

Climate prescriptions for mitigating climate risks:

Developing tools for property manager education about the impact of climate-related risks on their properties is the first step towards climate risk mitigation.



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Climate risks are an increasing concern for investment managers. In 2018 and 2019, natural disasters resulted in over \$136 billion worth of damage in the United States alone.¹ We saw historic flooding rage the Midwest, wildfires consume the West Coast, and hurricanes batter the South and East Coast. It doesn't stop there — climate change is expected to cause an increase in frequency and severity of natural disasters, resulting in additional property and infrastructure damage, disruption to businesses, and loss of human life.

The real estate industry is beginning to recognize the increasing materiality of climate risks to investment performance and so is seeking better ways to assess and disclose those risks to stakeholders. For example, the Task Force on Climate-related Financial Disclosures (TCFD) is pushing to stimulate market dialogue and increase transparency on climate-related risk disclosure to investors, lenders and other stakeholders. The recent inclusion of TCFD-aligned questions on the United Nations Principles of Responsible Investment annual survey demonstrates the market's growing awareness of climate risk issues.²

As part of our fiduciary responsibility to our clients and investors, we sought to understand the impact of climate risks within our investment management practices. With assets located all over the United States subject to a wide variety of climate-related risks, there is significant concern about investment performance, as well as the safety of our property teams, employees, tenants, residents and the communities in which we do business. By incorporating the findings of our study into our portfolio and building capacity for addressing current and future climate risks, we produced a series of documents called the 'climate prescriptions' aimed at decreasing our aggregate risk exposure and reducing potential mitigation costs.

Climate risk assessment pilot

As a first step to understanding the impact of climate risk, we worked with a leading climate risk modeling firm to secure climate risk exposure data for assets in one of our funds. Our goals were to identify and characterize emerging property and fund allocation risks, and to build institutional knowledge and expertise. These were necessary in order to understand and address climate risk factors as part of investment management.

We quickly realized that there were several key lessons that would inform our future work in this area:

- **Property team education is key.** Climate risk is a new emerging issue for our industry, requiring new knowledge and capabilities for our property teams.

- **Climate impacts are connected, which means that climate risk mitigation strategies are also interconnected.** A strategy that decreases a property's risk for major storm damage may also increase the property's resilience to flooding and to the long-term impact of sea level rise. This encouraged us to take a holistic view of capital improvement projects and mitigation strategies.
- **Climate risk mitigation strategies will depend on the specific property type.** Property type will determine the amount of landlord involvement in property operations, the number of residents or tenants present at the property in the event of a natural disaster, and the most effective approaches for stakeholder engagement.

For our climate risk assessment pilot, our data partner used historical and modeled climate data to give each asset a risk score for the identified climate risk categories (see Exhibit 1 on the next page). The scores were based on each asset's geographic location, ranging from 0 to 100. A higher score represents a higher risk. An important limitation of the climate risk assessment is that the score only depicts the potential exposure of a particular physical risk; it does not indicate the possibility of that risk occurring. The data utilized was derived using Representative Concentration Pathways emissions reduction scenario 4.5, which represents a moderate carbon emissions reduction scenario.

¹ Weather Disasters and Costs, Office for Coastal Management.

² UN Principles for Responsible Investment, TCFD-based Reporting to Become Mandatory for PRI Signatories in 2020, February 18, 2019.

Task Force on Climate-related Financial Disclosures (TCFD)

The TCFD’s mission is to “develop voluntary and consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers and other stakeholders.” Increased transparency and access to climate-related risk data will enable companies to more holistically measure and evaluate their own risks. TCFD signatories include over 160 financial firms responsible for over \$86.2 trillion of assets.

The pilot and climate risk scores primarily focused on the climate-related physical risks (i.e. risks concerned with the impact on property physical conditions, infrastructure, operations, systems and equipment). We also examined transition risks (i.e. risks associated with movement to a low-carbon economy) by completing an internal review of existing climate action plans, renewable energy portfolio standards, and other environmental regulations targeting greater energy efficiency and reduced carbon emissions associated with commercial buildings across the United States.

