

**Self-Identity and Sense-of-Place: Some Thoughts Regarding Climate Change Adaptation
Policy Formulation**

by Charles N. Herrick

Abstract

The formulation and implementation of policies addressing the need to adapt to climate change can be difficult due to the long-term, uncertain nature of localized climate change impacts and associated vulnerabilities. Difficulties are intensified because policy interventions can involve high cost, foregone opportunity, and changes to people's way of life. Factors such as these can spur an uncritical, or reflexive, negativity to efforts to address the projected impacts of climate change. Such reflexive negativity is often trivialized in pejorative terms, such as 'NIMBYism.' However, stakeholder reluctance to accept the need for adaptation planning may be strongly influenced by self-perceptions that are resistant to change. People's sense-of-self and sense-of-place may contribute to an "imaginative intangibility" with respect to climate adaptation, blocking thoughtful reflection and deliberation regarding alternative approaches and providing rationale for cheating the system once implemented. If acknowledged and addressed in a sensitive manner, it may be possible to manage these self-perceptions to elevate public discourse about climate change and help create situationally appropriate adaptation policy regimes.

Key words

Sense-of-place, sense-of-self, self-identity, climate change adaptation, policy instruments, policy regime

Introduction

Publication of the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report reaffirms what is already known: even major reductions in greenhouse gas emissions will not be sufficient to avoid many of the projected impacts of global climate change (IPCC, 2014).

Concerted effort is thus needed to support socio-economic and natural systems threatened by climate change. The prospect of wide-spread, effective adaptation, however, remains challenging.

Many localities encounter governance challenges as they strive to implement climate change adaptation programs (Vogel et al., 2016; Magnon, 2015; Anguelovski and Carmin, 2011; Funfgeld, 2010; Pielke, 1998; Rayner and Malone, 1997). The formulation of climate change adaptation policy involves decision-making with regard to anticipatory strategies, which can be difficult and contentious due to the long-term, uncertain nature of localized climate change impacts and associated vulnerabilities. These difficulties are intensified because policy interventions can involve high cost, foregone opportunity, property foreclosure or abandonment, residential relocation, alteration of occupations and professional activity, attenuation of social networks, and changes to traditional ways of life (Bierbaum et al., 2014; Turner and Clifton, 2009). Factors such as these can spur an uncritical, or reflexive, negativity to efforts to prepare for the impacts from climate change.

In the summer of 2011, the state of North Carolina, Coastal Resources Commission planned to activate a website with an interactive mapping feature enabling residents to enter their address and obtain a visual representation of whether their property would be inundated under an IPCC

100 year forecast of sea level rise. The website had no regulatory implications, and was merely intended as a mechanism for the dissemination of information. Residents of the North Carolina Outer Banks immediately mobilized and sought to halt activation of the website, arguing that the forecast itself was a greater threat than climate induced sea level rise because it would prompt draconian policy reactions (abandonment) and divestment in their community (Montgomery, 2014; Stiles, 2015). Such negativity is often trivialized in pejorative terms, such as NIMBYism, denial, short-sightedness, fear of change, maladaptation, or conservatism (Magnan, 2015; Montgomery, 2014; Stiles, 2014). However, stakeholder reluctance to embrace – or even accept – efforts to formulate policy and plan for climate change may be strongly influenced by participant values and self-perceptions that are foundational and resistant to change. Often dismissed as self-interested parochialism, resident apprehensions to climate adaptation planning activities may represent something more complex, nuanced, and important. Put differently, people’s sense of self and place may contribute to a sort of “imaginative intangibility” with respect to certain types of climate adaptation (Few et al., 2007: 52). Practically speaking, self- or place-identities may make it difficult for some stakeholders to engage in anything other than superficial discussion concerning adaptive planning, block thoughtful reflection regarding alternative policy approaches, encourage ‘game playing’ during the planning process, and provide rationale for cheating the system once implemented. However, if acknowledged and addressed in a sensitive and empathetic manner, it may be possible to manage or even harness these self-perceptions to elevate public discourse about climate change and help create situationally appropriate adaptation policy and management regimes (Adger, 2016; Scyphers et al., 2014).

About this essay

This paper is an interdisciplinary critical analysis of scholarship dealing with self- and place-constructs and their potential application in climate change adaptation policy regimes. The first section of this essay is a literature-based review of key anthropological and sociological concepts dealing with individuals and the nature of their relationship with specific places, emphasizing how constructs such as self and place can become comingled. In the second section I draw from the literature of applied policy analysis to explore how self- and place-constructs might be more meaningfully addressed in the climate change adaptation policy process, focusing on three typical phases of policy development and implementation: (1) the framing of policy issues, (2) assessment and selection of alternative policy instruments, and (3) post-implementation program management, including monitoring and evaluation. This section draws upon standard concepts and tools of policy analysis, including comparative review of alternative policy instruments and the Lasswellian policy process. Without attempting to reach definitive conclusions, the third section articulates some pragmatic and normative considerations that should fuel circumspection regarding efforts to more fully address self- and place-constructs in the policy context; while also exploring factors that might provide support for fuller application of these constructs in climate adaptation policy regimes. Section four provides an illustration of how U.S. local and municipal governmental units already address issues like those that would be encountered in a serious effort to address self- and place-constructs within the policy arena. In the concluding section, I argue that local governmental units can and should consider stakeholder outlooks and values engendered through self- and place-constructs as they grapple with issues of climate change adaptation.

Putting adaptive interventions in the context of culture, sense-of-place, sense-of-self, and the relationship between place and self

At its broadest level of formulation, culture is defined as “symbols that express meaning, including beliefs, rituals, art and stories that create collective outlooks and behaviors, and from which strategies to respond to problems are devised and implemented.” (Adger et al., 2013: 112). Culture includes “patterns ... of ... behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of ... historically derived and selected ... ideas and ... their attached values.” (Enserink, 2007: 3). As articulated by Schein, “... culture is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that have worked well enough to be considered valid, and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to problems.” (Schein, 1984: 3). As Ward Goodenough describes it, “Culture...consists of standards for deciding what is, ... for deciding what can be, ... for deciding what one feels about it, ... for deciding what to do about it, and ... for deciding how to go about doing it.” (quoted in Kessing, 1974: 77).

