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Envisioning Oregon's Coastal Futures

Advisory Council Meeting   **September 8th, 2020**

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4ᵗʰ Advisory Council Meeting
September 8, 2020 (1:00 pm – 3:00 pm)
Virtual Meeting

Meeting Objectives:

- Update the Advisory Council on project progress.

- Deliver an in-depth update on the **Equitable Resilience** project theme focusing on how qualitative and quantitative social science data and results are informing policy scenarios for Envision.

- Harness the expertise of the Advisory Council to develop actionable knowledge to inform statewide policies and localized decision-making.

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4th Advisory Council Meeting
September 8, 2020 (1:00 pm – 3:00 pm)
Virtual Meeting

Meeting Agenda:

1:00 - Welcome, Introductions (lightning round all), Meeting Overview (Peter)

1:10 - Theme updates: progress since last AC meeting (Meredith, Amila, Dylan)
        --Discussion

1:30 - Deep Dive on Equitable Resilience Theme (Jenna and Katie)
        --Discussion

~2:30 - Discussion/Review of read ahead questions (all)

2:45 - Wrap up/next steps/project timeline/informal discussion of statewide and regional resilience efforts (Peter)
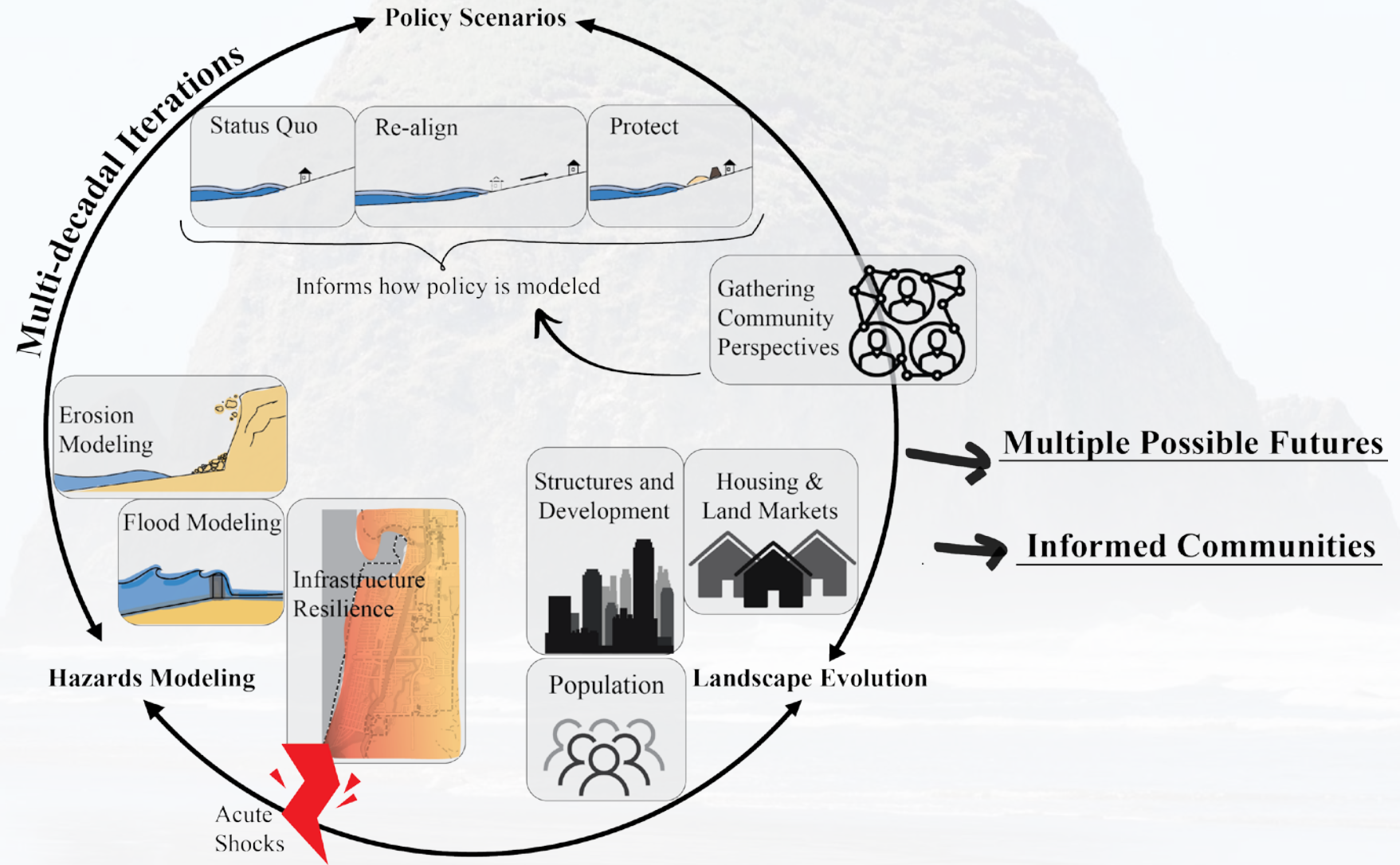
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Project Framework:

