



**THE WATER INSTITUTE
OF THE GULF®**

Transplanting Communities Facing Environmental Change

An Annotated Bibliography on Resettlement

CRAIGE. COLTEN

Supported by: Coastal Protection and Restoration Authority and the Baton Rouge Area Foundation

June 15, 2015



INTEGRATING APPLIED RESEARCH | LINKING KNOWLEDGE TO ACTION | BUILDING PARTNERSHIPS



Introductory Essay

One of the most sensitive issues facing Louisiana and its ambitious coastal restoration program is how to cope with the possible displacement of people due to sea level rise, intense storms, and land loss. Generations of residents in the state's coastal parishes have endured political upheaval and displacement, war, epidemic diseases, hurricanes, floods, oil spills, dead zones, and other calamities. They have persisted in place despite the repeated trauma of powerfully disruptive events. It is well known that south Louisiana's residents have one of the highest rates of being rooted in place and have adapted their economic survival to local resources. How then can we even broach the subject of resettling this resilient population?

I would argue that we invite great peril if we avoid the topic. We risk greater trauma and turmoil for the hearty coastal communities if we deny the real need to carefully consider their safe survival. Ensuring the perpetuation of these communities may involve resettlement, as long as it is neither an unwanted uprooting nor a forced evacuation after an environmental calamity. A sensible, community-driven transplanting before further loss of coastal habitats and resources is preferable to a traumatic expulsion. And I use the term "resettlement" to frame this discussion. This term implies that a process of relocation that involves both a gentle dislodgement from long-standing places of residence and assisted re-establishment of family and community roots in a safer and environmentally suitable locale.

I can think of five reasons why we should avoid the resettlement topic, but each of these reasons also points towards compelling arguments why we owe the residents of this perilous place a chance to participate in a full discussion of the uncomfortable subject and to guide the ultimate strategy to deal with the inescapable continuation of a process that is already dislodging a portion of our coastal residents and will continue to do so into the future.

1.0 Louisiana coastal residents have deep place attachments – both in cultural and economic terms

After Hurricane Katrina, I was asked a hundred times, why do people insist on living in a place that faces powerfully destructive storms. One of the most convincing replies was to point out their deep attachment to place. Residents are fond of the climate, the architecture, the food, the music, the religion – the entire mix of culturally rooted phenomena that made coastal Louisiana distinctive. Kinship and friendship also play a powerful role in shaping people's decision about where to live. Where those relationships are abundant, people prefer to stay. South Louisiana, according to the U.S. Census, has one of the highest rates of residential persistence – as defined by living in the parish where you were born. For the state, over 78% are natives, compared to the national average of only 59%. In addition, families with investments in shrimp boats, oyster leases, and equipment for their natural-resource based pursuits are understandably reluctant to move away from their livelihoods. The oil patch, with all its boom and bust cycles, offers comfortable incomes to many and provides yet another reason to stay in place. Mortgages, while not unique to this region, are another heavy anchor that make resettlement economically difficult.

The firm attachments to place have been developed over centuries, even though historically our ancestors have been mobile – sometimes by choice, many times by force. And perhaps it is the history of forced displacement that fuels current resistance to the issue of resettlement. The earliest record of humans in Louisiana is the archeological record of people shifting ever southward to stay on the margins of the continent and the estuarine resources they depended on. Prehistoric people followed the coastline as it slowly advanced into the Gulf of Mexico millennia ago. Native peoples continued to make considerable adjustments after Europeans arrived on the scene. Some retreated westward, like the Caddo, others sought refuge down the bayous in what is now Terrebonne and Lafourche parishes. Survival of indigenous populations was a result of their ability to migrate in quest of resources or to



avoid conflict.

Africans, Acadians, and Isleños arrived in Louisiana during the 1700s. Africans and Acadians were uprooted from their homes, while Isleños had a bit more choice, although they were dispatched to some of the least desirable locations in the Spanish empire. Africans were unwilling migrants when they set foot on Louisiana soil as enslaved laborers. They received meager accommodations on the plantations or in the urban homes of the individuals they worked for. Mobility offered a means to avoid the oppressive labor situation, and some Africans escaped to live in the backswamps and more remote marshlands. Over the centuries, many African Americans continued their migrations as they moved from the farms to the cities after emancipation. Their creativity in musical arts achieved distinction in New Orleans during the early 20th century and enabled a small number to migrate to northern cities where they transplanted jazz. During the second world war, African Americans followed prominent migration streams to northern cities like Chicago and to southern California. Many found improved conditions there.

The Acadians, expelled from Nova Scotia, came to Louisiana under better circumstances, although after a traumatic expulsion from the Maritimes many arrived in poverty.

By the mid-nineteenth century, Acadians had begun shifting their dwellings from farms on the banks of the Mississippi River to homes on the more remote bayous and eventually some continued toward the coast as they re-invented Acadian culture in subtropical Louisiana. Canadian Acadian culture is modestly reflected in the modern Louisiana landscape. Religion and music stand out as cultural cornerstones that persist. But even early 20th century practices, such as French speaking, moss-gathering, river fishing, small-scale farming, and cypress harvesting are increasingly difficult to encounter. Taking their place are large-scale shrimping, crawfish- rice farming, cattle ranching, and oil-field related pursuits. Mobility in terms of residence and economic activity are as fundamental to their culture and survival as are music and foodways.

Since 1850 there have been several fundamental reorientations of the coastal economy. Rice fields along the lower Mississippi have disappeared. Floodplain cultivation that relied on regular flooding has been replaced by citrus, sugar, cattle, and petrochemical processing that demands the maintenance of stout levees. The once abundant cypress forests of the inland swamps had been removed by the mid-twentieth century. Mill towns that once flourished have either disappeared or adapted to new economic realities. Early commercial shrimping focused primarily on small-scale seining in the coastal estuaries. Today that activity provides a fraction of the total annual landing, and deepwater trawling dominates in terms of pounds landed. There is no certainty in the large-scale operations that are threatened by cheap foreign imports. Fuel prices, the dead zone, market prices, and international competition contribute to an uncertain future for shrimping. There has been more inconsistency than consistency in this economic pursuit. Likewise, the oil industry, which offered quick riches and an overall boost to the region's economy in the 20th century, has changed its complexion over the decades. Onshore and coastal marsh wild-cat drillers have been replaced by giant corporations tapping the outer continental shelf. Strong oil markets still bring jobs and wealth to the region, but the corporations are not as dependent on local labor as was the case half a century ago. Technological advances have reduced the number of platforms and the number of offshore jobs, while fluctuating global prices impose instability on oil-dependent communities.

The various cultural groups that have firm attachments to place have survived because they adapted to considerable environmental, social, and economic disruptions in the past. Adaptations reveal the ability to tap new natural resources, to pursue different livelihoods, while holding on to family, faith, and other deep-set cultural traditions. Their current attachments reflect the residents' mobility (both forced upon them and sometimes voluntary), not an inflexible rootedness.



2.0 Local governments fear loss of population, revenue, and political viability

A valid and serious question facing coastal parishes is: what happens if people depart? Decades of parish investment in infrastructure would face declining use, and more importantly there would be a loss in revenue to maintain roads, schools, and other essential facilities. With population loss, local businesses would see declining revenues and possible commercial failure. As has been seen in the shrinking cities across the U.S. industrial core in the 21st century, depopulation can be self-perpetuating and can produce long-term social and economic stress.

An obvious, although politically unpopular option, would be to re-draw the boundaries of parishes to prevent fiscal collapse of a particularly hard-hit territory. In the state's history, it has been common to carve multiple smaller parishes from single larger parishes as the population grew. This created new opportunities for the growth of parish governments in accord with demographic change. It seems common sense to reverse the process if the demographic trends demand. States in the Great Plains are taking action to consolidate counties in order to reduce costs in an era when small government units are less essential and out-migration reduces the local tax bases.

In recent decades, Louisiana has already lost two congressional seats due to sluggish population growth relative to other states. This has led to remapping of congressional districts. Furthermore, Orleans and St. Bernard parishes have lost considerable populations since the storms of 2005. We are in the midst of a major demographic adjustment and are already making geopolitical changes to reflect this process. Being prepared to make further adjustments in the coastal region can minimize disruptions and unnecessary political turmoil. The costs of ignoring the process that is underway could outweigh the cost of preparing for a well-managed adjustment and political realignments.

3.0 Destruction of local culture and heritage

Among the strengths of coastal Louisiana is its rich and diverse cultural heritage. Most commonly associated with the region are the Acadians with their widely recognized foodways and music. Houma Indians, Isleños, Dalmatians, and Vietnamese constitute other prominent traditional social groups. African Americans, including some Creoles of color, round out the mix. Linguistic practices and traditional folk culture make this region a highly complex mosaic of people and practices. Many of the traditional skills and much of the knowledge is tightly intertwined with local resource-based economic activities. Dislodging people from their traditional places of residence would sever the ties to their livelihoods and thus begin an irreversible culture loss.

It is important to note that some elements of African, Acadian, Isleños, Dalmatian, and Vietnamese culture that were not tied to local resources in their homelands survived. African knowledge and practices, due to forceful efforts to expunge traditions, have suffered over the years. African languages disappeared for the most part, although some linguistic traits persist. There is no Houma language in use today and few Acadian children grow up speaking French. Even the third generation Vietnamese seldom use their grandparents' language. Culture loss, as unfortunate as it may be, has been on-going, regardless of coastal restoration.

Nonetheless, there are powerful currents that enable cultures to survive in the face of changing environmental conditions. Even following the near destruction of crabs in Chesapeake Bay, restaurants and their customers demanded the shell-fish prized by residents of the region. In the 1990s, most restaurants in the Baltimore region served crabs imported from Louisiana. By extending commodity chains, cultural preferences were sustained even when local supplies largely disappeared. This is not an ideal solution, but it illustrates the power of culture to adjust to changing circumstances and to persist.



