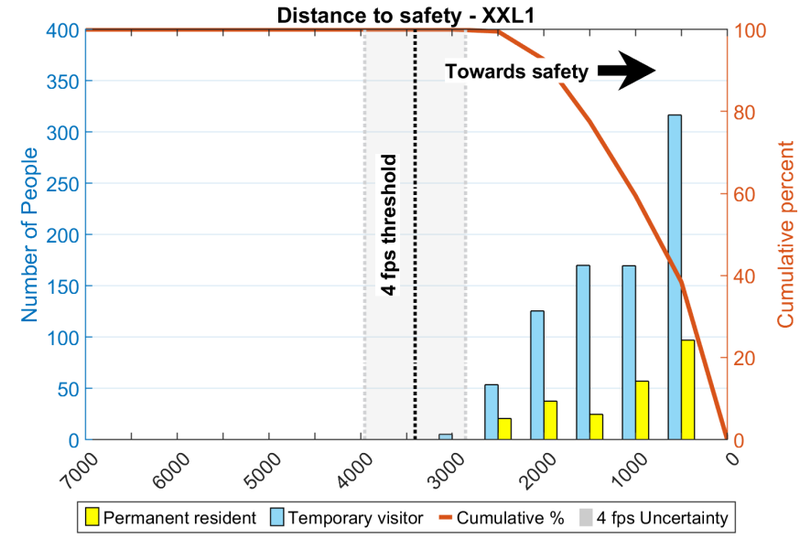

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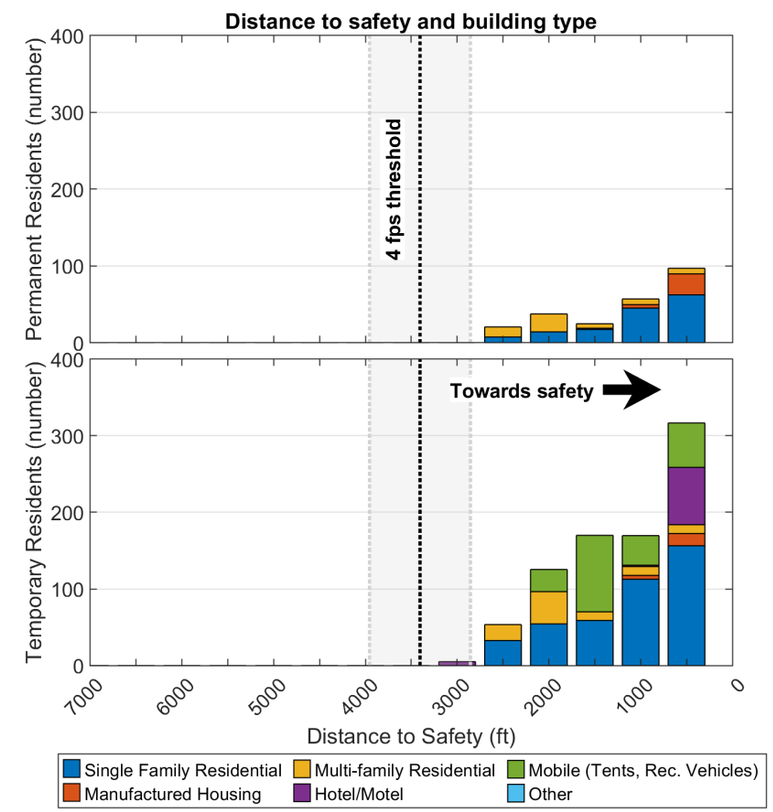

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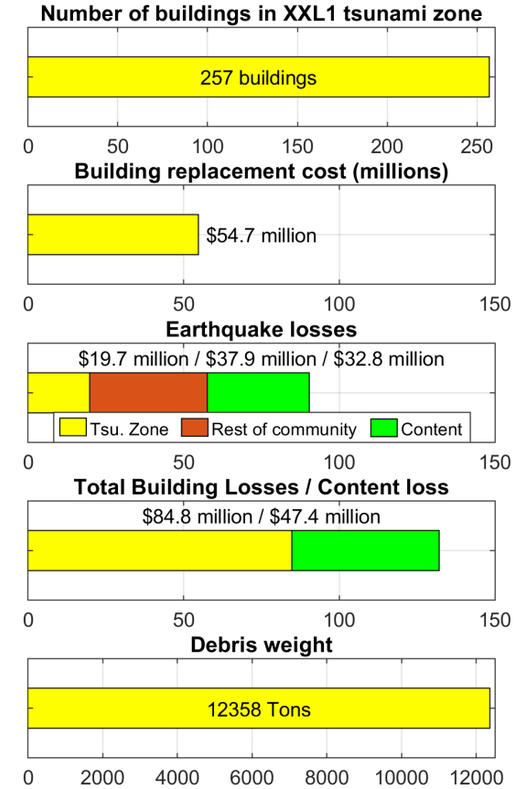

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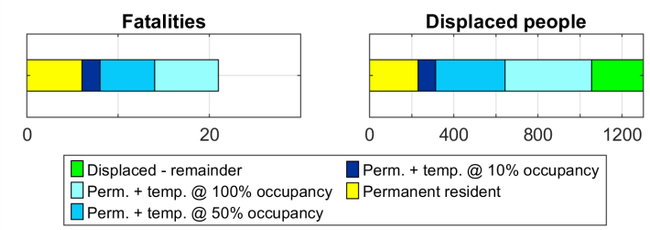
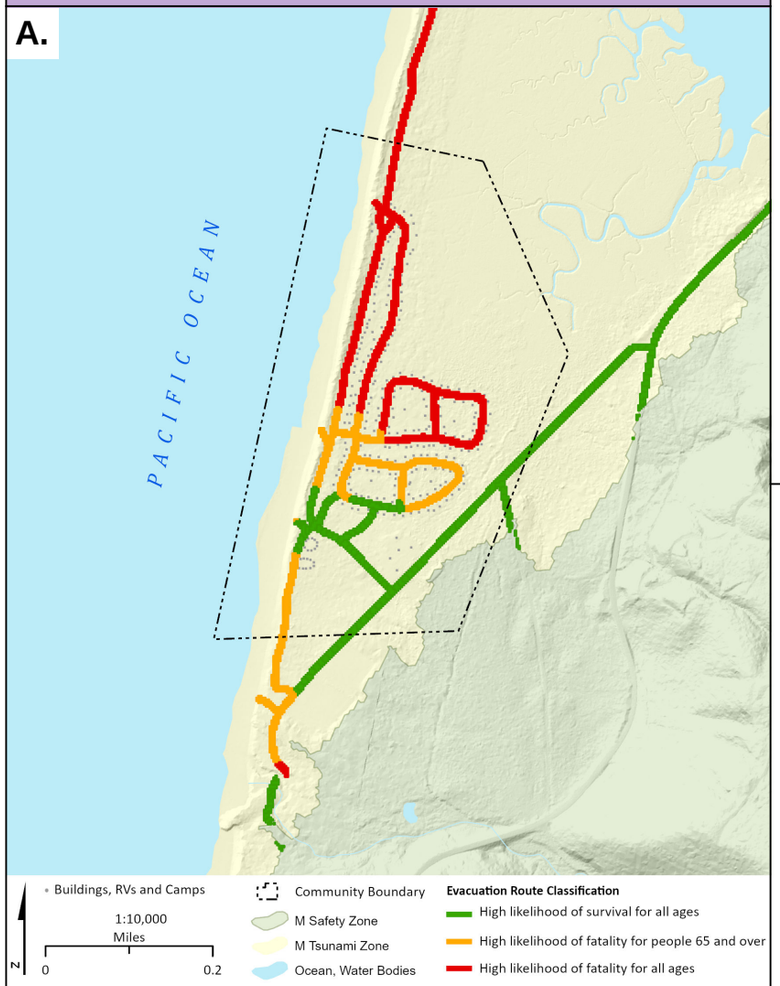


Description	Total
Earthquake Injuries (Entire Community)	60
Tsunami Injuries - Permanent + Temporary	10
Tsunami Fatalities - Permanent	10
Tsunami Fatalities - Temporary @ ~100% occupancy	20
Displaced Population - Permanent	390
Displaced Population - Permanent + Temporary	1,300

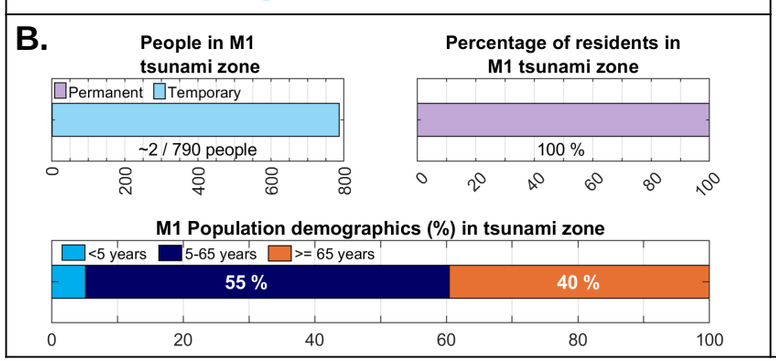
Cape Lookout State Park - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



B.



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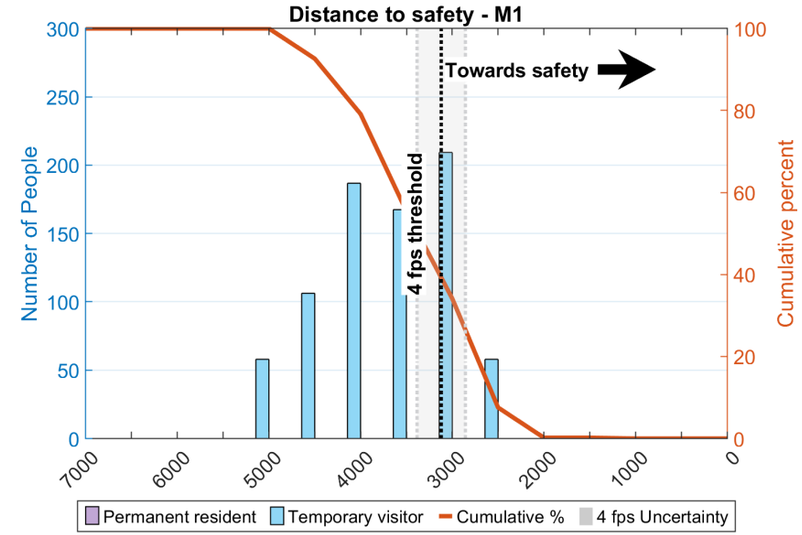

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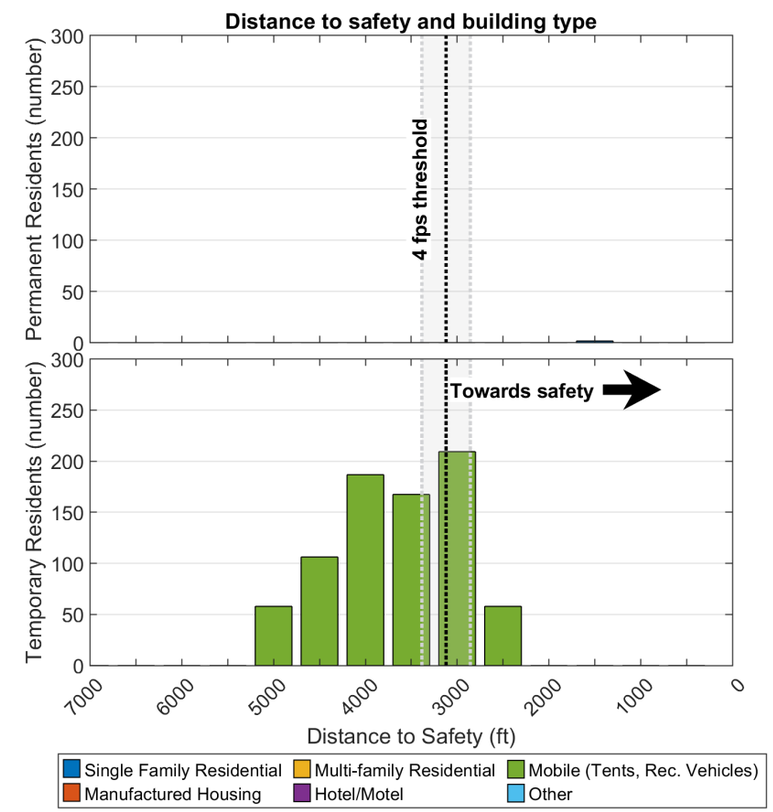

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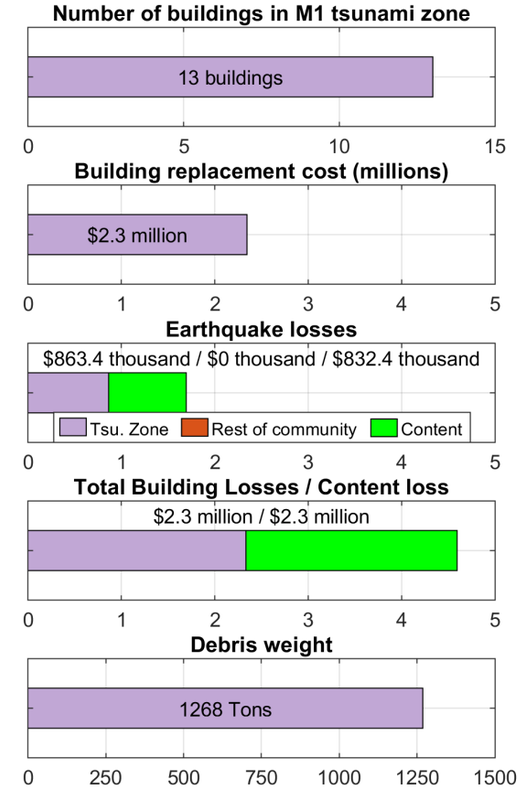

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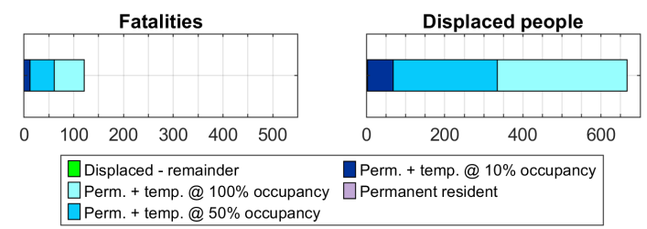
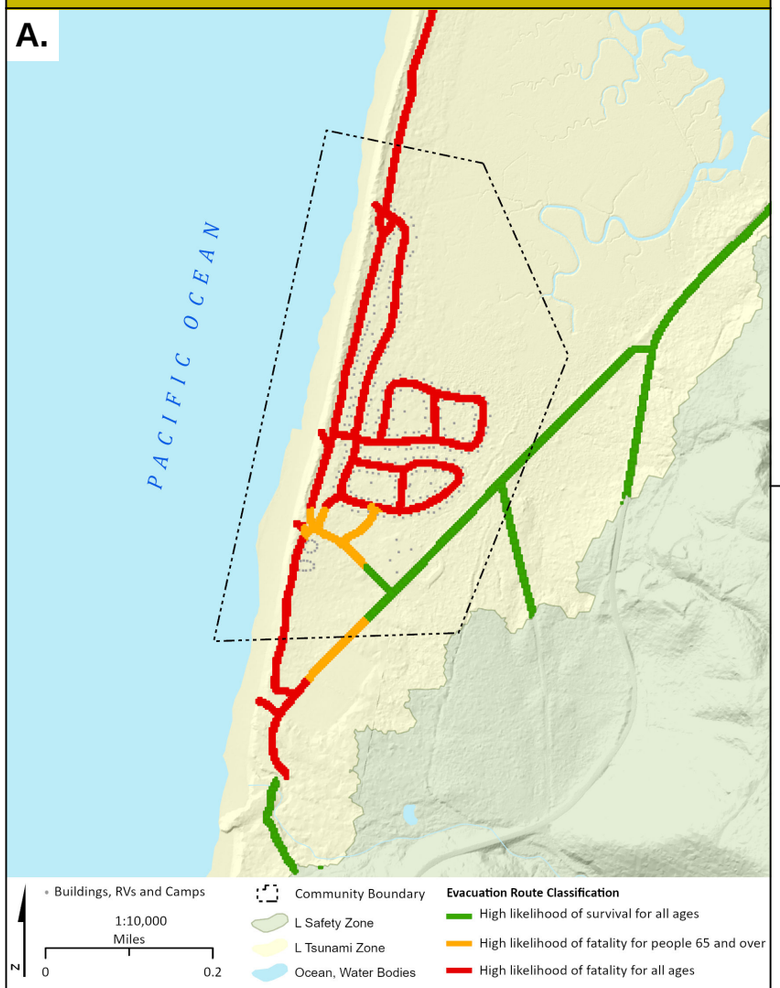


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	100
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	120
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	670

Cape Lookout State Park - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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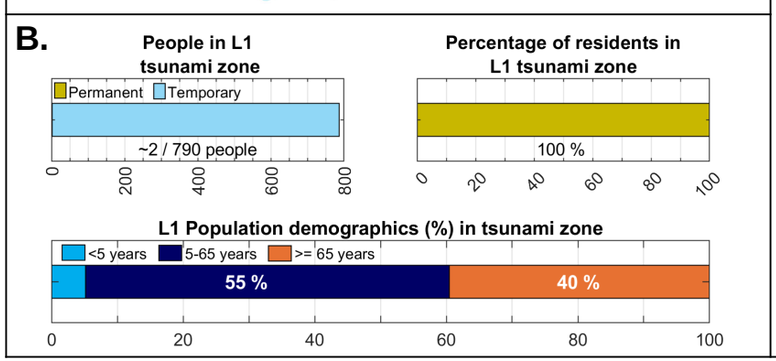

