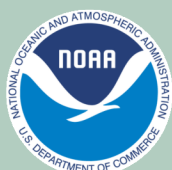
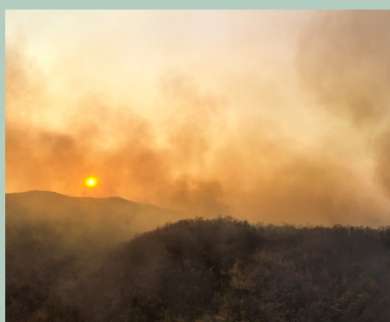




People on the Move in a Changing Climate

NORTHEAST AND MID-ATLANTIC REGIONAL WORKSHOP SYNTHESIS

September 2021



PEOPLE
ON THE
MOVE IN A
CHANGING
CLIMATE



Background

People on the Move in a Changing Climate (PEMOCC) is a Sea Grant-led project to facilitate the involvement, research coordination, and knowledge sharing of the exacerbating effects that climate change may have on human migration or relocation needs. This workshop series was designed to explore the major research, policy, and extension needs surrounding human mobility associated with climate change. This briefing document summarizes outcomes from a workshop held in 2021 for the Northeast and Mid-Atlantic (NEMA) regions.

The workshop, led by New Jersey, New York, and Delaware Sea Grant Programs, was conducted virtually and structured with panel discussions preceding breakout sessions that allowed participants to discuss the topics in more detail. Panel presenters were experts on key issues and needs in the region. Meeting participants were diverse, with backgrounds in government, nonprofit, academia, media, and industry. The goal of the workshop was to provide place-based solutions that can address the increasing pressure of climate change and its effect on human mobility.

The following briefing document is derived from the report, “People on the Move in a Changing Climate: NEMA Regional Workshop Report” written by Rowe et al. (2022). This document features highlights from the four panel presentations, including research, policy, communications, and collaboration needs based on the panels and workshop breakout discussions. Insights summarized here will be synthesized with those of other regional PEMOCC workshops and can be used to inform the National Science Foundation’s research in this field.

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Image of Sand:

Karina Alvarez

Panel 1 — What are the regional climate risks that impact human systems and drive mobility?