Louisiana’s coastal families who depend on natural resources, such as shrimp and oysters, have retained or adapted their expertise as circumstances changed. Retreat from Chenier Caminada after the 1893 hurricane to Leeville did not entail abandonment of shrimping or related cultural practices. Other prominent shrimping ports such as Delcambre are well inland and are connected to the gulf by canals and other waterways. Docks placed directly into the water of the Gulf of Mexico are not essential for today’s shrimping operations. Modest adjustments in residence, while continuing to pursue traditional economic activities, demonstrates that resettlement does not stipulate cultural destruction.

African Americans forcibly displaced to accommodate the national battleground park at Chalmette regrouped in the lower 9th Ward and reconstituted a community church that served as its emotional core. Cultural institutions and social capital can move along with people. This is particularly true in terms of religious beliefs. It is important to prepare in advance for modest adjustments rather than ignoring approaching environmental change. Preparation that directly involves those to be impacted and that deliberately seeks to sustain social and familial networks and to protect traditions can aid in culture survival – even in a different place. Forced evacuation and short-term dispersal in the wake of a traumatic event can be far more harmful and even destructive.

4.0 Social stress and trauma on community well-being

There is no doubt that stress accompanies communities that resettle. The process of moving, settling in, and reestablishing routines, livelihoods, and social networks in new locations brings varying degrees of individual stress. But one way to reduce the personal emotional impacts is to prepare for and assist with resettlement *before* a major disruptive event – like another destructive hurricane. Preparations, the experts advise, should include active and meaningful participation by those involved. Hurricanes Katrina and Rita, and Audrey and Betsy before them, produced traumatic impacts. There were no plans in place to help resettle families to safer locations. In the wake of the hurricanes of 2005, hundreds of thousands of Louisiana residents lost their homes, relocated for extended periods of time, and some have not returned. New Orleans has about 80% of its pre-storm population. Cameron and St. Bernard parishes saw larger percentages move away. Those who left their homes have endured the trauma of the storm and the stress of relocation. Some of those who stayed also weathered the storm, and now face the loss of community after neighbors did not return. There will be major storms in the future, and they will prompt people to leave their current homes and face exposure to this double-whammy trauma.

Elsewhere, there is interest in what scholars are calling “double-exposure” – or the dual impacts of climate change and globalization. Along the Louisiana coast, we can think of double-exposure as stress following a disruptive event and the secondary stress associated with subsequent relocation. Enabling communities to shape their own relocation plans, and then providing tools and guidance for resettlement, before the next major hazard event, can eliminate one of the double-exposure traumas that are likely to occur without preparation. Ultimately, this will contribute to community well-being and a more resilient population.

5.0 Costs of resettlement

Local and state governments have every reason to be concerned about the costs of resettlement. Voluntary acquisition, a component of the Master Plan, offers a viable nonstructural approach to deal with the coastal situation. If we look to the Road Home program as a model for offering citizens a means to relocate, it is clear there were inefficiencies and inconsistencies in its implementation. Huge sums of money were spent, there have been modest changes in terms of safety and exposure to future storms that resulted. Few accepted funds to relocate. In the course of its implementation, there were fundamental conflicts in policy that complicated its effective execution and reduced its overall positive impact.



One of the cornerstone arguments for resettlement is that it can offer a financially less costly process to reduce risk. Granted there are countless other social costs, but one systematic community resettlement effort can eliminate repeated disaster relief efforts in the future and minimize the social costs of repetitive disruptive events.

Addressing the issue of resettlement before the next hazard event can allow residents and policy makers to craft a viable and effective means to encourage movement of communities to safe locations. Such a program could have greater positive impact than an emergency response, like Road Home, that temporarily added to stress rather than providing comfort to those traumatized by damaging events.



Bibliography

This bibliography addresses a critical long-term issue facing Louisiana and to explore the recent academic and applied research on several themes that relate to the “voluntary acquisition” component of Louisiana’s Comprehensive Master Plan for a Sustainable Coast (2012). Voluntary acquisition is a non-structural option for addressing the flood risks in areas where elevation of structures or floodproofing is infeasible. It is anticipated only a small percentage of the nonstructural program would utilize this option. The state’s stated intent is to work in close partnership with local communities in such situations. This bibliography seeks to provide background information that can inform that process.

There is an active discussion on this general subject that falls within a broad category of environmental migration – or movement of people and communities faced with slow-onset environmental change or in response to dramatic hazard events. Within that literature there is ample discussion of climate-change induced movement, forced migration for major public works such as dams or other structural projects, migration after disasters, public policies on resettlement/relocation, temporary emergency shelter, and relocation related to hazardous wastes. In addition there is a vast literature on refugee resettlement — that has very specific ties to international policies related to those displaced by war or other political conflicts. Each of these topics are represented in this bibliography, but this compilation is not exhaustive. Nonetheless, it includes key foundational publications and offers an overview of the immense literature on the subject.

The annotated entries that follow are arranged chronologically, rather than alphabetically. This facilitates the review of entries based on the intellectual development of ideas and concepts. There are three categories containing annotations: Louisiana specific, environmental migration, and web sources. Additional sources without annotations are included.

LOUISIANA SPECIFIC

Rohland, E. (n.d.) *Hurricanes in New Orleans: Disaster migration and adaptation, 1718-1794*.

Berghahn Books: New York.

Reviews colonial accounts of hurricanes and adaptations. After the 1722 hurricane, an engineer recommended building secure docking facility, but the project was never undertaken.

Adaptations were attentive to regular river floods, but not to hurricanes. Colonial authorities feared out-migration following back-to-back hurricanes and some evidence suggests population growth stalled following storms during the Spanish period.

Key Words: floods, hurricanes, migration, colonial era

Darlington, J. D., & Woodell, G. (2006). The relationship between coastal restoration and community relocation: An annotated bibliography and analysis of alternative relocation scenarios. Research report for Governor’s Applied Coastal Science Program.

Colten, C. E. (2001). Commentary: Environmental justice in the Big Easy? The Agriculture Street Landfill Tragedy. An annotated bibliography on community relocation. *Environmental Practice*, 3(01), 19-26.

Considers efforts by community members in New Orleans to secure relocation funding after closed landfill in their neighbor listed as a Superfund site. U.S. Environmental Protection Agency opted to pursue the more typical approach and remediate the site without relocation and catered to segment of community who did not want to move. Environmental justice policy that promoted community engagement was insufficient to bridge divide among residents and long-term litigation ensued, but did not lead to relocation funding.

Key Words: relocation, community participation, hazards



Nigg, J. M., Barnshaw, J., & Torres, M. R. (2006). Hurricane Katrina and the flooding of New Orleans: Emergent issues in sheltering and temporary housing. *The Annals of the American Academy of Political and Social Science*, 604(1), 113-128.

Post-Katrina study of temporary sheltering. In the initial aftermath of the storm, there was a significant increase in emergency shelters in Texas, Arkansas, and across Louisiana. Evacuation planning was burdened with a lack of public transit. Katrina created a new category for evacuees - those needing long-term shelters. Intergovernmental cooperation lapsed and emergency plan created obstacles to effective programs. Situation pointed out need to consider long-term emergency sheltering and better government planning and coordination.

Key Words: hazards, disaster, emergency shelter

Colten, C. E. (2007). Environmental justice in a landscape of tragedy. *Technology in Society*, 29(2), 173-179.

Considers the various, and sometimes incompatible definitions of environmental justice in terms of the community efforts to secure a relocation solution to the Agriculture Street Landfill Superfund site in New Orleans. Makes a case that hazard managers should consider both past injustices as well as potential future injustices in developing plans. Traces the incomplete consideration minorities and environmental justice in planning for evacuation and return to New Orleans.

Key Words: relocation, environmental justice

Landry, C. E., Bin, O., Hindsley, P., Whitehead, J. C., & Wilson, K. (2007). Going home: Evacuation- migration decisions of Hurricane Katrina survivors. *Southern Economic Journal*, 326-343.

Examines the “decision to return” using an economic model. Factors influencing decision include distance of evacuation, employment skills, stage in life cycle, amenities and costs at evacuation location, and “cultural constraints” (social networks and kinship ties). Used simple cost-benefit structure to analyze. Damage to home had little measurable impact, as did birth in parish evacuated from (sense of place measure). Higher levels of education, employable skills, married, and home ownership were related to decision to return.

Key Words: evacuation, sense of place, home ownership

Airriess, C. A., Li, W., Leong, K. J., Chen, A. C. C., & Keith, V. M. (2008). Church-based social capital, networks and geographical scale: Katrina evacuation, relocation, and recovery in a New Orleans Vietnamese American community. *Geoforum*, 39(3), 1333-1346.

Vietnamese returned faster and in larger percentage than most other ethnic communities in heavily impacted areas. Deep attachment to place and effective social capital enabled them to spend less time in temporary relocation sites. The church served as the nexus for the institutional support mechanisms. Small businesses also re-opened faster than city average.

Key Words: attachment to place, social capital, disaster

Hori, M., Schafer, M. J., & Bowman, D. J. (2009). Displacement dynamics in southern Louisiana after Hurricanes Katrina and Rita. *Population research and policy review*, 28(1), 45-65.

Dislocated Louisiana residents, one year after the 2005 storms, showed a strong urge to return to their homes. Initial population losses were most prominent in Orleans, Plaquemines, St. Bernard, and Cameron parishes. Dislocated people tended to prefer short-distance relocations – to the northshore, to the capital area, or Lake Charles, or intra-parish migration to shelter with family.

Key Words: hurricane, displacement, relocation



Li, W., Airriess, C. A., Chen, A. C. C., Leong, K. J., & Keith, V. (2010). Katrina and migration: Evacuation and return by African Americans and Vietnamese Americans in an eastern New Orleans suburb. *The professional geographer*, 62(1), 103-118.