A place is not merely a compilation of physical factors or set of geographic coordinates, but rather a cultural construct. Rather than brute empirical phenomena, places are an amalgam of geography, artifacts, social relationships, resident self-images, symbolic meanings, and the impartment of values. The idea of people ascribing certain qualities to places, such as the embodiment of ethical or cultural values, has a long history in the social sciences (Firey, 1945; Kudryavtsev et al., 2008; Mulligan, 2014). Drawing on case-based research, most of which is interpretive, ethnographic, and/or phenomenological, it has been demonstrated that “places are nested collections of human experience, locations with which people and communities have particular affective relationships.” (Hess et al., 2008: 468). Places, as Burley and colleagues

write, are “reflections of ourselves” (Butley, 2005: 3). Such constructions of place can be enduring and deep, as is the fealty to traditions that facilitate survival there. According to Tuan, personal experiences are at the heart of place creation: “What begins as an undifferentiated space becomes place as we get to know it better and endow it with value” (Tuan, 1974: 6). Once established, “a place meaning achieves coherence and longevity...[providing] a justification for certain types of events while limiting others, and gives places an identity not in terms of an open and changing milieu but as a statement of truth.” (Shumway and Jackson, 2008: 435). And “once a particular view of place becomes dominant, a ‘perceptual lock in’ occurs that is difficult to change...” (ibid). This suggests that climate-induced changes to a given locale may not automatically translate into a vulnerability or risk, but may instead be accommodated or dismissed within other aspects of a place’s story line.

Drawing on the seminal work of Erving Goffman, the concept of self-identity pertains to a specified role that an individual embraces and affirms to others in social situations (Goffman, 1959). Self-identity may be based on factors such as occupation, familial ties, place of residence, or association with a particular region or geographic feature (Burley et al., 2005). It is well-established within the anthropological, sociological and allied literatures that individual and group identities are often associated with a specific area or place (Adger et al., 2013; Hess et al., 2008; Escobar, 2001). As Cantrill and Senacah describe this, “it is from the vantage of what we have coined a ‘sense of self-in-place’ that humans understand and process various claims and arguments regarding the human relationship to and responsibilities for managing the natural world.” (Cantrill and Senacah, 2001: 185). A person’s attachment to place may form an aspect of their identity and represent values such as integrity or self-reliance. Focused on the

community of Grand Isle, Louisiana, Exhibit 1 provides an illustration of self- and place-constructs and their comingling.

As suggested by the preceding, the constructs of place- and self-in-place are clearly associated with people's values. In this essay, I will argue that exploration of these constructs and their related constellations of values is relevant to policy formulation, and that their acceptance within the context of public deliberation can help us to develop empathetic understandings of why people adopt particular attitudes or positions with regard to specific climate adaptation interventions. Before so doing, it is important to highlight some areas of ambiguity, conceptual under-specification, and uncertainty that affect the application of self- and place-constructs.

First, the current body of research does not appear to answer crucial questions such as whether values are shaped or bolstered by the bonds between an individual and a place; or conversely, whether the existence of a specified value or cluster of values makes it more or less likely for an individual to develop such a bond (James, 2016). Secondly, while a person's sense-of-place can clearly affect whether and how that individual values specified environmental attributes, it is not the case that different people will necessarily – or even predictably – react to the same location in the same way. Indeed, it is possible for people to hold mutually inconsistent values with regard to the same location or collection of environmental attributes. As an example, interpretive survey research conducted by Davenport and Anderson (2005) demonstrates how a single location (a reach of the Niobrara River in north central Nebraska) struck some occupants as a “tonic” for the soul worthy of federal governmental protections, whereas others decried the prospect of “big” governmental protections because they would interfere with the rights of land owners to profit from their proximity to the river. In other words, while places may evoke certain values for residents, occupants, or other stakeholders, it is not clear which values and

what behaviors may be compelled. In addition, research has yet to answer policy-relevant questions such as the following: ‘What happens to sense-of-place when the place in question changes in some significant manner?’ ‘Can people acquire a meaningful sense-of-place for a location to which they have never visited or visited only one or two times?’ ‘How can place-constructs be created or modified through experiential or educational interventions?’ (Cantrill, 2015; Kudryautseu et al., 2012; Drenthen, 2009; Few et al., 2007; Davenport and Anderson, 2005). And finally, it is important to note that the literature on self- and place-constructs does not characterize place-bonding phenomena strictly in terms of values, but also focuses on attitudes, beliefs, perceptions, and behavior, leaving unanswered questions regarding the relationship between or primacy of these various human affects (James, 2016).

Exhibit 1. The Erosion and Inundation of Grand Isle, Louisiana

Grand Isle is a barrier island off the southeastern coast of Louisiana. It has about 1,500 residents, many of whom share an Acadian heritage. Historically, the economy of Grand Isle has revolved around resource extraction, including fishing, production of oil and natural gas, and small-scale agriculture. The community of Grand Isle has long dealt with physical alteration of the landscape due to extreme weather events, development, coastal subsidence, and erosion. Today, the community and surrounding region face significant and persistent change due to coastal land loss, both rapid and slow. Rapid loss of land is caused by exposure to hurricanes and extreme storms. Slower loss of land is associated with multiple factors, both natural and human induced. Human causes include leveeing activity along the Mississippi River delta and canals dug to support natural gas production. Sea level rise associated with climate change is projected to hasten and exacerbate loss of land on Grand Isle.

While residents acknowledge a feeling of exposure, their sense of place is decidedly robust. Many residents trace their roots back to the 18th century. They measure time on the island by reference to hurricanes and can easily recollect where they or their families were for all of the great storms, including a hurricane in 1893 that killed 155 people and destroyed the original community (Reeves 1985). In other words, while most constructions of risk and vulnerability would characterize Grand Isle as a precarious locale, residents view their situation differently.

Residents of Grand Isle tend to share a tangible and strong sense of place, anchored in many cases by long-standing familial ties. Perhaps due to their unrelenting need to battle the forces of nature, residents have derived an ethic of community self-reliance from their parents and grandparents. They feel obligated and duty-bound to sustain the way of life passed on to them by their families. Grand Isle – the place – is bound-up with resident’s concepts of self; the place is synonymous with values such as integrity, self-reliance, and trust. Although young residents may move away in search of opportunity, older residents would view leaving Grand Isle as something akin to a personal, moral failure. Although outsiders view Grand Isle as a vulnerable series of nearly inundated parcels connected by thin threads of roadway, residents attach a different, more nuanced, view to the locality of their homes, community, and source of livelihood. (Burley et al, 2005)

Should self- and place-constructs be reflected in climate adaptation policy?