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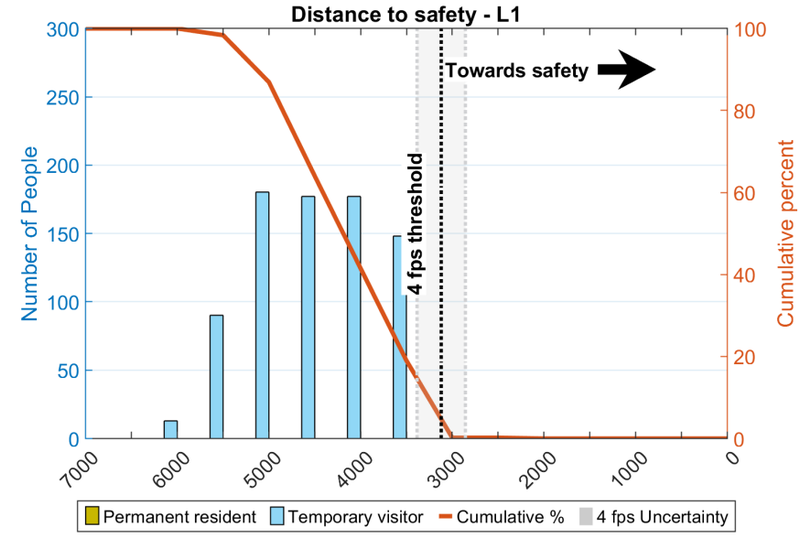
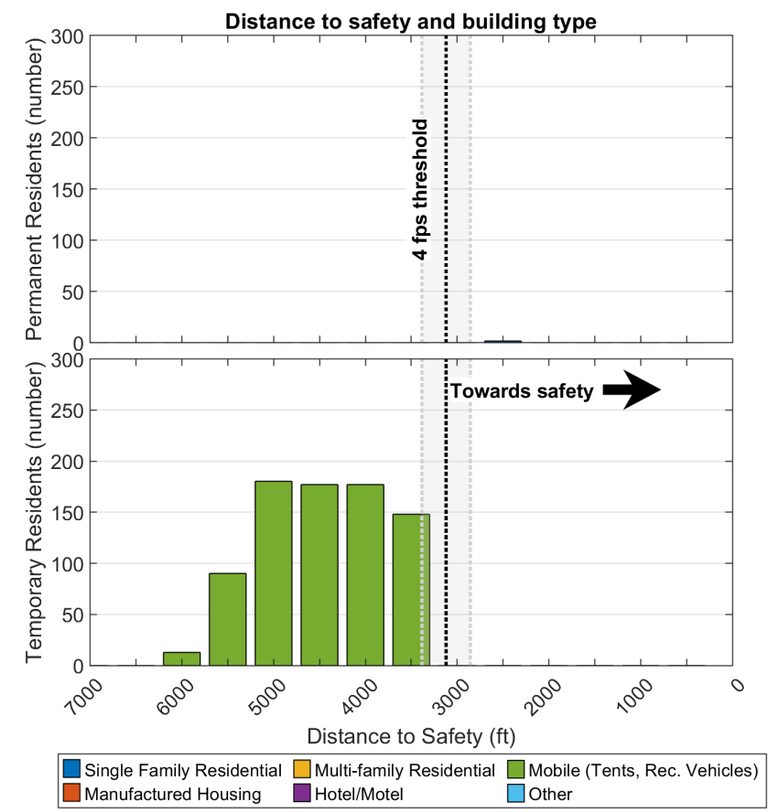


D.



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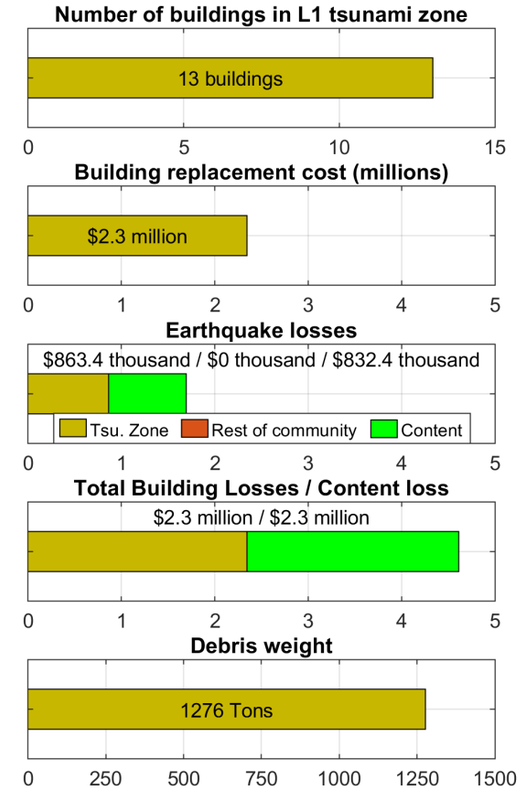

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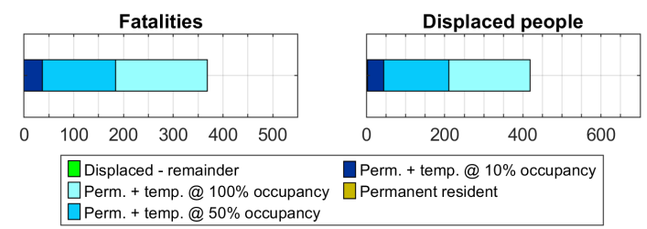
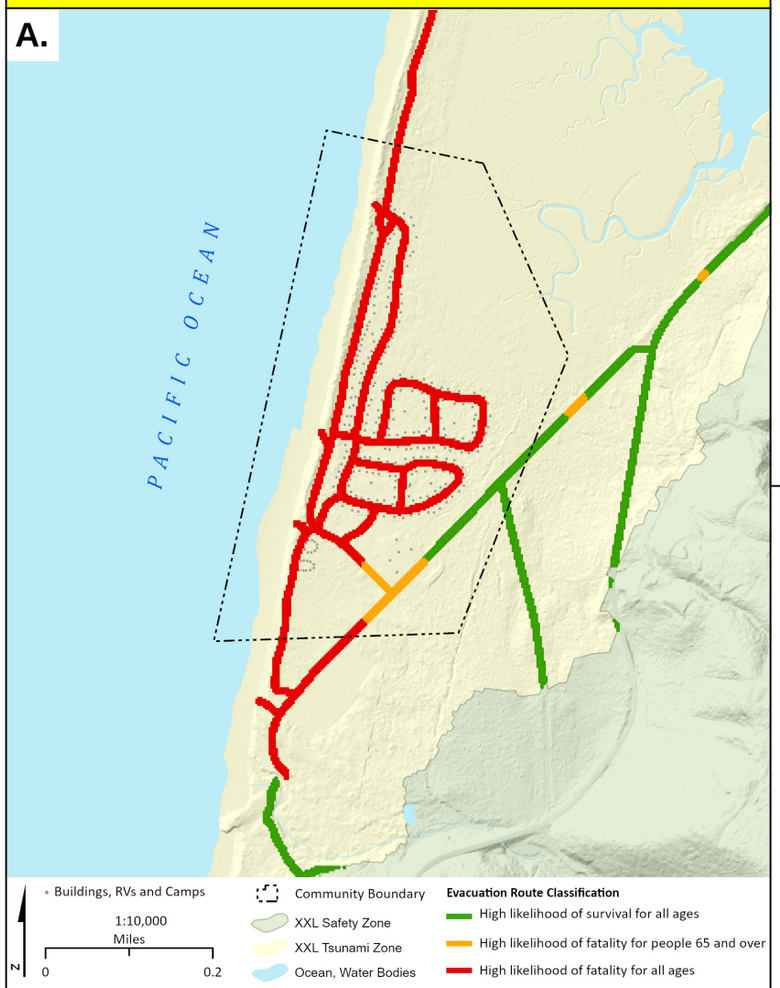


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	80
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	370
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	420

Cape Lookout State Park - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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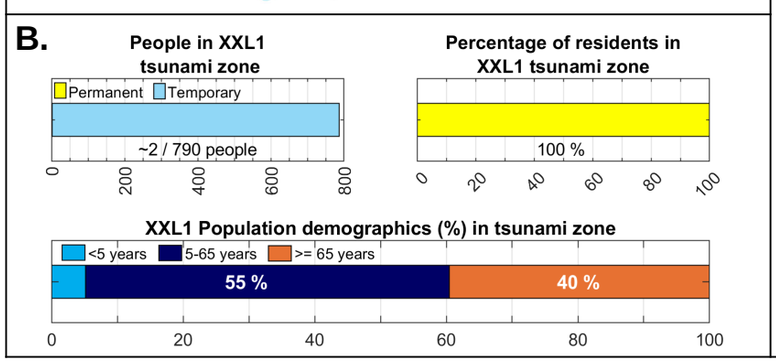

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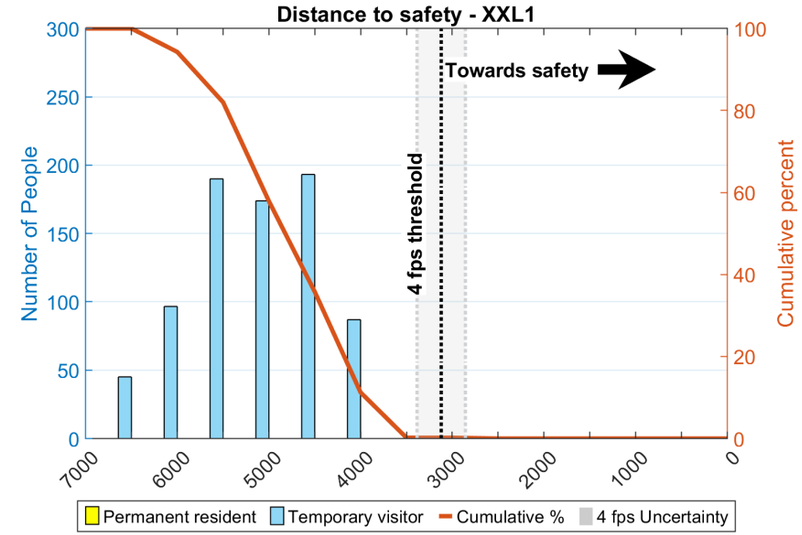
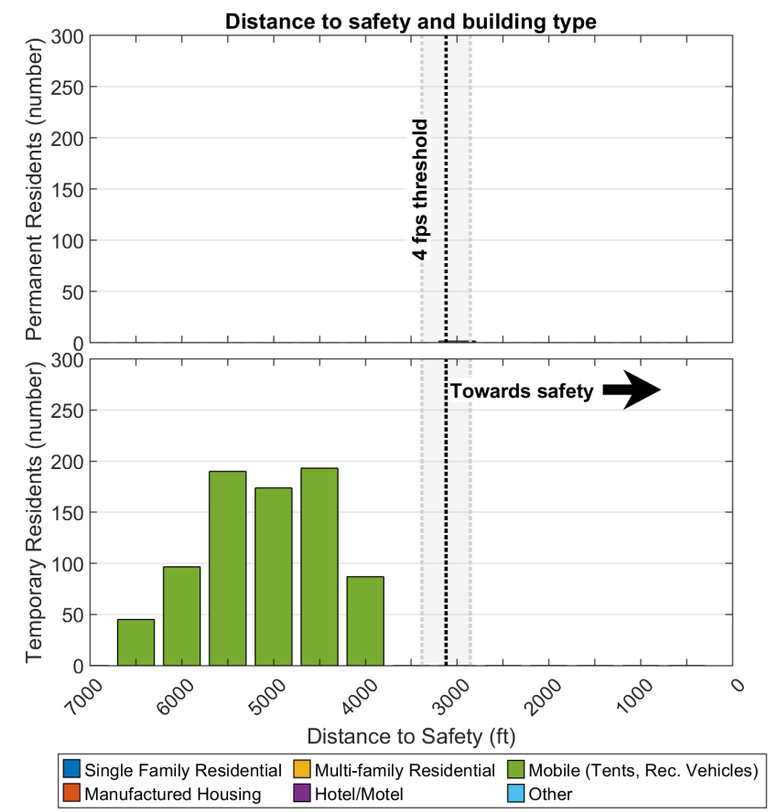
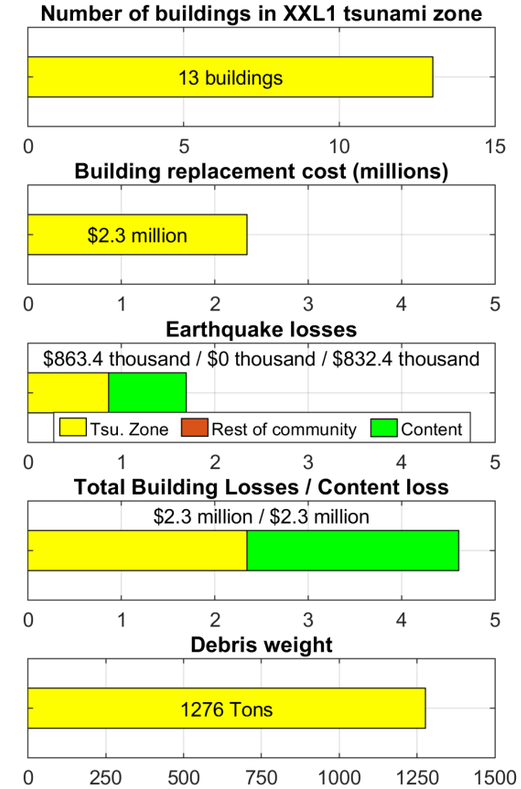


D.



E.



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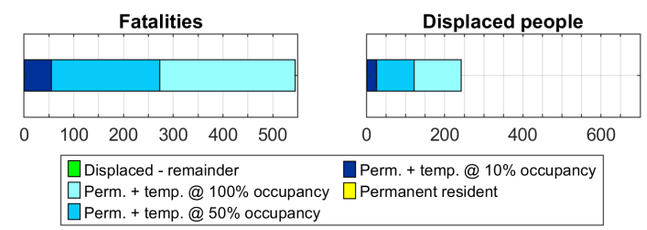
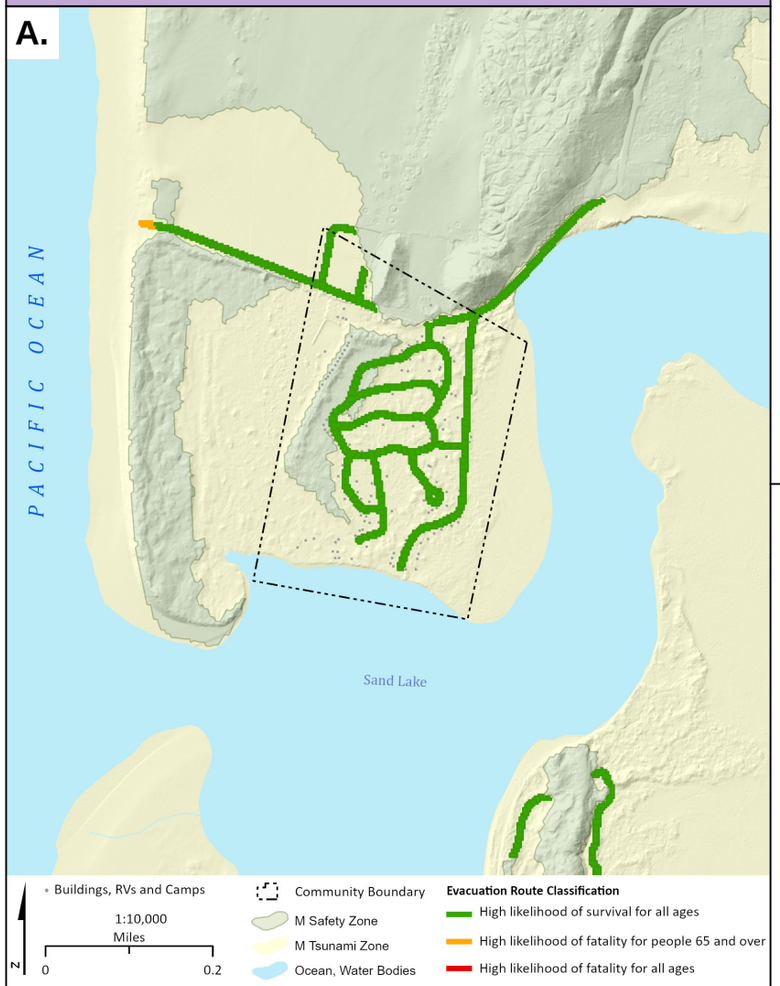


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	70
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	540
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	240

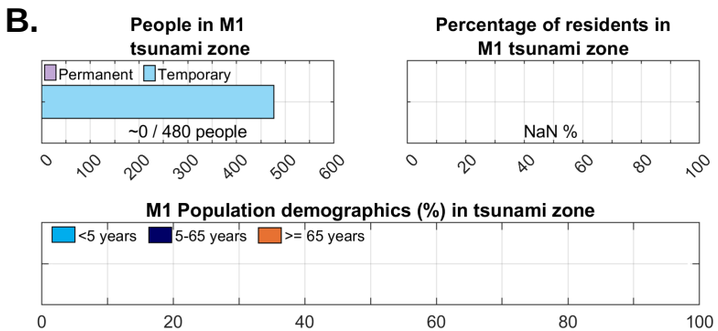
Sand Lake Recreation Area - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

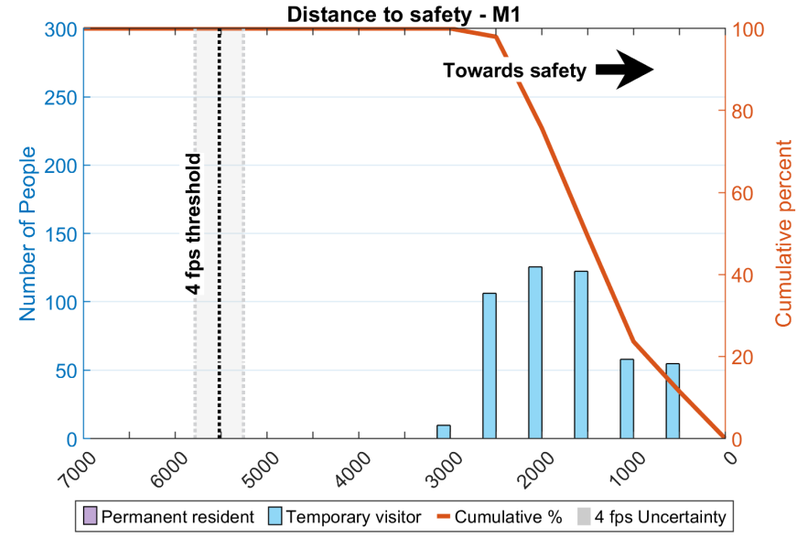
A.



