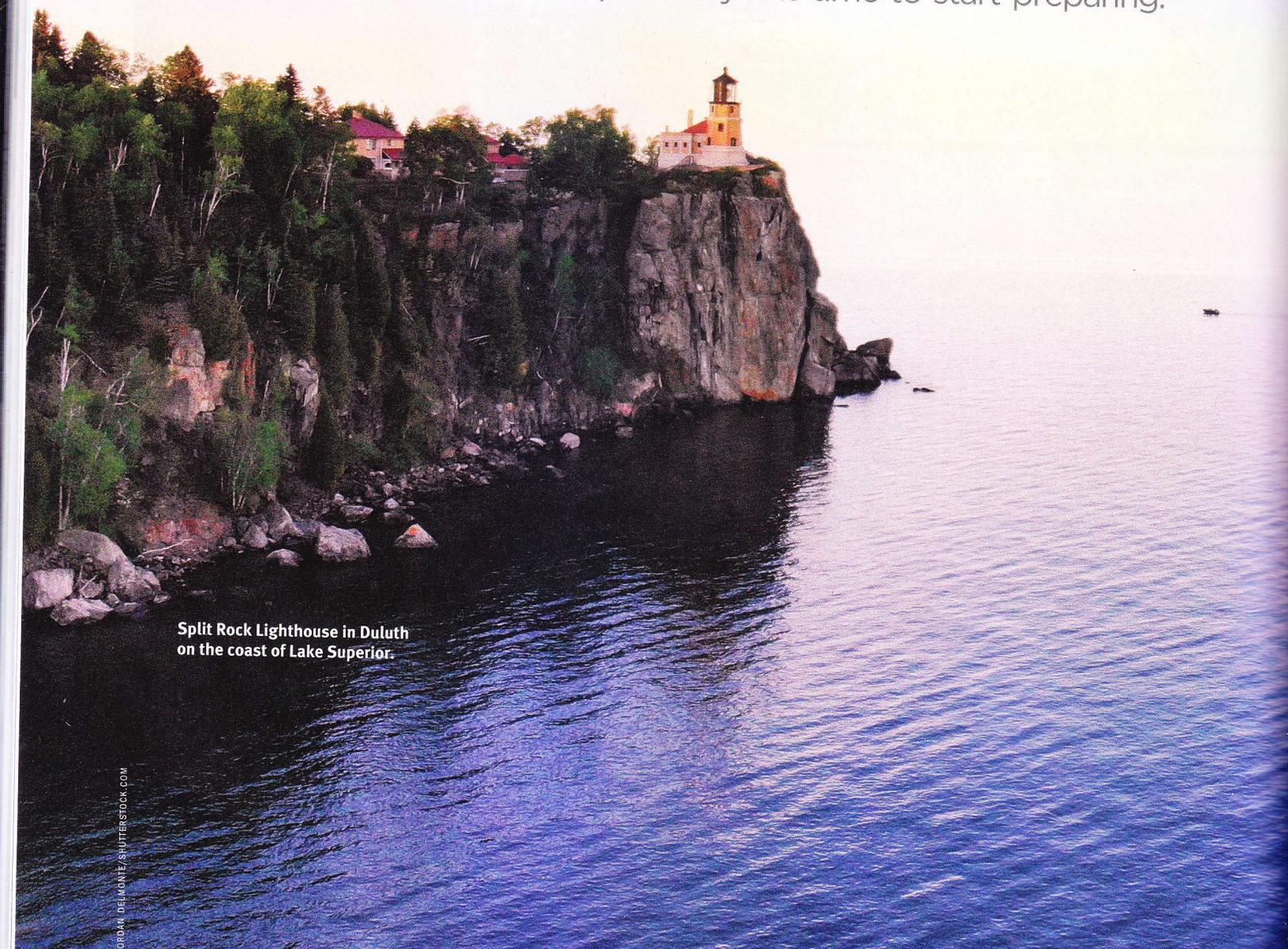


THE COMING OF THE CLIMIGRANTS

PATRICK J. KIGER

As climate change puts coastal areas at risk from rising seas and subjects Sun Belt and Southeast cities to hotter temperatures, some of their residents may go elsewhere. Experts say it is time to start preparing.



Split Rock Lighthouse in Duluth
on the coast of Lake Superior.

SITUATED ALONG THE SHORELINE of Lake Superior, Duluth, Minnesota, rose to prominence as an inland port that helped supply the world with iron ore, timber, and grain, and as the home of a steel mill that churned out vast amounts of H beams, nails, and wire.