Climate change modelers project a range of impacts to various natural and socio-economic systems, including sea level rise, increased and intensified incidence of inland flooding and/or drought, changes in permafrost manifestation, intensified wildfire episodes, and alteration of habitat types and species distribution (IPCC 2014). Under some scenarios, these impacts are projected to be quite severe, such as the inundation of barrier island systems.

However, physical alteration to a place that appears significant – even catastrophic – to an outsider, could be perceived as manageable or possibly even trivial to occupants who may focus

more on social and symbolic relationships than upon any particular physical characteristic. The Grand Isle example serves to illustrate the deep influence of self- and place- constructs and provides an empirical basis from which to explore whether and how they might be included as foci of adaptation policy analysis (Greider and Garkovich, 1994).

As we develop policy regimes to address the consequences of climate-induced vulnerability, it may be appropriate to express risk and formulate policy in a manner reflective of self- and place- constructs that underlie the geographic setting of contemplated adaptation interventions. Can policy makers and planners frame adaptive measures in a manner that accounts for, or perhaps privileges, incumbent constructs of place? What would such a change in perspective entail? These and related questions are important because climate change adaptation policy interventions have the potential to be thorny, and in order to prove durable, may require more than the imposition of top-down, prescriptive policy instruments (Mulligan, 2014; Verweij et al., 2009). I suggest that greater sensitivity to the socio-cultural components of place could require alteration to the adaptation policy processes in at least three phases of the policy process (Clark 2002; Lasswell and MacDougal, 1992):

- Phase 1 – Framing the issue: Self- and place-constructs may significantly impact how people think about climate change, make sense of its impacts, and affect their ability and willingness to ponder adaptive interventions.
- Phase 2 – Consideration and selection of appropriate policy instruments: Strongly held self- and place-constructs may impact the perceived legitimacy and effectiveness of alternative policy tools.
- Phase 3 – Policy institutionalization, monitoring, and evaluation: Policies will be implemented through ongoing administrative and/or technical programs. These

programs, as well as occupant perceptions of their salience and legitimacy, are – or should be – subject to ongoing monitoring and evaluation.

Each of these factors is explored below.

Framing the issue: Climate change adaptation policy development and planning are often tied to a formalized and highly technical process of climate change vulnerability assessment (Adger et al., 2013; Stern, 2005; Verweij et al., 2006). Vulnerability assessment tends to be a step-wise process that begins with data compilation and model-based projections of future climate variables (e.g., temperature, precipitation), proceeds to the characterization and assessment of associated impacts (sea level rise, flooding, extreme storm incidence), and then feeds data on impacts into models to derive estimates of risk to specified natural or societal resources. Once risks and vulnerabilities are characterized, assessment protocols may also involve some type of analysis of the system’s capacity to cope with projected impacts, and finally, identification and selection of policy tools for responding to future changes in climatic conditions. (Mills et al 2011, McDaniels et al 2010, and Nelson et al 2010)

Climate change experts and third-party officials involved in adaptation policy strive to enable and systematize this process through provision of data and information, technical consultations, and development of scientific “tool kits” (Anguelovski and Carmin, 2011, Bierbaum et al., 2014; Bronen and Chapin, 2013; Stiles 2014). The rationale behind this practice is based on the belief that structured provision of high quality data, information, and analytical tools will facilitate problem recognition, assessment of risks and vulnerabilities, and help impacted parties to characterize appropriate adaptation actions. Legitimated through analytical frameworks such as rational choice and/or systems theory, this model tends to focus on the quality of abstracted

systems and/or system components and rarely includes a robust framework through which to operationalize – or even seriously consider – self- and place-constructs (Moret, 2017; Mulligan, 2014). As articulated by Drenthen, sense of place is usually seen as a “side issue” (Drenthen, 2009: 289). Indeed, an in-depth literature review conducted by the U.S. Environmental Protection Agency considered 24 leading definitions of vulnerability (to climate change), none of which directly addressed the influence of or impacts upon self- or place-constructs (Mills et al., 2011). To paraphrase Thomas Nagel, climate change vulnerability assessments seem to adopt a ‘view from nowhere’ (Nagel, 1986).

As mentioned already, perceptions of the self in relation to places or aspects of the environment can affect problem recognition and appraisal in various ways (Hess et al., 2008; Cantrill and Senecah, 2001). Alterations to the physical attributes of a specified geography may or may not result in a coincident change in how the place is viewed by residents or other occupants. This can be a problem because some people’s self- and place-understandings may not mesh with expert-generated, government-issued characterizations of impacts, vulnerabilities, and risks. On one level, this is not a new issue. The dissonance between lay and expert understandings is something that has been deeply explored in the social science and policy literatures (Carter, 2016; Krimsky and Golding, 1992; NRC, 1996). It is often addressed through outreach and educational campaigns. While provision of data and information may be effective in cases where partisans suffer merely from a lack of understanding, it is less likely to have a material impact upon individuals with a deeply rooted sense of place (Novic and Sandman, 1974; Honnold and Nelson, 1979). As already illustrated, citizens and other stakeholders are sometimes known to dismiss or distort information (either unintentionally or willfully) if it runs

“counter to their senses of place and selves” in a particular setting. (Cantrill and Senecah, 2001: 198)

Within the arenas of conservation and environmental management, much has been written about the need for a more pluralist understanding of different knowledges, values, and worldviews (Wondolleck and Yaffee, 2000). Consistent with this, there is an active literature dealing with the use of deliberative and inclusive processes through which to frame, debate, and implement resource management and environmental policy interventions (Moser, 2009; Stern, 2005; Brown, 2003). While this literature does not specifically address value divergences and perceptual dissonance due to self- and place-constructs, it is nevertheless consistent with the proposition that it may be advantageous, perhaps necessary, to establish meaningful, trusting dialog before attempting to assess climate change vulnerabilities (Marcus, 2016). Beyond the establishment of trust, the goal of such an exercise would be to better understand how potentially impacted parties evaluate and make sense of climate-induced changes to the places with which they identify (Mulligan, 2014; Weick et al., 2005; Wesselink et al., 2012). A melding of data, analytical outputs, place perspectives, and self-understandings could provide the basis for place-specific characterizations of climate change-related impacts that are, as Scott (1998) or Drenthen (2009) would say, “legible” to involved parties and stakeholders.