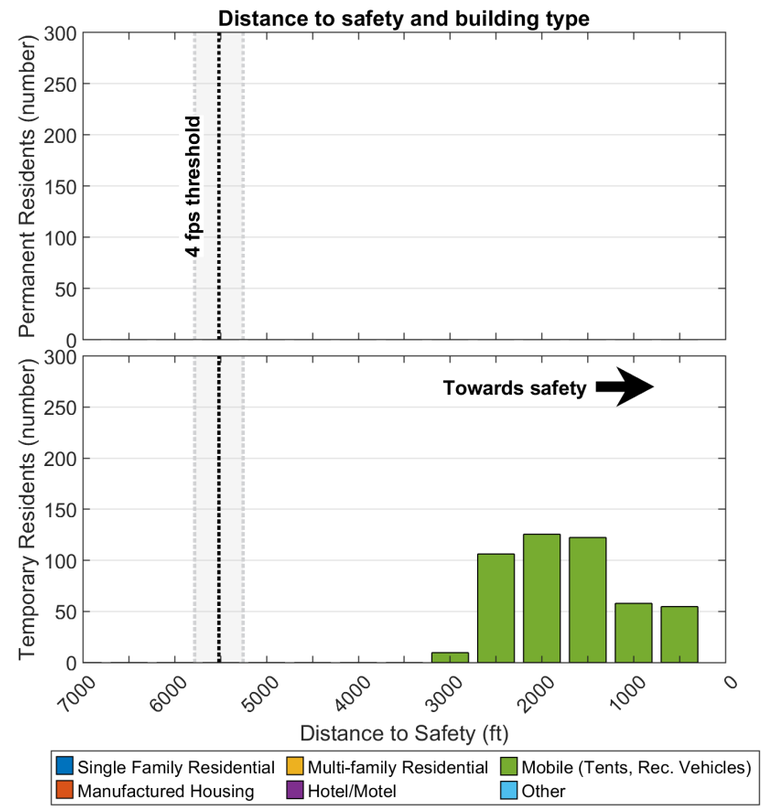
B.



C.



D.



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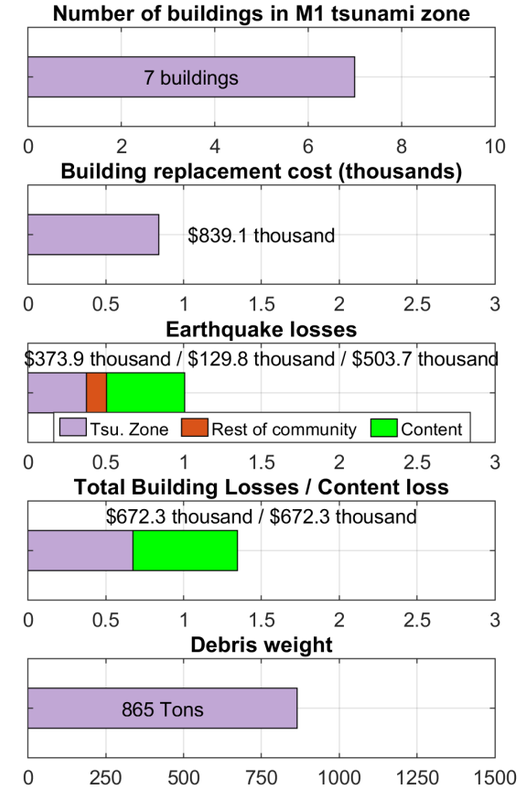

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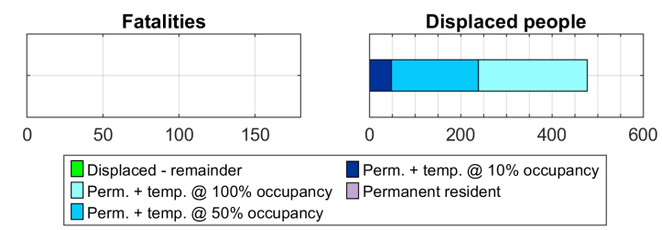
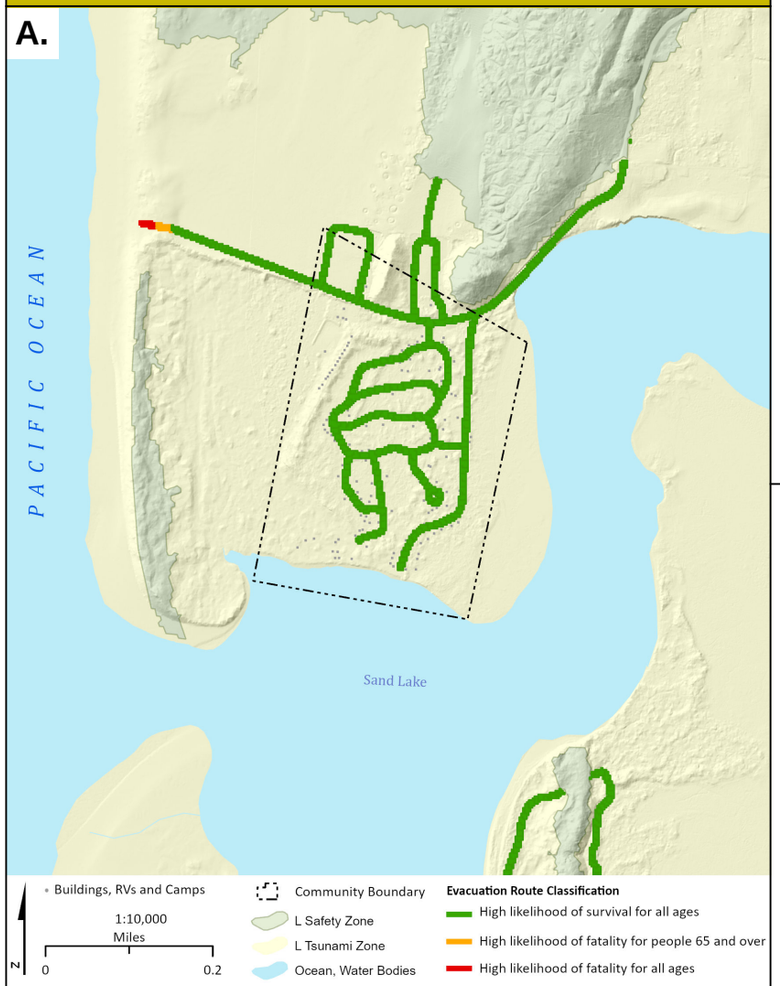


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	480

Sand Lake Recreation Area - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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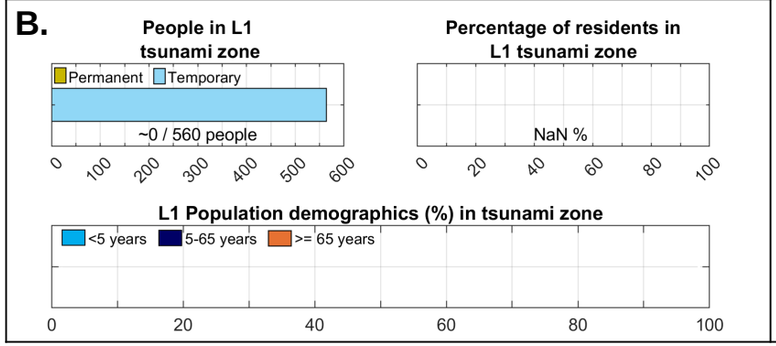
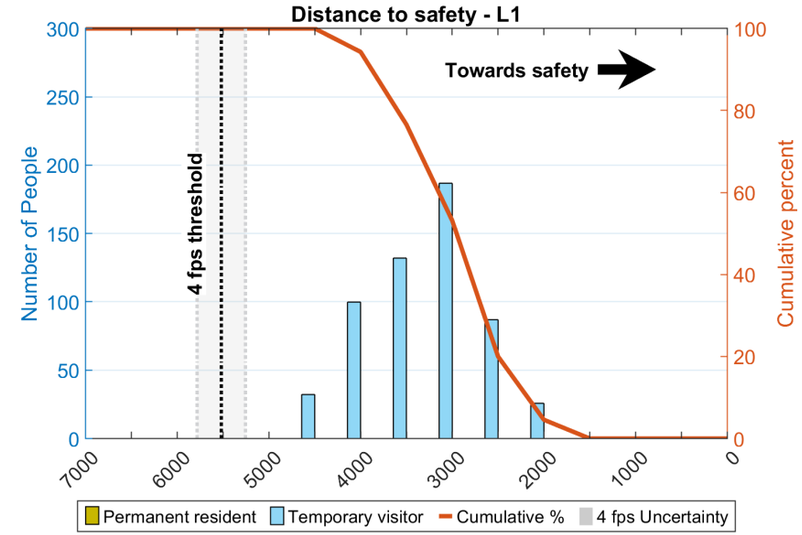
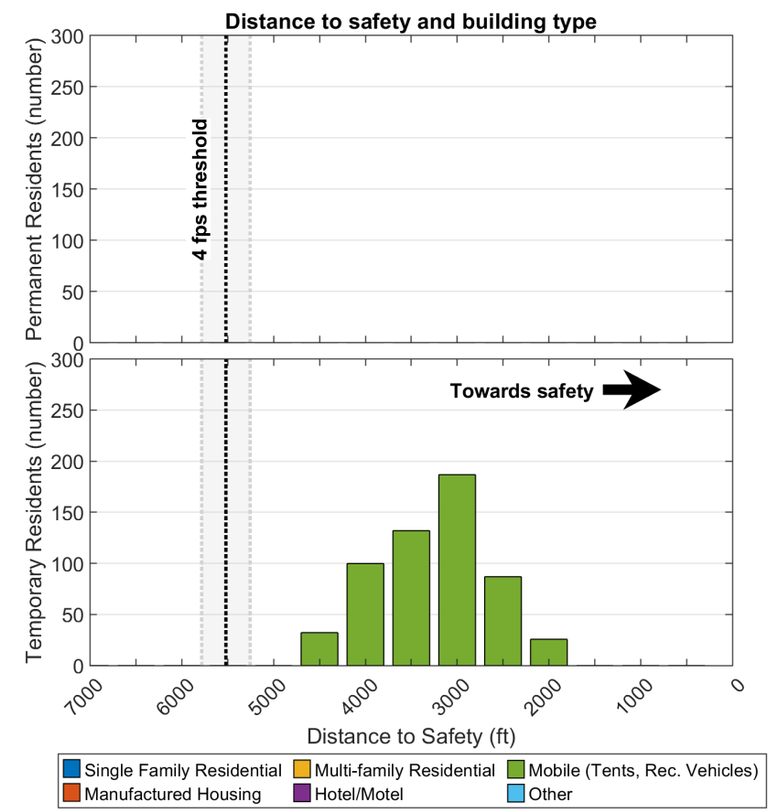


C.



D.



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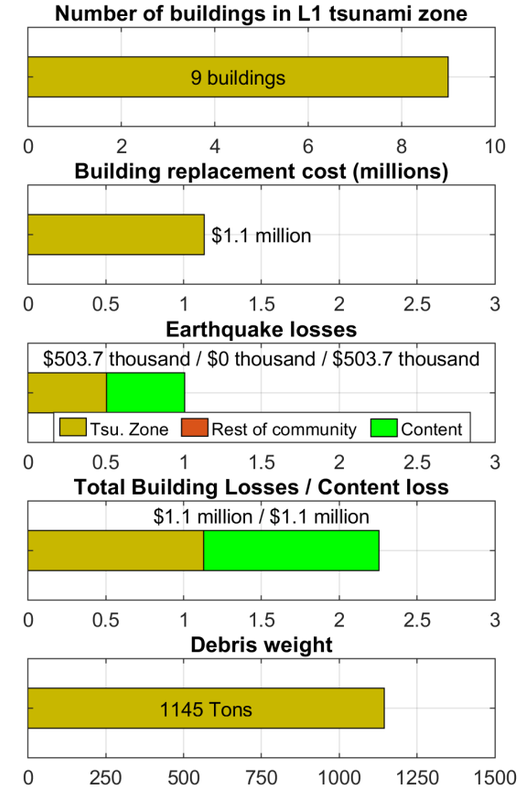

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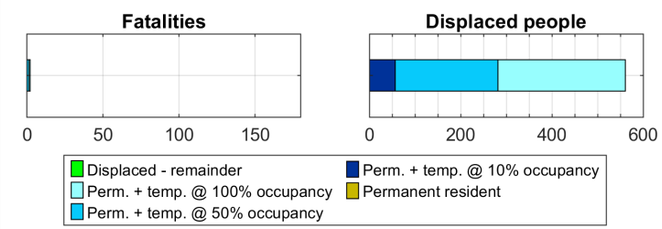
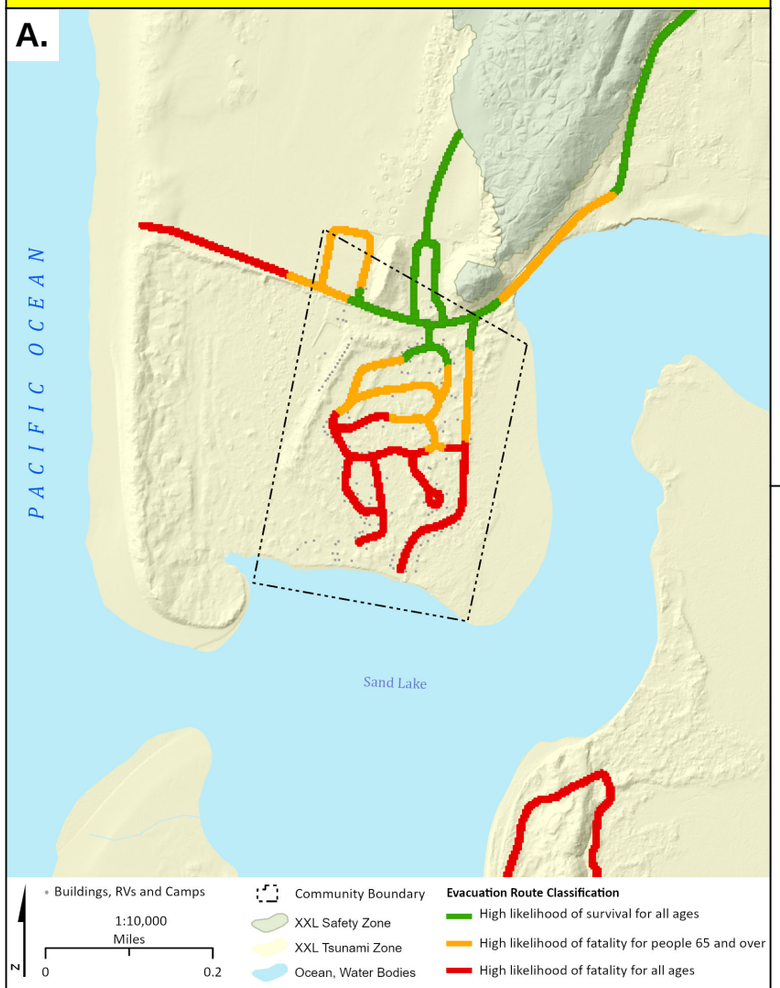