Exhibit 1: Climate risk categories

Risk	Definition
Flooding	The submerging of normally dry land. Flooding can be linked to a major storm, excessive precipitation, sea level rise, or damage at nearby dams or levees. Floods can cause significant physical damage to properties, infrastructure and disrupt normal property operations.
Heat stress	Increased exposure to high temperatures, above what previous averages and historical records would indicate. This can often result in more frequent heat waves and prolonged higher than normal temperature events.
Major storms	Includes hurricanes, blizzards and tornadoes. These storms can cause significant physical damage to properties and infrastructure, as well as disrupt normal property operations. Major storms can also cause another climate risk—flooding.
Sea level rise	Long-term, global rise in sea level. This is a particular concern for properties in coastal regions. Unlike other climate risks, sea level rise is not associated with an acute disaster event. Rather, the consequences of sea level rise occur slowly over time and creates a new normal.
Water stress	The lack of ability to meet human and environmental water needs. Water stress could be caused by a prolonged period with little to no precipitation, a diminished water supply and/or an increased demand for water. Climate change increases the possibility of water stress in many parts of the world by changing rainfall patterns and increasing average temperatures.
Wildfires	Unplanned fires. Wildfires are increasingly occurring in or near densely populated areas, parks, green belts and other areas that have combustible landscaping. These can be caused by humans, equipment, transportation and/or electrical/gas utility systems. The risk of wildfires increases during periods of little precipitation and/or strong winds.

Birth of the climate prescriptions

Once every property was scored for each climate risk by our climate risk data partner, we created a tool to disseminate this information to property management teams at the affected properties. This tool is the climate prescriptions, a series of documents to inform property management teams of the consequences of the risk and next steps to help remedy the risk.

To develop the climate prescriptions, we conducted secondary research on disaster preparedness best practices and consulted with leading experts on property operations, including Brenna Walraven of Corporate Sustainability Solutions and John Scott of Colliers International. They shared their perspectives on the most important items to share with property teams, as well as insights into how to make the climate prescriptions actionable.

Both stressed the importance of using local climate resilience resources, such as government task forces and contacting local utilities.

When we created this tool, we distributed a follow-up survey to ensure that each property team read the climate prescriptions and, if required, took appropriate action at their property.

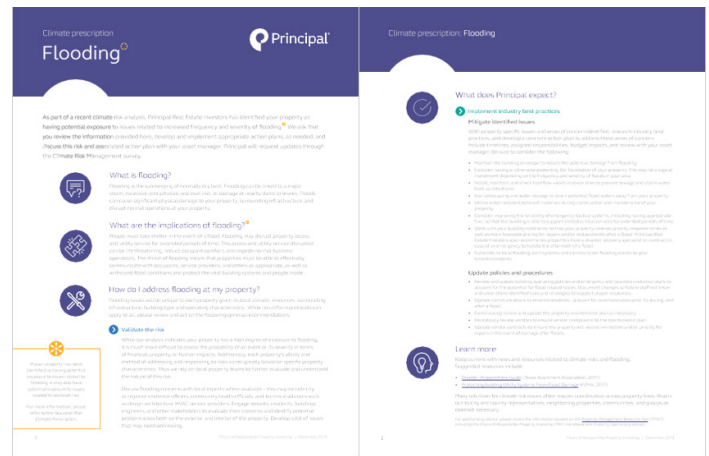
This also enabled us to support property teams if they had additional questions about climate risks, as well as to understand and gather property-level mitigation strategies. The findings from the climate risk assessment pilot will be integrated into Principal Real Estate Investors’ ESG platform and used to refine the expansion of the climate risk assessment to other portfolios.