Mathew Hauer, Florida State University

Osamu Kumasaka, Buy-in Community Planning

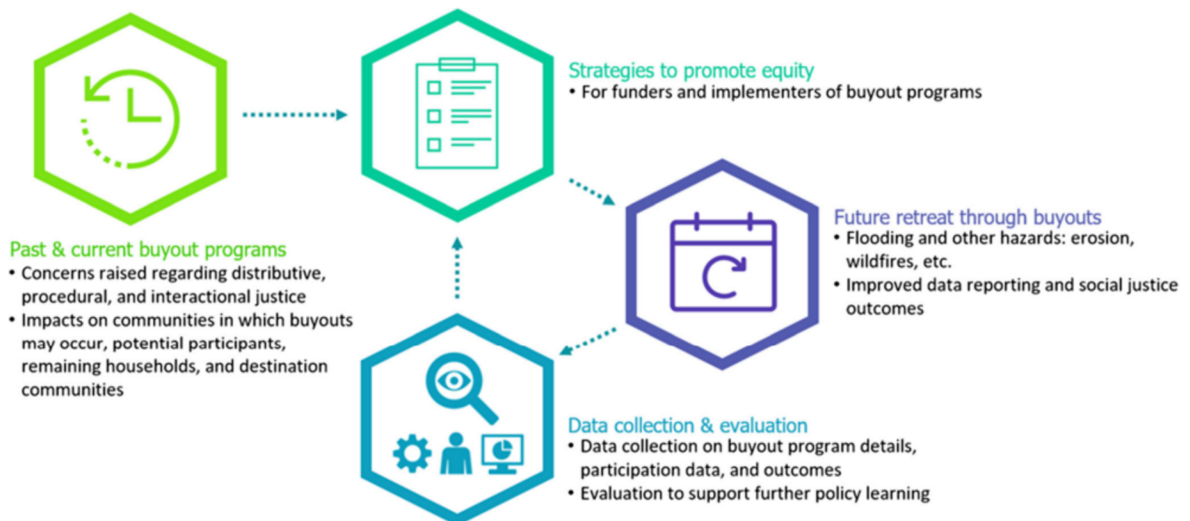
Radley Horton, Columbia University

Key Insights

- **Sea level rise risk analysis may not always accurately capture the number of people that will need to move as a result of inundation.** Many factors are at play when people decide to move, including social, political, and economic. It is becoming increasingly important to accurately estimate the risk of inundation and flooding to understand how this will affect people. Currently risk assessments are binary, and categorize people as either “not at risk” or “at risk.” Time scales are also important in estimating risk; if they are projected too far into the future or too soon, they may over or under estimate risk.
- **Sea level rise is already affecting people’s daily lives in ways that are both small (increased commute times) and large (residential flooding).** Therefore, it would be beneficial to have enhanced estimates that go beyond binary assessments and have standardized times scales when conducting future research.
- **Social demographics and asset ownership can affect individual vulnerability and resilience.** In a review of buyout programs following Hurricane Sandy, social factors, such as being low and middle income, chronically ill or disabled, and owning homes at risk, led to poorer resilience than low income individuals that rent. Additionally, non-white households were more vulnerable to disruptions in food access in the aftermath of the hurricane.

“Better data collection could improve understanding of program outcomes and enhance assessment of equity in buyout programs.”

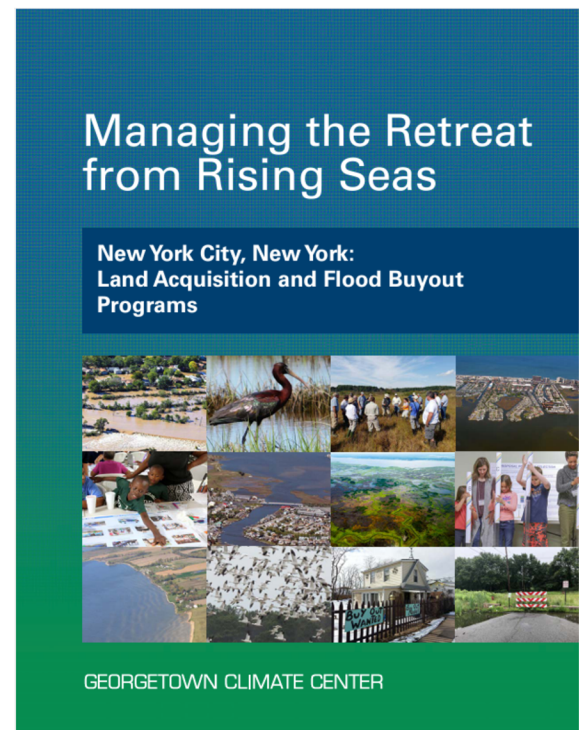
Source: Quote and figure (right), Kraan et al. (2021)



Panel 1 — What are the regional climate risks that impact human systems and drive mobility?

Key Insights *(continued)*

- **Housing equity should be a key consideration when implementing buyout programs.** Populations may become stranded in the most vulnerable and at risk zones due to housing costs, even if they prefer to relocate. Flood risk zones can have a negative impact on housing prices, further exacerbating individuals' ability to move. Buyout programs should prioritize housing equity by surveying homeowners to understand their needs and assist with finding new housing. Navigating the process of relocating after flooding can be difficult, so it is essential for people to feel supported by the government and helped throughout the process.
- **It will be critical to account for compounding climate hazards when planning for migration and adaptation.** The Northeast and Mid-Atlantic regions are high in population, globally connected, and diverse. Therefore, climate change hazards and impacts around the world, such as loss of productivity in agricultural regions or extreme heat around the world can have a rippling impact that could reach multiple regions, including the Northeast. Areas don't exist in a vacuum.
- **Quantitative data, based on a set of assumptions, is crucial for understanding and responding to potential future outcomes of climate hazards.** Future research on the topic needs to include quantitative understanding of the interconnectedness of regions as well as community storytelling. There are many types of adaptation strategies (green spaces, beach berms) that can be implemented to respond to climate hazards as well.