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	560

Sand Lake Recreation Area - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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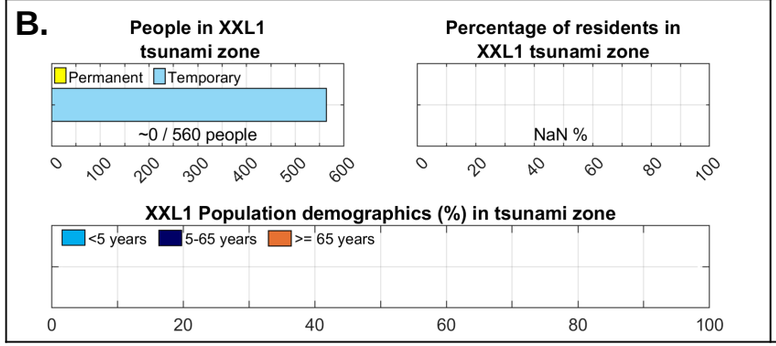

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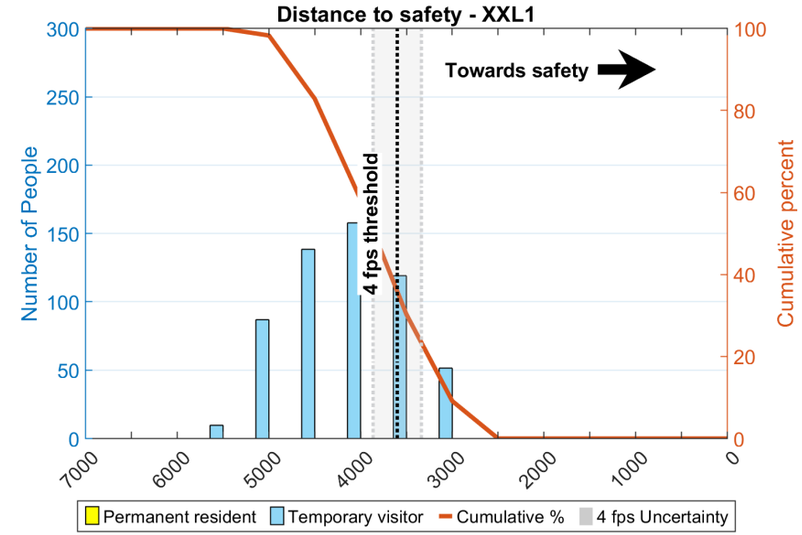
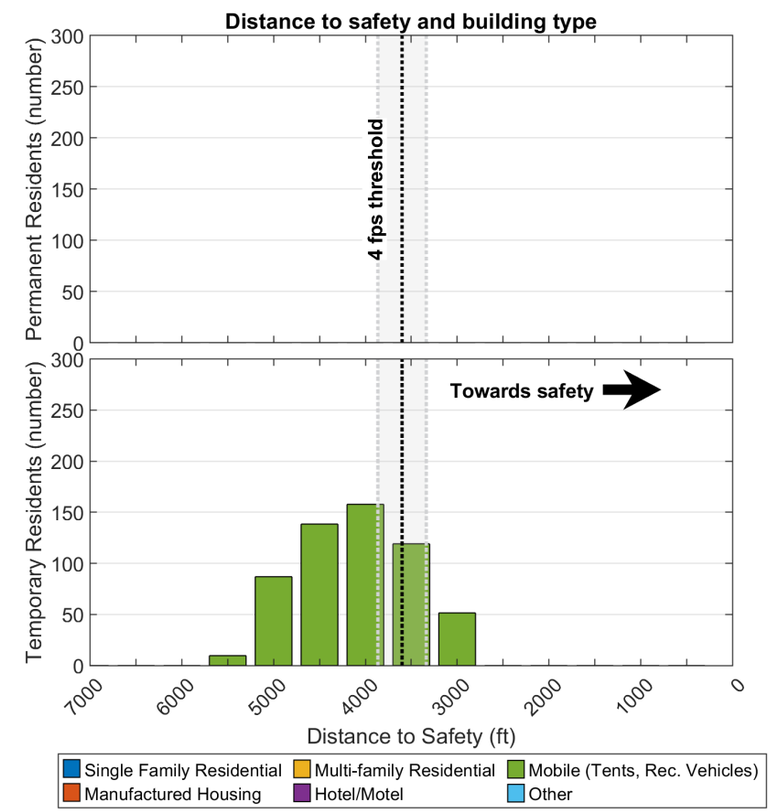


D.



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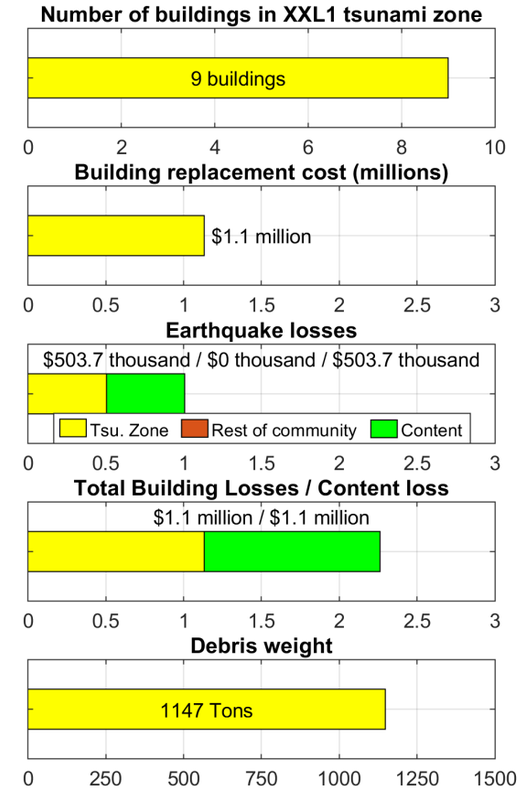

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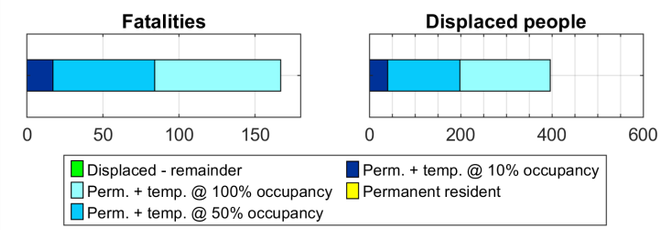
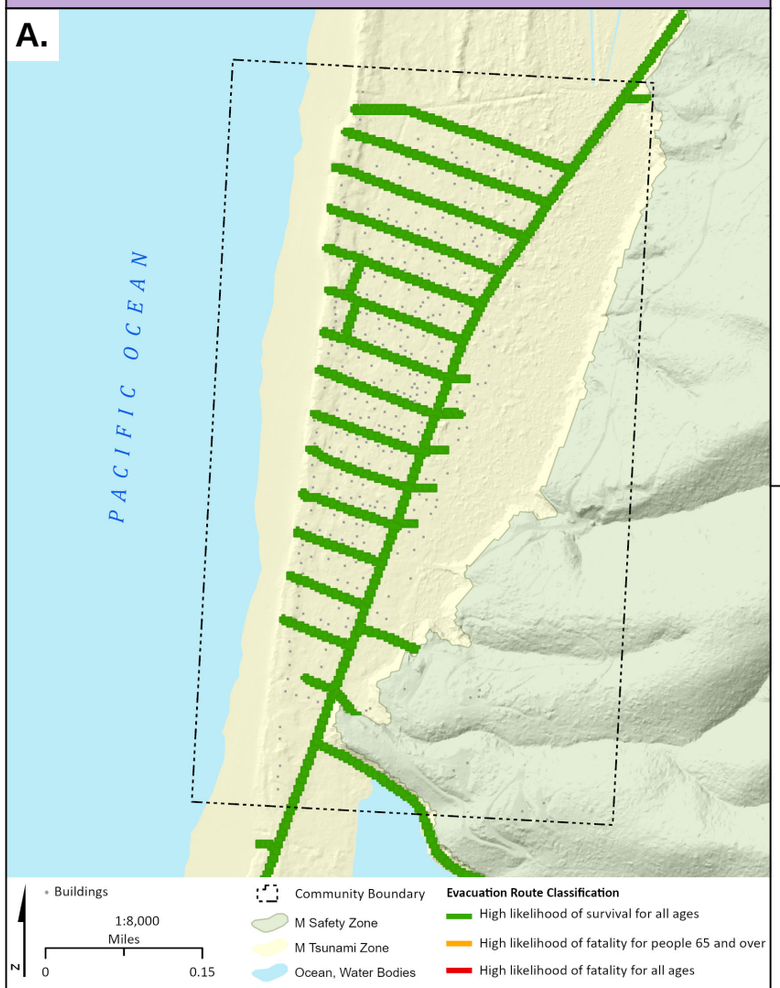


Description	Total
Earthquake Injuries (Entire Community)	0
Tsunami Injuries - Permanent + Temporary	40
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	170
Displaced Population - Permanent	0
Displaced Population - Permanent + Temporary	400

Tierra Del Mar - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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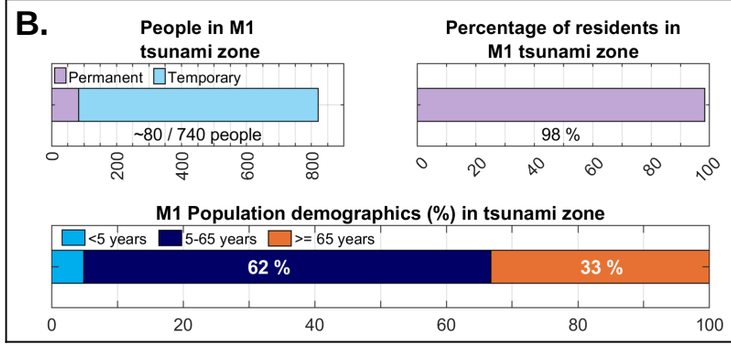

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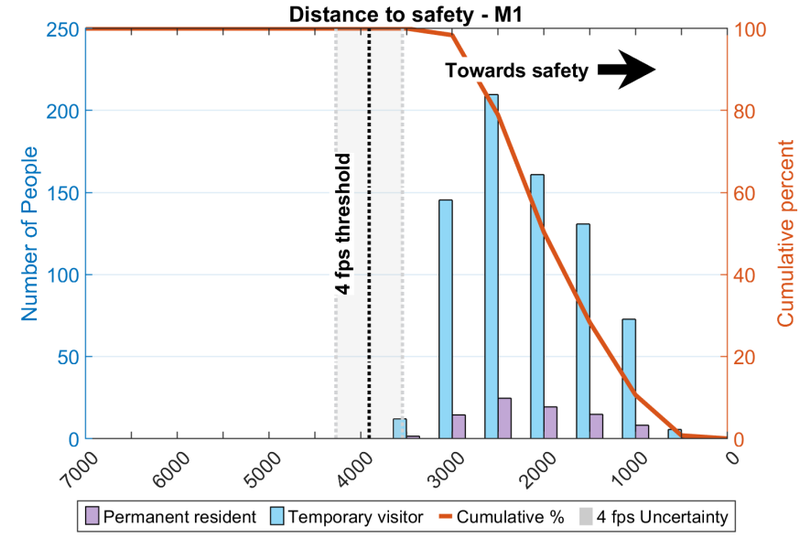
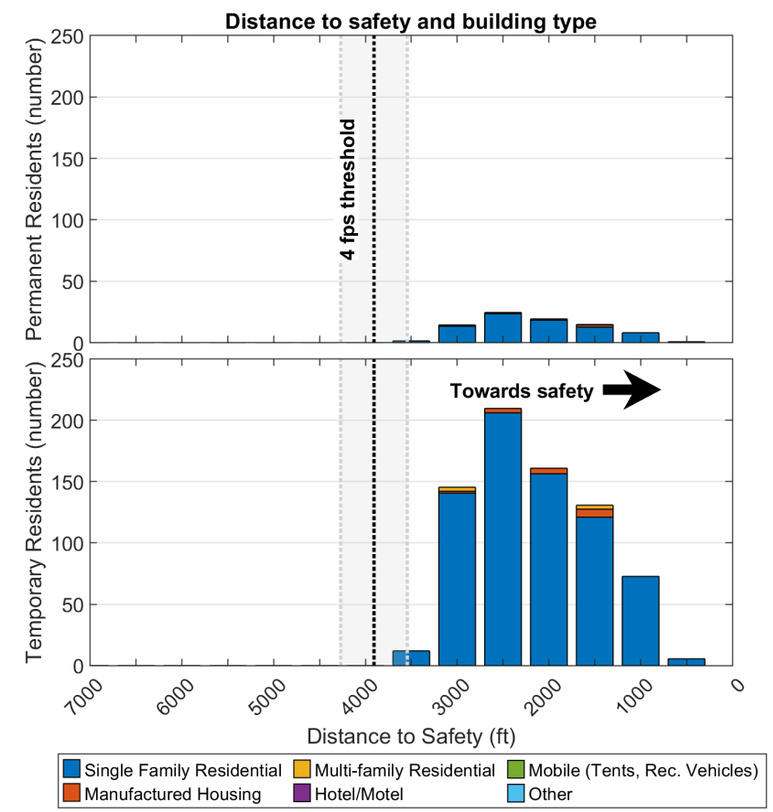


D.



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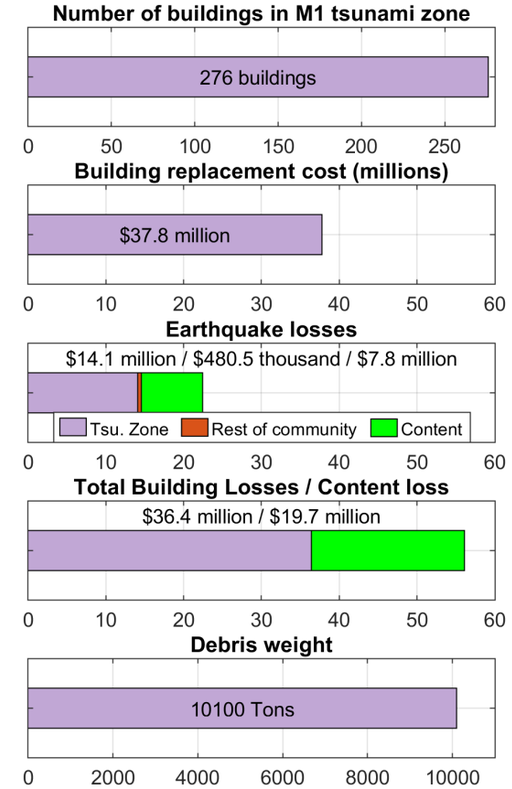

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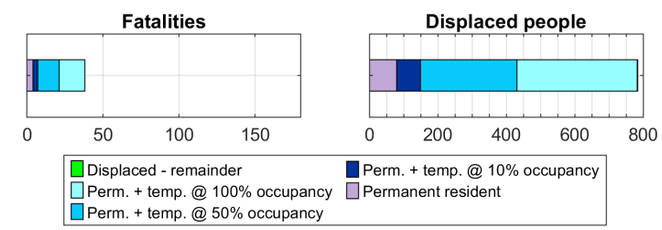
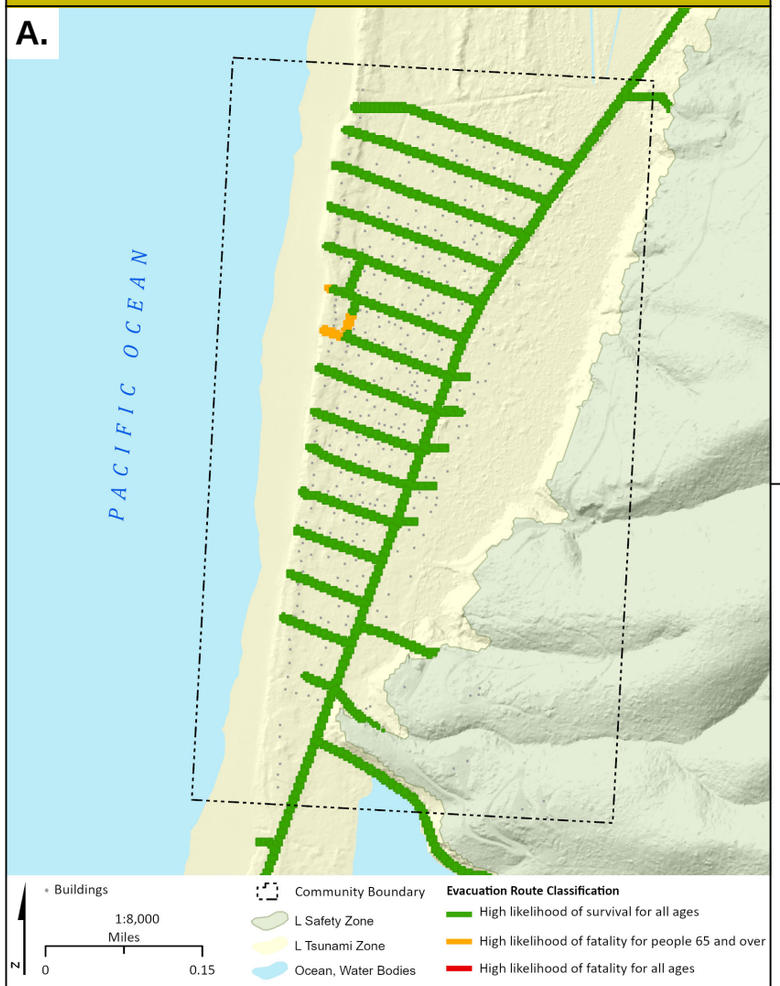


Description	Total
Earthquake Injuries (Entire Community)	20
Tsunami Injuries - Permanent + Temporary	10
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	30
Displaced Population - Permanent	80
Displaced Population - Permanent + Temporary	780

