Climate Planning Survey for Lake Michigan Communities

How was the survey conducted?

In July and August of 2020, Illinois-Indiana Sea Grant sent a survey to professionals in the Greater Chicago Area to collect information related to opinions about climate change and plans to navigate impacts in southern Lake Michigan communities. The survey was sent to over 3,000 professionals and 144 responses were received (5% response rate).

This survey was initially conducted in 2012 when the same audience was surveyed with an identical set of questions. At that time, 256 responses were received (7% response rate).

Who was surveyed?

The survey was sent to professionals who would likely need to consider climate change impacts in their work in some capacity. Among those who responded,

- 42% of respondents were elected officials and 43% were natural resources professionals
- 90% of respondents were from IL and 10% from IN
- 61% of respondents identified as male, 36% female and 3% prefer not to answer



Above: Map showing the number of responses by county in Illinois and Indiana. In addition, three respondents from Illinois did not specify a county in which the majority of their work takes place.

- The average time spent in their current organizational capacity was just over 8 years, with a median of 6 years, and range from less than a year to more than 30 years
- More than half have a graduate or professional degree while less than 10% had some college with no degree or high school graduate or equivalent. From 2012, there was a 25% increase in having a graduate or professional degree.



Survey respondents were asked how well informed they are about the effects of a changing climate and how sure they are that the climate in their area is changing.

In 2020, 90% of participants said that *the climate in my area is changing now*, while only 61% said the same in 2012.

When asked how certain they are that the climate in their area is changing, more than 70% said they are *extremely sure* or *very sure* that the climate is changing while just under half were *extremely sure* or *very sure* in 2012.

In addition, nearly 80% of respondents said they were either very well informed or moderately informed about the effects of a changing climate in 2020, compared to 64% of respondents in 2012.

Climate Change Impacts

Survey respondents were asked how they think climate change may affect the local conditions and features of the natural environment in their area.

As shown below, participants expect that a majority of local conditions, features, and impacts will *likely increase* due to the effects of climate change. Of the seventeen conditions polled, twelve received more than 75% of the vote in the *likely increase* category. *Stay the same* was chosen as the majority response for two conditions while *likely decrease* was the most popular answer for only one option.

A few key highlights and distinctions from the results in 2012 include:

- The most common response chosen was that lake levels would *likely decrease*. This was at a time when Lake Michigan water levels were historically low. Conditions rapidly changed, leading to a sustained period of extremely high lake levels such that in 2020, 78% of respondents said lake levels would *likely increase*.
- No response between *likely increase, likely decrease,* or *stay the same* received more than 75% of the vote in 2012, so perceptions about the effect of climate change were scattered between all three response options.

How do you think climate change may affect the local conditions and features of the natural environment in your area?

	Temperature						
Likely increase	Stream temperature			:	:	:	i
Stay the same	Lake water temperature						
Likely decrease							
	Water		:	:	:		
	Water quantity						
	Water quality						
	Storm Intensity						
	Storm frequency						
	Lake levels						
	Flooding						
	Amount of runoff						
	Summer water supplies						
	Other		:				
	Occurrence of algae blooms						
	Shifts in geographic ranges of aquatic species						
	Shift in geographic ranges of land species						
		0%	20%	40%	60%	80%	10

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Survey respondents were asked how their community should respond to a changing climate and who should initiate that response.

How should we respond?

- Nearly 60% of respondents think that we should consider potential climate-related effects in ALL relevant decisions, compared to 47% of people in 2012.
- Less than 15% said we should wait to make any changes until we have better information or we should not change what we do since there is no need.

Who should respond?

- Participants mostly think it should come from a *combination of government and other organizations* or *combination of government agencies*.
- More than half of participants strongly agreed that it is important for governments to prepare for the local
- effects of climate change and that a failure to plan would have negative consequences for the community.
 Between 2012 and 2020, there was a 57% decrease in those who said that no response was needed, and there were large increases in those who said municipal, county, and state governments should be part of the response.
- When asked about the proper role of government in the local context, in 2012 more than half of
 respondents agreed that the government interferes far too much in our everyday lives, while more than half
 of respondents disagreed with this statement in 2020.*

*Agree (disagree) represents a combination of strongly, moderately, and slightly agree (disagree) statements

Adapting to and Planning for Climate Change

Survey respondents were asked about the importance of addressing climate change impacts through mitigation and adaptation in their work and their current phase of adaptation planning and implementation.