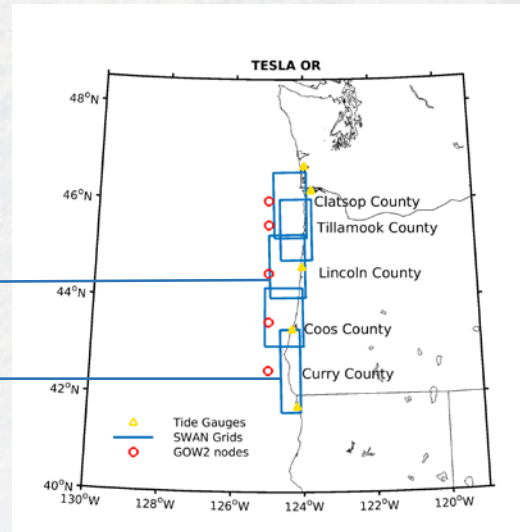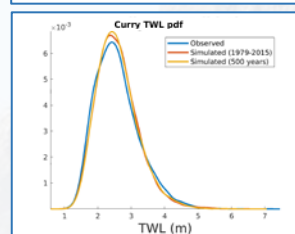# Envisioning Oregon's Coastal Futures

Chronic Hazards

Where we are:

- Built a stochastic climate emulator for Oregon to model TWL inputs to Envision (TESLA)

- Generated historical time series for 80% of the coastline and ready to generate future time series
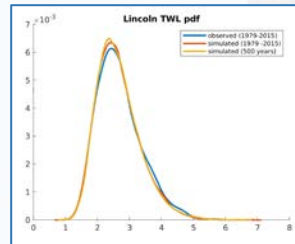
Where we are headed:

- Developing a stand-alone TWL tool on The Climate Toolbox to ensure usability beyond this project

Key Questions:

- What key features or information would make a digital TWL tool helpful to you and your community members?

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Economics of Risk

- Tsunami risk and information shocks
  - No evidence that either the Tohoku earthquake or New Yorker article were capitalized into house prices
  - Next steps: GIS viewshed analysis, better matching procedure

- Tsunami blue line project
  - Goal: Study the effect of tsunami blue line signage on property values
  - Nearing end of data collection and investigating a new method to use

Land Use Change

- "Where to move people" model
  - Goal: A population allocation model under the managed retreat policy
  - Use taxlot subdivisions to predict land use change
  - Nearing end of data collection and exploring potential models

- Coastal Armoring
  - Incorporate new TWL data into landowner decision model
  - Link decision model to Envision

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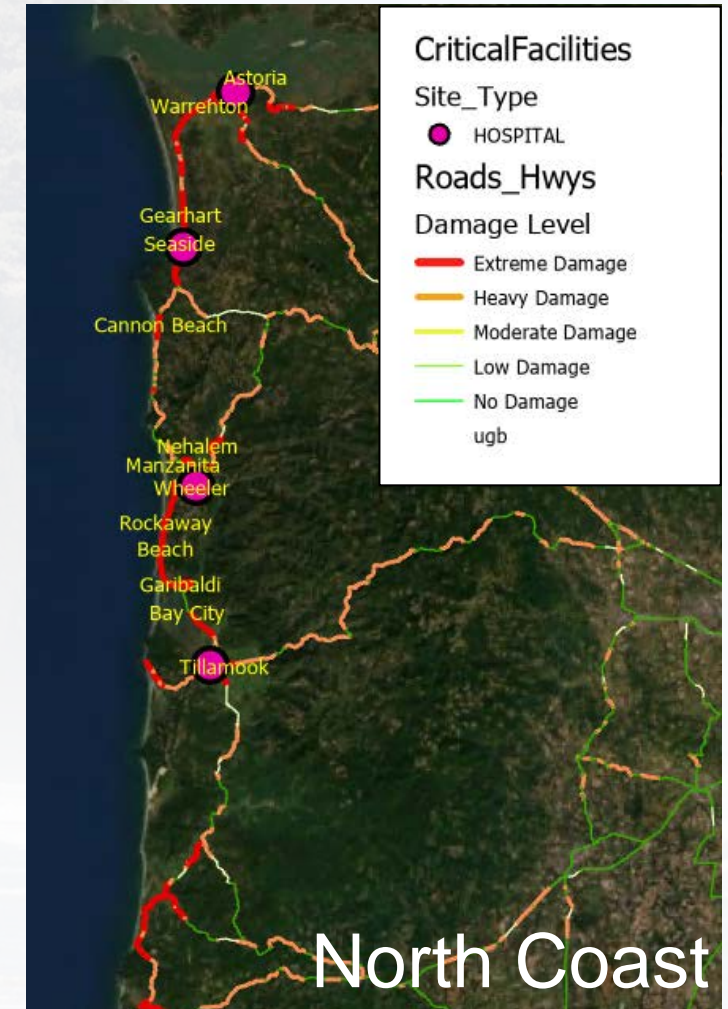**Oregon State University**