Comparative analysis of disaster migration and evacuee return between Vietnamese and African American communities. Used survey and interviews to collect data. Vietnamese evacuated, in large measure, to locations where they had relatives; African Americans were less likely to go to relatives. Much higher rate of return of Vietnamese than African Americans to Versailles neighborhood. Vietnamese claimed they desired to return to New Orleans since it was a long-term home after previous forced dislocations from Vietnam. African Americans undertook more temporary moves before either returning or settling elsewhere. Social networks were instrumental in both evacuation and return for Vietnamese.

Key Words: social capital, social networks, relocation

Davis, D. W. (2010). *Washed Away?: The Invisible Peoples of Louisiana's Wetlands*. University of Louisiana at Lafayette Press.

Traces settlement of Louisiana's wetland and includes chapter on "transient settlements." Makes the case for a culturally diverse population in the coastal wetlands and their natural-resource based economies. Discusses temporary settlements where coastal trades dominated local activities. Shrimp drying settlements such as Manila Village, temporary trapper's oystermen's camps, as well as mineral extraction communities for sulphur and oil. Development and decline of transient communities linked to resources demand and availability.

Key Words: settlement, relocation

Green, T. F., & Olshansky, R. B. (2012). Rebuilding housing in New Orleans: The road home program after the Hurricane Katrina disaster. *Housing Policy Debate*, 22(1), 75-99.

Reviewed detailed Road Home Program information. Federal assistance from relocation flowed through Louisiana Recovery Authority. Program was established to either buyout home-owners or assist with rebuilding. Three options: compensation to rebuild, to elevate, or to relocate. Majority accepted funds to rebuild and not to relocate.

Key Words: relocation, road home, disaster

Zaninetti, J. M., & Colten, C. E. (2012). Shrinking New Orleans: Post-Katrina population adjustments. *Urban Geography*, 33(5), 675-699.

Katrina accelerated pre-storm population decline. Considerable movement of Hispanics and Blacks to suburban locations. White migration to northshore and up-stream parishes.

Key Words: disaster, migration, ethnic

Dalholm, C., Scott H., & Lewis J. (2014). Community resettlement prospects in Southeast Louisiana. *New Orleans: Tulane Institute of Water Resources Law and Policy*.

Reviews policy measures used in major resettlement projects in the United States. History of resettlement has been fraught with unsustainable efforts that have fostered public distrust. Also presents analysis of population in need of resettlement are marginalized residents.

Key Words: resettlement, Louisiana, policy

Nelson, M. (2014). Using Land Swaps to Concentrate Redevelopment and Expand Resettlement Options in Post-Hurricane Katrina New Orleans. *Journal of the American Planning Association*, 80(4).

Considers policy options to foster safe redevelopment after disaster. Reports on land-swap



program to encourage redevelopment in area that suffered flooding during Katrina. Land swaps, in conjunction with voluntary buyouts, offered opportunity to concentrate safe redevelopment in less vulnerable locations.

Key Words: resettlement, redevelopment, land swaps, land banks, policy

Sluyter, A., Watkins, C., Chaney, J., & Gibson A. M. (2015). *Hispanic and Latino New Orleans: Immigration and identity since the eighteenth century*. *Baton Rouge: Louisiana State University Press*.

Forthcoming. Discusses the migration of Hispanic and Latin Americans to New Orleans, their adjustments after Katrina, and their ability to shape communities and sustain identity as a minority ethnic group.

ENVIRONMENTAL MIGRATION

Petersen, W. (1958). A general typology of migration. *American Sociological Review*, 256-266.

Offers a new classification, correcting Fairchild's 1925 typology. Seeks to correct notion that humans are sedentary until forced to move, and inverts the question – not why they move, but why they don't move. Classification includes “primitive” – inability to cope with natural forces; “forced and impelled” - a range of choices that implies social powers at work prompting movement; “free migration” - neither ecological or social pressures drive movement; and “mass migration” - movement as part of a fundamental social practice. These categories are not mutually exclusive and have not been widely used.

Key Words: migration, general theory

Wolpert, J. (1966). Migration as an adjustment to environmental stress. *Journal of Social Issues*, 22(4), 92-102.

Presents an early quantitative approach to migration prompted by environmental stress; e.g. locally unwanted land uses.

Key Words: migration, environmental

Svart, L. M. (1976). Environmental preference migration: A review. *Geographical Review*, 314-330.

Follow-up behavioral study to Ulman's assertion that interregional migration due to preference for mild climate. Surveys indicate climate a prominent factor in migration decision making, although employment and family were both higher. This type of migration tied to recreation and retirement, e.g. amenities luring people to sun belt and to coastal areas.

Key Words: migration, environmental, preference

Lockeretz, W. (1978). The Lessons of the Dust Bowl: Several decades before the current concern with environmental problems, dust storms ravaged the Great Plains, and the threat of more dust storms still hangs over us. *American Scientist*, 560-569.

Review of adaptations following dust bowl in 1930s; reports that migration was not wholesale and government programs helped farmers who remained to recover after the drought ended; yet, many of the government programs, such as shelter belts, have been abandoned as center pivot irrigation gained favor; adaptations not enduring.

Key Words: migration, environmental, policy

McDonald, M. J., & Muldowny, J. (1981). *TVA and the dispossessed: the resettlement of population in the Norris Dam area*. Univ. of Tennessee Press.

Examines the resettlement of people in advance of TVA dam projects during the 1930s. Region



had been undergoing out-migration before Depression, but with economic collapse, return migration ensued and strained local resources. Local population heavily reliant on relief programs. A year after its formation, TVA developed process for assisting with resettlement. Largest challenge was that land acquisition had to precede dam construction and intended economic development to follow. Displacement preceded new opportunities. Initial plan called for “homestead colonies” of subsistence farms. Planners looked at model of resettlement for Shenandoah National Park. Deadlines for construction created intense pressure on relocation process and led to creation of Family Removal Section to expedite relocation with a variety of services. Yet, many needing aid did not receive any. Fractured administration and lack of vision caused problems in resettling residents. Includes extensive discussion of issue of re-burying the dead which was a tremendous disruption to sense of place and community.

Key Words: resettlement, forced migration, TVA

Gregory, J. N. (1991). *American exodus: The dust bowl migration and Okie culture in California*. Oxford University Press.

Major study of Dust Bowl migration from Great Plains to California. Migration due to drought a continuation of pre-existing tendency to leave plains states; most migrants were already mobile; and many did not stay in California. Relief programs kept many of the most impoverished in the plains states. Tensions arose in California as migrants portrayed as job stealers. Tended to create insular communities in rural areas, although migrants integrated better in large cities.

Key Words: drought, migration, Dust Bowl

Oliver-Smith, A. (1990). Post-disaster housing reconstruction and social inequality: a challenge to policy and practice. *Disasters*, 14(1), 7-19.

Following a 1970 earthquake in Peru, emergency shelter programs tended to create an uneasy response due to the loss of social stratification. With more permanent housing three years after the quake, wealthy elites had first access to pre-fab housing and re-created pre-quake stratification. Peasants forced up slopes in areas that were subject to landslides.

Key Words: migration, disaster, emergency shelter, equity

Oliver-Smith, A. (1991). Successes and failures in post-disaster resettlement. *Disasters*, 15(1), 12-23.

Makes the argument that forced resettlement is a disaster to the displaced people. Failure represented by short-term viability of resettlement. Success is reflected by ability of population to reconstitute standard of living and community. Ratio of failure to success is poor. Raises issue of balancing speed against community psychological well-being.

Key Words: resettlement, disaster, well-being

Snarr, D., & Brown, E. L. (1994). Post-Disaster Housing Reconstruction: A Longitudinal Study of Resident Satisfaction. *Disasters*, 18(1), 76-80.

Long-term study of housing after Hurricane Fifi in Honduras in 1974. Initially residents indicated satisfaction with emergency shelters, but after eleven years both satisfaction with physical housing and social environment had significantly deteriorated.

Key Words: hazards, disaster, housing

Quarantelli, E. L. (1995). Patterns of sheltering and housing in US disasters. *Disaster Prevention and Management: An International Journal*, 4(3), 43-53.

Extended commentary of the issue of shelter/housing after a disaster. Provides typology to



distinguish different aspects/phases provisional lodging for those who endure disruptive events: (1) emergency shelter, (2) temporary shelter, (3) temporary housing, (4) permanent housing – included is rehabilitated housing. Argues that too little preparation given to envisioning shelter/housing needs and that often victims blamed for being without shelter. Outlines complexity of providing quarters for different types of households, different age groups, and different cultural groups. Mass housing least desirable, but it is the arrangement most common to relief groups. And most displaced people prefer to return to home, not to move to a new location.

Key Words: disaster, shelter

Oliver-Smith, A. (1996). Anthropological research on hazards and disasters. *Annual review of anthropology*, 303-328.

Develops a five-category classification of human migration: 1. proactive-reactive, 2. voluntary-forced, 3. temporary-permanent, 4. physical danger-economic danger, and 5. administered/non-administered. Widely used classification system.

Key Words: migration, disaster, hazards

Mitchell, D. (1996). *The lie of the land: Migrant workers and the California landscape*. U of Minnesota Press.

Critical historical geography of migrant labor force in California in 1930s. Stresses importance of labor force's mobility as a means to escape repressive practices of state and land owners. Offers detailed analysis of the role of migrant labor camps in attempting to pacify labor movement.

Key Words: migration, drought, labor camps

Hugo, G. (1996). Environmental concerns and international migration. *International migration review*, 105-131.

Hugely influential article. Asserts that migration has been one of the most important survival strategies in the face of disasters. Argues that increasingly, environmental migration will be an international concern. Suggests that migration decisions arrayed on a continuum ranging from totally voluntary to totally forced (where migrants face death if they remain) – although extremes seldom occur. Environmental migrants not refugees, can often relocate within national boundaries. Environmental change is increasing and will expand migration in response to environmental factors. Projects that migration due to environmental factors will increase most in lesser developed countries. Some countries considering limiting immigration due to environmental/resource limits. Much of the environmental degradation in LDC tied

to colonial history and exploitation of resources by colonial powers. This history contributes to migration pressures due to local resource availability.

