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**Envisioning a Resilient Oregon Coast: Co-developing alternative futures for adaptation planning and decision-making**

**Fall 2021 Virtual Advisory Council Meeting** (Zoom connection info below)

3 December 2021 (1:00 pm – 3:00 pm)

**Meeting Objectives:**

1. Discuss policies, programs, and events related to the CSZ seismic event and their impacts on coastal residents’ risk perceptions.
2. Discuss potential policies to improve preparedness actions for a CSZ event, barriers to implementing these policies, and ways to get across these barriers.
3. Update the Advisory Council on project progress assessing the property impact impacts of risk signals and policy changes.
4. Harness the expertise of the Advisory Council to develop actionable knowledge to inform statewide policies and localized decision-making.

**Attendees**:

* Jay Raskin (FAIA architect, Cascadia activist, past OSSPAC chair), Sarah Kolesar (Oregon Sea Grant), Felicia Olmeta-Schult (Oregon Sea Grant Resilience Fellow), Patrick Corcoran (retired OSU Sea Grant Extension), Michael Buffalino, Althea Rizzo, Sarah Absher, Mike Harryman (State Resilience Officer), Jarod Norton (USACE), Meg Reed (DLCD), Laurel Hillmann (OPRD), Michael Howard (UO Institute for Policy Research and Engagement), Gwen Shaughnessy (NOAA), Charlie Plybon (Surfrider), Edgar Gomez (Oregon Community Planner part of the FEMA Integration Team), Jack Barth (Marine Studies Initiative)

**Welcome, Introductions, Project Overview**

* Meeting overview: See meeting objectives (below) and powerpoint presentation
* This meeting’s focus is largely on econometrics, policies, risk signals, and risk perceptions

**Interactive Discussion: Impacts of Tsunami Hazards on Housing Markets**

* Description of information shocks, hazard map change, and visual cues.
* Discuss how AC expects people/markets to respond to these changes, either through housing prices or other measurable outcomes
  + What other effects are they interested in looking at in relation to these information shocks?
* Salience and permanence of information shocks - discuss how long these impacts may remain relevant.
* Gwen: My guess is either no change in perception, or very temporary
* Jay: I think that it had very little affect.
* Jack: no change
* Pat: Tohoku Earthquake - #1, followed by the New Yorker article, my expectation is that markets and people would respond to these signals and that the effect would be long
* Sarah Absher: Risk Signals- Garnered affect. Market no effect.
* Meg Reed: Tohoku and NY article temporary impact
* Pat: Blue Line as an information shock?
* Sarah Absher: public education and outreach surrounding Blue Line Project. Platform for resilience and emergency preparedness standpoint. Community members didn’t really care about the development aspect of these meetings, they cared about the emergency preparedness. Essentially, the risk signals had a positive effect in building awareness. But in Tillamook County hasn’t seen an impact to the housing market, people are not thinking about these risks when buying properties.
* Charlie: I think to Sarah’s point, the development interests aren’t exactly within the community. A lot of the development interests are coming from elsewhere, not the community residents. Big LLCs and firms buying properties.
* Jay: This isn’t to say that individuals made decisions not to purchase or to leave, but not in sufficient numbers to make a difference.
* What other effects are you interested in looking at in relation to these information shocks?
* Jay: emergency preparedness side of things, a number of groups forming (and it’s not uniform). Regulatory changes have also been occurring and have been very influential in moving people to do these things. Basically, a lot of increased interests and different groups forming along the coast. There’s been a slow but steady regulatory improvement. There are now land use policies in Gearhart, Tillamook, etc.
* Pat: number of districts that have adopted hazard maps or policy changes after the information shocks.
* Mike Harryman: Something we can look at also, isolation of communities after the event (islanding). That’s something that we struggled to put a metric on. We received our homeland security assessment – it has the report, the recommendations, three technical reports and GIS data, this is all online and public now. Follow link he posted about the State Transportation Regional Resiliency Assessment. Thinks people are savvier about risks now because of the pandemics.
* Gwen: Connected to what Sarah was sharing - wondering if there is a way to measure and capture public engagement?
* Pat: Letters to the editor to local papers
* Sarah: Community meetings numbers
* Laurel: It would be interesting to see what type of sustained efforts are occurring. Are people updating those purchases of kits as things expire. Has retrofitting waned? Other preparedness actions that take a longer time or need to continue over time...
* Meg: Number of community caches developed
* Amila: Is that data tracked?
* Mike Harryman: No.
* Meg: We sort of know where they are, but there’s no database tracking them. And a lot of them don’t want people to know where they are because they might be looted or damaged
* Steve: How will they be helpful if people don’t know where they are?
* Meg: A few people in the community know where they are and will be responsible for distributing
* Althea: Yes, a lot of these are community caches rather than individual ones, so a few people will know where they are and will be able to help others
* Althea: How many jurisdictions are seeking federal funding for mitigation projects
* Pat: How many public entities relocated out of the zone? Locally, I'm aware of State Patrol, ODOT, among others. Did earthquake insurance premiums increase after these info shocks?
  + Jay: In regards to Patrick’s question… Lincoln County schools are now out of tsunami zone, as are Seaside schools, and Yachats Fire Station and likely Gearhart Fire Station. Cannon Beach still looking at relocating City Hall.
  + Mike Harryman: so are the hospitals in Lincoln City and Newport (they moved in 2019)
* Meg: number of media mentions focused on earthquake and tsunami topics
* Steve: back to Gwen- way to measure community engagement?
* Peter: # of folks at Sarah A's meetings
* Charlie: How much $ was spent sending Pat around the state:)