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1) **Building Infrastructure**
   a) Initial damage and time to recover
   b) Retrofit and realign mitigation options
   c) Quantification metrics:
      • Building damage states (slight, moderate, *etc.*)
      • Repair costs
      • Recovery times

2) **Transportation Network Infrastructure**
   a) Initial damage and time to recover
   b) Quantification metrics:
      • Road/bridge segment damage states
      • Road/bridge segment capacity reduction
      • Travel times to critical facilities
      • Recovery times

Question: What are the main concerns and impediments regarding mitigation investment strategies intended to reduce the economic risk for a CSZ event?

Buildings Damaged (Baseline-2030)-North Coast

CriticalFacilities
Site_Type
● HOSPITAL
Roads_Hwys
Damage Level
— Extreme Damage
— Heavy Damage
— Moderate Damage
— Low Damage
— No Damage
— ugb

Astoria
Warrenton
Gearhart
Seaside
Cannon Beach
Nehalem
Manzanita
Wheeler
Rockaway Beach
Garibaldi
Bay City
Tillamook

North Coast

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Questions to Consider:

Q1: Equitable Resilience: What policy scenarios that incorporate marginalized or vulnerable populations would you like to see in Envision? And why?

Q2: Acute Hazards: What are the main concerns and impediments regarding mitigation investment strategies intended to reduce the economic risk for a CSZ event?

Q3: Chronic Hazards: We are considering designing a digital tool to deliver our projections of the future extreme total water levels along the full Oregon coast. What key features or information would make a digital TWL tool helpful to you and your community members?

Q4: Economics of Risk: What has been the impact of the tsunami blue line project and/or Beat the Wave on public perception of living inside or near the tsunami inundation zone? How has the public reacted to these programs and are they helping individuals to re)evaluate the risks?

Q5: Considering the COVID-19 Crisis: Are there any new coastal resilience issues we should be considering? Post-pandemic, are there changes that you foresee that will impact what we are doing??

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Equity Update Outline

Qualitative Data

Envision Modeling

Questions

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Equity of Critical Facilities

"In a disaster situation, unauthorized immigrants-and even authorized immigrants with family and friends who are unauthorized-may disengage and avoid seeking help from first responders, law enforcement officers, and emergency health care providers, out of fear that they may be reported to federal immigration enforcement officials or because they believe that they do not qualify for such services" (Fussell et al., 2018, p. 1618).

- Latinx Population in Oregon
  - Increased by 70% between 2000-2011
    (López-Cevallos, 2014).
  - 6.10-10.50% on Coast by county
  - 16.40% in Newport alone
    (United States Census Bureau, 2019)

Oregon 2007 (López-Cevallos, 2014).	Non-Latino White %	All Latino %
< high school education 25+ y.o.	8.4	49.0
Living in poverty <18 y.o.	12.9	29.1
Speaks English less than very well	1.2	37.9
U.S. Citizen	98.6	62.2

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How do we figure out what would improve equitability of access and utilization of critical facilities?

Sense of Place Theory

- Includes both
  - an objective point on the earth's surface that can be simply described by using coordinates"
  - "attends to how we, as humans, are-in-the-world - how we relate to our environment and make it into place" (Cresswell, 2013, p. 112-113).

"the environmental settings to which people are emotionally and culturally attached…dyads, families, community members, and even whole cultures often consensually or collectively share attachments to places." (Altman, Low, 1992 p. 5, 6).

Research Questions

- What locations are deemed 'critical facilities' by Latinx coastal residents?
- How do these community-determined locations align with the critical facilities determined by state and local agencies?
- For Latinx residents, what values are associated with these locations that create a sense of place?

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Sampling and Outreach Methods

- Purposive and Snowball Sampling - "Network sampling method for studying hard-to-find or hard-to-study populations" (Bernard, 2011, p.147).
- June 2nd – November 6th, 2019
  - cold calls, emails, voicemails, word of mouth
- Community trust building = TIME
  - LISTOS and Family Walk in Newport
- 2 community contacts to bridge the gap
  - 1 in Newport City
  - 1 in Astoria whose network extended throughout Clatsop County
- Recruitment Flyers in English and Spanish
  - in person with community contacts
  - on social media of Newport City Emergency Management, Centro de Ayuda, and LCHC pages.