Key Words: migration, environmental, international

Perry, R. W., & Lindell, M. K. (1997). Principles for managing community relocation as a hazard mitigation measure. *Journal of Contingencies and Crisis Management*, 5(1), 49-59.

Points to permanent relocation as a seldom-used tool in hazard mitigation, although commonly used in urban renewal, large engineering works, and community development. Examines relocation experiences in Allenville, Arizona. Presents several principles of relocation management: community to be relocated needs to be organized, stakeholders need to be involved, citizens need to understand multi-organizational context of move, attention needs to be given to special needs, and efforts need to be made to preserve social networks. Concludes



that permanent relocation of endangered households can be an important tool for correcting established settlement patterns in hazardous areas.

Key Words: resettlement, hazards

Walker, M. (1998). African Americans and TVA Reservoir property removal: Race in a New Deal program. *Agricultural history*, 417-428.

Few Blacks lived in east Tennessee, but they tended to receive less assistance than whites; case workers tended to view displaced Blacks as not being uprooted, even though they owned property. There were few resettlement projects for blacks; new farms were not necessarily equivalent to old ones; some displaced land owners had title problems (as was common in South); planners gave little regard given to keeping community intact; project managers only saw community among whites (political apparatus)

Key Words: migration, forced, TVA

Gill, D. A., & Picou, J. S. (1998). Technological disaster and chronic community stress. *Society & natural resources*, 11(8), 795-815.

Reports that technological hazards can damage the environment and challenge individuals' expectations regarding relationships with nature. Technological hazards tend to produce chronic social-psychological disruption. Considers "out-migration desires" as a measure of stress. Community members who endure technological hazards tend to find their community a less desirable place to live. Economic disruption and uncertainty drive this desire. Disruption to social integration also follows technological disaster.

Key Words: migration, technological hazard, psychological stress

Chang-Qun, D., Xue-Chun, G., Wang, J., & Chien, P. K. (1998). Relocation of civilization centers in ancient China: environmental factors. *Ambio*, 572-575.

Considers long-term environmental factors in changing location of major civilization centers in 8000 years of Chinese history. Environmental degradation contributed to population decline in certain periods and favorable environmental conditions contributed to population increase and political power in other periods. Societies expanding political power through resource exploitation produced unfavorable conditions for sustainable societies. With environmental degradation, power centers shifted – but also produced by social strife and conflict.

Key Words: environmental degradation, migration China

Chang-Qun, D., Xue-Chun, G., Wang, J., & Chien, P. K. (1998). Relocation of civilization centers in ancient China: environmental factors. *Ambio*, 572-575.

Examines concept of managed retreat which author defines as a form of human movement inland in response to increased storm intensity and sea-level rise.

Recommends, as part of this process, the development of coastal defenses that mimic natural processes; using restored wetlands as coastal defenses. **Key Words:** migration, managed retreat, sea-level rise

Cerna, M.M. Risks, Safeguards, and Reconstruction, *Economic and Political Weekly* (2000): 3659-3678.

Compulsory displacement for development projects raise questions about equitable distribution of costs and benefits. Offers model that foregrounds processes that contribute to impoverishment of displaced people and the process of reconstruction of a displaced society. Model offers predictive and diagnostic functions to aid decision makers in framing policy regarding resettlement. Key components of impoverishment risk include: Landlessness, joblessness, homelessness, marginalization, food insecurity, increased mortality, loss of access



to basic services, social dis-articulation, differential risk intensities, and risk to host populations. Reconstruction is the process of overcoming these risks. Asserts that state has obligation to help those it displaces to get back on their feet.

Key Words: risk, resettlement, reconstruction

Walters, W. H. (2000). Assessing the impact of place characteristics on human migration: the importance of migrants' intentions and enabling attributes. *Area*, 32(1), 119-123.

Place characteristics play an important role in migration decision making (departure and destination locations), but migrants' social and economic attainments also a factor. Offers a conceptual approach that considers the intentions (whether or not to take advantage of destination attributes) and the enabling attributes (not all migrants able to take full advantage of circumstances at destination) of the migrant. Presents typology of place characteristics: (1) conditions that apply to all (e. g. climate); (2) conditions that apply to those seeking to take advantage (e.g. public parks); (3) conditions that apply to those seeking to take advantage and with resources to do so (e.g. college education); and (4) conditions available to individuals and not general migrating population (e.g. grandchildren).

Key Words: migration, place attachment, destination

Heming, L., Waley, P., & Rees, P. (2001). Reservoir resettlement in China: past experience and the Three Gorges Dam. *Geographical Journal*, 195-212.

Looks at recent reservoir migration as part of larger migration process in China. Huge movement of rural population to cities since 1970s. Reservoir displacement is a sensitive topic politically and has been neglected. Tends to force permanent movement although there are government relocation plans which leads to expectations for accommodations at destination. Authorities were concerned with displacement, but not resettlement during early stages of dam building. Task was to move people out of footprint of reservoirs. In 1990s government began to plan for relocation/resettlement and included projects to provide agricultural land or jobs in industry at destinations. But relocation of agriculture proved ineffective – people moved from floodplains to hilly topography. Three Gorges dam to displace some 1.2 million people. Resettlement process flawed and authors list shortcomings: people resist long moves; difficulty rebuilding livelihoods, loss of social networks, difficulty integrating into host communities; difficulties in new environmental settings; and discrimination against rural residents.

Key Words: resettlement, reservoir, China

Curran, S. (2002). Migration, social capital, and the environment: Considering migrant selectivity and networks in relation to coastal ecosystems. *Population and Development Review*, 89-125.

Extensive review of human ecology literature on migration with a focus on two questions regarding human-environment interactions: which migrants have access to which resources and how are migrants embedded in social relations that determine use of ecosystem at destination? Stresses importance of social networks, remittances, and migrant selectivity. Also points out the importance of temporal depth understand extend of migrant impacts on environment.

Key Words: migration, social networks, social capital

McGlashan, D. J. (2003). Managed relocation: an assessment of its feasibility as a coastal management option. *The Geographical Journal*, 169(1), 6-20.

A consideration of relocating coastal structures/infrastructure inland; managed relocation. Makes the argument that relocating particular individual structures may be cheaper than erecting structural protection.

Key Words: migration, infrastructure, coastal management



Reid, D. A. (2003). African Americans and land loss in Texas: government duplicity and discrimination based on race and class. *Agricultural history*, 258-292.

Examines loss of rural farm land during the Great Depression. Argues that federal programs did not provide equal provision of services to Black farmers. Owners able to take advantage of extension agents more than tenants or sharecroppers. Number of rural African American farmers due in part inability to break cotton habit, lack of benefits from New Deal programs, and also inability to enlarge farms to take advantage of economies of scale. Preferential treatment of white farmers contributed to out migration of Black farmers.

Key Words: migration, minorities, land loss

Pascual-de-Sans, À. (2004). Sense of place and migration histories Idiotype and idioptope. *Area*, 36(4), 348-357.

Mobility is constructed around certain places – that is a series of places in a person’s lifetime gain significance and are imbued with meaning. Considers what it is about particular places that makes them serve either as an anchor or a point of departure or destination. Time in a place and the life stage when living in a place are significant. Offers a classification of places: of origin, of identification, descendants’ place; gained/lost; lived in; and experienced. Makes case for qualitative approach based on life histories to identify the significant places and their role in an individuals mobility.

Key Words: migration, attachment to place

Irwin, M., Blanchard, T., Tolbert, C., Nucci, A., & Lyson, T. (2004). Why people stay: The impact of community context on nonmigration in the USA. *Population (english edition)*, 567-591.

Existing studies indicate people resist migration when economy is strong or when civic engagement is powerful. Migration studies tend to follow economic explanations. Authors add that nature of the local community where potential migrant lives is a prominent issue – including non-economic factors. Study carries out statistical analysis of civic engagement and local capital to gauge why people stay. Authors suggest that civic institutions, such as churches, tend to indicate tendency to remain.

Key Words: migration, economic factors, social factors, staying in place

Harris, C. (2004). How did colonialism dispossess? Comments from an edge of empire. *Annals of the Association of American Geographers*, 94(1), 165-182.

Geography of resettlement - colonialism displaced natives and replaced with new settler society; “The momentum to dispossess derived primarily from the interest of capital in profit and of settlers in getting somewhat ahead in the world, both interests, in a new colony where land was the principal resource, dependent on the acquisition of land;” “The initial ability to dispossess rested primarily on physical power and the supporting infrastructure of the state.”

Key Words: resettlement, indigenous people, dislocation, colonialism

Hunter, L. M. (2005). Migration and environmental hazards. *Population and environment*, 26(4), 273-302.

Review of literature on migration and hazards that highlights future work and links two distinct bodies of study. Classic migration models have a place for hazards-related mobility. Recognizes social variability/vulnerability: low income often more exposed to hazards. Community relocation an option, but a rare outcome following disaster. More commonly migration of individuals from rural to urban settings. Short-distance temporary migration also common among poor, but wealthy better able to make long- distance migrations. Hazards tend to amplify pre-existing migration patterns. Migration in association with technological hazards tightly



connected with public policy (e.g. Times Beach and Love Canal). More individuals desire relocation than are able to make the move, though large-scale migration uncommon.

Key Words: migration, hazards, vulnerability

Shriver, T. E., & Kennedy, D. K. (2005). Contested Environmental Hazards and Community Conflict Over Relocation*. *Rural Sociology*, 70(4), 491-513.

Hazards contribute to community stress/conflict and disintegration. Damages are coupled with disruptions to community social fabric. Tensions arise from disparate views on how to address hazard. Picher, Oklahoma case study - differing views on whether or not to relocate from Superfund site. Key variables were economic concerns, attachment to place, and ambiguity of harm/risk.