While in 2012, 60% of participants said they were *not currently involved* in adaptation planning and less than 10% were *implementing* a plan, there was a notable shift in 2020 when nearly 20% of respondents were *implementing* a plan, 45% *understood* the need for an adaptation plan, and only 35% said they were *not currently involved*.

When asked about what prompted involvement in climate adaptation, 21% said that they feel a *personal motivation to address the issue* in their work. More than 4 out of 5 participants strongly agreed or agreed that they *feel a professional responsibility to plan for the local effects of climate change* and they also feel that *my professional actions to plan for the local effects of climate change could benefit the community.* MITIGATION



of respondents said mitigation was a top priority in 2020 while 33% said it was a medium priority.

in 2012, 13% and 38% said mitigation was a top and medium priority, respectively.

ADAPTATION



of respondents said adaptation was a top priority in 2020 while 40% said it was a medium priority

in 2012, 13% and 39% said adaptation was a top and medium priority, respectively.

*Adaptation: efforts to plan for, prepare for, or manage the projected impacts of climate change.

****Mitigation:** the reduction of greenhouse gas emissions from energy or land use.

Which of the following best describes your current phase of climate change adaptation planning and implementation?

2012		Not Currently Involve	d		Understanding		Planning
2020		Not Currently Involved		Understanding		Planning	Implementing
	0%	20%	40%	60%	80%		100%

Survey respondents were asked about specific hurdles they may have encountered in addressing the impacts of climate change.

Out of 18 hurdles presented, 7 were encountered by at least 50% of respondents. Respondents encountered these top 5 hurdles the most.

Top 5 hurdles (% encountered)



68% Lack of agreement over importance of climate change effects



65% Insufficient staff or staff resources to prepare a plan



64% Insufficient funding to prepare a plan



60%

53% Lack of knov

Lack of know-how to analyze relevant information that is available

Current pressing issues are all-consuming

Information Needs

Survey respondents were asked about what types of information are important to their work and, in order to identify information gaps, how much information they currently have on several critical topics.

Information related to frequency and extent of flooding events was seen as *extremely important* by 76% of respondents in 2020, up from 56% in 2012. In addition, a majority of participants said information for land use planning and zoning, water infrastructure, cost of climate adaptation, spread of invasive species, and economic vulnerability was *extremely important*.

Of the 20 options participants were asked to rate the importance of to their work, *extremely important* was the most popular response for 17 options. For the remaining three options, *moderately important* was chosen most frequently. *Slightly important* or *not at all important* was not chosen as the most popular response for any option.



Percentage of coastal professional who have none of what [they] need for:

(57%) Case studies from other communities that have adopted climate adaptation plans(46%) Lessons learned from communities that have taken action

In addition, the percentage of communities that have only some of what [they] need when it comes to:

(41%) Local climate trends and projected impacts of climate change for your region

(**35%**) Basics of climate science and climate change



Survey respondents were asked about the format in which they would prefer to receive information.

Participants were very interested in having this information shared through a variety of formats, including:



One-day training workshops received a mix of responses while most people were not at all interested in multi-day training workshops. Since 2012, and likely partially as a result of COVID-19, respondents were more interested in online information delivery formats while training workshops, which people may have assumed would be in person, had less interest.

Summary and Key Takeaways

Since 2012 when this survey was initially conducted, there have been several notable shifts to the answers given across a variety of themes, including:

- Perspectives on climate change
- What changes may affect their local community
- Who should respond and how should we respond to these effects
- The importance of mitigating and adapting to climate change impacts
- What information is needed to address a locally changing climate
 How information about climate change adaptation should be shared

These results show that several communities are still looking for standard climate change information as to how their community may be impacted. Other communities, however, are interested in learning lessons from others or having a blueprint as to how a climate change adaptation plan was created and implemented.

Illinois-Indiana Sea Grant will continue to share relevant information and engage with the diverse communities of Illinois and Indiana as they plan for and adapt to the impacts of a changing climate. By working closely with a wide range of partners and organizations throughout the region, IISG will help and support communities as they face the challenges of becoming more environmentally and socially resilient to climate change impacts.