But after that facility closed in the 1970s, Duluth slid into economic and population decline, only to reinvent itself in recent years as a major regional health care provider and manufacturing center for high-tech products such as the Cirrus personal jet aircraft. In the process, Duluth also has morphed from a gritty Rust Belt city into a lifestyle destination for people who enjoy cycling and kayaking and the luxury of pleasantly cool summers. Local developer Sandy Hoff speaks fondly of Lake Superior as “the big ice cube” that moderates Duluth’s climate.

“Even on a day when you could have 85-to-90-degree [29–32 C.] temperatures in the Twin Cities [Minneapolis and St. Paul], it might be 72 degrees [22 C.] here,” says Hoff, whose company, F.I. Salter, has been involved in developing various hospitality projects along the lakefront, including the \$29 million, 140-room Pier B Resort Hotel, built on a reclaimed brownfield industrial site.

But now, Duluth may be at the start of yet another evolutionary stage. Because of its built-in natural protection against temperature extremes, researchers attempting to forecast the future effects of climate change on population movement see Duluth—along with Buffalo, New York; Cincinnati, and others—as potential destinations for what could be a future wave of internal U.S. migration as some Americans decide to leave coastal cities threatened by rising seas and increasingly intense storms. They could be joined by people leaving Southeastern and Sun Belt population centers where soaring daytime temperatures might prove intolerable.

“We absolutely have the capacity to add more people,” says Hoff, noting that Duluth’s population has plateaued at around 86,000.

It is difficult at this time to calculate the number of *climigrants*, as climate forecasters call them. Vivek Shandas, an urban studies and planning professor at Portland State University, says that in a scenario in which the global temperature rises by 4 degrees C. (7.2 degrees F.) by 2100, as much as

10 percent of the U.S. population ultimately might relocate. Many of those on the move are likely to relocate to higher ground not far from their former homes, but others may flock to older cities to the north that suffered population losses in the mid- to late 1990s. In the process, those new arrivals could subtly reshape the economies of their new hometowns—and create demand for housing, infrastructure, transportation, and employment opportunities that those cities will need to meet.

But that problem would also represent an opportunity, says Jesse Keenan, an associate professor of real estate in the school of architecture at Tulane University in New Orleans. He has helped popularize the concept of Duluth and other northern cities becoming havens for climigrants.

“People will be on the move anyway,” Keenan says. “The question is how do we take advantage of migration to transition to a lower-cost, more sustainable environment.”

Who Will Stay and Who Will Move

With the displacement caused in New Orleans by Hurricane Katrina in 2005 still a painful memory, it is easy to conceive of climate migration as people who are forced to flee flooded neighborhoods after a catastrophic hurricane. But most experts seem to expect the movement to be predominantly a gradual, incremental shift.

“Migration has always been about multiple factors,” says Karen O’Neill, a Rutgers University sociologist who studies climate migration from a global perspective. “There’s an economic push/pull, family ties, and your social network.”

Some of the most powerful pressure driving climate migration may be economic. Some real estate industry players already have started to recognize the need to incorporate climate risk into their strategies, according to the 2019 report, *Climate Risk and Real Estate Investment Decision-Making* by ULI and Heitman, a Chicago-based global real estate management firm. In 2017, U.S. properties and physical infrastructure suffered more than \$300 billion in damages from extreme weather, according to the National Oceanic and Atmospheric Administration’s Climate.gov website. Insurance companies, which are working to figure out how to evaluate climate risk, may decide

that covering areas susceptible to rising seas and extreme storms is too much risk for them to bear.

Similarly, investors may decide that properties in once-desirable coastal areas are too dangerous to put money into. The ULI/Heitman report describes how Heitman chose not to invest in one prospective asset after determining that its high exposure to sea-level rise and storm surge would make it difficult to sell after a long-term hold.

For new projects being built in areas that face the most intense changes, climate projections must become a crucial part of the design process, says Janice Barnes, founding partner of Climate Adaptation Partners, a New York City-based firm that advises clients on how to plan for those risks.

"The first question is, do you know the climate projections for the area in which you're designing?" she says. "Second, what are the vulnerabilities and cascading consequences? And third, what are you going to do about it? How does the design question address the vulnerabilities? If you can't answer those questions, you aren't designing for resilience."

Another influence on whether residents stay or go might be how much cities are willing to invest in protection measures, such as building elevated waterfront parks that double as barriers against flooding.