Key Words: hazards, conflict, migration, psychological stress

Windsor, J. E., & McVey, J. A. (2005). Annihilation of both place and sense of place: the experience of the Cheslatta T'En Canadian First Nation within the context of large-scale environmental projects. *The Geographical Journal*, 171(2), 146-165

Mega development projects, such as dams, in the Canadian north have impinged on native communities. Documents the importance of maintaining sense of place to sustain group identity. Sense of place is particularly strong among First Nation people in Canada. Development projects tend to serve distant populations while dislocating indigenous residents. This annihilates places with significant meaning to displaced populations. Projects often involve private companies using common resource for profit. Identifies numerous health and mental health impacts of relocation.

Key Words: relocation, reservoirs, first nations, Canada

Myers, N. (2005, May). Environmental refugees: an emergent security issue. In *paper for the 13th Economic Forum, Organisation for Security and Cooperation in Europe, Prague* (pp. 23-27).

Cites 1995 estimates of forced migration especially in Africa, and also China. Acknowledges that other factors, such as poverty, are also involved in decision to move. Large numbers of potential migrants pose security issue. Ultimately policy needs to consider all refugees and not just those responding to environmental change.

Key Words: migration, poverty, security

Reuveny, R. (2007). Climate change-induced migration and violent conflict. *Political Geography*, 26(6), 656-673.

Examines huge number of migration case studies; theorizes that extreme events will become more frequent and drive displacement; argues that developed countries will see less conflict due to extreme events driven migration (a bit naive about Katrina induced conflict in receiving locations); public policy actions can reduce migration (as in Dust Bowl); suggests that advanced planning can mitigate disruptions although points out negative impacts to be more pronounced in developing countries with less planning capacity.

Key Words: migration, hazards, conflict

Cooper, J. A. G., & McKenna, J. (2008). Social justice in coastal erosion management: The temporal and spatial dimensions. *Geoforum*, 39(1), 294-306.

Considers role of social justice in managing retreating coastlines. Social justice seeks to balance the costs and benefits of policy decisions and practices on all social groups. This issue arises when private properties are at risk and seeks to shift the focus of policy making from strictly economic criteria. Ultimately, social justice involves the consideration of public subsidy for



individuals who have or may experience loss due to coastal erosion. Hard protection has been one social subsidy used in the past, but is not favored currently in the UK. Argues that social justice practices should be long-term in vision. Main lines of addressing issue: hard defenses, soft-defenses, and compensation; and compensation is the dominant social justice/sustainable option in the UK. Advocates dual consideration of temporal and spatial scales to seek balance of social justice.

Key Words: social justice, coastal erosion, compensation, scale

Tan, Y. (2008). *Resettlement in the Three Gorges Project: An Asian Perspective* (Vol. 1). Hong Kong University Press.

Review of resettlement process with the Three Gorges Project – a largely rural agricultural population was displaced by a major dam/reservoir project. Involuntary resettlement consists of two closely related social processes: the displacement of people and the reconstruction of their livelihoods. Resettlement has the potential to reverse the risks of environmental change or dislocation, but this outcome is not assured. Displacement centers around four fields: involuntary displacement caused by development projects; controlled displacement resulting from political persecution; massive labor dislocations; and disaster- induced displacement. Development projects (e.g. dams) should focus on social benefits - power, jobs, flood control, etc. Resettlement displaced farming families from floodplains to steep slopes since comparable land was not available and was not entirely effective. This policy was adjusted to move people to more distant locations to have access to comparable land. Displaced families felt they were inadequately compensated – much of funding went to receiving communities and not families. Displaced residents had little voice in the process. Women, in particular, were neglected in the process and many faced greater challenges in terms of employment mobility due to lack of planning for this part of the transition. Mixed benefits accrued to re-settlers in terms of social integration. Most felt they were in a disadvantaged situation, though by turning to host communities for assistance they developed connections in new locales.

Key Words: forced migration, reservoirs, China

Kennedy, J., Ashmore, J., Babister, E., & Kelman, I. (2008). The meaning of ‘build back better’: evidence from post-tsunami Aceh and Sri Lanka. *Journal of contingencies and crisis management*, 16(1), 24-36.

Examines emergency shelter programs after severe disasters. Points out sometimes incompatible goals of using readily available materials such as wood and concerns with deforestation. Also points to the serious issues of lack of capacity in lesser-developed countries and the need for rapid action in the wake of a calamity. Emphasizes the need to integrate development and recovery efforts. **Key Words:** migration, hazard, disaster, shelter

Reuveny, R. (2008). Ecomigration and violent conflict: Case studies and public policy implications. *Human Ecology*, 36(1), 1-13.

Considers the potential for violent conflict arising when forced environmental migration places unwelcome evacuees in new locations. Finds evidence of conflict in three case studies: Dust Bowl, Bangladesh, and Katrina. Cases support theory that environmental decline can prompt out-migration which leads to conflict at migrants’ destinations. Concludes that public policy can mitigate pressures of migration and hence conflicts.

Key Words: migration, hazard, conflict

Mittal, A. K. (2009). *Alaska native villages: Limited progress has been made on relocating villages threatened by flooding and erosion*. DIANE Publishing.

Review of progress relocating villages since an earlier 2003 report. Considers the available



federal programs that can assist. Native populations are dependent on coastal and riparian resources and climate change is increasing flood and erosion risk to many settlements. No single federal program suited to this situation. FEMA programs require disruptive event to assist with relocation, and many small communities do not have hazard mitigation plans and would not qualify for FEMA funds. Lack of single lead agency inhibits community's ability to navigate options. Most do not have professional community managers.

Key Words: relocation, policy, funding

Warner, K. (2010). Global environmental change and migration: Governance challenges. *Global environmental change*, 20(3), 402-413.

Examines response to slow-onset environmental stressors and considers how institutions and policies affect the outcome of environmentally induced migration. Points out that the divergent orientation of two principal policy tools to deal with migrants: labor humanitarian. Reviews European study that compared slow and rapid on-set migration. Resettlement does not guarantee resilience, but perhaps protects from specific threats, e.g. flooding. Describes public policies in areas where resettlement has been undertaken.

Key Words: migration, policy, environmental

Warner, K., Hamza, M., Oliver-Smith, A., Renaud, F., & Julca, A. (2010). Climate change, environmental degradation and migration. *Natural Hazards*, 55(3), 689-715.

Considers complexities of relationship between human movement and environmental factors. Key themes in the current discussion are the global scale of environmental change, chronic impacts, and human agency at center of environmental changes driving movement. Seeks to identify/isolate environmental factors in a series of case studies: Egypt, Mozambique, and Vietnam. Resettlement typically had impacts at destinations and government involvement affects outcome. Identifies several research needs: conceptual clarification in terms of definitions; improving the resettlement process and developing alternative livelihoods.

Key Words: migration, hazards, definitions

Piguet, E. (2010). Linking climate change, environmental degradation, and migration: a methodological overview. *Wiley Interdisciplinary Reviews: Climate Change*, 1(4), 517-524.

Migration induced by changing climate cannot be modeled in the same way as climate change. Growing interest in relationship and use of response to extreme events to inspire migration. Limits to ecological inference: 1. Measures often rely on specific events and not indicators of change; and 2. Exposures and responses measured at aggregate not individual level – exposing ecological fallacy. Offers critical review of different methods: area studies, individual sample surveys, time series, ethnographic methods.

Key Words: migration, climate change, environmental

Gutmann, M. P., & Field, V. (2010). Katrina in historical context: Environment and migration in the US. *Population and environment*, 31(1-3), 3-19.

Considers four types of environmental issues – environmental calamities, environmental hardships, environmental amenities, and environmental barriers – as influences in migration. Argues that calamities, hurricanes and earthquakes, prompt modest migration due to infrequency and also scale tends to be limited. Environmental hardships, such as drought, prompt more people to migrate. Environmental amenities can produce just as much in-migration as calamities produce out-migration. Environmental barriers can stymie movement to certain locations, but environmental management can manipulate environments to the point they are attractive (e.g. western water projects). Gradual environmental change and environmental



management costs have greater implications for future movement of people than calamities.

Key Words: migration, environment, amenities, hazards

Lueck, M. A. M. (2010). United States Environmental Migration: Vulnerability, Resilience, and Policy Options for Internally Displaced Persons. *Climate Change and Migration: Rethinking Policies for Adaptation and Disaster Risk Reduction*, 48.

Literature from past indicates that the most vulnerable are the most likely to be displaced permanently. Makes the case that environmental migration is a social process. Relocation exacerbates marginalization and weakens resilience. Provides UN list of guiding principles for effective environmental migration.

Key Words: migration, environmental, resilience, vulnerability, policy

Bronen, R. (2011). Climate-induced community relocations: creating an adaptive governance framework based in human rights doctrine. *NYU Rev. L. & Soc. Change*, 35, 357.

Law review traces legal strategies for community relocation and adaptive governance framework. Point out that currently hazard mitigation and recovery policies ill-suited to deal with relocation. No specific agency or program to deal with long-term climate change induced migration. Refugee assistance is available, also programs exist for relocation due to repeat floods and Superfund sites, but these are after-the-fact, not anticipatory.

Key Words: relocation, policy, climate change, equity

Black, R., Adger, W. N., Arnell, N. W., Dercon, S., Geddes, A., & Thomas, D. (2011). The effect of environmental change on human migration. *Global Environmental Change*, 21, S3-S11.

Considers a number of drivers that impel people to migrate and then considers environment as a factor that influences those drivers. Conceptual models often neglect existing patterns of human mobility; often overlook existing links between migrant sources and destinations. Offers framework that can be used to guide policy development and to develop scenarios on migration flows.

Key Words: migration, environmental, destinations

Black, R., S.R. Bennett, S. M. Thomas, and J.R. Beddington, Migration as Adaptation, *Nature* 478 (2011): 447-49.

Makes argument that environmental migration is not entirely negative. British study finds that climate change will alter migration flows, and that greatest risks will be borne by those least able to adjust. But, it will also offer opportunities for improving conditions for some.

Environmental influences will increase in importance among the numerous drivers.