Source: Report of case studies from local and state governments and communities on approaches to managed retreat. (Spidalieri, Smith, & Grannis 2020)

Panel 2 — How do climate risks exacerbate impacts on underserved and marginalized communities?

Kelly Pflicke, Federal Emergency Management Agency (FEMA)

Jeanne Herb, Rutgers University

Linda Shi, Cornell University

Key Insights

- **Communities should be included in the planning process and equity needs assessments when planning for climate impacts.** Historically, inequitable planning policies, such as redlining, left Black, Indigenous, people of color, and marginalized communities at greater risk from climate hazards.
- **Planning often has an asset focus and does not explore social impacts, cultural resources, or how planning may affect existing community assets.** To incorporate community needs, master planning needs to span across agencies and include conversations about equity early on, with all interested parties present.
- **Climate change results in an unfair burden on physical health.** Findings from “A seat at the table,” a New Jersey Coastal Management Program and the National Oceanic and Atmospheric Administration (NOAA) project, identified that populations most affected by climate health impacts were least likely to be involved in planning efforts. These populations also have unequal access to resources for recovery.
- **Underlying social inequities are the biggest hurdle for achieving resilience.** Future policies need to help communities become more just as they increase resilience or bounce back. There is a need to understand how decisions affect pre-existing inequities and include as many voices as possible in city planning.
- **Understanding how individual communities are treated differently will lead to more equity in climate adaptation.** Land governance structures have constraints to equity, and there is a need for distributive justice in structural changes such as land use, property laws, and taxes.
- **Community structure and size will impact their vulnerability.** Small communities may be unable to provide financial assistance or invest in vulnerability assessments. Gentrification of communities will occur if care is not taken to understand how communities are structured and move together.

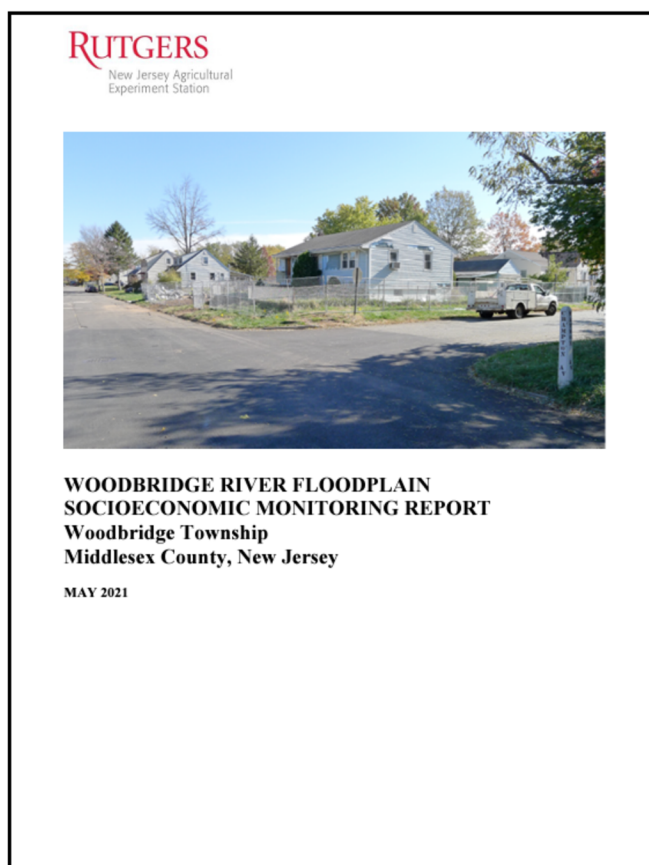
Lauren Wang, NYC Mayor's Office of Climate Resiliency