Qualitative Data Collection Methods

- Semi-structured interviews and focus groups
  - Spanish and English with interpretation assistance from community contacts

- Held at familiar places to participants
  - nonprofits, extension office and church

- Participant Compensation
  - grocery gift cards
  - shared meals
  - disaster preparedness educational materials provided by local emergency management

Latinx Participant Demographics	Newport N=15	Clatsop N=19
Gender		
Female	11	9
Male	2	6
No Response	2	4
Age		
18-29	4	2
30-39	1	3
40-49	7	6
50-59	2	3
60-69		1
No Response	1	4
Education		
K-5th	1	1
6th - 8th	4	2
9th-12th	6	5
Some College	2	
Licenciatura	1	7
No Response	1	4
Income		
<25k	7	3
25-50	3	8
50-75		3
>75	1	
No Response	4	5
Hospitality Industry Worker		
Yes	10	6
No	4	11
No Response	1	2

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Analysis Methods

- The following questions were asked to all participants:
  - 1) "*What places in your community would you go to/rely on/or wish to have protected in times of need?*"
  - 2) "*Why did you or what characteristics made you choose those locations?*"

Recordings, Transcripts and field notes from focus groups and interviews analyzed.

Inductive coding through thematic categories of locations and values of perceived critical facilities.

Member checking in process.

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Newport Latinx Locations Identified

Community Determined Locations			Critical Facilities		
Recreation	**Nonprofits**	**Livelihood**	**Medical**	**Emergency Services**	**Schools**
Parks			Hospitals		
Beaches / Rec Center	Churches / Resource Centers	Work / Homes	Community Health Clinic / Health Dept./DHS	Police / Fire	Public Schools Commonly the Middle School

Legend:
- Locations and Values
- Major Themes
- Sub Themes
- Participant Perception

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Newport Latinx Values of Identified Locations

| Community | | Aid | | Experienced In/Exclusion | Positive Feeling | Physical Characteristics |
Activity	People		Supplies			
Walk	Family	Dr.s	Food	No document required regarding where you're from or ethnicity (Hispanic or American)	Calm	Elevation
Sports	Youth	Lawyers	Shower	For everyone	Not Dangerous	Proximity
Party	Ethnicity	Child Care	Clothes	Not for Everyone / Documents required regarding Nationality	Strength	Frequency
Camp	Nice	Trained	Medicine		Comfort	Beautiful
Swim	Share	Facilitators	Everything		Familiar	
Participation	Good		Money		Trust	
Education	Social		Supplies		Protected	
Active			Equipment			

Locations and Values

Major Themes

Sub Themes

Participant Perception

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Locations - Church, Recreation
Values - Ethnicity, Feelings, Friends, Family

"Una de las razones, es que hay muchos latinos en la iglesia, que sean confiables."

One of the reasons, is that there are lots of Latinos in the church who are trustworthy. (Newport, 9-6-19)

"Este lugar es muy tranquilo y lo que me gusta es que la gente es muy amigable. Prácticamente nos conocemos las familias hispanas, nos saludamos."

This place [a park] is very calm and what I like is that people are very friendly, we practically know the Hispanic families and greet them.

(Newport, 11-2-19)

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Locations - Churches
Values – Supplies, Feelings

"Con respecto a nuestras comunidades es la iglesia, porque es un big building y tienen agua, tienen baños, tienen comida, cocina ahí, tienen espacio para gente si tuviera una emergencia, son bienvenidos."

With respect to our communities is the church because it's a big building and they have water, bathrooms, food, kitchen there, they have space for people if you have an emergency, they are welcoming.

(Clatsop, 11-6-19)

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Location - Nonprofit
Value - Information

"Para mí, el lugar más importante es este, porque aquí es donde están ustedes y donde yo siempre encuentro información, porque en realidad yo nunca voy al hospital."

For me, the most important place is this [nonprofit LCHC], because this is where you [community contact] are and where I always find information because I never really go to the hospital.

(Clatsop, 11-5-19)

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Location - Recreation
Value – Activity, Inclusion, Youth

"Para mí los parques y la recreación es importante porque, como el armory, van a patinar las personas, cualquier persona. Tienen una política de no discriminación y free bullying, y son bien firmes con eso. Pienso que nuestros niños están recibiendo buenos valores de ahí, y que también es un buen lugar."