"Our view is that certain coastal locations will be defended," says Mary Ludgin, Heitman's senior managing director and head of global research. She cites New York City, Boston, and Washington, D.C., as cities in the United States taking action regarding climate change, in addition to cities such as Sydney and Hong Kong elsewhere in the world. "Others will not because the resources to defend locations are finite and the sheer cost of the defense is so high."

Ultimately, she says, "I do think that capital will shift to inland locations and cooler regions over time" as sea-level rise, hotter temperatures, or both make it more difficult to live comfortably in a particular place.

Managed Retreat Provides a Short-Distance Option

In some cities, planners may opt for a managed retreat in which buildings, infrastructure, and even entire communities are relocated from a flood-vulnerable coastal area to a safer location. In the

United States, it is a concept already tried on a small scale through buyout programs such as the federally funded \$48.3 million relocation of Isle de Jean Charles, a coastal community in Louisiana. Residents are being resettled in a new location 40 miles (64 km) to the north, according to local news website Nola.com.

A researcher into managed retreat, A.R. Siders, an assistant professor at the Disaster Research Center in the Biden School of Public Policy at the University of Delaware, says managed retreat is not a one-size-fits-all answer. "Infrastructure, population density, wealth, heritage, race, community cohesion, historic injustice, transportation, jobs—there are many factors that determine what's right in a given context," she says. "A small, tightly knit rural community with long-standing ties to the land and a history of injustice will have different goals for their future than a dense, urban, modern apartment block."

In some cities, urban planners may opt for a combination of strategies. Katie Spidalieri is a senior associate at the Georgetown University Climate Center, which has developed the online Managed Retreat Toolkit for communities dealing with future sea-level rise. She cites the example of Norfolk, Virginia, where the Norfolk Vision 2100 plan divides the port city into four color-coded zones, each with a different strategy. Green and purple areas of the map, which face a low climate risk, are targets for development; red areas that contain critical infrastructure will be hardened with flood-protection measures. In yellow areas, which also are vulnerable to flooding, the city might combine resilience features with programs to educate residents about flood risks and help owners recoup value lost to water rise.

It also is necessary to think about how a strategy may need to shift over time. "You can elevate homes, but at what point do you consider retreating to higher ground?" Spidalieri asks. City officials also need to think beyond the normal 10- to 20-year window that many use for urban planning and look at a longer time frame in which climate change effects would develop.

Climate Havens Are Still Mostly Just an Idea

Some urban residents affected by climate-related weather disasters, if they have the financial

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—ROBERT McLEMAN, WILFRID LAURIER UNIVERSITY

resources to do so, may opt to relocate to nearby cities that escaped damage.

But others—particularly affluent professionals whose jobs can be done remotely and companies that see climate change as presenting too much of a risk to their prospects—may opt for longer-distance permanent moves. As Rutgers sociologist O’Neill notes, the COVID-19 pandemic, which has forced people to stay away from offices and work at home to avoid exposure, may have permanently untethered many from the notion they must remain in a particular city. “Videoconferencing is suddenly a haven,” she says.

For those who make a more drastic shift northward, older industrial cities in the upper Midwest, which lost population due to economic and demographic shifts, are logical destinations.

“Cities from the industrial heartland that are below their peak, [they] at one point had infrastructure to support bigger populations,” notes Brian Swett, cities leader in the Americas for global architecture and engineering firm Arup. Is it more sustainable to reurbanize than to build in new places? “Yes, without a doubt,” he says.

One northern city that might be a destination for climigrants is Buffalo. Stephen Vermette, a professor of geography at the State University of New York (SUNY) Buffalo State College, says that although the city is warming at a rate comparable to the U.S. average, so far it has not experienced a significant increase in heat waves or extreme weather events. Compared with other places with worsening conditions, Buffalo “is faring well in a warming world,” he notes.

In a January news release, Buffalo Mayor Byron Brown described the city’s aim to become a “climate refuge city in the future,” and the city’s Office of Strategic Planning has contemplated how it might accommodate an influx of climigrants in part by using infrastructure erected several decades ago, when planners expected Buffalo’s population to increase instead of decline. (Between 2010 and 2019, the city’s population fell by 2.3 percent to about 255,000, according to the U.S. Census Bureau.) So far, though, the city seems mostly to have focused on clean energy projects to prepare for future migration.