Tierra Del Mar - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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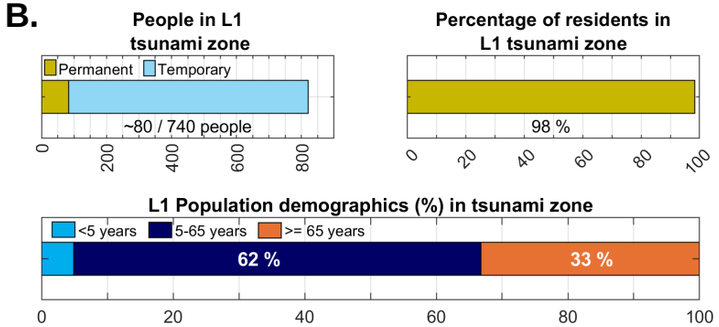

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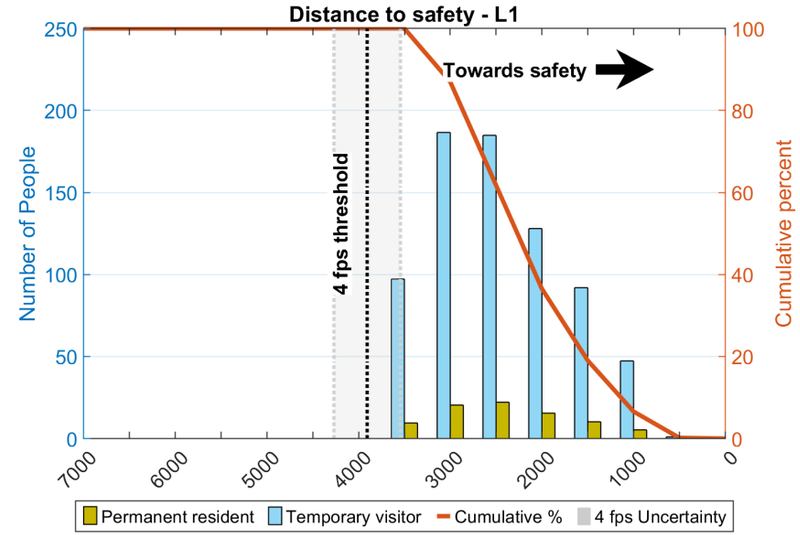

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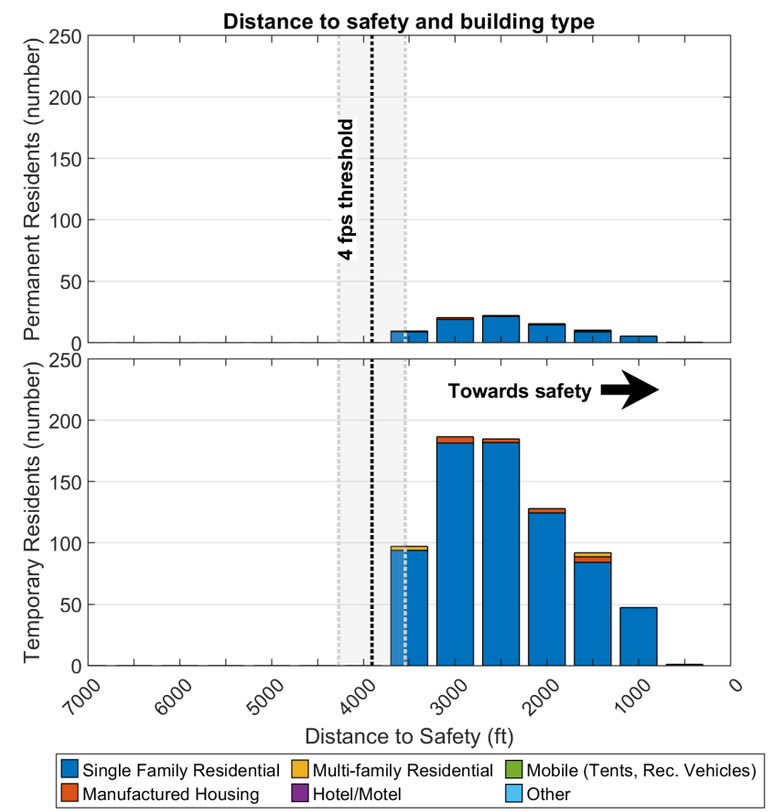
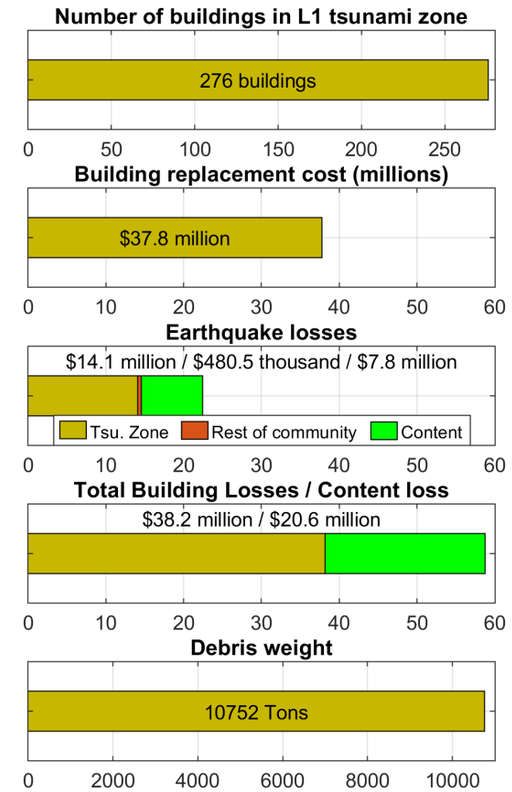


E.



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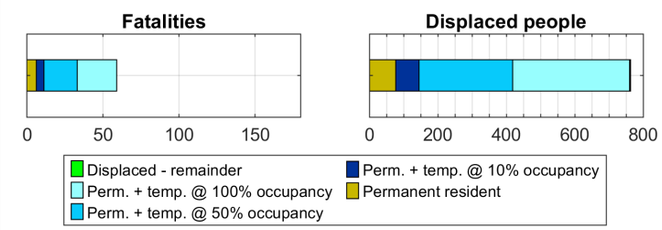
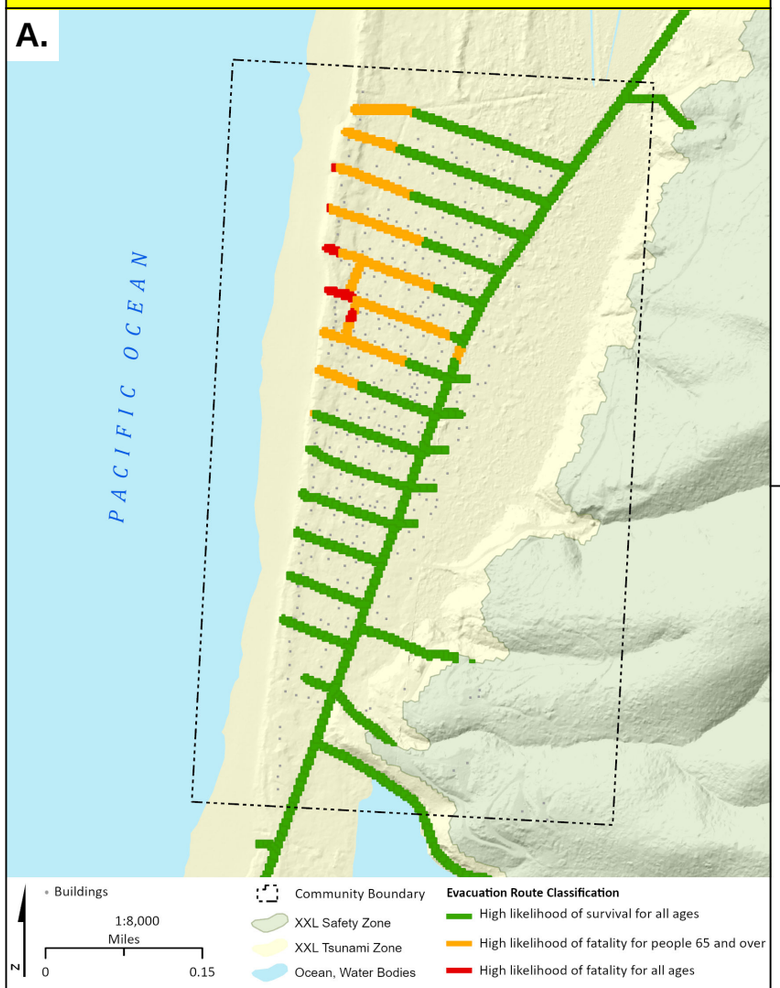


Description	Total
Earthquake Injuries (Entire Community)	20
Tsunami Injuries - Permanent + Temporary	10
Tsunami Fatalities - Permanent	10
Tsunami Fatalities - Temporary @ ~100% occupancy	50
Displaced Population - Permanent	80
Displaced Population - Permanent + Temporary	760

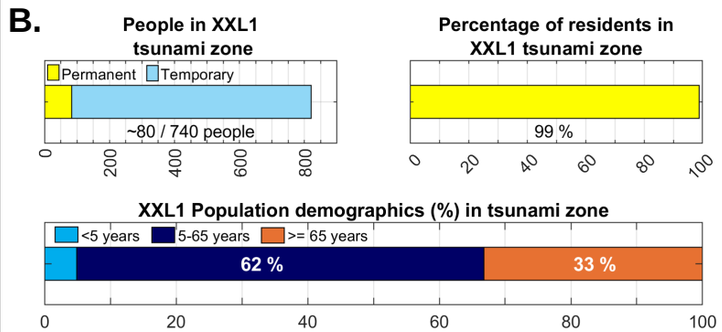
Tierra Del Mar - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

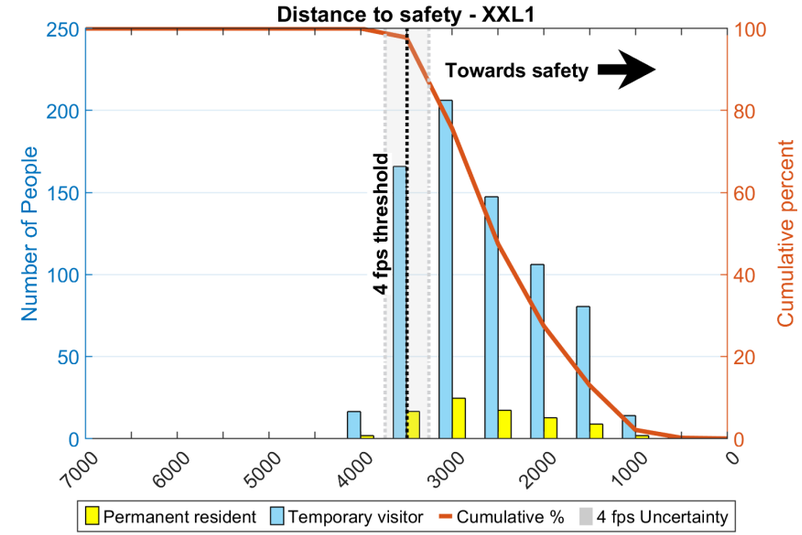
A.



B.



C.



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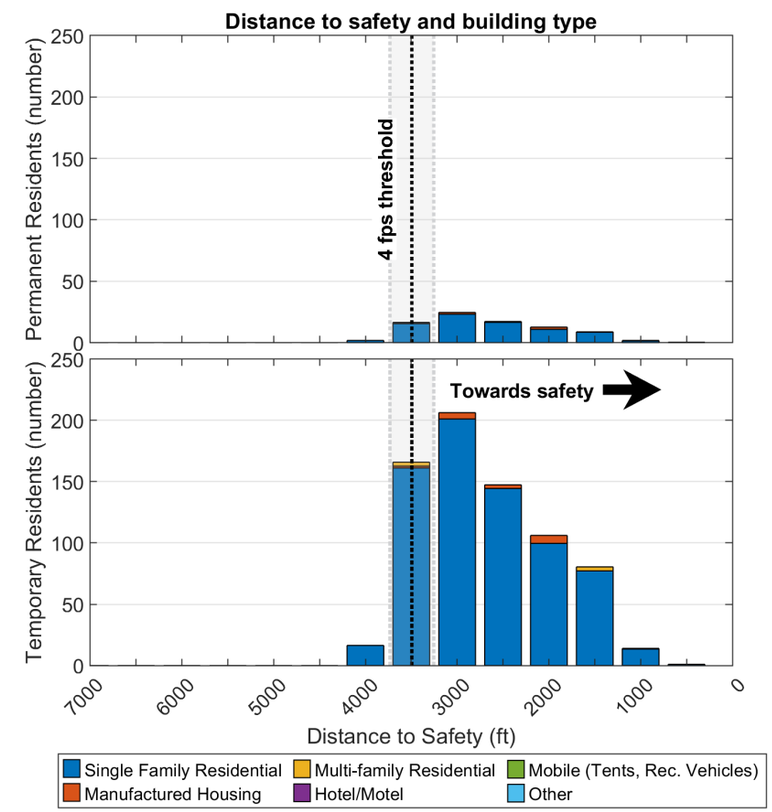
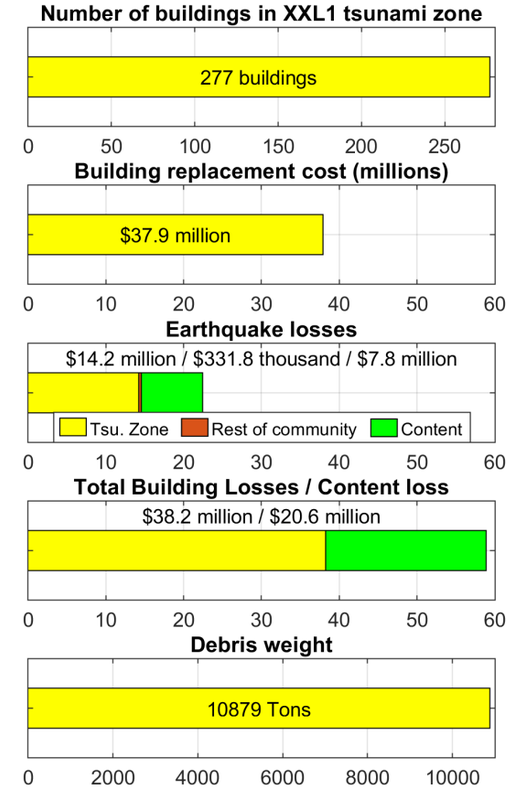


E.



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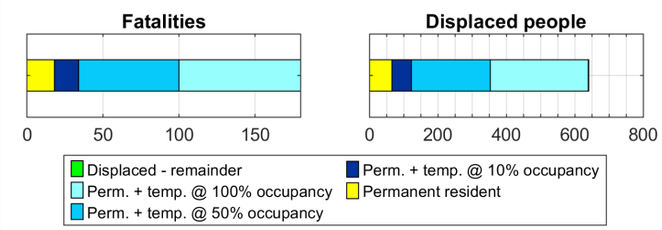
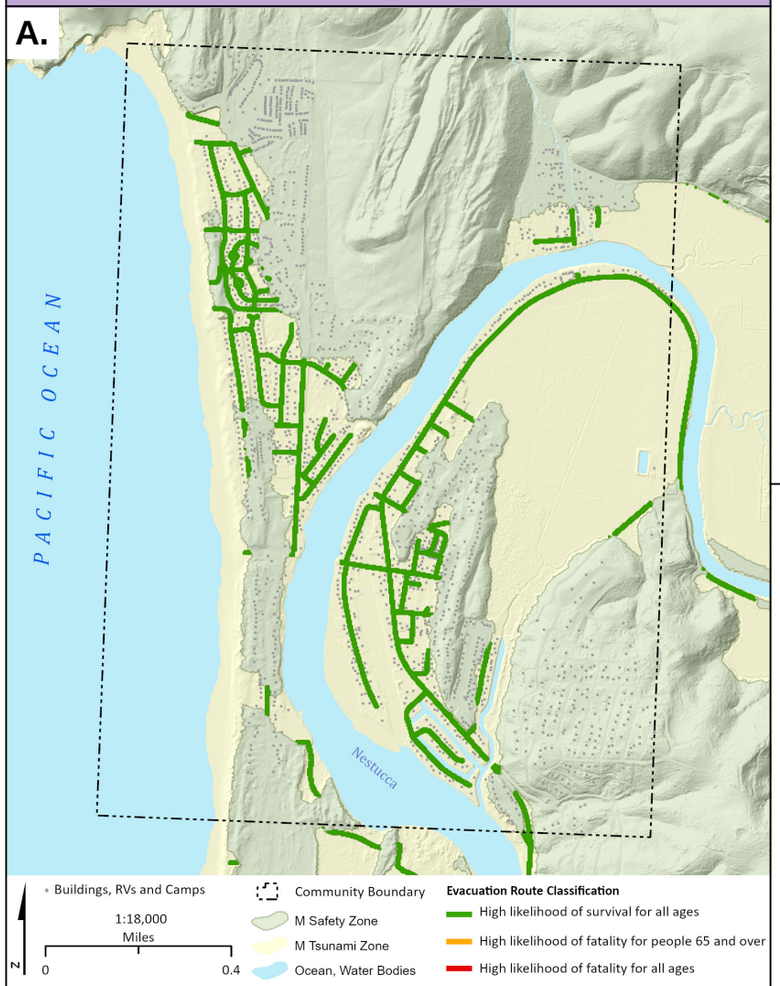