Environmental change can increase incentives to move, while also limiting the capacity (poor crop yields, less income to pay for move). Migration can strain capacity of receiving locations, especially cities. Migration might be the best means to allow people to diversify income and build resilience – as long as channels for voluntary migration established. Suggests “circular migration” or seasonal labor as one way to address environmental stresses without relying on permanent relocation.

Key Words: migration, environment, climate change, policy

McLeman, R. A. (2011). Settlement abandonment in the context of global environmental change. *Global Environmental Change*, 21, S108-S120.

Considers long-term human activity through the Holocene. Environmental conditions long considered a factor in migration, but decisions seldom hinge on simple “stimulus-response” sequence. Settlement abandonment best seen as multi-stage process that involves increasing vulnerability, demographic impacts, and growing out-migration. Analyzes multiple historic



examples. Policy makers face considerable challenge preparing for and overseeing movement.
Key Words: migration, climate change, settlement abandonment

Hugo, Graeme, Lessons from past forced settlement for climate change migration, in *Migration and Climate Change*, E. Pigué, A. Pecoud, and P. de Guchteneire, New York: Cambridge University Press, 2011, 260-88.

Examines lessons learned from past forced migrations due to extreme events. Notes variables: temporary v. permanent migration, slow on-set v. rapid on-set, disparate desires of migrants to return. Advocates expanding existing emergency relocation mechanisms and institutions to deal with climate change issues. Lessons: Resettlement programs are not cheap and need adequate funding throughout their lifetime; time is essential to adequately and thoroughly plan and sustain projects; displaced people need to be involved in planning and execution to incorporate cultural and social dimensions; engagement with destination communities also essential; tapping into existing social networks makes more effective; provisions to restore livelihoods of displaced populations necessary; recognition of differences of displaced populations; and provisions to restore social capital of displaced populations at destinations.

Key Words: migration, climate change, forced, lessons learned

Oliver-Smith, A. (2011). Sea level rise, local vulnerability and involuntary migration. *Migration and climate change*, 160-185.

Adaptation is the link between human and natural systems. Distinguishes between adaptation and coping—resettlement to impoverished refugee camp is not adaptation, but short-term coping. Selective migration can free up limited resources and enable some to remain in susceptible locations. Adaptation to sea level rise can be achieved through technological and social organizational means. Calls for policy-relevant research to mitigate impacts of climate change on potential migrants and guide just resettlement.

Key Words: sea level rise, climate change, migration, policy, equity

Kelman, I., Ashmore, J., Leon, E., & D'urzo, S. (2011). From research to practice (and vice versa) for post-disaster settlement and shelter. *Environmental Hazards*, 10(3-4), 262-278.

Review of case studies of post-disaster shelter – short- and long-term. Conditions after major disruptions are considerably different than deliberate resettlement programs. Key lessons: decisions often driven by funding availability in short window of media exposure; few longitudinal studies of sheltering and this is a critical missing element; there is a growing challenge with increased concentration of population in cities; shelter/settlement operations need to focus on supporting locally driven decisions; better preparations before disaster can soften blow of disruption; care need to be taken to ensure equity in shelter, not perpetuating pre-disaster inequities.

Key Words: hazards, disasters, shelter

Cheong, S. M. (2011). Policy solutions in the US. *Climatic change*, 106(1), 57-70.

Considers the policy implications of several related options: relocation, retreat, building standards/codes, insurance, and combinations of compatible policies. Relocation tends to foster strong opposition. Local governments tend to prefer setbacks (retreat) and zoning and building codes to limit encroachment on susceptible coastal zones. Insurance is available now and has encouraged development in risk zones. The author recommends searching for compatible policies that impose less community stress and that offer long-term protection.

Key Words: relocation, retreat, policy, coastal adaptation



King, R. (2012). Geography and migration studies: Retrospect and prospect. *Population, Space and Place*, 18(2), 134-153.

Reviews article on general migration theory. Considers both traditional views of migration as a spatial process and newer scholarship that relies on critical approaches and qualitative methods. Points out important tensions between migration as movement and process of settling (migrants looking for a place to settle); also the need to continue thinking about mobility as involving “real people moving in real space” – not just non-human forms of mobility. Offers typology of migration that considers time, distance, life-cycle, geographical, timing, and familial. It is more complex than the early work and poses a new frame of reference. And considers key works on migration theory from early quantitative/population geography approaches to post cultural turn work.

Key Words: migration, theory, diaspora

Oliver-Smith, A. (2012). Debating environmental migration: society, nature and population displacement in climate change. *Journal of International Development*, 24(8), 1058-1070.

Considers terminology and legal context for environmental migrants. Argues that many discussions naturalize and de-politicize relationship between migration and climate change, and nature-society relations inadequately problematized. Stresses an approach that sees nature and society as operating in relation to each other. Draws distinctions between nature (primal/pristine) and environment (socially constructed). Resettlement efforts might be instigated by natural hazard, but carried out through social process – political, economic, cultural means.

Key Words: migration, legal, environmental

Alexander, K. S., Ryan, A., & Measham, T. G. (2012). Managed retreat of coastal communities: understanding responses to projected sea level rise. *Journal of Environmental Planning and Management*, 55(4), 409-433.

Makes the case for preparatory institutional arrangements to deal with relocation needs.

Argues that it is less expensive to carry out planned retreat policies than ad hoc, after-the-fact emergency responses. Notes that community involvement is necessary in effective policies.

Seems a bit naive about community response to term of “retreat.”

Key Words: migration, sea level rise, managed retreat

Marino, E. (2012). The long history of environmental migration: Assessing vulnerability construction and obstacles to successful relocation in Shishmaref, Alaska. *Global environmental change*, 22(2), 374-381.

Case study of Inupiat community in Alaska. Formerly a highly mobile society, flexibility enabled adjustment to hazardous events. In recent years society has established fixed communities which reduce its capacity to adjust to changing circumstances. Historical inequity produces vulnerability. Points out that commonly marginalized populations live in areas subject to environmental change and are burdened with consequences of colonial policies.

Key Words: relocation, hazards, sea level rise, vulnerability

Mendoza, C., & Morén-Alegret, R. (2013). Exploring methods and techniques for the analysis of senses of place and migration. *Progress in Human Geography*, 0309132512473867.

Sense of place can be so intense it becomes central to individuals’ identity. But places are being reconstituted by mobile populations. Analyzes and critiques qualitative research methods



such as semi-structured interviews and bio-discourse analysis, as well as new critical and feminist contributions. Reviews audio-visual methods as well, such as community/participatory mapping and geovisualization. Provides an overview of quantitative methods in gauging sense of place as well.

Key Words: migration, sense of place, qualitative methods

Lazrus, Heather, *Sea Change: Island Communities and Climate Change*, Annual Review of Anthropology 41 (2012): 285-301.

Literature review of discussions on islands and their role in assessing threats of climate change. Islands presented as canaries in the coal mine in terms of climate change; while being low contributors to problem. Stresses need for deeper temporal perspective and notes that islands pose distinct challenges in terms of migration and resettlement. Small islands may not have space for retreat and other small islands may share similar threatened environmental settings. This situation presents acute challenges when national sovereignty is involved.

Key Words: climate change, islands, migration

de Vries, D. H., & Fraser, J. C. (2012). Citizenship rights and voluntary decision making in post-disaster US floodplain buyout mitigation programs. *International journal of mass emergencies and disasters*, 30(1), 1-33.

Considers relocation as a hazards mitigation strategy when other non-structural procedures are not feasible. It is a process that U.S. policy shies away from because of property rights issues. Relocation is the most socially dramatic and permanent solution of floodplain hazard mitigation. A truly voluntary program allows impacted populations, including marginal groups, to meet with authorities, negotiate, and share in control of decisions. In a review of case studies, buyout managers tend to work under perceived time constraints and consider efficiency a primary objective. Most participants came away from process feeling that their decisions were voluntary. Nonetheless, author advocates that decision making should not be compressed into narrow "window of opportunity" after disruptive event to ensure long-term satisfaction of impacted populations.

Key Words: relocation, floods, buyout

Douglas, R. M. (2012). *Orderly and humane: The expulsion of the Germans after the Second World War*. Yale University Press.

Post-World War II forced migration of some 12 million Germans from neighboring countries onto German soil (political not environmental drivers). During the war, Germany excelled at moving large numbers of people quickly, but did not have comparable success with resettlement. Movement was an effort to diminish the possibility of future German expansion to re-incorporate ethnic kin in one state. Did not consider previous mass forced migrations for tools to make effective. Multi-phase process: wild expulsions in immediate aftermath of war were extremely inhumane; series of detention camps (often designed to replicate German concentration camps with huge fatality rates); and organized expulsions and smuggling of refugees. Some 3.5 million moved during organized expulsions. Huge removals to Germany complicated job of occupying powers in terms of post-war reconstruction.

Concludes: large-scale government directed relocations not practicable unless carried out quickly, but when done quickly not humane. Generally done in a crisis situation; decision on who to relocate often select "scapegoats," governments seldom willing to invest funds to carry out safe and humane transfer; if transfer not done quickly in political situation, underlying causes for transfer will likely dissipate (not so for environmental change); expelled population not prone to acquiesce; and expulsions seldom a panacea for controlling territory.

Key Words: forced migration, Europe, World War II



Kates, R. W., Travis, W. R., & Wilbanks, T. J. (2012). Transformational adaptation when incremental adaptations to climate change are insufficient. *Proceedings of the National Academy of Sciences*, 109(19), 7156-7161.

Considers the concept of transformation adaptation – novel or dramatically enlarged adaptations to enable society to cope with sizable risks and vulnerabilities, as distinct from incremental adaptations. Promotes scaling adaptation to the environmental challenge, experimenting with previously untried adaptations, and considering the options of new locations to cope with changing environments.

Key Words: adaptation, climate change

Wishart, D. J. (2013). *The Last Days of the Rainbelt*. U of Nebraska Press.

Examines migration from U.S. great plains after 19th century drought; much of migration was short- distance (farm to county seat), and included those with fewest resources were the most likely to stay (unable to finance move) and sought public aid; families that left tended to turn back east where they had family support.