Another city identified by forecasters for climate migration is Cincinnati. The Ohio city is far enough inland and 500 feet (152 m) above sea level, giving it protection against the sort of flooding that threatens coastal cities. Larry Falkin, director of the city’s Office of Environment and Sustainability, explained in a session at the 2019 ULI Fall Meeting that the city’s existing inventory of buildings is capable of absorbing about 200,000 new residents. Though, like Buffalo, the city has not yet made concerted efforts to become a haven, city leaders already have given some thought to how Cincinnati might gain from climigration.

The city’s 2018 Green Cincinnati Plan describes the city as “well suited to serve as a Climate Haven, providing opportunities and services for those seeking to relocate as the climate changes.” In addition to Cincinnati’s ability to provide emergency housing for those fleeing disasters, the plan notes that companies may consider relocating to the city from disaster-prone locations. “This will provide economic opportunities if Cincinnati is prepared to market itself to these businesses,” the plan notes.

Duluth gained attention in 2018 after Keenan, then a faculty member at Harvard University, told the British newspaper the *Guardian* that he thought Duluth, along with Buffalo, was a likely destination for those fleeing climate change. He subsequently was invited to the city to give a presentation at a climate change conference, during which he discussed how the city might redesign itself to accommodate 10,000 more residents with more density, and even half jokingly suggested marketing slogans (such as “the most climate-proof city in America”). Though the city has not officially embraced the idea, Mayor Emily Larson told the *New York Times* in 2019 that she liked the idea of Keenan identifying the city “as a place that has kind of a secret sauce when it

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comes to being a place for refuge and sustainability and resiliency.”

Developer Hoff says Duluth could benefit from a wave of climigrants who could relieve the local labor shortage, which he says has been holding back the city from achieving greater economic growth. If Duluth is to become a future climate utopia, plenty of work remains to be done. For one, Hoff says, the city needs more housing in different locations and price ranges. Duluth already has a shortage of middle-market homes in the \$250,000 to \$300,000 range, and relatively little housing is located in the core urban downtown, he says.

Hoff would like to see more mixed-use development in Duluth that includes a higher density of single-family housing ideally positioned to have access to the city’s system of bike trails. “I think that is the path forward for our market, versus just going to a cornfield and tossing up another 200 houses,” he says. “We have a unique opportunity to integrate the tremendous outdoor opportunities that we have with new urban housing models.”

Creating walkable, sustainable urbanism faces some challenges, given Duluth’s steep topography. “We’re sort of like San Francisco,” Hoff says. But he foresees e-bikes, which give riders an assist when needed, as a remedy that would extend the range for urban commuters and help prevent the streets from becoming clogged with vehicle traffic.

“This area could and should accommodate more people,” says Pat Schoff, a research associate at the University of Minnesota’s Natural Resources Research Institute in Duluth. “We have the room and we have the resources. But everything depends on how we prepare for it.”

How Cities Will Need to Prepare

Climate migration researcher Robert McLeman, a professor in the Department of Geography and Environmental Studies at Wilfrid Laurier University in Waterloo, Ontario, says potential climate havens need to think ahead to infrastructure needs for bigger populations—such as water treatment plants and electricity grids—well before migrants arrive,

because it can take decades to plan and obtain financing for and build such assets.

“If there were to be large surges of migrants into cities, it would be a real challenge to mobilize such infrastructure in a short period of time,” McLeman says. “So, for cities that might become climate havens 20–30 years from now, they actually need to start planning now.”

Keenan, who already has had conversations with foreign banks about managed retreat projects in other countries, believes that investors are ready to shift funds into sustainable projects in cities that will grow because of climate migration. “There’s a big shift in global capital for doing the right thing,” he says. “What real estate needs to understand is that money is already going in this direction.”

But Keenan emphasizes that it is important to get such development right. Rather than simply attempt to entice affluent climigrants, he would like to see cities use inclusionary zoning and require that 20 percent of new housing be affordable so they attract a more diverse group of new residents, as well as focus on use of sustainable materials and renewable energy. It also is crucial that existing residents get a seat at the table when decisions are made in order to get their input and build support.

Right now, “what we lack is a vision of what this is going to look like,” he says. “People need to think about how their city will look and feel like with more people, and how we’re going to create value. It’s not just about advertising and selling it to the world, but marketing it to your own citizens as well.”

Keenan says that for the built environment, climate migration presents an opportunity for cities to remake themselves. “We have an opportunity to get it right this time,” he says. **U**

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Learn more about climate migration at ULI’s Fall Meeting: fall.uli.org/session/where-to-next-climate-migration-and-the-cities-and-neighborhoods-of-the-future/.

Contribute thought leadership on migration and other resilience topics with ULI’s Urban Resilience program: americas.uli.org/resilience.