Description	Total
Earthquake Injuries (Entire Community)	20
Tsunami Injuries - Permanent + Temporary	30
Tsunami Fatalities - Permanent	20
Tsunami Fatalities - Temporary @ ~100% occupancy	160
Displaced Population - Permanent	70
Displaced Population - Permanent + Temporary	640

Pacific City - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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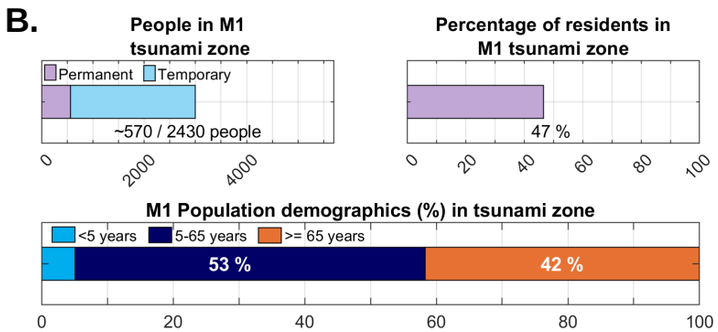

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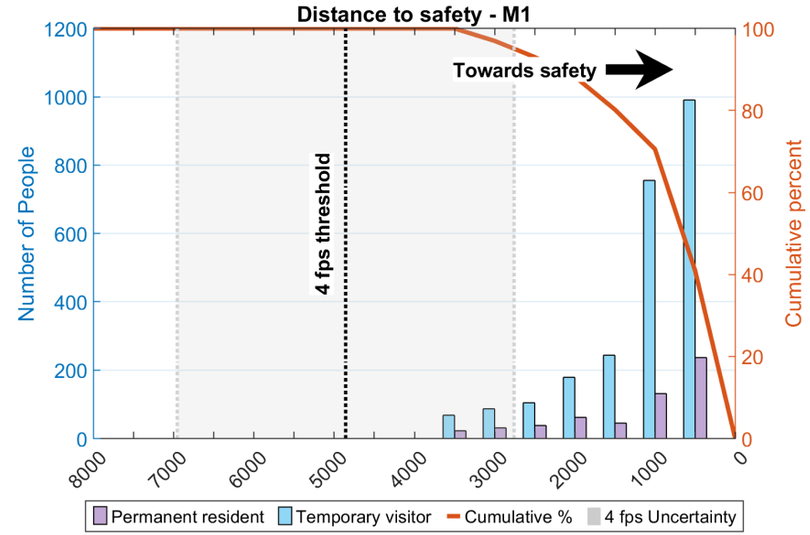
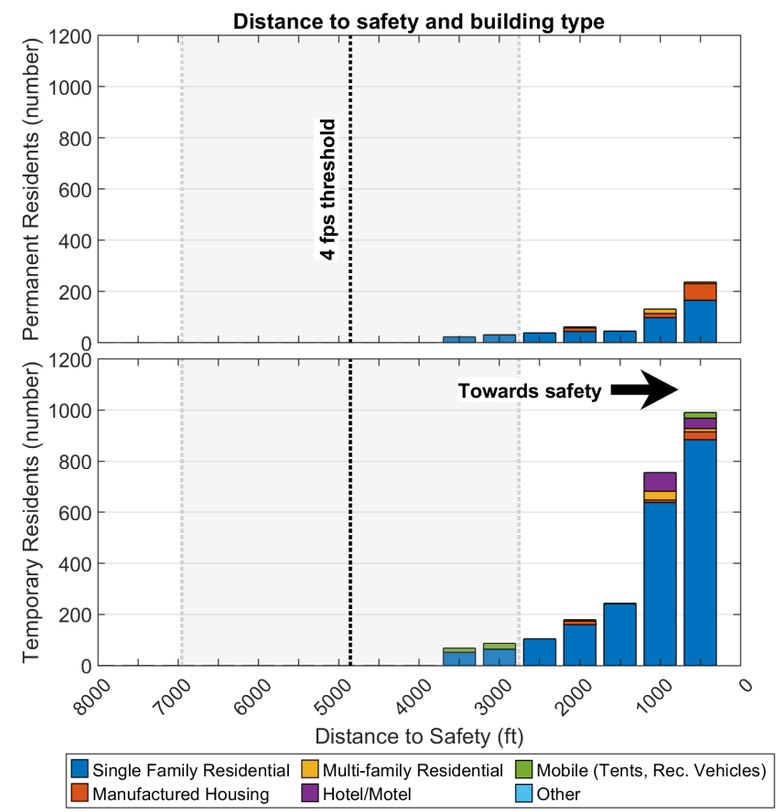
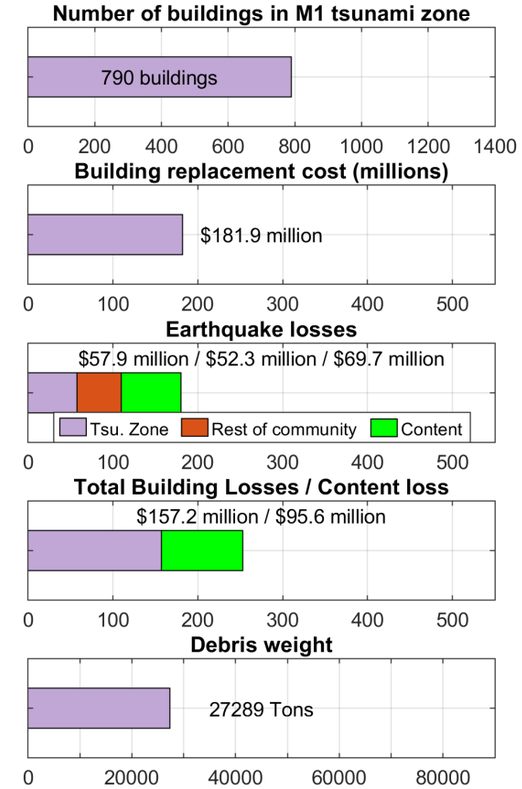


D.



E.



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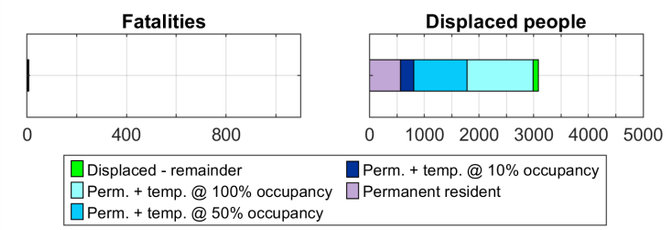
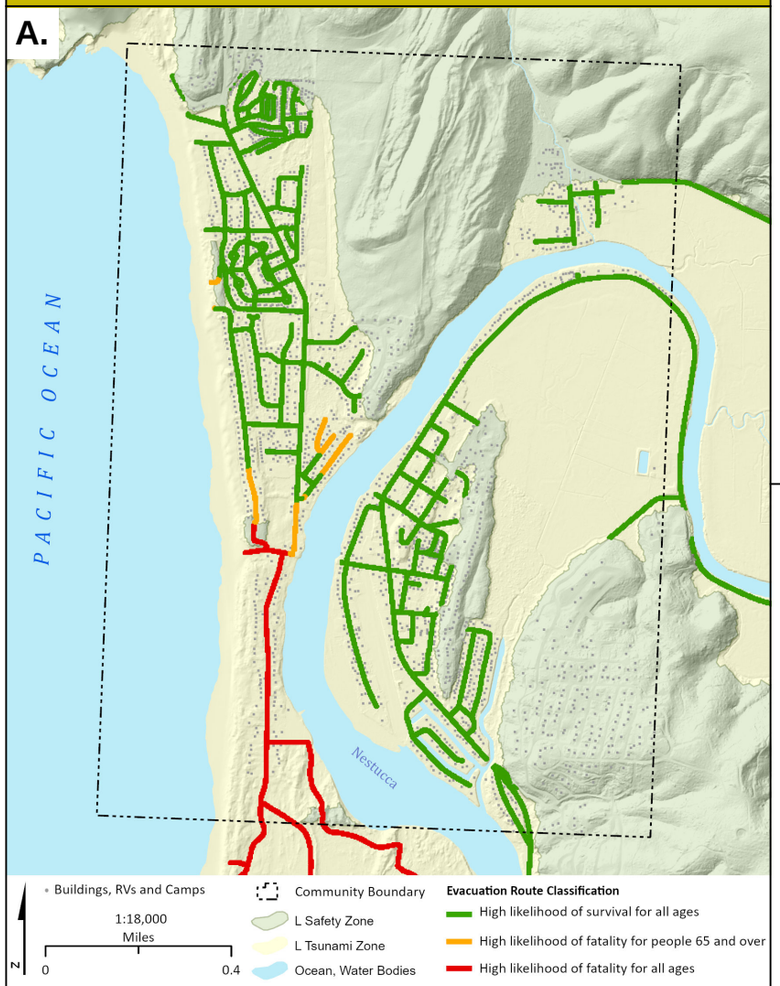


Description	Total
Earthquake Injuries (Entire Community)	90
Tsunami Injuries - Permanent + Temporary	0
Tsunami Fatalities - Permanent	0
Tsunami Fatalities - Temporary @ ~100% occupancy	0
Displaced Population - Permanent	630
Displaced Population - Permanent + Temporary	3,090

Pacific City - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



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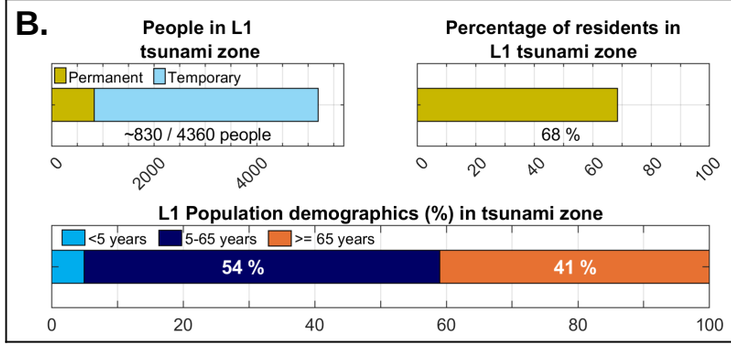

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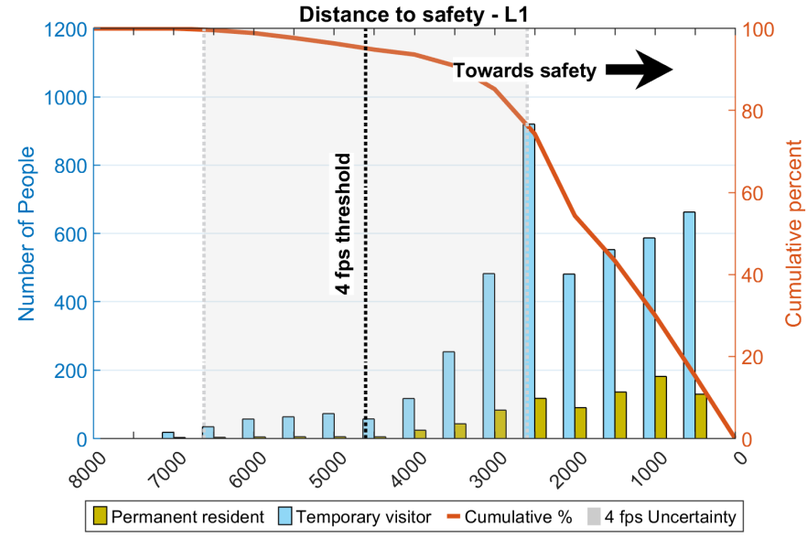
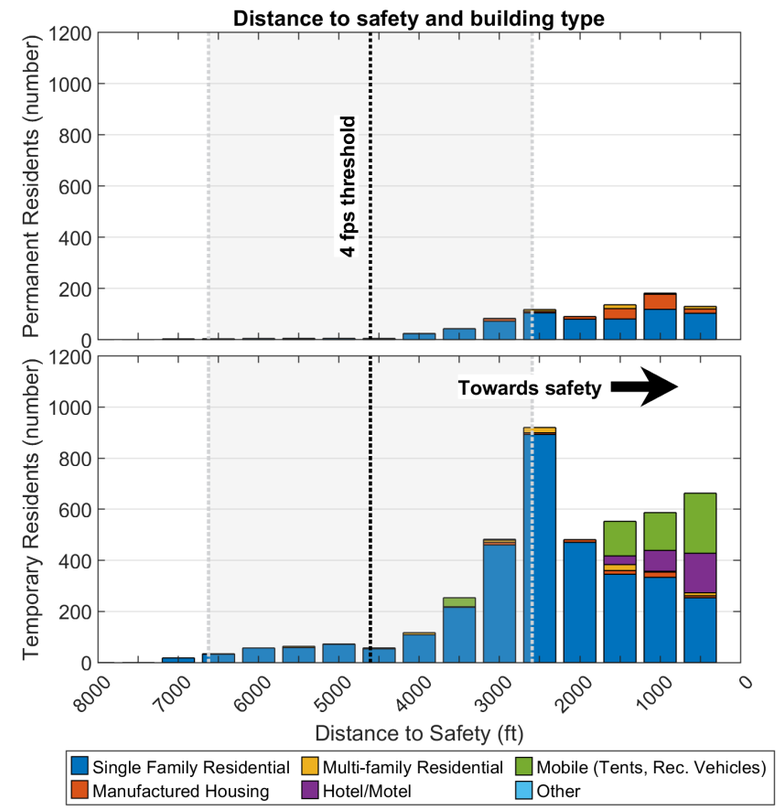


D.



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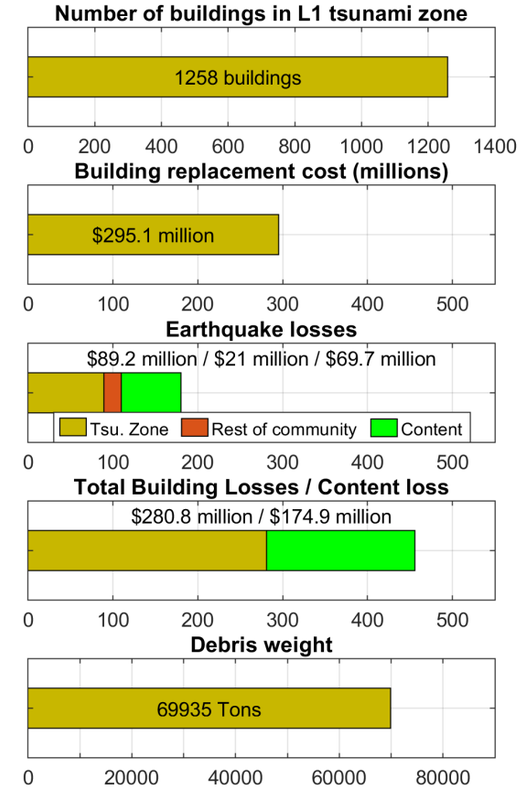

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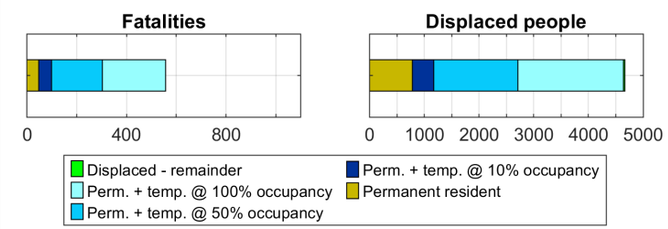
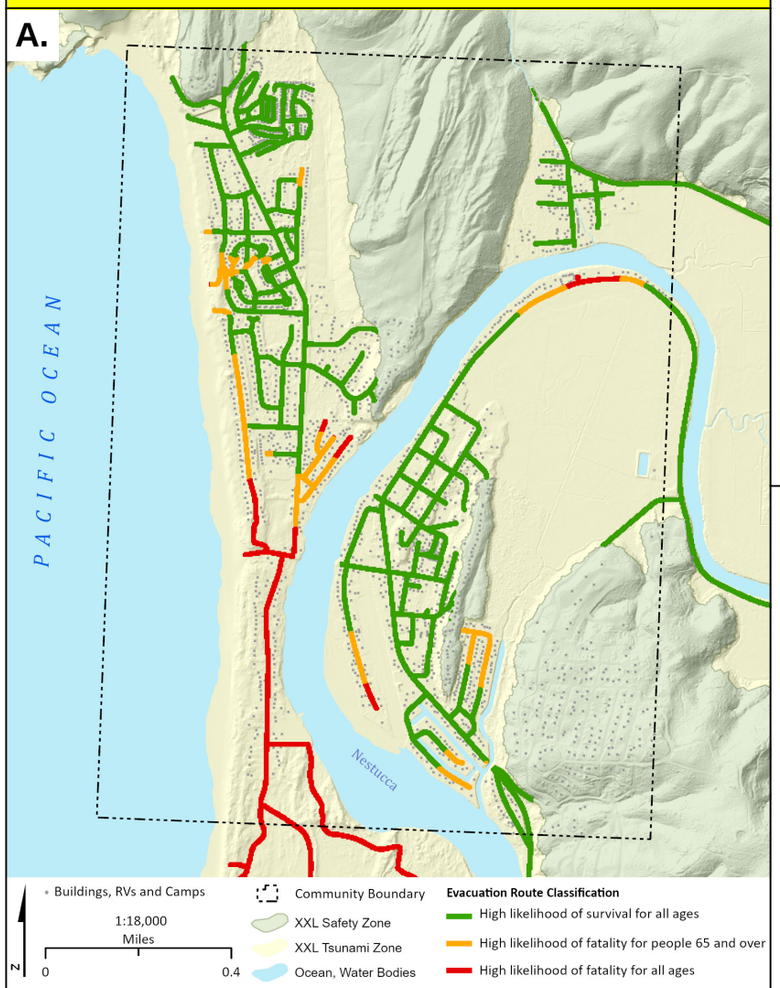