For me, the Parks and recreation is important because, like the armory, people are going to skate, whichever people. They have a policy of no discrimination and free of bullying and are firm with this. I think our kids are learning good values there and also, it's a good place.
(Clatsop, 11-6-19)

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"No para todos. Una vez una americana tenía hambre y me dio tanta tristeza. Una americana llegó, tenía hambre, estaba desesperada y le dijo que, y estaba lloviendo, dicen, "No". Ella estaba desesperada y gritando, le dijo que se fuera, y ella no se quería salir. Se enloqueció la mujer y empezó a golpear, y lo sacó afuera, sí."

Not for everyone, [a nonprofit]. One time an American woman was hungry, and it gave me so much sadness. An American woman arrived, she was hungry, she was desperate and told them it was raining, but they said "No" she was desperate and screaming, but they told her to leave, and she didn't want to, the woman went crazy and started hitting and they took her outside.

(Newport, 9-6-19)

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Intersectionality of Location and Value = Sense of Place = Inclusive Critical Facility

Intersectionality of Newport Latinx Determined Locations and Values

Values — Community (Activity: Walk, Sports, Party, Camp, Swim, Participation, Education, Active; People: Family, Youth, Ethnicity, Nice People, Share w/ People, Good People, Social), Aid (People: Dr.s, Lawyers, Child Care, Trained, Facilitators; Supplies: Food, Shower, Clothes, Medicine, Everything, Money, Supplies, Equipment), Observed In/Exclusion (In, Ex), Positive Feelings (Calm, Not Dangerous, Strength, Comfort, Familiar, Trust, Protected), Physical Characteristics (Elevation, Proximity, Frequency, Beautiful)

Locations				Walk	Sports	Participation	Family	Dr.s	Food	In	Ex	Comfort	Elevation	Number of Associated Intersections within each Location
Critical Facilities	Schools	Public Schools/Commonly Middle School		X X		X		X	X	X	X X		X	9 / 9
Critical Facilities	Emergency Services	Fire Department											X	1 / 3
Critical Facilities	Emergency Services	Police Department				X						X		2
Critical Facilities	Medical	Hospitals / Community Clinic / Health Dept./DHS					X X X	X X X X X					X	8 / 8
Community-Determined Locations	Livelihood	Homes												0 / 1
Community-Determined Locations	Livelihood	Work											X	1
Community-Determined Locations	Nonprofits	Resource Centers				X X X X		X		X			8 / 15
Community-Determined Locations	Nonprofits	Churches			X	X		X	X	X X			7
Community-Determined Locations	Recreation	Rec Center		X	X								2 / 17
Community-Determined Locations	Recreation	Parks / Beaches		X X X X X X X X X X	X		X			X		X	15

Number of Associated Intersections within each Value Theme: 12, 9, 7, 8, 16, 4, 8, 4 — 21, 15

Totals: 20.5, 31.5

Gap in Values

Ideal Sense of Place

Gap in Values

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Recommendations from Lessons Learned

- Fill the gap to create a more inclusive sense of place.
  - Community Values in Critical Facility locations
  - Valued Aid in Recreational Sites

- Avoid exclusionary practices.
  - Do not require personal information or documents to access resources.
  - Implement and enforce no discrimination policies in critical facilities.

- Use public perception to inform Health Equity in new Oregon Racial Justice Council.
  - "We must change how we listen to, engage with, respond to, and support Black, Indigenous, and People of Color (BIPOC) and Tribal members in Oregon." (Oregon.gov)

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Making the Leap to Envision

OSSPAC Mass Care Document:

- Oregon has many community assets that will be natural gathering areas for displaced populations, including *community centers, parks, colleges, and schools, among others.*

- Members of vulnerable populations face the most significant risk during a disaster and are more likely to become critically injured, contract disease, or die. **Ensuring that facilities and housing of vulnerable populations are resilient** will allow emergency response and relief efforts to focus on the whole community, which, in turn, will lead to a quicker geographical and economic recovery.

Targeted Universalism:

A framework to model equitable policies

- Informed policy planning that targets specific community needs with universal community goals such as increasing resilience

- Different strategies are needed to achieve the same goal

- https://belonging.berkeley.edu/targeted-universalism

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Targeted Universalism: A framework to model equitable policies

Community Determined Assets:

- **Universal Goal:** *Ensuring that facilities and housing of vulnerable populations are resilient*

- **Assessment:** What facilities are important? (Katie's work) And where are they located?

- **Disparities:** Are facilities resilient to coastal hazards? Are they accessible to all? (Katie's work)

- **Structural Factors:** What factors impede community assets in becoming more resilient?