Our goal with these resources was to give property teams an introduction to the different physical climate risks that might impact their properties and provide actionable next steps to protect the asset, residents/tenants and property team from adverse events. As we gathered research, we realized there was a plethora of complicated information that could easily overwhelm even industry experts. We knew we needed to keep each climate prescription short, informative and actionable. This meant striking a balance between keeping the climate prescriptions applicable to all property types, but specific enough to drive meaningful property-level action.

The final climate prescriptions is a series of two-page documents, each dedicated to a specific climate risk category. The content is organized as follows:

- **Introduction:** Overview of the property's climate risk and its implications.
- **Risk validation:** We asked property managers to validate the risk, since historical and modeled data may not be indicative of a specific's property's risk, or may miss 'ground-level' factors that could exacerbate or mitigate the risk.

- **Industry best practices:** Actionable next steps for property teams. This may include outreach to local experts and government resources.
- **Additional resources:** Articles for property teams to continue learning about climate risks.



Distribution and follow-up

Once the climate prescriptions were finalized, we distributed them to each affected asset manager and property team. We asked them to document their validation, research and proposed actions. After a couple of months, we surveyed 37 properties that were flagged for climate risks to collect information and assess progress. The purpose of the climate prescriptions survey was to:

- **Gather feedback** about the climate prescriptions;
- **Ensure** property teams received *and* reviewed the climate prescriptions; and
- **Facilitate discussions** for how property teams will increase their property's resilience to identified risks.

We found that 54% of property teams stated they already had existing procedures to mitigate the risk, 35% of property teams implemented new procedures in response to the climate prescriptions, and 11% of property teams were still developing new climate risk mitigation strategies for their properties. We were impressed by the variety of climate risk mitigation strategies being implemented, including:

- One property team that manages an office in Colorado plans to add the phone system, card reader system and garage door operator to open circuits on the emergency generator to ensure that tenants have access to the building even when the electricity is out.
- A property team that manages a multifamily property in Florida already disseminates hurricane preparedness information to tenants and has procedures in place for property protection.

- One retail property team in Texas solicited bids for improving roof drainage and obtaining hurricane shutters to mitigate effects of downpours and flooding.
- An industrial property team in Tennessee has an emergency preparedness manual for precautionary measures and an emergency preparedness first responder assessment for evaluating damage after significant weather events.

Challenges and next steps

The climate risk assessment and resulting climate prescriptions were some of our first steps in a comprehensive climate-related risk mitigation program.

Throughout this process, we identified several challenges:

- Property teams have full workloads, especially with unforeseen circumstances like COVID-19.
- It is also possible that property teams may not be familiar with climate risks and their materiality, or not understand the operational impacts of long-term climate issues like heat or water stress.
- There is a wide variety of climate-related risks based on the geographic location of each property. This also means that there are many possible mitigation strategies. It will take time to determine the most appropriate mitigation strategy for a specific property situation.

It is critical for property teams to understand climate risks and their potential impacts. By establishing plans of action to mitigate climate-related risks, we are taking steps to ensure the physical

and financial stability of our investments now and into the future as climate-related risks become more frequent and intense.

The climate risk assessment and development of the climate prescriptions was a significant learning opportunity for myself, the Pillars of Responsible Property Investing team and property managers. Our initial pilot, which occurred over several months, solidified our approach and understanding of the materiality of climate risk to investment performance. We are working to incorporate the findings from the assessment into additional ESG initiatives.

We are also exploring the development of an ESG scorecard, a tool that will provide a snapshot of ESG information for our standing investments and potential acquisitions including climate risk. Additionally, we are forming an internal climate risk committee to continue planning for climate risk mitigation strategies, including integrating climate risk factors into the acquisitions process and performing climate risk assessments on additional funds. Through this exploratory pilot, we have gained a

greater understanding of the ramifications of climate change to our investment management practices and are better prepared to address them going forward Responsible Property Investing team and property managers. Our initial pilot, which occurred over several months, solidified our approach and understanding of the materiality of climate risk to investment performance. We are working to incorporate the findings from the assessment into additional ESG initiatives.

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