Key Words: drought, migration

Maldonado, J. K., Shearer, C., Bronen, R., Peterson, K., & Lazrus, H. (2013). The impact of climate change on tribal communities in the US: displacement, relocation, and human rights. *Climatic Change*, 120(3), 601-614.

Tribal communities make only a very modest contribution to conditions driving climate change, but some coastal groups face greatest threat to current settlements. Authors raise sensitive issue among indigenous people about past relocation programs. Considers three case studies: Kavilina an Inuipiat community north of the Arctic circle; Isle de Jean Charles, Louisiana, Newtok also in Alaska. Documents how communities are charting their own courses. Challenges arise from lack of central federal authority. Lists lessons learned: 1930s Resettlement Administration found ways to preserve cultural heritage by allowing them a voice in the process; community participation essential. Recommend incorporating elements of the UN's Guiding Principles on Climigration to ensure human rights protected.

Key Words: relocation, equity, climate change, policy

Joarder, M. A. M., & Miller, P. W. (2013). Factors affecting whether environmental migration is temporary or permanent: Evidence from Bangladesh. *Global Environmental Change*, 23(6), 1511-1524.

Considers whether or not environmental migrants move temporarily or permanently in a Bangladesh case study. Statistical analysis that leads to conclusions that in situations where environmental change has produced a loss of assets or increased insecurity, migration tends toward permanence. Also in situations of conflict along with environmental challenges, migration may be permanent. Suggests that effective assistance in the form of refugee camps prompts more permanent relocations.

Key Words: migration, environment, persistence

Morrissey, J. W. (2013). Understanding the relationship between environmental change and migration: The development of an effects framework based on the case of northern Ethiopia. *Global Environmental Change*, 23(6), 1501-1510.

Environmental stresses contribute to driving migration, but migration is only one of several possible responses to environmental change. Complex interaction among migrants seeking to maintain livelihoods and provide education for children. Where government places schools (and



other infrastructure) shapes decisions. In addition to influences to migrate, “barrier effects” can inhibit (property ownership, age, dependents). Makes the argument that migration is not an end point – does not offer panacea or lock migrants into poverty. Migration of large numbers can drive up costs at receiving location. Concludes environmental stress only one of several factors in decision to move.

Key Words: migration, environmental change, policy

Bronen, R., & Chapin, F. S. (2013). Adaptive governance and institutional strategies for climate-induced community relocations in Alaska. *Proceedings of the National Academy of Sciences*, 110(23), 9320-9325.

Adaptive governance and relocation; “climigration” - permanent relocation due to climate induced displacement - required to protect community; current federal policy seeks to help rebuild in sites of devastation; although some funds are available for pre-disaster mitigation in the form of relocation; voluntary property acquisition; Alaskan communities cannot compete on cost-benefit formula (high costs- low benefits); permanence of Alaskan communities induced by government programs (schools etc); need to consider relocation as economic option (rather than repeated rebuilding)

Key Words: relocation, climate change, policy

Black, R., Arnell, N. W., Adger, W. N., Thomas, D., & Geddes, A. (2013). Migration, immobility and displacement outcomes following extreme events. *Environmental Science & Policy*, 27, S32-S43.

International concern with potential for increasing extreme events to accelerate migration. Poses question, if migration not solely dependent on slow-onset environmental change, are extreme events also a prime impetus for movement? Case studies suggest extreme events can increase likelihood to move, but are not the sole factor, more complex than that. Social factors, such as absence of planning for extreme events, are significant. Also pre-existing patterns are influential. Migration following extreme events shares multi-causal influences with slow-onset change.

Key Words: migration, displacement, hazards, planning

Martinich, J., Neumann, J., Ludwig, L., & Jantarasami, L. (2013). Risks of sea level rise to disadvantaged communities in the United States. *Mitigation and Adaptation Strategies for Global Change*, 18(2), 169-185.

Three basic adaptations: hold back the sea, accommodate receding shoreline, or retreat. Asks whether adaptation strategies rely on economic efficiency – investment in protecting most valuable costs in terms of dollar values. What are the environmental justice implications of this strategy? Concludes that 9 % of land area with 4 % of coastal areas exposed to SLR have highest vulnerable population; while 46 % of land and 22% of population falls within next highest category of exposure. More land is likely to be abandoned, rather than protected, where population is in high vulnerability category. Results indicate socially vulnerable populations very likely to be disproportionately impacted by SLR.

Key Words: climate change, sea level rise, adaptation

Siders, A. (2013). Managed Coastal Retreat: A Legal Handbook on Shifting Development Away from Vulnerable Areas. *Columbia Public Law Research Paper*, (14-365).

Extensive review of legal/policy framework for managing retreat from sea level rise. Offers tools for guiding re-development in safe locations. Based on series of case studies offers lessons learned: plan for change, combine techniques and tools for most effective



implementation, include provisions for enforcement/follow-through, restrict armoring aggressively, restrict building in inappropriate locations, push for relocation through acquisition. Recommends using FEMA buyout funds (at odds with Bronen work which reports not a viable source for planned movements). Offers set of successful case studies.

Key Words: managed retreat, policy

Bierbaum, R., Smith, J. B., Lee, A., Blair, M., Carter, L., Chapin III, F. S., & Verduzco, L. (2013). A comprehensive review of climate adaptation in the United States: more than before, but less than needed. *Mitigation and adaptation strategies for global change*, 18(3), 361-406.

Large scale literature review on climate adaptation in U.S. Considerable adaptation planning underway, but few measures have been implemented. Obstacles include lack of funding, politically driven skepticism in climate change and overall uncertainty in its impacts; no single solution hampers consistent planning; climate. Argues that climate change vulnerability complicated by other stressors such as pollution and habitat fragmentation; and no effective evaluation of climate change adaptation to date. Climate change adaptation can fulfill other social goals, e.g. sustainability.

Key Words: climate change, adaptation, planning

Iuchi, K. (2014). Planning Resettlement After Disasters. *Journal of the American Planning Association*, 80(4), 413-425.

Population displacement has been increasing due to disasters. Paper considers the planning process and time scales for implementing resettlement projects in the wake of disruptive events using Japanese case studies as basis for analysis. Contrasts communities that resettled or rebuilt after earthquake. In the long-term resettlement was a less expensive and more expeditious process, but speed did not translate into lasting satisfaction among residents.

Key Words: resettlement, rebuilding, community satisfaction, policy

Sipe, N., & Vella, K. (2014). Relocating a flood-affected community: good planning or good politics?. *Journal of the American Planning Association*, 80(4), 400-412.

Reviews experiences with community relocation following a disaster. Identifies best practices and considers their effectiveness in Australian case study. Offers four key messages: relocation can be viable option when land is available; process can be done quickly with community buy-in; although existing planning regulations can complicate process; and effective leadership is key to effective relocation.

Key Words: relocation, disaster, planning

Okada, T., Haynes, K., Bird, D., van den Honert, R., & King, D. (2014). Recovery and resettlement following the 2011 flash flooding in the Lockyer Valley. *International Journal of Disaster Risk Reduction*, 8, 20-31.

Discusses land swaps as means to reduce future fatalities and recovery costs, but reveals that resettlement has costs in terms of social vulnerability. Key factors in successful resettlement following a flood include: swift actions by multiple government bodies, community engagement and education in developing process, proximity of resettlement site to impacted site, and programs to support economic relocation along with residential movement.

Key Words: hazard, resettlement, land swap



Billig, M. Effects of the forced resettlement of a community from an agricultural settlement to a high-rise building. *GeoJournal*, 1-15.

Documents the forced move of residents from a village setting, to a high-rise tower that led to the dissolution of community within several years. Considers the impacts of environmental change on culture shift. Argues that dramatic change can impel rapid change in cultural values. Lack of social stability in high-rise led to wholesale change in social structure.

Key Words: forced relocation, social stability, culture change

Jennings, J. A., & Gray, C. L. (2015). Climate variability and human migration in the Netherlands, 1865–1937. *Population and environment*, 36(3), 255-278.

Statistical analysis of relationship between temperature variation, precipitation, and flooding and long/short distance migration. Considers migration in light of Malthusian concepts of stress-induced movement. Short distance migration linked to temperature variations and stability with climatic optimum; there is little apparent link between climate and long-distance moves in recent period, but high temperatures and low precipitation have prompted historical moves. Negative effect of flooding on international migration - floods rare and likely prompted adaptation rather than movement.

Key Words: climate change, migration, stress, hazards

Pei, Q., & Zhang, D. (2014). Long-term relationship between climate change and nomadic migration in historical China. *Ecology and Society*, 19, 68-68.

Considers the relationship between migration of nomadic societies in ancient China. Suggests pastoral societies in the past were more susceptible to climate change and also more mobile. Considers relationship between precipitation, temperature, and nomadic migrations over several centuries. Nomadic migration peaks were contemporary with low rainfall, low temperatures, or both. Data suggest that low precipitation was a trigger. Concludes that while there may have been pull factors, the push of low precipitation was a powerful force. Movement of pastoralists into regions of sedentary agriculture resulted in conflicts.

Key Words: migration, climate change, China

Binder, S. B., Baker, C. K., & Barile, J. P. (2015). Rebuild or relocate? Resilience and postdisaster decision-making after Hurricane Sandy. *American journal of community psychology*, 1-17.

Compares the participation in two communities impacted by Hurricane Sandy in the New York home buyout-relocation program. Two similar communities, in terms of demographics, resilience metrics, and storm impacts exhibited very different responses to buyout program. One community opted for relocation while the other chose to rebuild in place. This reflected different views of community resilience – one group saw reducing risk as preferable, other sought to rebound. Concludes that local context significant in decisions and actions of neighbors a powerful force.