- **Envision and Targeted Strategies:** What strategies would you like to see modeled in Envision and why?
  - *Preliminary ideas:*
    - *"Islanding" impacts—accessibility to assets*
    - *Retrofit scenarios—protecting assets*

Assessment

Community Determined Assets	Total	Within M Zone	Built prior to 1990
Assisted Living	48	5	37
Child Care	27	4	17
Health Care	32	2	25
Schools	126	19	66
Welfare	143	31	67
Churches	283	34	230
Community Centers	38	5	?
Grocery Stores	90	21	72
Libraries	29	4	18
TOTAL	**816**	**125**	**532**

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Housing

- **Universal Goal:** *The State should improve the seismic safety of existing single-family housing to help reduce the need for mass shelter. (OSSPAC Mass Care Recommendation #16)*

- **Assessment:** Buildings inventory (Dylan and Dan)

- **Disparities:** Low-income and other social vulnerabilities (renters, marginalized pop.)

- **Structural Factors:** Cost of retrofits, knowledge about policies, capacity, permits/policies

- **Targeted Strategies:** *What strategies could increase seismic safety for low-income households?*

Targeted Universalism:

A framework to model equitable policies

- *Mandate single family housing retrofits (Universal)*

- **Fully subsidize the cost of retrofits for vulnerable low-income single-family housing** (Targeted)

- Modeled on California (Berkley), Seattle, and Portland policies or guiding documents
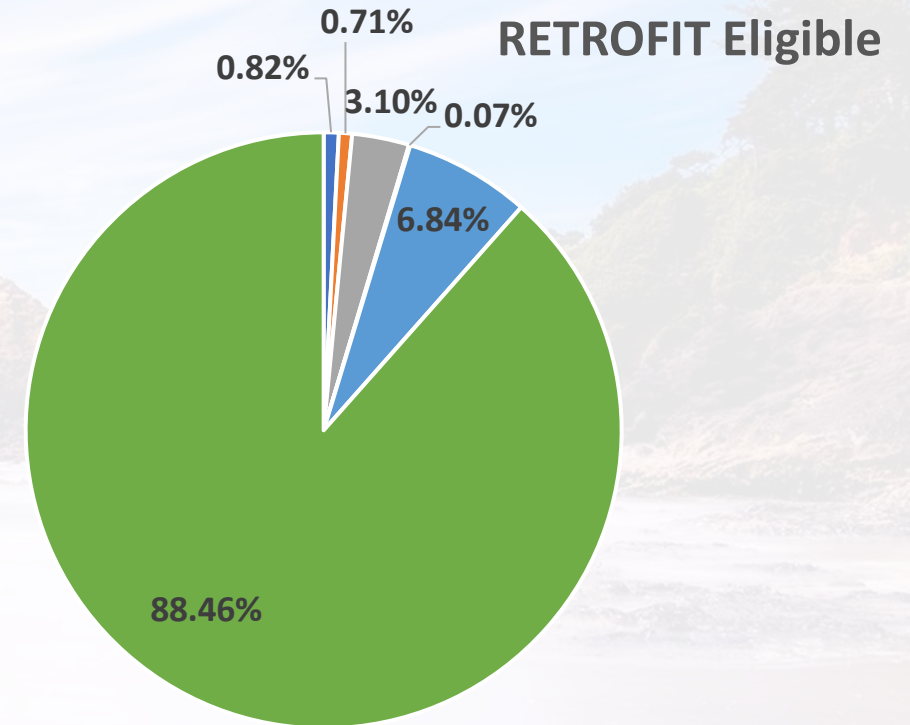
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Envision: Tillamook County Retrofit Scenario

Parameters

- Tillamook County ONLY

- M9 Event ONLY

- Subsidies offered to:
  - 1-4 person households: < $49,967
  - 5-8 person households: < $68,955
  - >8 person households: < $74,951

- Cost of retrofit: $5500 per single-family residential (OSSPAC)

- Scenario shows difference from BASELINE (no subsidies) and RETROFIT (subsidies); no other structure was retrofitted

RETROFIT Eligible

Pie chart values:
- 0.71%
- 0.82%
- 0.07%
- 3.10%
- 6.84%
- 88.46%

Legend: ■ Asian ■ Black ■ Hispanic ■ Native American ■ Unknown ■ White

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Tillamook County Retrofit Scenario