Description	Total
Earthquake Injuries (Entire Community)	90
Tsunami Injuries - Permanent + Temporary	70
Tsunami Fatalities - Permanent	50
Tsunami Fatalities - Temporary @ ~100% occupancy	510
Displaced Population - Permanent	800
Displaced Population - Permanent + Temporary	4,670

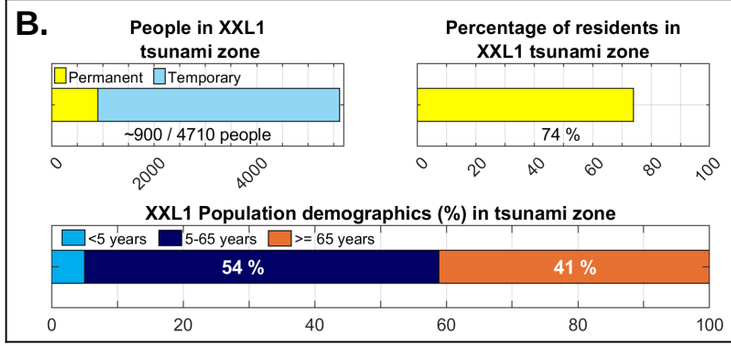
Pacific City - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

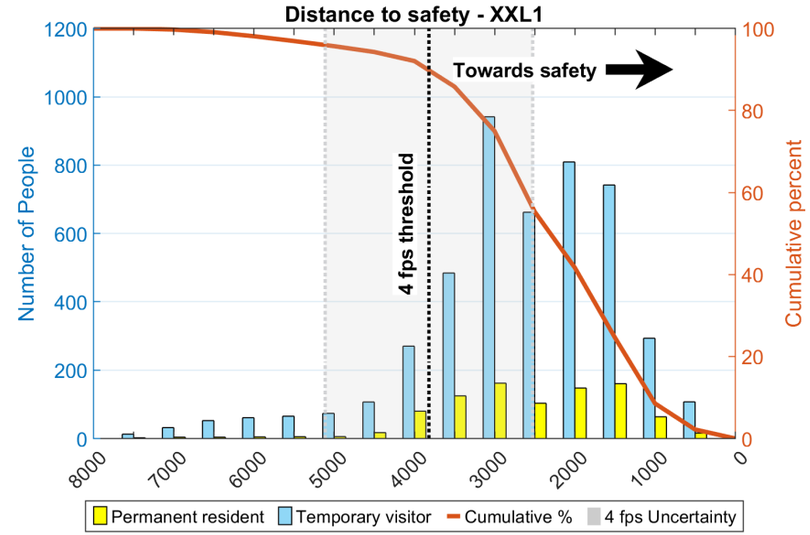
A.



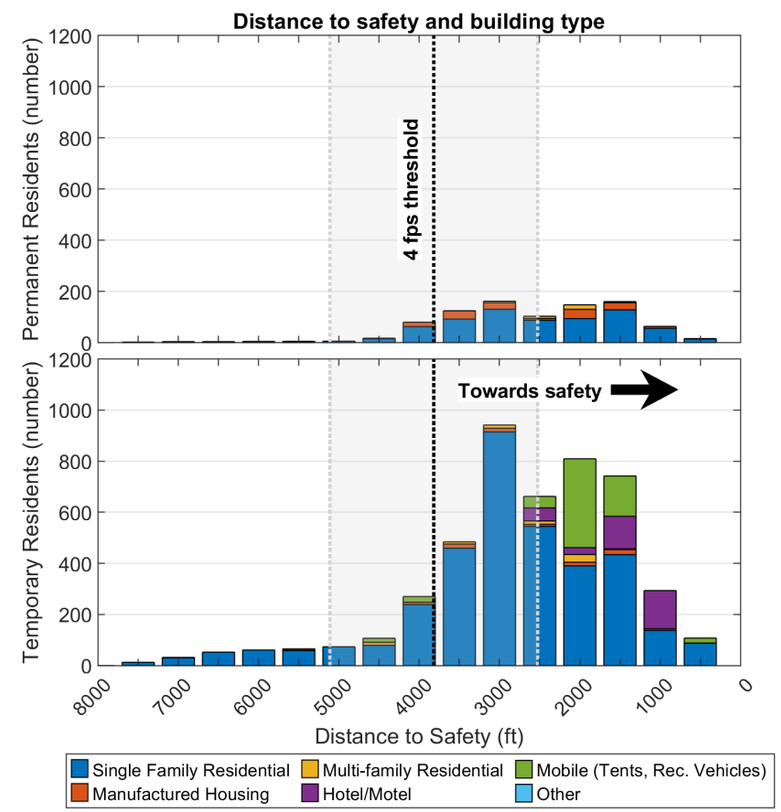
B.



C.



D.



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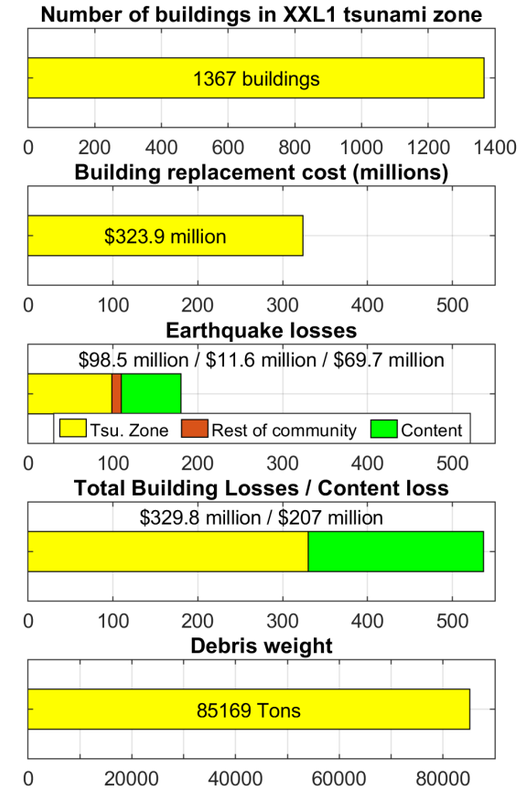

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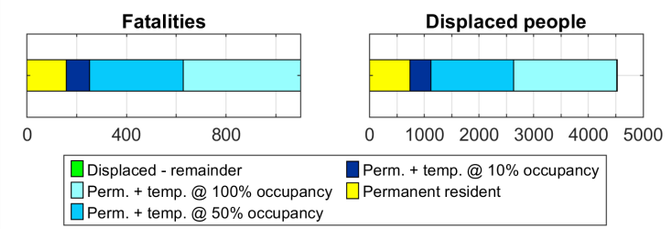
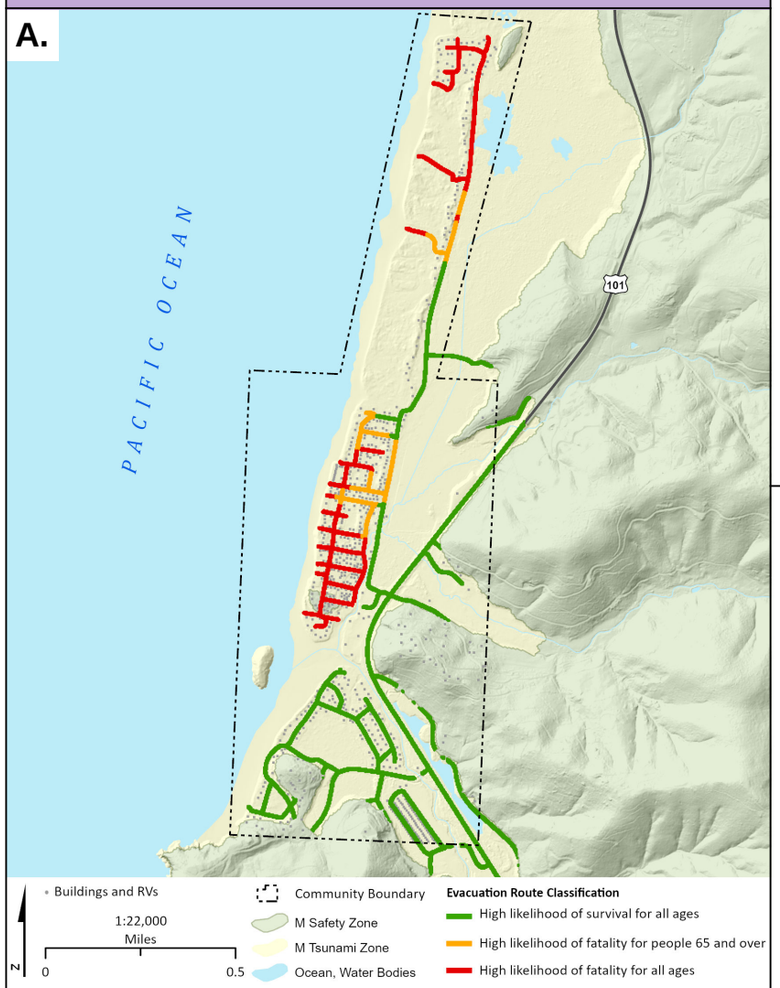


Description	Total
Earthquake Injuries (Entire Community)	90
Tsunami Injuries - Permanent + Temporary	130
Tsunami Fatalities - Permanent	160
Tsunami Fatalities - Temporary @ ~100% occupancy	940
Displaced Population - Permanent	750
Displaced Population - Permanent + Temporary	4,520

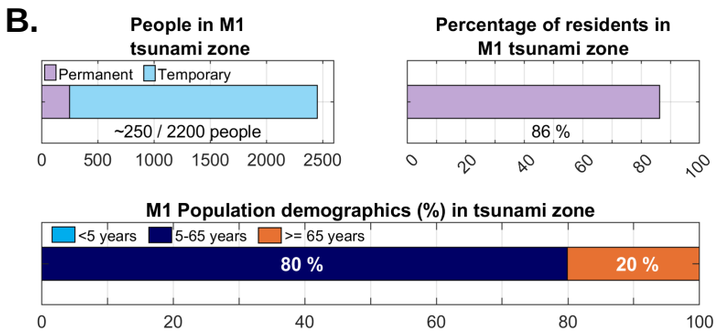
Neskowin - M1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

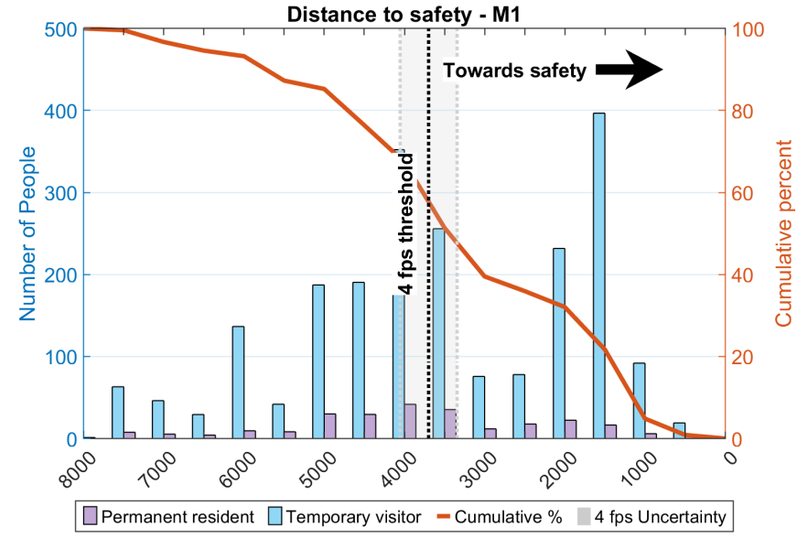
A.



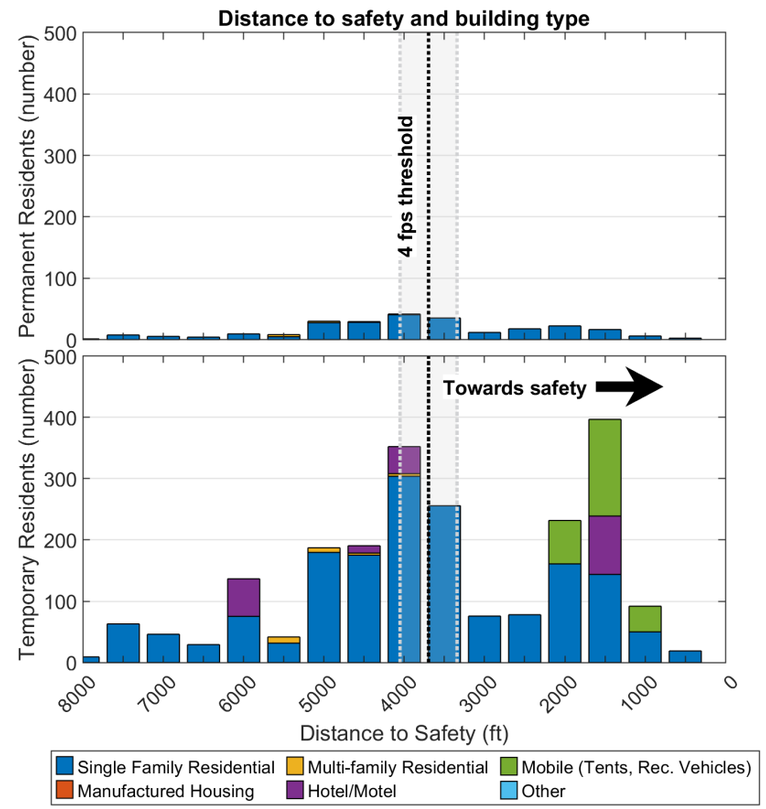
B.



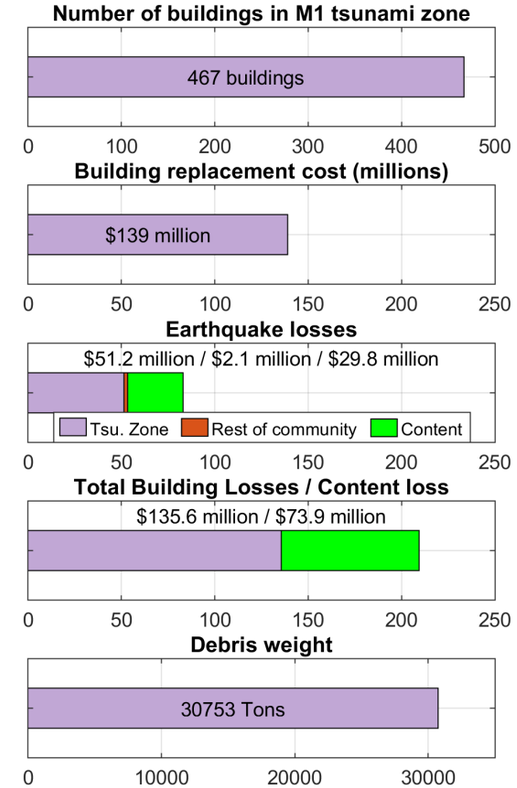
C.



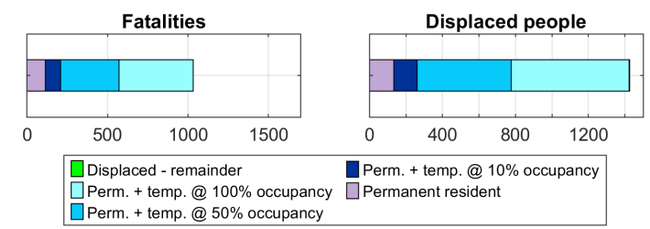
D.



E.



F.