Key Words: hazard, relocation, resilience, buyout

WEBSITES AND ONLINE RESOURCES

Federal Emergency Management Agency. (1995). National mitigation strategy. Retrieved from <http://fas.org/irp/agency/dhs/fema/mitigation.pdf>

National plan to increase public awareness of hazards and to significantly reduce risk. Resettlement/relocation after hazards events is a minor component of this strategy.

Key Words: resettlement, risk reduction, policy



Cerna, M. M. (2000). Impoverishment risks, risk management, and reconstruction: A model of population displacement and resettlement, UN symposium on hydropower and sustainable development, Beijing, China. Retrieved from

http://www.responsiblemines.org/attachments/254_population_resettlement_IRR_MODEL_cernea.pdf

Lengthy discussion of resettlement. Focuses on issues such as impoverishment due to loss of land or livelihood; methods to restore livelihoods, and recommends improvements in current resettlement process: points out flaws in risk assessment and cost benefit analysis, and recommends participation of re-settlers and also identifies research needs. Offers “impoverishment risks and reconstruction (IRR) model for resettling displaced populations”: (a) to explain what happens during massive forced displacement – a task very important in itself, and (b) to create a theoretical and safeguarding tool capable of guiding policy, planning, and actual development programs to counteract these adverse effects.

Key Words: migration, forced, dams

World Bank. (2004). Involuntary resettlement sourcebook. Retrieved from http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2004/10/04/000012009_20041004165

[645/Rendered/PDF/301180v110PAPE1ettlement0sourcebook.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2004/10/04/000012009_20041004165/Rendered/PDF/301180v110PAPE1ettlement0sourcebook.pdf)

International perspectives on policies and legal framework for guiding and accommodating resettlement programs.

Key Words: resettlement, policy, international

Horne, B. (2006). What is the status of ‘environmental refugees under international and Australian law?’ Civil Liberties Australia.

<http://www.cla.asn.au/Articles/060203BrookeHome.pdf>

Reviews definitions of environmental refugees and their status under international law; offers recommendations to protect this group of migrants and practices such as climate adaptation.

Key Words: refugee, international, policy

Katharine, D., Shirin, H. (2006). The changing face of the gulf coast: Immigration to Louisiana, Mississippi, and Alabama.

<http://www.migrationpolicy.org/article/changing-face-gulf-coast-immigration-louisiana-mississippi-and-alabama/>

Brief examination of migration history and recent trends that have elevated Hispanic and Asian populations in Gulf Coast.

Key Words: migration, Asian, Hispanic, Gulf Coast

International Organization for Migration (UN). (2009). Migration, environment and climate change: Assessing the evidence. Retrieved from

http://publications.iom.int/bookstore/free/migration_and_environment.pdf

Focuses on key areas of research relating to the topic of migration, the environment and climate change, covering issues such as data challenges, research methods, sudden environmental and slow onset events, and policy responses, reviews research to date, and offers an overview of innovative approaches to measuring and collecting data on the migration and environment nexus. Point out that delta regions are particularly vulnerable.

Key Words: migration, climate change



U.S. Government Accountability Office. (2012). Refugee resettlement: greater consultation with community stakeholders could strengthen program: report to congressional requesters, United States. Washington: Government Accountability Office. Retrieved from <http://www.gao.gov/assets/600/592975.pdf>

Federal review of refugee resettlement program. Advocates for stakeholder engagement in the process.

Key Words: refugee, resettlement, community engagement

International Organization for Migration (UN). (2012). Climate change, environmental degradation, and migration. Retrieved from http://publications.iom.int/bookstore/free/RB18_ENG_web.pdf
UN workshop; Recognizes mult-causal drivers, although environmental drivers increasingly important; argues that capacity building best accomplished at local level with community involvement, main-streaming risk reduction, systematic and long-term planning and budgeting allows for greatest flexibility; encourages migration policy be linked to other policies.

Key Words: environmental migration, policies

Siders, A. (2013). Managed coastal retreat (manual). New York: Columbia Center for Climate Change Law, Columbia Law School. Retrieved from http://web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/Fellows/ManagedCoastalRetreat_FINAL_Oct%2030.pdf

Extensive analysis of policy and legal issues in managed retreat from coastlines.

Key Words: managed retreat, policy

Dickinson, S.B. (2013). Post-disaster motilities: Exploring household relocation after the Canterbury earthquakes. Retrieved from http://ir.canterbury.ac.nz/bitstream/10092/8797/2/thesis_fulltext.pdf

Hudson, M. (2015). Huffington Post. Evicted and abandoned. Retrieved from <http://projects.huffingtonpost.com/worldbank-evicted-abandoned>

Journalist account of human displacement due to World Bank funded projects including dams, mineral extraction, forest conservation, tourism, and other non-environmental projects; highly critical of investment in projects the forcibly displaced; includes in depth case studies of gold mining and water pollution in Peru.

Key Words: displacement, relocation, World Bank

ADDITIONAL TITLES

Environmental Migration

Mileti, D. S., & Passerini, E. (1996). A social explanation of urban relocation after earthquakes. *International Journal of Mass Emergencies and Disasters*, 14(1), 97-110.

Harris, C. (2011). *The resettlement of British Columbia: essays on colonialism and geographical change*. UBC Press.

Keane, D. (2003). Environmental Causes and Consequences of Migration: A Search for the Meaning of Environmental Refugees, *The Geo. Int'l Env'tl. L. Rev.*, 16, 209.



Fitzgerald, P., & Lambkin, B. K. (2008). *Migration in Irish history, 1607-2007*. Hampshire and New York: Palgrave Macmillan.

Imura, M., & Shaw, R. (2009). Challenges and potentials of post-disaster relocation. *Asian Journal of Environment and Disaster Management*, 1(2).

Wilbanks, T. J., & Kates, R. W. (2010). Beyond adapting to climate change: embedding adaptation in responses to multiple threats and stresses. *Annals of the Association of American Geographers*, 100(4), 719-728.

Warner, K. (2010). Global environmental change and migration: Governance challenges. *Global environmental change*, 20(3), 402-413.

Magness, P. W., & Page, S. N. (2011). *Colonization after emancipation: Lincoln and the movement for black resettlement*. University of Missouri Press.

Adams, H. (2012). *Migration decision-making under environmental change: Place utility, mobility and ecosystem services in highland Peru* (Doctoral dissertation, School of Environmental Sciences, University of East Anglia).

Faist, T., & Schade, J. (2013). *Disentangling Migration and Climate Change*. Springer.

Edited volume, ch 1 - definitions and overview of current debate over relationships of climate change to human migration; ch 6 defining environmental migration in terms of policy relevance; ch 8 proposal for planned relocations; ch 9 displacement due to disaster

Fatorić, S., & Morén-Alegret, R. (2013). Integrating local knowledge and perception for assessing vulnerability to climate change in economically dynamic coastal areas: The case of natural protected area Aiguamolls de l'Empordà, Spain. *Ocean & Coastal Management*, 85, 90-102.

Hallegatte, S., Green, C., Nicholls, R. J., & Corfee-Morlot, J. (2013). Future flood losses in major coastal cities. *Nature climate change*, 3(9), 802-806.

Cross, J. A. (2014). Disaster devastation of US communities: long-term demographic consequences. *Environmental Hazards*, 13(1), 73-91.

Fatorić, S., Morén-Alegret, R., & Kasimis, C. (2014). Exploring climate change effects in Euro-Mediterranean protected coastal wetlands: the cases of Aiguamolls de l'Empordà, Spain and Kotychi-Strofylia, Greece. *International Journal of Sustainable Development & World Ecology*, 21(4), 346-360.

Solari, S., & Gambarotto, F. (2014). Territorial rooting as an element of well-being. *Review of Social Economy*, 72(4), 504-522.

Ferris, E. (2015). Climate-Induced resettlement: Environmental change and the planned relocation of communities. *SAIS Review of International Affairs*, 35(1), 109-117.
Informal Settlement



- Harrison, P. (1992). The policies and politics of informal settlement in South Africa: A historical perspective. *Africa Insight*, 22(1), 14-22.
- Steinberg, F. (2007). Housing reconstruction and rehabilitation in Aceh and Nias, Indonesia—Rebuilding lives. *Habitat International*, 31(1), 150-166.
- Leon, E., Kelman, I., Kennedy, J., & Ashmore, J. (2009). Capacity building lessons from a decade of transitional settlement and shelter. *International Journal of Strategic Property Management*, 13(3), 247-265.
- Zetter, R., & Boano, C. (2009). 11 Space and place after natural disasters and forced displacement. *Rebuilding after disasters: From emergency to sustainability*, 206.
- Uehara, M., Inoue, T., & Shintaku, G. (2015). The Favorable settlement relocation process after the 2011 earthquake and tsunami disaster in Japan by evaluating site environments and accessibility. *International Review for Spatial Planning and Sustainable Development*, 3(1), 119-130.
- Kitzbichler, S. (2011). Built back better? Housing reconstruction after the Tsunami disaster of 2004 in Aceh. *Asian Journal of Social Science*, 39(4), 534-552.
- Kelman, I., Ashmore, J., Leon, E., & D'urzo, S. (2011). From research to practice (and vice versa) for post-disaster settlement and shelter. *Environmental Hazards*, 10(3-4), 262-278.
- Félix, D., Branco, J. M., & Feio, A. (2013). Temporary housing after disasters: A state of the art survey. *Habitat International*, 40, 136-141.

Superfund Relocation

- USEPA. (1999). Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions. Retrieved from <http://www.epa.gov/superfund/community/relocation/intpol.htm>
- Vincent, S. G., & Shriver, T. E. (2009). Framing contests in environmental decision-making: a case study of the Tar Creek (Oklahoma) Superfund site. *American Journal of Environmental Sciences*, 5(2), 164-178.
- Keyt, C. L. (2010). *A place called home: Place, culture, and politics in three communities near superfund sites*. Arizona State University.
- Abate, R. S. (2013). Corporate responsibility and climate justice: A proposal for a polluter-financed relocation fund for federally recognized tribes imperiled by climate change. *Fordham Envtl. L. Rev.*, 25,10.