The culturally imbued nature of places means that they acquire meaning or “legibility” as part of a narrative, or story (Drenthen, 2009). As explored by Mulligan (2014), there are a variety of ways through which to relate and weave this story, including visual art projects, film-making, fictional writing, and use of scenario-mapping exercise. Efforts to enhance stakeholder dialog can also utilize collaborative learning processes and include advanced engagement techniques such as appreciative inquiry and/or community value mapping (Wondolleck and Yaffee, 2000).

Techniques such as linguistic analysis, multi-criteria analysis, open-ended survey instruments, and focus groups can also help to shed light upon perspectival divergences associated with occupant-constructs. As necessary, such efforts could be facilitated through utilization of boundary organizations that bridge between local values and provision of technical inputs (Bronen and Chapin, 2013; Guston, 2001). While not necessarily an exercise in give-and-take consensus building, such an effort would be undertaken to develop social capital and an action-oriented narrative that is recognizable, coherent, and tangible to all impacted parties (Drenthen, 2009; Marcus, 2016). Put differently, the point of such a process would be to establish the coherence or legibility of climate adaptation as a matter of community interest and legitimate governmental action.

Choosing policy instruments: It has long been recognized that choosing the policy instruments best suited to meet environmental or resource management goals can be a complex and difficult task for decision makers (Harrington et al., 2004; OTA, 1995; Sterner, 2003). Alternative policy instruments are typically assessed in terms of considerations such as comparative effectiveness, efficiency, enforceability, and ease of administration. Different instruments imply different total costs as well as differing distributions of cost among affected parties and between regulated parties and other segments of society. While some environmental and resource management policies require relatively simple alterations in commercial or industrial practice, adaptation interventions may involve actions that impact communities and individual citizens in a deeply material fashion, such as condemnation and abandonment of property, physical alteration of homes and other structures, revocation or imposition of easements, and mandatory changes in land or resource use.

The policy tool box for climate adaptation is diverse, with most instruments being broadly applicable across a range of vulnerability and impact categories. Summarized in Exhibit 2, case research conducted by Vogel et al. (2016) illustrate common policy tools utilized in the U.S. to address climate change adaptation.

Exhibit 2. Types of Policy Instruments Used in the Context of Climate Change Adaptation

Ordinances: An ordinance is public injunction enacted by a municipal authority. Ordinances can impose bans, authorizations, or limits upon specified activities or behaviors. Ordinances have been used by local governments to mandate actions that reduce exposure to climate-related vulnerabilities and/or reduce sensitivities to climate-related risks. Examples include ordinances that require use of minimum set-backs from a shoreline or flood contour, or grey water in order to better adapt to droughts or projected fluctuations in potable water availability.

Insurance: In the U.S., some state insurance commissions have approved provider-specified mitigation actions that policyholders must undertake to obtain or maintain coverage. Examples include actions to address storm surge, flooding, and wildfire incidence. Municipalities can either require specified types or levels of insurance coverage before approving a permit; or alternatively, subsidize or otherwise help to defray the cost of so-called “backstop” insurance to help residents pursue particular activities.

Fees: Local governmental entities often use fees or other charges to help fund services. Fees and charges are often associated with the issuance of a permit or license to undertake a specified activity. Fees can also be assessed if an individual or entity departs from specified practices. Examples include “impervious surface fees” to help reduce storm water run-off due to climate change induced increases in precipitation or intense storm events.

Condemnation and Easements: Condemnation occurs when an individual or entity owns property in a place that has been designated for public use. Condemnation is exercised by governmental units through the power of “eminent domain.” In the U.S., eminent domain has been used to acquire property for use in developing flood or wildfire zones in which structures may not be built. An easement is the right to access or use property held by another. Easements have been used in coastal communities to accommodate the need to relocate infrastructure due to sea level rise.

Building Codes: Building codes stipulate structural or aesthetic requirements necessary for a jurisdiction to approve development of specified types of buildings or facilities. In the context of climate change, building codes have been used to require physical elevation of living surfaces above a specified storm surge or flood level, and placement of structures on a gradient or elevation above mean sea level or a specified flood stage level.

Infrastructure Investments or Upgrades: Jurisdictions can utilize general funds to finance or help defray costs associated with infrastructure investments intended to make a community more resilient to climate change impacts, such as construction of a desalinization plant to provide water supply in the case of drought, sea walls to protect property from sea level rise or storm surge, or buffer strips to absorb runoff associated with extreme storm events.

Zoning Restrictions: Zoning is a process through which local governments stipulate and enforce “acceptable” uses of specified areas or types of landscapes. Examples include restrictions on building on beachfront property, floodplains, or areas susceptible to wildfire.

Subsidies and other financial support: Subsidies are a form of financial assistance provided to individuals or organizations as an incentive to change behavior or adopt new practices. They are also used to help defray the costs of regulatory compliance. In the U.S., subsidies have been widely used to support beach nourishment, (green and gray) waste water infrastructure development, and types of community infrastructure.

As we have suggested, a person's sense-of-self or -place may make it difficult for him or her to make sense of externally designated vulnerabilities, and hence, reluctant to accept expert or other third-party prescriptions viewed as inconsistent with their narratives of place. Consider the example of Grand Isle, Louisiana: While mandatory property buy-outs and zoning restrictions banning commercial and residential occupation of impacted areas might seem like an expedient policy option for many – perhaps most – citizens of Louisiana, such a solution could be repulsive to long-term, hereditary residents who feel duty bound to sustain and protect the place which provides their home and occupation, embodies their values, and serves as the font of their self-identity. A policy of abandonment would force them into a stark dilemma of either obeying the law or acting in a manner that could be conceived as inconsistent with their sense of moral and familial duty. Such a predicament could spark lawsuits and other impediments to policy imposition and/or enforcement. For this reason, it may be advisable to craft policy regimes that mitigate first order climate-related impacts while also acknowledging prevailing occupant-constructs. Rather than abandonment, an adaptation policy for Grand Isle might involve a regime of interacting tools such as the following:

- An ordinance banning new construction within stipulated zones; and a requirement for enhanced insurance for existing property owners, perhaps including government subsidization for insurance.
- A building code requiring elevation of structures; perhaps coupled with financial support to help defray anticipated cost differentials.
- Infrastructure upgrades (elevated roadways, sea walls, beach nourishment) to provide additional protection for impacted areas; with funding provided through user fees.