**Presentation of Results of Housing Market Response to Risk Signals - Amila Hadziomerspahic**

* See powerpoint

**Q&A/Discussion of housing market results – All**

* Pat: It confirms human nature – It’s frustrating for someone who is working on the hazard that people are more sensitive to the line than the hazard. It’s kind of dismal, but I suppose the lesson is that policy makers should strike when the handle is hot because they have about 10 months where people are willing to change their behavior
* Mike Bufalino: Further study question regarding the visual markers. "what spatial density is necessary" for the visual cue
  + Amila: This is a very good question – that I haven’t been able to look at yet, because it’s so dependent on community. Some have more in place than others.
  + Steve: and for those who are curious, there’s not enough data telling us whether the effect of the blue line is permanent, because presumably after time, people get used to the signs and they have less of an impact.
  + Pat: The blue lines also fade away over time. But even the current signs we have about leaving/entering are really important to get people thinking about these risks.
  + Althea: That was one of the reasons we adopted the blue lines, they’re a friendly interface about the tsunami risk. The Japanese are very good about building visual cues into their built environment. They wanted to start that conversation visually, that you are in or out of the zone.
* Jay: if the housing prices are still rising despite the 6-9% decrease – we see a statistical impact, but can we say whether it really has an impact in driving policy. Wants to know whether the property values were rising at the time. If these houses are still going for quite a bit of money? Can you really say they’re having an impact? Does it help drive policy?
* Amila: the 6-9% is pretty significant, but we see the housing prices return to their previous levels within 2 ½ years.
* Pat: My takeaway is to buy a beach house immediately after an information shock
* Sarah Absher: Series of field investigations with Meg and folks from DOGAMI to look at existing wayfinding and see what worked, what didn’t work, what needed to be added. The leaving the tsunami zone was more important than entering the tsunami zone. People don’t know how far they have to go to be out of harm’s way. In places like Rockaway Beach or Cape Mears topography matters, just because you’re running inland it doesn’t mean you’re going to higher elevation. Or there are changes in elevation where you go to a lower elevation before going back up. In those cases blue lines were not very effective but signage was more effective because they would have to figure out how to zigzag people through streets and neighborhoods to keep them out of low-lying areas. As part of their wayfinding efforts in the 7 unincorporated communities in Tillamook, had a lot of discussions with community members, DOGAMI, and emergency volunteer corps.
  + Recently formed South Tillamook emergency volunteer corps. Community meetings continued after the THOZ was put in place. Discussed where these improvements should be placed in these meetings.
  + But funding is a big issue. The reality is that installing these improvements are very, very costly. These signs are not just for the residents – they are for visitors, so we found a partner to help fund these improvements.
  + Sarah reached out to the transient lodging tax (TLT) representative. Mentioned that these wayfinding tools are really for the tourists. The TLT was willing to help fund the improvements for these communities. TLT person gets to keep 70% of the funds.
  + Got like $10-15 thousand dollars for emergency preparedness.
  + Other lessons learned from Public Works: There are AASHTO provisions about where you are allowed to put signage. So they had to evaluate signage requirements (e.g. distance from stop signs) before placing evacuation signage so that they were not in conflict with existing signage.
  + Their coastal communities have a strong dislike of tourism promotion. It was a way to not only build emergency awareness but also to build community relationships with the tourism industry.
* Althea: The lines are generally put on the XXL line. It’s generally as close to that as can be put. Exceptions that Sarah talked about regarding other signage and transportation requirements.
* Sarah Absher: Another factor that was part of the determination for where it was appropriate to install blue line improvements are the conditions of roads and the likelihood of ensuring the road can be maintained. Another struggle for local jurisdictions is that road improvement budgets are severely lacking- and existing road conditions can already be poor. In these instances, we defaulted to signage rather than blue lines just simply due to the fact that it did not make sense to install blue lines on roads that we knew were in poor condition and/or would not be maintained.
* Jenna: Sarah can you talk about who was coming to the signage community meetings?
  + Sarah: Community residents, second home owners (via Zoom), realtors, business owners, short term rental management companies, utility districts. The most effective thing she did was making sure the Tillamook County sheriff and the local fire district chief were at the front of the room with her. Added seriousness and credibility.