Anamaria Bukvic, College of Natural Resources and Environment, Virginia Tech

Thomas Flynn, Township of Woodbridge, NJ

Key Insights

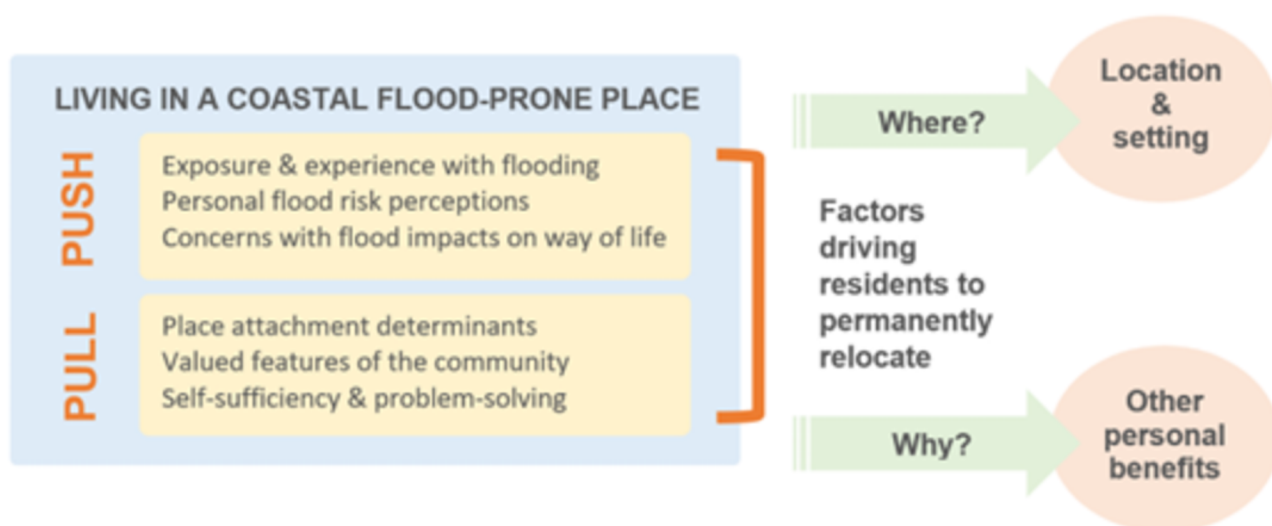
- **Buyout programs need to focus on social values and people rather than property values.** Each community and property is different. In order to facilitate housing mobility that allows people to find secure and improved housing, a focus should be placed on tailoring aid to address long term needs. Homeowners after hurricane Sandy still struggle to make payments, and Black resident homeownership has decreased over the years since the disaster.
- **Adaptation in and around flood zones is possible.** Norfolk, Virginia has implemented updated zoning and development regulations. The town is taking future flood risk into account by using an elevation-based zoning procedure for future housing. The city is also planning to buy out heavily flooded areas and use that land for conservation and flood protection. The Middle Peninsula Chesapeake Bay Public Access Authority has been receiving land donations (over 40 parcels so far) that serve as land buffers and public access opportunities which in turn generates revenue and other benefits.
- **Resilient floodplain management that takes into account natural solutions and community needs can be successful in preserving and protecting communities.** Woodbridge, NJ implemented a multifaceted approach to design new land use, create a natural buffer zone, and prevent building in a high risk area. Strategies such as the ones used in Woodbridge allow floodwaters to be more easily managed and protect homes from additional flooding events.



Source: Report of the baseline socioeconomic conditions in Woodbridge, NJ to inform resiliency plans. (Maslo et al. 2021)

Key Insights (*continued*)

- **Decision-making around moving is complex and includes multiple factors.** A survey of homeowners in high-risk areas of Virginia and Maryland determined that the location of chosen migration is driven by proximity to family, amenities, infrastructure, and job opportunities. Additionally, residents would strongly consider moving to an area at lower risk for flooding if they were unable to get flood insurance.
- **Community social issues need to be identified before determining the solution and aid to be released.** While aid dispersal should be proactive and timely, care should also be taken to identify current social dynamics, such as redlining and gentrification. Without proper identification of needs, there may be discrepancies in aid. It is often the case that federal response to disperse funds is slow and homeowners get different amounts.