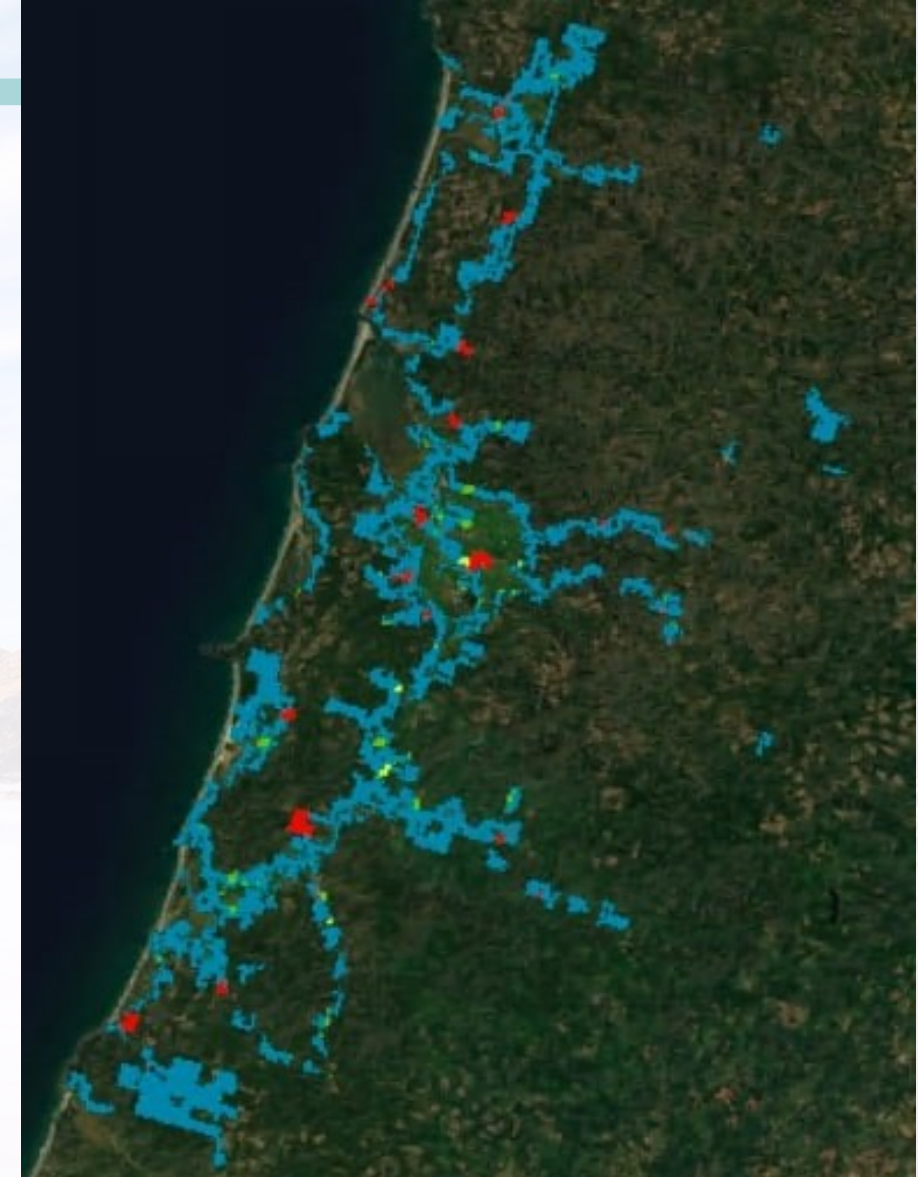**Preliminary Results**

- Total Subsidized Retrofits: 2,938

- SFR not retrofitted (did not qualify): 24,368

- Completion Time: 13 years

- Total Cost = 16.7 million

Legend

- ■ Small Households Eligible for Retrofit
- ■ Medium Households Eligible for Retrofit
- ■ Large Households Eligible for Retrofit
- ■ Not Eligible Single Family Residences
- ■ Not Eligible Multifamily Residences
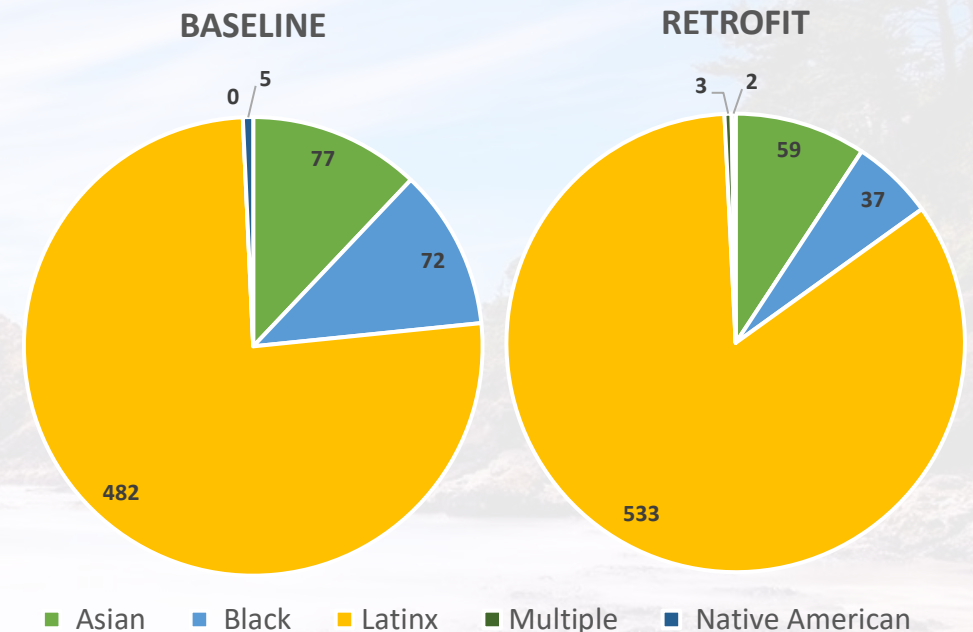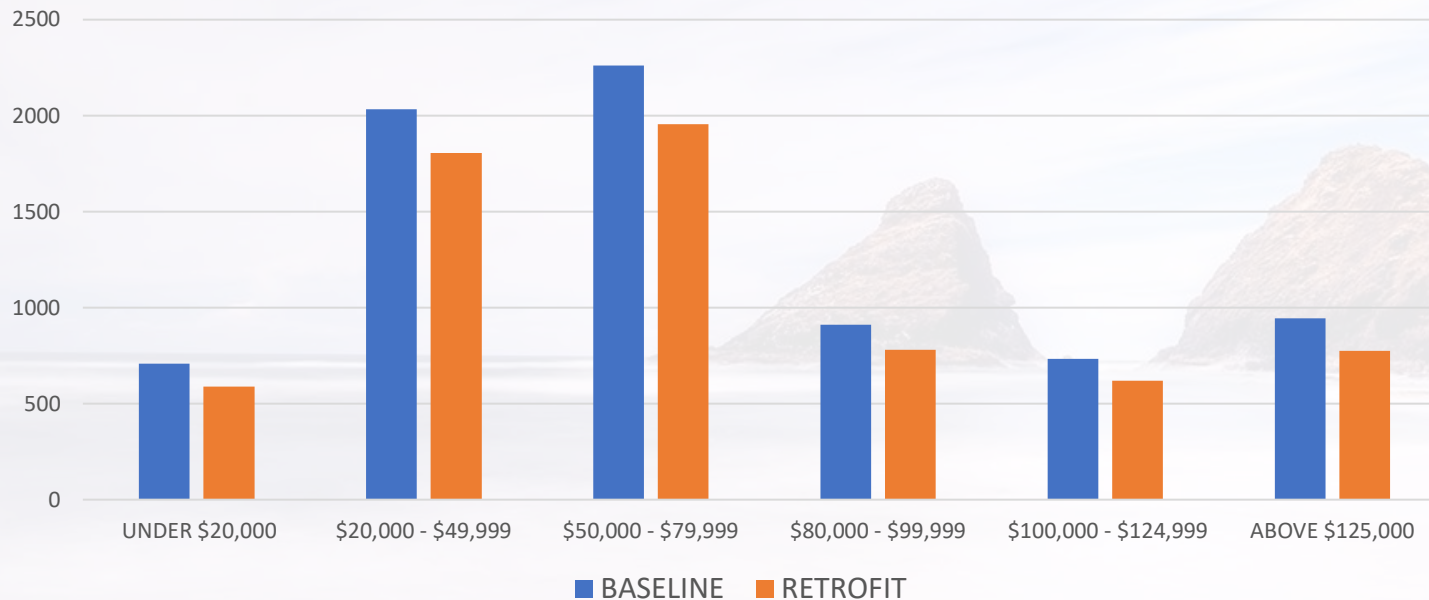
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Preliminary Findings

Number of Single Family Residences Damaged

Number of SFR Damaged

Chart categories: UNDER $20,000, $20,000 - $49,999, $50,000 - $79,999, $80,000 - $99,999, $100,000 - $124,999, ABOVE $125,000

Legend: BASELINE, RETROFIT

BASELINE
- 0
- 5
- 77 (Asian)
- 72 (Black)
- 482 (Latinx)

RETROFIT
- 3
- 2
- 59 (Asian)
- 37 (Black)
- 533 (Latinx)

Legend: Asian, Black, Latinx, Multiple, Native American

Baseline Damage Cost= $1,064,796,000; Damage Cost with retrofits = $940,187,700

$124,608,300 Difference

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Issues and Future Improvements:

- Damage/Cost assessment—why is this problematic?

- Social vulnerability—who is left out?
  - Multi-family structures
  - Renters
  - Community determined assets

- A range of implementation strategies need to be included in Envision to be truly targeted universalism

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Key Questions we'd like your thoughts on…

- How can the policy scenarios presented today be adjusted to better reflect the decision-making reality of coastal communities?

- What other policy scenarios that incorporate marginalized populations would you like to see in Envision? And why?

- What suggestions do you have for sharing the results of the qualitative data to communities and others?

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Thanks to Pat Corcoran!!