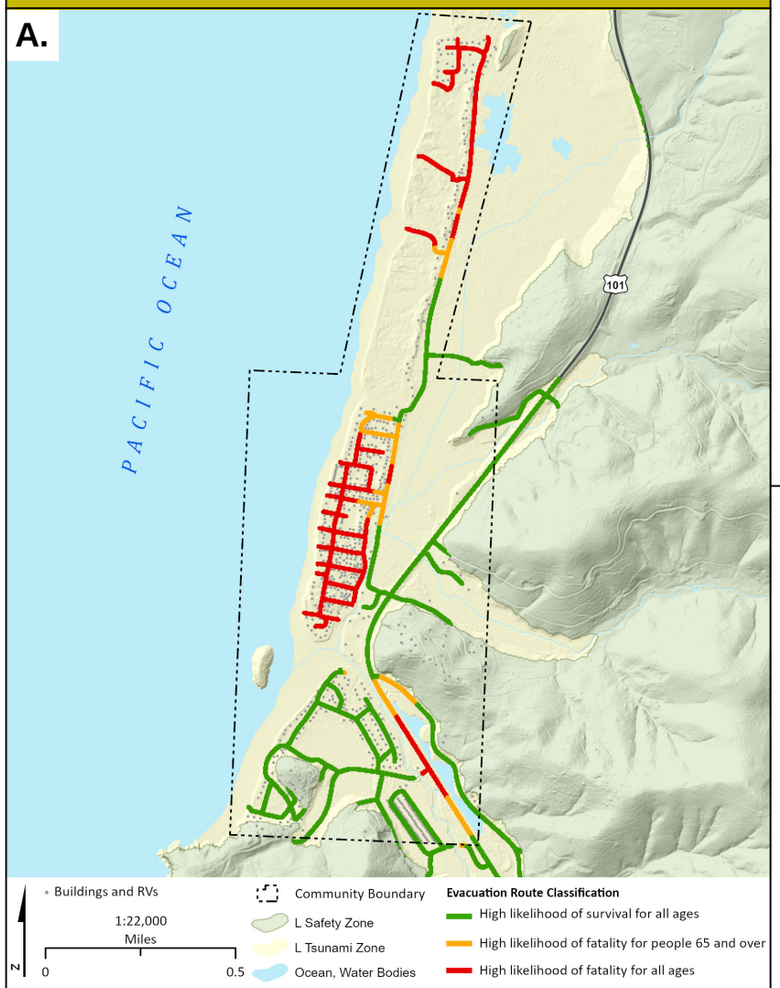


Description	Total
Earthquake Injuries (Entire Community)	50
Tsunami Injuries - Permanent + Temporary	180
Tsunami Fatalities - Permanent	120
Tsunami Fatalities - Temporary @ ~100% occupancy	920
Displaced Population - Permanent	130
Displaced Population - Permanent + Temporary	1,420

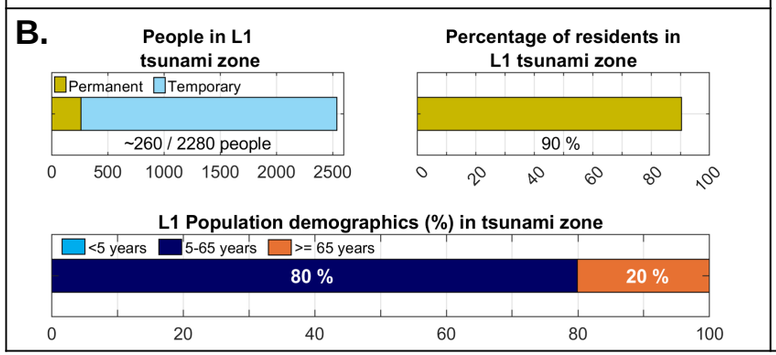
Neskowin - L1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



B.



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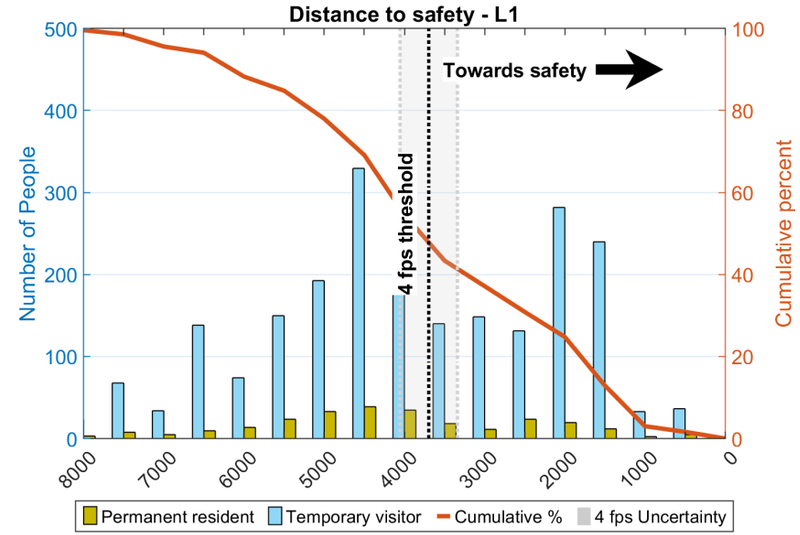
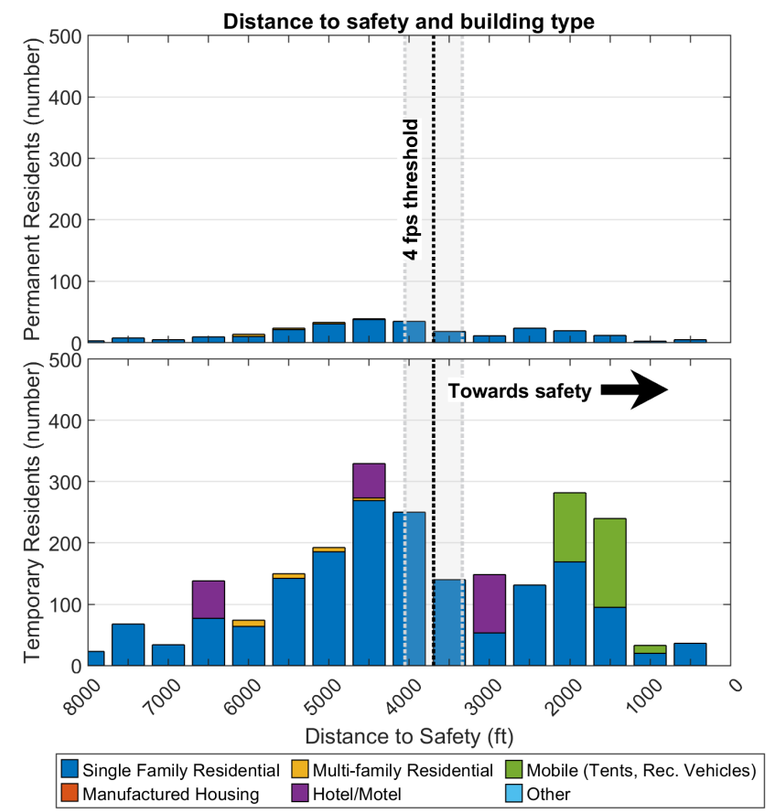
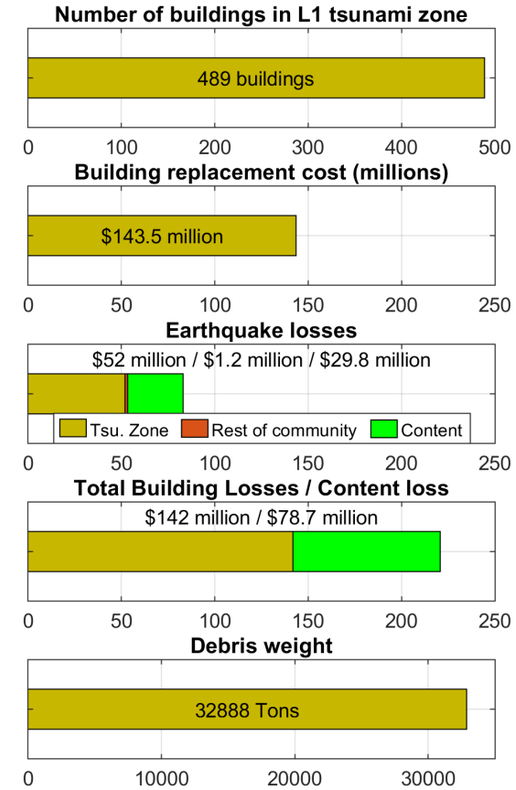


D.



E.



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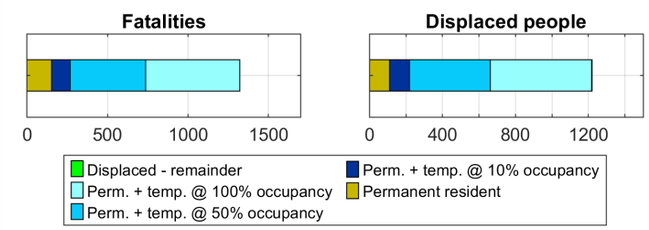
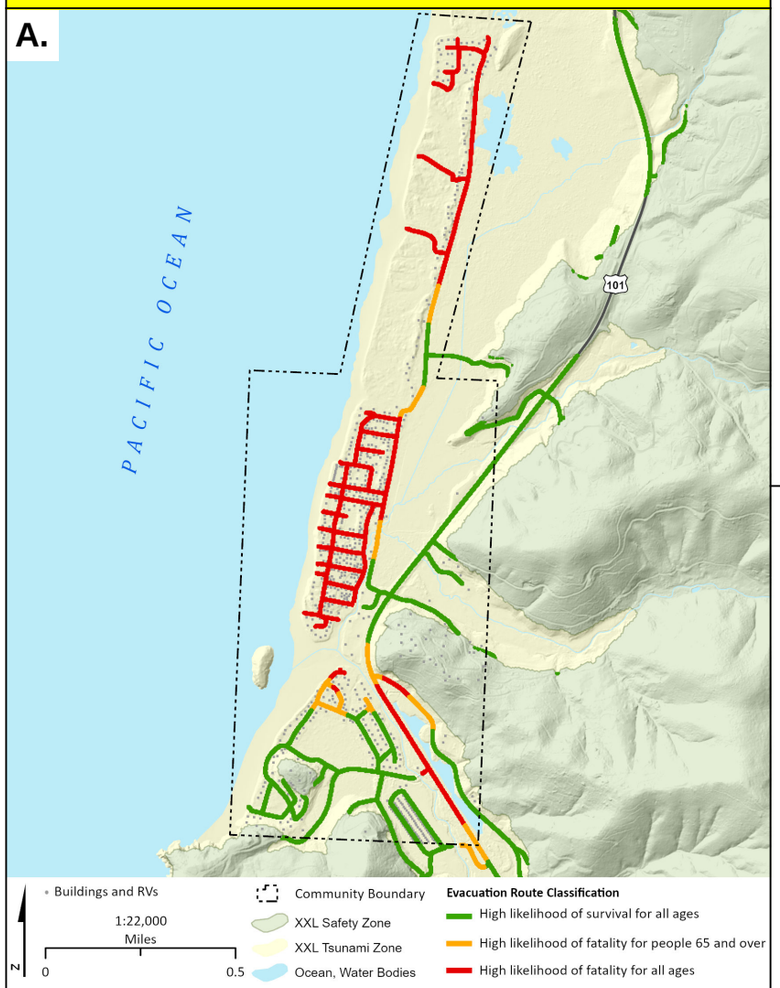


Description	Total
Earthquake Injuries (Entire Community)	50
Tsunami Injuries - Permanent + Temporary	110
Tsunami Fatalities - Permanent	150
Tsunami Fatalities - Temporary @ ~100% occupancy	1,170
Displaced Population - Permanent	110
Displaced Population - Permanent + Temporary	1,220

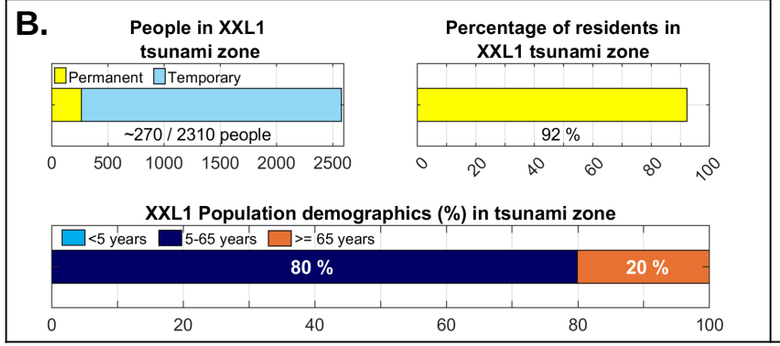
Neskowin - XXL1

Casualty estimates assume a MODERATE WALK travel speed (4 ft per second)

A.



B.



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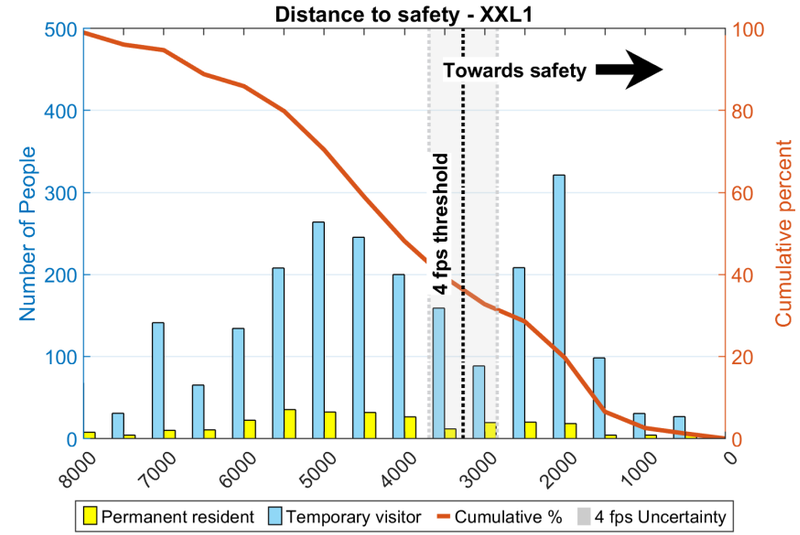
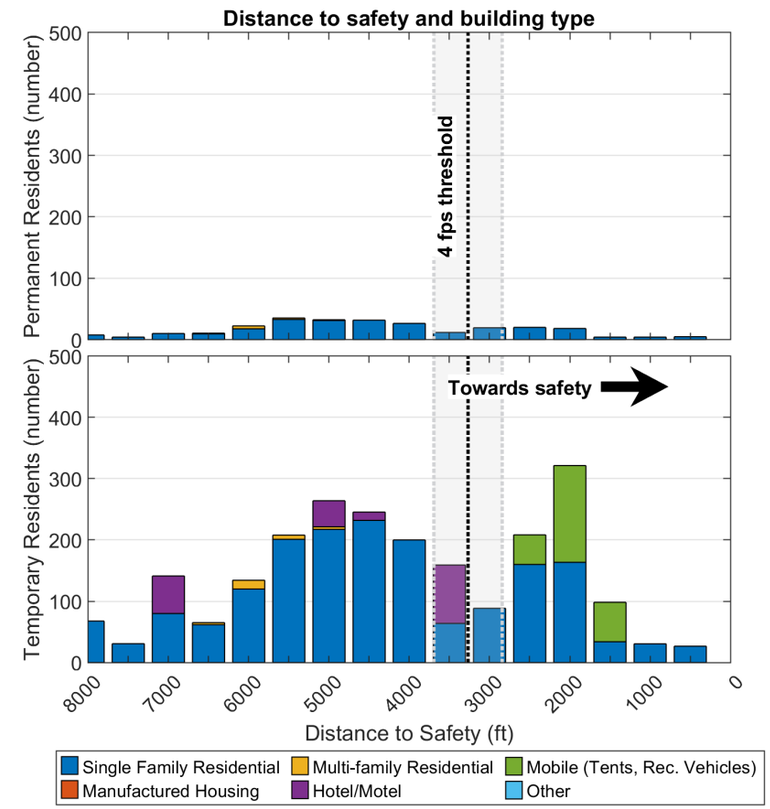
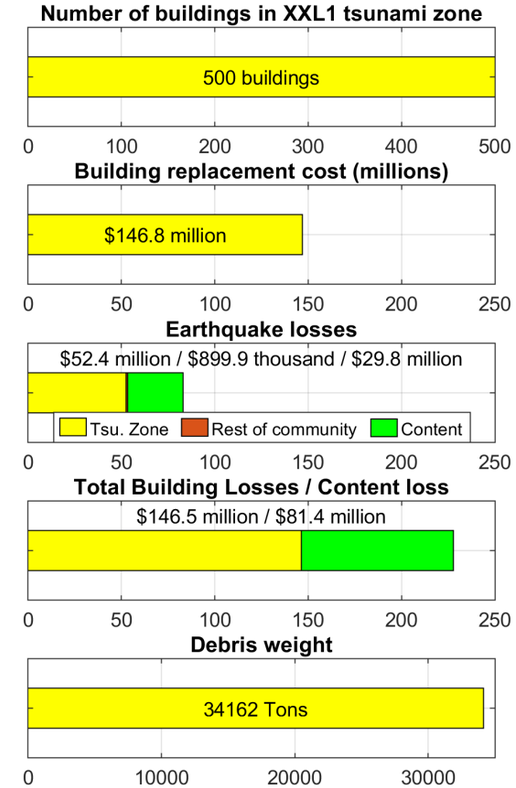


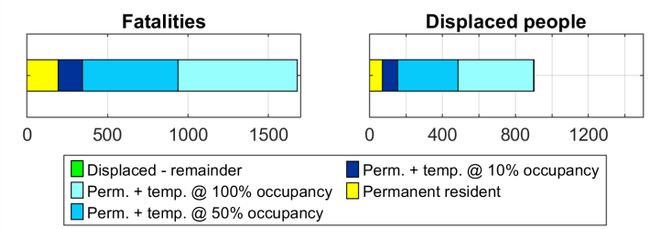
D.



E.



F.



Description	Total
Earthquake Injuries (Entire Community)	50
Tsunami Injuries - Permanent + Temporary	60
Tsunami Fatalities - Permanent	190
Tsunami Fatalities - Temporary @ ~100% occupancy	1,480
Displaced Population - Permanent	70
Displaced Population - Permanent + Temporary	900