Source for figure (above): Conceptual framework of the factors involved in decision-making around coastal relocation. (Bukvic and Barnett 2023)

Panel 4 — How to prepare receiving communities and what they need

Donovan Finn, Stony Brook University

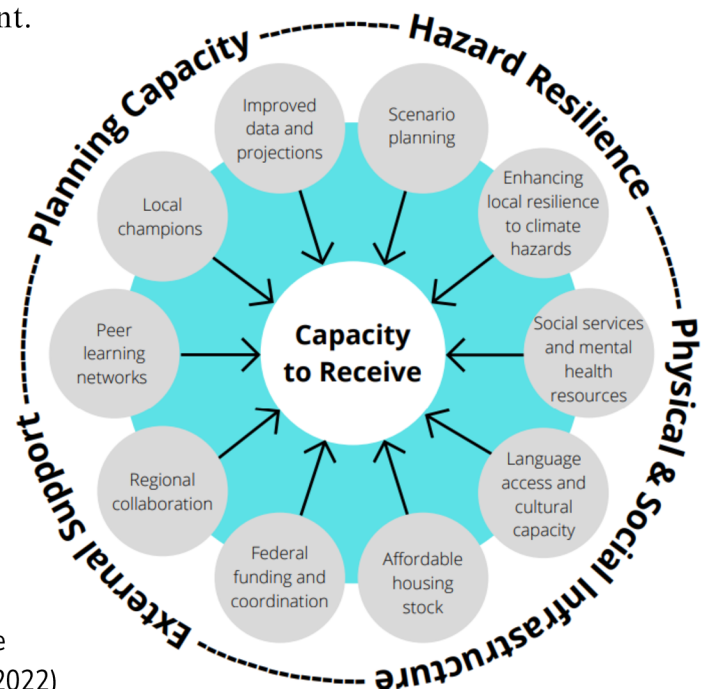
Kevin Geiger, Two Rivers Ottawaquechee Regional Commission

James Elliot, Rice University

Key Insights

- **The ability to relocate is not equal across income.** Wealth is a strong indicator of the ability to move, while low-income status often creates a barrier to mobility. This is important to recognize for both receiving and migrating communities.
- **Receiving communities may be subject to both positive and negative effects.** Especially in rural or smaller communities, an influx of people can create an economic boost but can also cause gentrification by raising local property values.
- **Successful moves into new communities are facilitated by social integration and acceptance.** Residents were more likely to be accepting if they had lived in the community for a shorter period of time. Social dynamics should not be overlooked in city planning. Story-telling and information sharing will be critical in achieving understanding between new and existing residents.
- **Preemptive planning is needed to adjust funding allocation for critical infrastructure and services.** City planners can leverage existing tools to adjust for likely outcomes and can determine capacity limits in affordable housing or resources for employment.
- **The timing of migration could determine who is most likely to move.** Those that move initially may have more access to resources and move into affluent communities. Whereas those who migrate later may be driven by economic opportunities. Usually this group is diverse, including young people, which can benefit communities. Lastly, there is a potential third wave of internal movers who have been displaced by gentrification.

Source for figure (right): Conceptual framework of the factors involved in local community capacity. (Hickey 2022)



Needs Identification

In this section, we summarize the **RESEARCH**, **POLICY**, **COALITION AND RELATIONSHIP BUILDING**, and **COMMUNICATION** needs identified during the workshop.

RESEARCH NEEDS:

- 1 Address inequities.** Research processes should address underlying issues rather than only focusing on data surrounding relocation.
- 2 Increase social science research.** Social science research should be used to determine motivations for movement and to understand how social capital plays a role in transitions to new communities. Social science data can also shed light on the social and economic tipping points for people who leave a community.
- 3 Involve and engage communities.** Community-based participatory research and bottom-up decision-making are imperative for empowering communities to be involved in relocation decisions. It is important to avoid overburdening communities and using extractive knowledge practices.
- 4 Conduct follow-ups.** Research that follows up with homeowners after buyouts to learn about where they went, why they went, and how they are adjusting to their new location would provide valuable insight into movement patterns.
- 5 Create shared data repositories.** Shared research agendas, data collection methods, and data repositories would allow a rapid exchange of information. Shared data helps create standardization and prevent duplication of ideas, in addition to inspiring other research projects and analyses.
- 6 Understand connection to place.** Research that understands people's connection to place and how that informs decision-making regarding relocation can provide useful insights into movement patterns.
- 7 Facilitate land use research.** Investigate how land use will change as people move. Develop planning and policies that can take this into account.
- 8 Determine time and scales of decision making.** Research the timescales of decisions made by relocating communities and individuals and include research on smaller scale "household level" data, that takes into consideration motives of individual families.
- 9 Determine who is being served by resilience projects.** Who is benefiting from and understands the assistance programs being offered. Learn what biases are in the resources governments provide.

Needs Identification (*continued*)

POLICY NEEDS

- 1 **Update policy guidance** to include both sending and receiving communities.
- 2 **Create guides for interstate transfer** that resist climate gentrification. This requires national-level coordination.
- 3 **Foster inclusion in the creation process** for those impacted by climate change and communities that are losing or receiving residents.
- 4 **Increase federal grants** and other funding opportunities for migration projects to minimize financial burden on communities displaced by climate change.
- 5 **Increase planning capacity in cities.** Planning efforts can be supported by federal grants, but we need city-level planners to identify local needs to respond proactively.
- 6 **Include migration and receiving** in hazard mitigation planning and general city planning at the state and local level.
- 7 **Update policies.** Policies should have a more comprehensive approach that considers community stressors and supports community social culture, during policy creation.

COALITION AND RELATIONSHIP BUILDING NEEDS:

- 1 **Collaborate with community leaders.** Community leaders are influential voices in their communities. Training these leaders so they obtain knowledge of policy/grant options allows them to subsequently educate and engage their community (including the youth) in policy discussions that broaden community knowledge.
- 2 **Create communities of practice.** Developing a community of practice is useful for exchanging resources between practitioners, especially for researchers and city planners.
- 3 **Foster federal agency coordination.** Federal agency coordination would ensure that policies and resources are cohesive and easy to transfer between sectors. Changes in policy are needed to ensure better and more equitable migration assistance.

Needs Identification (*continued*)

COMMUNICATION NEEDS

- 1 **Create networks** that avoid duplication and can help to identify research needs, especially ones that have transdisciplinary community engagement.
- 2 **Identify community values** to tailor messaging to what is important to a community. Storytelling and sharing lived experiences can be a noteworthy way to gather information from community members.
- 3 **Organize a repository** of existing policies. Identify best practices and resources for people who migrate and how they can navigate that change.
- 4 **Conduct workshops** that bring together planners, policymakers, researchers, and community members (especially ensuring equitable representation of marginalized groups) for policy development.
- 5 **Communicate effectively.** Education and outreach are needed to communicate planning and preparation opportunities to a community. It is important to build trust, and frame communication in terms of action items rather than only the worst case scenario. Some key points include:
 - a. Remove scientific jargon, transition from probabilities to time scales of action.
 - b. Provide education on resources available.
 - c. Understand that migrating and receiving communities will need different communication strategies.
 - d. Co-develop information with knowledge of community needs.

Conclusion

The factors that influence relocation are multidimensional and vary by community.

There is no one-size-fits-all approach to understanding what prompts people to migrate. People move for many reasons, including but not limited to socioeconomic factors, proximity to family, and job availability. Additionally, the challenges faced by each receiving community will differ depending on a variety of factors. This workshop facilitated discussions about the complexities of human migration due to a changing climate and its effects on both the migrating and receiving communities involved. This document identifies crucial needs divided by research, policy, communication, and coalition building. The goal of the workshop was to spur future research, facilitate partnerships, and assist in policy-making.