**Discussion on Messaging Measured Impacts from Policy Changes - All**

* + - What are you hearing from stakeholders about hazard maps or blue lines?
    - Some information shocks like the blue line installation have both positive (readjusting risk perceptions) and negative (on communities and individuals) effects. What is the right way to message this information?
    - Amila: Some homeowners have been angry, but tourists and drivers have been grateful for the blue lines.

**Interactive Discussion: Potential Policies to Improve Preparedness - All**

* + - * What other type of policies/programs/events may generate similar economic impacts (maladaptive outcomes)?
        + Motivate with relocation example and the many potential effects resulting from this policy choice.
* What are barriers to implementing such policies and programs? E.g., barriers to policies like land use planning based on hazard maps? Barriers could include reasons like a lack of trust in state or local government to prepare for and recover from a CSZ event.
* What are ways to get across these barriers? Education or other interventions that could move forward these policies?
* Jenna: Critical infrastructure that has been moved out of the zone already. How were these decisions made? Was it about proximity to the community? What are some of the unintended consequences or considerations when deciding when and where to move things?
* Jay: I’m trying to wrap my mind around proximity to the ocean. Oceanfront property is much more valuable and so it seems the most expensive properties would be impacted. Also have to consider the economics of these communities that are based on the proximity to the ocean. And it’s hard to imagine how the system works with zoning of property values.
* Steve: High valued properties on the oceanfront are likely the ones contributing most to the local government’s funds. Tension between preparing for the disaster and losing fiscal resources to be able to provide services to the community. This is part of what we are seeing in another study in New Jersey, most neighborhoods aren’t participating in FEMA buyouts.
* Pat: Controversy about moving the county’s shops out of the zone. Huge pushback from rural residents. Seaside has moved the school out of the zone but that area has been zoned R2 and is for sale. So may see denser development in place. Clatsop: It’s so expensive and paralyzing to move houses out of the zone because it has the most land in the inundation zone. Tillamook’s policies wouldn’t be successful here. There’s no constituency for resiliency.
* Jay: There have been incredible battles about expanding the UGB. Property owners on high land are lumber owners.
* Meg: Moving out of one hazard into another (e.g. landslides)
* Charlie: If you make the “developable area” smaller, it stands to logic that housing in some communities would become denser in areas outside of the tsunami zone
* Steve: I guess the bigger picture question I want to ask is, how in Envision can we show/ message these positive and negative aspects of the scenarios we come up with so that we can come up with ways to overcome these barriers