Clearly, it makes sense to develop policy regimes that satisfy diverse stakeholders and meet the needs of specific situations (Magnon, 2015; Funfgeld, 2010; Raynor and Malone, 1997; Fiorino, 1995). This suggests that development of enduring policy regimes to address climate change impacts might best be approached through a process emphasizing what Herrick (2004) refers to as narrative coherence rather than – or in addition to – the calculation of benefits and costs.

Given this, it is possible that a legitimate and durable policy regime is more likely to emerge through the conversational and deliberative interaction of occupants and other stakeholders than through third-party application of abstract assessment methodologies intended to characterize and calculate vulnerabilities, risks, costs and benefits (Bohman and Rehg, 1997).

Attention to ongoing program management, including monitoring and evaluation of the

adaptive regime: As Aaron Wildavsky reminds, a policy is not *solution* so much as an experiment, a beginning rather than an end (1989: 83). Wildavsky's characterization is especially apt regarding climate change adaptation. Climate change adaptation will require communities to engage in a process that is technically difficult, time consuming, and likely to require course corrections due to unforeseen – perhaps unforeseeable – conditions and contingencies. For these reasons, it is important that policy regimes include provision for appropriate monitoring and evaluation processes (Vogel et al., 2016). On one level, the imperative for *ex post* evaluation is little more than a broadly recognized adage of 'good governance' (Patton, 2008; Fiorino, 1995). However, evaluation in the context of climate change adaptation may need to address two overlapping, but conceptually distinct phenomena.

First, evaluation would be needed to determine whether physical or institutional interventions had been adequate to mitigate experienced (as opposed to projected) impacts. For instance, whether a set-back policy had proven effective and/or cost-effective in avoiding damages due to

flooding or storm surge. And on a second level, there may also be a need to evaluate the ongoing coherence and salience of the narrative that leads to (a) the decision to take adaptive action, and (b) the selection of implemented policy interventions. In other words, evaluation might be particularly important in the context of policy implementation that has been enabled and legitimized through the construction of a shared narrative of self and place. With regard to this second level of evaluation, it is possible that impacted parties will be faced with compelling reasons to question the appropriateness, effectiveness, and even legitimacy of the original adaptation policy regime. Impacted parties will need to understand that alterations are not indicators of a disingenuous narrative or misguided process of deliberation, but rather, a flux in events that is to be expected when dealing with contingencies and conditions that cannot be fully known.

As we have discussed, climate change could impact a given community in a variety of ways. For instance, a single community could be faced with the need to address sea level rise, water shortages, an increase in extreme heat events, and intensified wildfire threats. This implies that adaptation regimes may far-reaching and include multiple interventions addressing a wide range of vulnerabilities. This could have a significant, ongoing impact upon the affairs of citizens and affected parties. Enforcement and administration of a broad-based adaption regime could prove burdensome for jurisdictions with limited resources. For these reasons, it would be advantageous if affected parties were supportive of the adaptation policy regime, or at least not overtly hostile to its basic provisions. In other words, it would be beneficial if adaptation policy regimes were largely congruent with citizen's place-based values and attitudes regarding climate change. While prescriptive policies can play an important role in encouraging changes in behavior, there is no guarantee that this will result in lasting changes to personal attitudes.

Meaningful and robust adaptation regimes cannot simply be regulated into existence, but will likely require an ongoing exercise in cultural transformation (Adler et al., 2011; Farrelly and Brown, 2011; AMSA and AMWA, 2005; Pretty, 2003; Daily and Huand, 2001; Mallak and Kurstedt, 1996). This suggests that durable policy interventions would benefit from critical evaluation of the action-inducing narrative to help assure that citizens continue to share a common understanding in support of climate change adaptation and resilience. Further, it seems appropriate that adaptive policy regimes be paired with communications campaigns to ‘nudge’ citizens and refresh their understanding of the basic saliency and legitimacy of climate change adaptation interventions in a given place (Cantrell 2001; Spash 2016).

Self- and place-constructs in the policy context: reasons to be circumspect and reasons to push forward

Environmental and resource management policy development in the United States is frequently derived through a broadly utilitarian framework (Clark, 2002; Fiorino, 1995; Lasswell and McDougal, 1992). In other words, policies tend to be generalized interventions that address key, common aspects of a problem, rather than collections of highly individualized directives or prescriptions. There are good reasons for this, including cost, administrative burden, and ease of enforcement.

Although it seems clear that self- and place-constructs will have a tangible impact upon the construction of legitimate adaptation policy regimes, skeptics could nevertheless argue that the prospect of addressing self- and place-constructs is untenable. Taken to an extreme, a mandate to “respect” any given place construct could imply that an adaptation policy regime might be framed to accommodate the unique perspectives and needs of a very few individuals at the

expense of the larger community. This, it could be argued, is simply bad governance. At a minimum, serious policy practitioners should ask whether and how place- and self-constructs should be addressed in a real-world context. Certainly, it would make the policy implementation process more cumbersome and burdensome. Beyond issues of practicality, it could also be argued that there are normative challenges that should be addressed before self- and place-constructs can be operationalized in a policy context. As Lasswell and McDougal (1992) define it, public policy is a social process of authoritative decision making through which members of a community articulate and attempt to secure their common interests. Given this, we should ask whether and how recognition of an individual or group's sense of place should differ from any other expression of 'individual interest'. The question, then, is whether occupant-constructs should be treated like other economic or environmental interests, or whether they represent values that are somehow deeper or more fundamental.