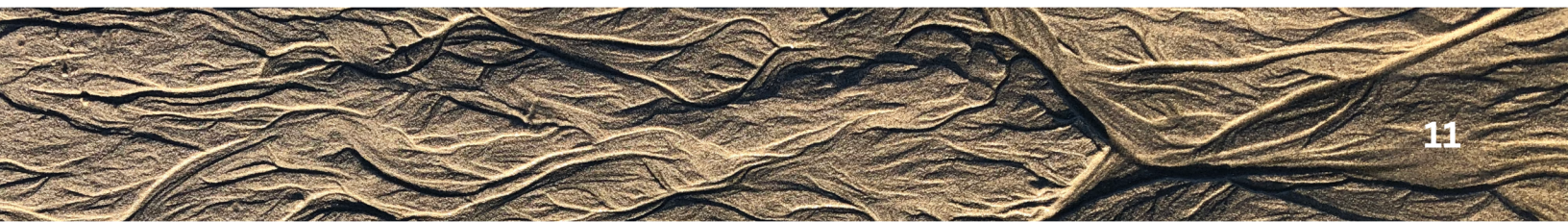
More research is needed to understand the needs and patterns of migrating communities. An extra degree of attention should be placed on ensuring that transitions are equitable for all involved. Although the Northeast and Mid-Atlantic region has faced and will continue to face many climate change related challenges, there are shining examples of cities across the region that are implementing successful adaptation strategies in order to protect their communities. It is imperative that we continue to work together - across fields, sectors, and communities - to be prepared for future migrations ahead.



Acknowledgments

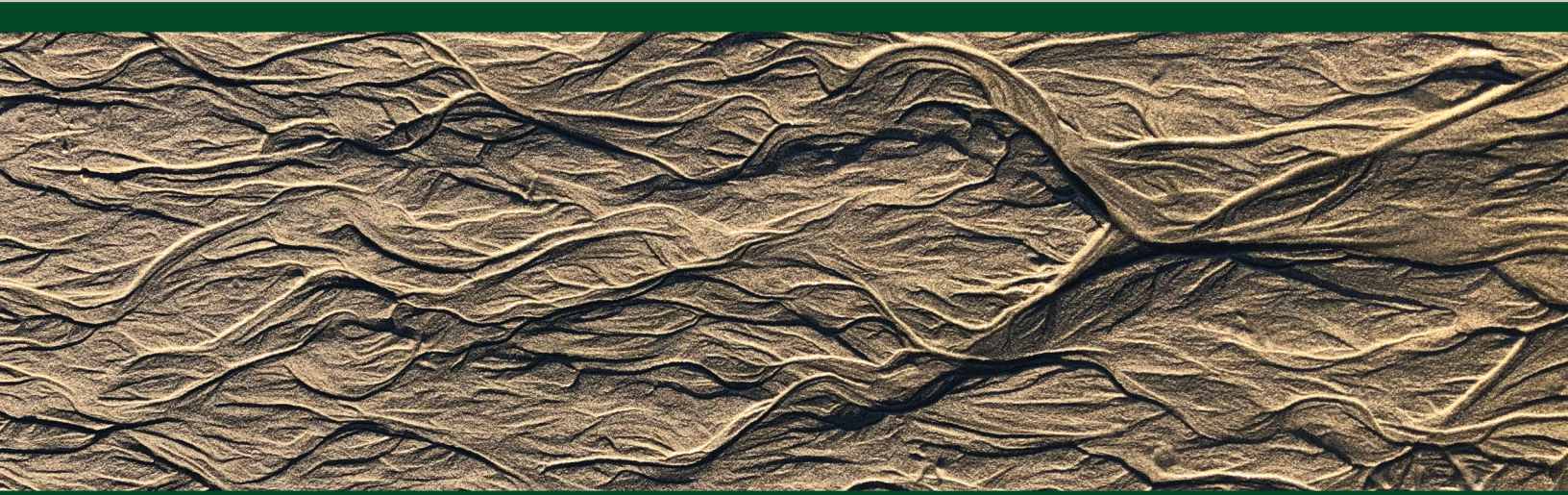
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Cover image and banner image of sand used throughout the report by Karina Alvarez.



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