**Discussion on Messaging Measured Impacts from Policy Changes - All**

* What is the right way to message this information? How could a county official communicate earthquake and tsunami risk to their residents?
* How do you communicate to the community about policies that you know would have maladaptive outcomes (negative impacts)?
* Pat: “After the next big one, how likely are we to do this thing?” These transportation decision or housing decision.
* Jay: Gearhart’s tsunami evacuation ordinance overlay zone: A property owner, if they are providing a tsunami refuge on their property, can decide what their zoning is and make a decision about what development to do.
* Charlie: I feel like this is cost-benefit analysis. Every policy has a negative impact. There should be a strong CBA that demonstrates how this decision today benefits us more than the maladaptive outcome.
* Jenna: CBA is just part of it, need to look at co-benefits. What types of benefits to the community are arising from the new structures, aside from the structure’s purpose for the tsunami? What types of co-benefits are important when thinking about messaging?
  + Charlie: Public spaces and beaches are big for co-benefits
  + Meg: She thinks that SLR adaptation is a co-benefit of moving structures out of the zone. If we can tackle multiple hazards with one policy, that would be ideal.
* Gwen: I think part of the struggle is looking at residents/community as a homogenous group - I think there's messaging approaches that will "land" differently with different groups with different values and concerns.
* Pat: How can an official communicate risks? People can’t communicate risks, just costs and benefits. His county commissioner is gushing about a new low-income housing development that’s going in to the SM inundation zone. But, this is a maladaptive outcome. How do you communicate that?? It’s a marketing nightmare, because people don’t respond to you just bumming them out.
* Jay: Jesse Keenan out of Tulane has been working on the impact of insurance sectors on communities due to climate change. These sectors will be driving decisions in these coastal communities, these communities will be playing catch-up to the insurance sector. Most credit rating companies are ahead of the game and it might be that coastal communities might find themselves responding to changes that are outside of their control.
* Steve: A lot of communities are going to be very surprised the next time they put up a bond because their community has been downgraded (credit rating-wise) because of their lack of resilience to risk. Another example of a double-edged sword. Needed push for resilience but will have bad outcomes for these communities that need funding for their services.
* Meg: Need to be transparent, they’ve been highlighting the liabilities that the jurisdiction is NOT responsible for and that the individual home owners has to be responsible for it. Importance of disclosure everywhere.
  + Charlie: HI has long had some hazard disclosure, now they have sea level rise disclosure too, will be interesting how the market follows - <https://www.surfrider.org/coastal-blog/entry/hawaiis-new-law-requires-real-estate-disclosures-for-sea-level-rise?fbclid=IwAR0WczGsSk-Prh7ACjEy7YxIy3l2tkp6NrVmJ3Kl5-rwYORVWWse_TrbGes>. I expect some Surfrider longhair to introduce things like this in Oregon
  + Pat: Apparently, similar proposals have been introduced in OR, only to be squashed by the real estate lobby...
* Jay: Tsunamis versus climate change. The acute hazards get short shifted because the focus and traction is on climate change risks. Can the tsunami risk be brought along with climate change policies?
* Steve: These policies that tackle chronic and acute hazards are the gold star that this team is looking for. Do you lead with CC and bring tsunami benefits along? Or lead with tsunamis and bring CC along?
* Jay: Would say the first way, since that’s where the money is.
* Peter: Is that the case for the coast? He feels like a lot of efforts are focused on Cascadia events.
* Jay: Thinks about the infrastructure bill passed in Congress, all about climate change. How will that translate into Oregon funding? (co-benefits)
* Mike: Nervous about the infrastructure grant. It will be sending money to different agencies but they won’t go grab the Oregon resiliency folks. Most of these agencies listen to the economic growth folks, who have a lot of great infrastructure ideas. Oregon is the only state that has the resilience officer as part of the legislature. And Oregon is the only who’s not focused on climate change. But, while it is focused on climate change, there are ways that people applying for grants can tie in preparedness for other hazards.
* This goes back to messaging for different communities. Maybe message about the CC benefits to federal folks but about the tsunami benefits to coastal residents.

**Next Steps for the Project, NSF COPE intro, closing remarks - Peter**

* See powerpoint

**For more information, please see our** [**project website**](http://explorer.bee.oregonstate.edu/Topic/coastalresilience/OCF_Materials.aspx)

**Project/Meeting Overview:**

This is the seventh Advisory Council meeting for the ‘*Envisioning a Resilient Oregon Coast: Co-developing alternative futures for adaptation planning and decision-making*’ project. Our 3-year project is built on the premise that adaptive capacity for hazard resilience can be realized by examining - and assigning value to - common resilience decisions and their trade-offs at varying scales (communities, counties, and coast-wide). These decisions include questions regarding whether to protect infrastructure with hard engineering backshore protection structures or natural or nature-based features such as dune restoration projects and beach nourishment. Our transdisciplinary research team is developing, applying, and assessing a transferable framework to improve coastal community adaptation and resilience to chronic and acute hazards.

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