Second, it could be asked whether all self- or place-constructs should be treated equally. A non-occupant real estate developer and a multi-generational resident may both have intense feelings about a barrier island, but should they each 'count' the same? Or are some types of self- and place-constructs 'genuine' while others are ancillary or perhaps even fatuous? In other words, does recognition of the legitimacy of self- and place-constructs commit us to some type of 'anything goes' relativism regarding policy formulation?

While meaningful adoption of self- and place-constructs in the context of climate change adaption policy entails normative questions and practical challenges, there are also reasons to argue that it might be morally and practically reasonable to address these challenges.

Political systems under the western tradition are grounded in the moral primacy of the autonomous individual, a concept that undergirds the notion of political agency. Figuratively speaking, governments are legitimized through fictive contracts among individuals as a means to serve and execute their rights and maintain order (Dolbeare, 1981). As Faden et al. (1968) explain, the term autonomy is associated with values such as self-mastery, responsibility for individual behavior, and freedom to choose. Respect for political agency does not imply that any and all policy outcomes must advance my interests or represent the actualization of my values. What it does mean, however, is that I need to be treated as a valid source of reasons with interests that are worthy of consideration. Or as Gendreau puts this, that my “words are taken as legitimate expressions of values that others take to be worthy of pursuit” (2016: 711). Given this emphasis upon autonomy, it could be argued that acceptance – or at least recognition - of self-constructs is elemental to -- or at least consistent with – adequate treatment of the individual within western political and ideological systems.

Whether or not we can agree that the precepts of political agency and individual autonomy require policy incorporation of self- and place-constructs, it nevertheless remains likely that individuals will be more likely to obey, respect, and internalize policies that reflect their “mindset” and core values. Conversely, individuals are more likely to mock, disobey, or challenge policies that are antithetical to their values and sense of self. This points to practical benefits such as reduced governmental costs and burden for the enforcement of adaptation policy regimes and avoidance of complex and drawn-out takings litigation.

A potential model for the application of self- and place-constructs?

Zoning is a process through which local governments stipulate and enforce ‘acceptable’ uses of particular areas or types of landscapes. In North America, zoning is an explicit, legally established mechanism for categorizing and ordering land uses and is a basic tool for urban planning. Local governments often have an obligation under state law to relate all parcels of private property to all others to help assure the health, safety, aesthetic integrity, and well-being of the community. Typically the prerogative of city or town councils, zoning decisions are often vetted and/or informed through input from an elected or appointed commission of citizens.

In the U.S., separation of use has become the dogma of zoning administration. Over time, zoning use categories have become highly generalized, with most localities permitting three or four categories of use: residential, commercial, agricultural, and industrial (Hirt, 2014). The philosophical basis for zoning, then, rests upon the value of standardization or generalization as opposed to diversity of use. When new zoning ordinances are established, it is inevitable that there will be structures or land uses that, while legal under previous arrangements, do not comply with new stipulations. Referred to as nonconforming uses, such uses tend to be accepted and ‘grandfathered’ in place because regulation cannot be applied retroactively. This notwithstanding, flexibility in dealing with nonconforming properties is typically viewed as contrary to the intent of zoning. While expediency, practicality, and other local idiosyncrasies allow for some inconsistencies, they tend to be viewed as a ‘variance’ from the norm and treated with ‘grudging tolerance.’

Over the past decade this has begun to change. It has become increasingly common for planning and zoning commissions to propose and/or approve so-called mixed use developments in the

interest of value clusters such as smart growth, sustainable development, historic preservation, or encouragement of diversity. As part of this movement, it is becoming common to co-locate diverse activities and uses (Elliott, 2008; Ientilucci, 2003). This new philosophy of zoning, then, provides an example of governmental authorities developing protocols and procedures for dealing with nonconformity under an otherwise prescriptive and standardized regulatory regime. I suggest this is similar to the type of process that might be undertaken in dealing with self- and place-constructs that fall outside the stipulates of state and municipal climate change adaptation policy regimes. Successful implementation of nonconforming uses presents challenges similar to those that would be involved in the operationalization of self- and place-constructs. More particularly, the enterprise of zoning – and especially decisions dealing with nonconformity – provides an example of a public policy process that successfully:

- Accounts for both uniformity and difference in the perception of public and cultural values;
- Adjudicates among alternative conceptualizations of cultural importance and value;
- Assesses cost-benefit implications of alternative structural and land-use decisions;
- Addresses the tensions between administrative efficiency and the imperative to respect individual and public values; and
- Melds and integrates folk and technical inputs.

In other words, while conceptually messy, incorporation of self- and place-constructs may be feasible within the extant machinery of typical municipal and state units of governance.

Concluding discussion: Moving forward

In this essay, I have suggested that self- and place-constructs can lead people to embrace values or clusters of values that may become problematic in the context of climate change adaptation policy. As examples illustrate, people's identification with certain places can prompt reflexive negativity and constrain deliberation regarding alternative courses of action, create sources of turbulence for policy implementation, and serve as a catalyst for post-implementation litigation. I have argued that recognition and consideration of self- and place-constructs may be critical to the formulation of broadly legitimate and enduring climate adaptation policy regimes.

Over the past decade, adaptation to climate change has experienced a marked increase in interest and activity. In the U.S., the federal government supports and even requires adaptation actions through executive orders, agency-specific and multi-agency planning efforts, and disaster recovery financial assistance programs (Bierbaum et al, 2013). Numerous state governments have also engaged in climate adaptation planning activities (Ray and Grannis, 2015). Not surprisingly, most climate change policy analysis has been aimed at high-level policymakers (Raynor and Malone, 1997; Vogel et al., 2016). Funding organizations tend to be national governments, foundations, or other organizations seeking to influence federal policy formulation or the outputs of international negotiations. However, the life prospects of most citizens are more likely to be influenced by the actions of local governmental units than the policies of federal or central government agencies. With respect to climate change adaptation, it is local governments that will be forced to grapple with difficult and contentious policy interventions.

It is my proposition that self- and place-constructs warrant broader, institutionalized consideration, especially and perhaps primarily within the context of local governmental efforts

to adapt to climate change impacts. I have provided a potential model for how localities already recognize and sometimes accommodate non-standard perceptions of place through the zoning and zoning variance processes. I have also provided a rudimentary template for how local governmental authorities can take account of self- and place-constructs across key phases of the policy process. Although there remain ambiguities in the conceptualization and operationalization of self- and place-constructs, I suggest their application in the in the context of local-scale policy and decision-making is feasible in light of available policy tools and the competencies of many – if not most – units of local governance. Beyond this, it is my proposition that the application and place-constructs in the local policy context will also provide a trove of valuable case information for use in ongoing social science research.

References

Adger, N. 2016. Place, well-being, and fairness shape priorities for adaptation to climate change. *Global Environmental Change*. 38(2016) A1-A3.

Adger, N., J. Barnett, K. Brown, N. Marshall, and K. O'Brien. 2013. Cultural dimensions of climate change impacts and adaptation. *Nature Climate Change*. Volume 3: 112-117.

Anguelovski, I. and J. Carmin. 2011. Something borrowed, everything new: Innovation and institutionalization in urban climate governance. *Current Opinion in Environmental Sustainability*. 3: 169-175.

Bierbaum, R., J. Smith, A. Lee, M. Blair, L. Carter, F.S. Chapin, P. Fleming, S. Ruffo, M. Stults, S. McNeeley, E. Wasley, and L. Veruzco. 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.

Bohman, J. and W. Rehg. 1997. *Deliberative Democracy: Essays on Reason and Politics*. Cambridge, MA: The MIT Press.

Bolin, B., M. Seetharam and B. Pompeii. 2010. Water resources, climate change, and urban vulnerability: A case study of Phoenix, Arizona. *Local Environment*. 15(3): 261-279.

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

Brooks, N., N. Adger and P. Kelly. 2005. Determinants of vulnerability and adaptive capacity at the national level and the implications for adaptation. *Global Environmental Change*. 15: 151-163.

Brown, K. 2003. Three challenges for a real people-centered conservation. *Global Ecology & Biogeography*. 12:89-92.

Brunner, R. 2014. Harvesting experience for adapting to climate change. *Weather, Climate, and Society*. Volume 6: 5-8.

Burley, D., P. Jenkins, J. Darlington, and B. Azcona. 2005. Loss, attachment, and place: A case study of Grand Isle, Louisiana. *Reconstruction*. 5(3): 1-16.

Cantrill, J. 2015. Forested areas and a sense of place: Comparing perceptions of compact and metropolitan urban populations. HDgov Human Dimensions. <https://usgs.gov/hd/case-studies/>.

Cantrill, J. and S. Senecah. 2001. Using the 'sense of place' construct in the context of environmental policy-making and landscape planning. *Environmental Science and Policy*. 4: 185-203.

Carter, C. 2016. Faults of our rationality. *Environmental Values*. 25(6): 633-637.

Clark, T. 2002. *The Policy Process: A Practical Guide for Natural Resource Professionals*. New Haven and London: Yale University Press.

Davenport, M. and D. Anderson. 2005. Getting from sense of place to place-based management: An interpretive investigation of place meanings and perceptions of landscape change. *Society and Natural Resources*. 18(7): 625-641.

Dolbeare, K. 1981. *American Political Thought*. Monterey, CA: Duxbury Press.

Drenthen, M. 2009. Ecological restoration and place attachment: Emplacing non-places. *Environmental Values*. 18(2009): 285-312.

DuPuis, E. M., and P. Vandergeest. 1996. *Creating the Countryside: The Politics of Rural and Environmental Discourse*. Philadelphia: Temple University Press.

Elliott, D. 2008. *A Better Way to Zone*. Washington, DC: Island Press.

Escobar, A. 2001. Culture sits in places: Reflections on globalism and subaltern strategies of localization. *Political Geography* 20:139-179.

Faden, R., T. Beauchamp, and N. King. 1986. *A History and Theory of Informed Consent*. Oxford: Oxford University Press.

Few, R., K. Brown and E. Tompkins. 2007. Public participation and climate change adaptation. *Climate Policy*. 7(2007): 46-59.

Fiorino, D. 1995. *Making Environmental Policy*. Berkeley, CA: University of California Press.

Firey, W. 1945. Sentiment and symbolism as ecological variables. *American Sociological Review*. 10(2): 140-148.

Funfgeld, H. 2010. Institutional challenges to climate risk management in cities. *Current Opinion in Environmental Sustainability*. 2: 156-160.

Fussler, H. 2007. Vulnerability: A generally applicable conceptual framework for climate change research. *Global Environmental Change*. 17: 155-167.

Gendreau, M. 2016. Environmental injustice, political agency and the challenge of creating healthier communities. *Environmental Values*. 25(6): 707-728.

Giddens, A. 1984. *The Constitution of Society*. Berkley and Los Angeles: University of California Press.

Goffman, E. 1959. *The Presentation of Self in Everyday Life*. New York, NY: Anchor Books.

Greider, T. and L.Garkovich. 1994. Landscapes: The social construction of nature and the environment. *Rural Sociology*. 59(1): 1-24.

Guston, D. 2001. Boundary organizations in environmental science and policy. *Science, Technology, and Human Values*. 26: 87-112.

Hannis, M. 2015. The virtues of acknowledged ecological dependence: Sustainability, autonomy and human flourishing. *Environmental Values*. 24(2): 145-164.

Harrington, W., R. Morgenstern and T. Sterner. 2004. *Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe*. Washington, DC: Resources for the Future.

Herrick, C. 2004. Objectivity versus narrative coherence: Science, environmental policy, and the U.S. Data Quality Act. *Environmental Science and Policy*. 7(5): 419-433.

Hess, J., J. Malilay and A. Parkinson. 2008. Climate change: The importance of place. *American Journal of Preventive Medicine*. 35(5): 468-478.

Hirt, S. 2014. *Zoned in the USA: The Origins and Implications of American Land-Use Regulation*. Ithaca, NY: Cornell University Press.

Ientilucci, A. 2003. Pigs in the parlor or diamonds in the rough? A new vision for nonconformity regulation. *Zoning News*. April 2003: 1-5.

IPCC. 2014. *Climate change 2014: Synthesis Report. Contribution of Working Groups I, II, and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. IPCC, Geneva, Switzerland. 151 pp.

James, S. 2016. The trouble with environmental values. *Environmental Values*. 25(2): 131-144.

Kerwin, C. 1994. *Rulemaking: How Government Agencies Write Law and Make Policy*. Washington, DC: Congressional Quarterly Press.

Kessing, R. 1974. Theories of culture. *Annual Review of Anthropology*. 3:73-97.

Krimsky, S. and D. Goulding (eds) 1992. *Social Theories of Risk*. Westport CT: Praeger

Kroeber, A. and C. Kluckhohn. 1952. *Culture: A Critical Review of Concepts and Definitions*. Cambridge MA: Peabody Museum.

Kudryavtsev, A., R. Stedman and M. Krasny. 2012. Sense of place in environmental education. *Environmental Education Research*. 18(2): 229-250.

Lasswell, H. and M. MacDougal. 1992. *Jurisprudence for a Free Society: Studies in Law, Science, and Policy*. New Haven: Yale University Press.

Magnan, A. 2015. Avoiding maladaptation to climate change: Towards guiding principles. *Surveys and Perspectives Integrating Environment and Society*. 7(1): 21pps.

Majone, G. 1989. *Evidence, Argument, and Persuasion in the Policy Process*. New Haven: Yale University Press.

Marcus, K. 2016. The fundamental role of large-scale trust building in natural resources management. *Environmental Values*. 25(3): 259-286.

Mills, D., C. Wobus and K. Ebi. 2011. Vulnerability White Paper: In Support of the National Climate Assessment's Workshop. Washington, DC: U.S. Environmental Protection Agency.

Montgomery, L. 2014. On North Carolina's Outer Banks, scary climate change predictions prompt a change of forecasts. *The Washington Post*. June 24, 2014.

Moret, W. 2017. *Vulnerability Assessment Methodologies: A Review of the Literature (Second Edition)*. Washington, DC: U.S. Agency for International Development.

Moser, S. 2009. Making a difference on the ground: The challenge of demonstrating the effectiveness of decision support. 95: 11-21.

Mulligan, M.J. 2014. Toward a more grounded and dynamic sociology of climate change adaption. *Environmental Values*. 23(2): 165-180.

Nelson, R., P. Kokic, S. Crimp, H. Meinke and M. Howden. 2010. The vulnerability of Australian rural communities to climate vulnerability and change: Part I – Conceptualizing and measuring vulnerability. *Environmental Science and Policy*. 13: 8-17.

Norgaard, K. 2011. *Living in Denial: Climate Change, Emotions, and Everyday Life*. Boston, MA: MIT Press.

Nagel, T. 1986. *The View From Nowhere*. Oxford: Oxford University Press.

National Research Council (NRC). 1996. *Understanding Risk: Informing Decisions in a Democratic Society*. Washington, DC: National Academies Press.

Office of Technology Assessment (OTA). 1995. *Environmental Policy Tools: A User's Guide*. Washington, DC: Office of technology Assessment, Congress of the United States.

Patton, M.Q. 2008. *Utilization-Focused Evaluation*. Los Angeles, CA: Sage.

Picou, J.S. and B. Marshall. 2002. Contemporary conceptions of environmental risk: Implications for resource management and policy. *Sociological Practice*. 4(4): 293-313.

Pielke, R. 1998. Rethinking the role of adaptation in climate policy. *Global Environmental Change*. 18(2): 159-170.

Pretty, J. 2003. Social capital and the collective management of resources. *Science*. Volume 302: 1912-1914.

Ray, A. and J. Grannis. 2015. From planning to action: Implimentation of state climate change adaptation plans. *Michigan Journal of Sustainability*. 3(Spring): 5-28.

Rayner, S. and E. Malone. 1997. Zen and the art of climate maintenance. *Nature*. 390: 332-334.

Reeves, S. 1985. The settlement and cultural growth of Grand Isle, Louisiana. (IN) Uzee, Philip. *The Lafourche County: The People and the Land*. Lafayette, LA: Center for Louisiana Studies. 108-116.

Schein, E. 1984. Coming to a new awareness of organizational culture. *Sloan Management Review*. 25(2): 3-16.

Scott, J. 1998. *Seeing Like a State*. New Haven and London: Yale University Press.

Scyphers, S., J. Picou, R. Brumbaugh and S. Powers. 2014. Integrating societal perspectives and values for improved stewardship of a coastal ecosystem engineer. *Ecology and Society*. 19(3): 38 pps.

Shumway, J. and R. Jackson. 2008. Place-making, hazardous waste, and the development of Tooele County, Utah. *The Geographical Review*. 98(4): 433-455.

Spash, C. 2016. Social ecological transformation and the individual. *Environmental Values*. 25(2): 253-258.

Stern, P. 2005. Deliberative methods for understanding environmental systems. *BioScience*. 55(11): 976-982.

Sterner, T. 2003. *Policy Instruments for Environmental and Natural Resource Management*. Washington, DC: Resources for the Future.

Stiles, W. 2014. All adaptation is local. *Issues in Science and Technology*. Winter: 57-64.

Stone, D. 2002. *Policy Paradox: The Art of Political Decision Making*. New York: W.W. Norton and Company.

Tuan, Y. 1977. *Space and Place: The Perspective of Experience*. Minneapolis, MN: University of Minnesota Press.

Turner, N. and H. Clifton. 2009. "It's so different today": Climate change and indigenous lifeways in British Columbia, Canada. *Global Environmental Change*. 19: 180-190.

Vogel, J., K. Carney, J. Smith, C. Herrick, M. Stults, M. O'Grady, A. St. Juliana, H. Hosterman and L. Giangola. 2016. *Climate Adaptation: The State of the Practice in U.S. Communities*.

Detroit, MI: The Kresge Foundation.

Weick, K., K. Sutcliffe and D. Obstfeld. 2005. Organizing and the power of sensemaking.

Organization Science. 16(4): 409-421.

Wesselink, A., K. Buchanan, Y. Georgiadou and E. Turnhout. 2013. Technical knowledge, discursive spaces and politics at the science-policy interface. *Environmental Science & Policy*.

30(2013): 1-9.

Wildavsky, A. 1989. *Speaking Truth to Power: The Art and Craft of Policy Analysis*. Oxford:

Transaction Publishers.

Williams, D. and S. Stewart. 1998. Sense of place: An elusive concept that is finding a home in ecosystem management. *Journal of Forestry*. 96(5):18-23.

Wondolleck, J. and S. Yaffee. 2000. *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, DC: Island Press.