What We Know with High Confidence

The literature suggests, with high confidence, that several factors impact hurricane evacuation decision-making.

**Perceived risk** is an important and influential factor in hurricane evacuation. Research shows that individuals are more likely to evacuate if they believe that property damage, injury, or death are possible. Specifically, perceptions of the hazard matter. People are more likely to evacuate for higher category storms than lower category storms. There is a lack of understanding that higher storm categories are based on wind speed not potential flooding and storm surge, which can lead to people choosing to ignore evacuation orders in lower category events, even when the flood risk is high. At the same time, people indicate that flooding as a hazard is more likely to influence evacuation behavior than concerns related to potential wind damage, such as downed trees or loss of power.

**Official warnings** have a significant influence on hurricane evacuation. Those who receive official hurricane evacuation warnings via public officials are more likely to evacuate than those who do not. Mass media – usually local television networks - have traditionally been the most utilized channel for warning information, though the use of social media to disseminate warning messages has recently increased in popularity (research on social media’s direct influence on hurricane evacuation is still relatively new and ongoing). Social media is the most helpful to evacuation efforts when those disseminating the information are sharing official warnings and are themselves seen as credible by the users of the information. It is important to distribute trustworthy, timely, and consistent warning messages across a range of channels and from multiple sources.

The presence of **pets** in a household has a significant influence on hurricane evacuation decision-making, with those individuals who do own pets being less likely to evacuate. Concern that shelters may not accept pets or may not have sufficient resources to properly accommodate pets may dissuade people from evacuating. People may experience challenges in transporting their pets prior to a hurricane event so it is recommended that evacuation shelters be “pet friendly” to aid in evacuation efforts. Organizations that can assist pet owners during an evacuation should be included in disaster planning, and greater attention should be given to encouraging pet-related preparedness in household preparedness plans.
Hurricane Evacuation Decision Making

Traffic is often one of the most important factors that determines whether residents evacuate. Most individuals will evacuate the day evacuation orders are issued, increasing congestion on the roadways. A majority of these individuals will evacuate during the daytime hours in their own personal vehicles. Evacuees rely primarily on interstates and underutilize alternative evacuation routes, despite having access to maps and alternate route information. Inland residents are more likely to evacuate later than coastal residents, often worsening congestion as inland residents enter the roadways at around the same time coastal residents reach those same roadways. Many who do not evacuate cite traffic concerns as their primary reason for not doing so.

Additional influences include housing type, and length of residence. Housing structure and type influence evacuation decisions. Individuals who live in mobile homes are more likely to evacuate than those in single-family dwellings. Those that rent, as opposed to own their own homes, are also more likely to evacuate. Length of residence impacts hurricane evacuation decisions, with those who have lived in an area longer being less likely to evacuate than those newer to an area.

What We Know with Less Confidence

In addition to the elements described above there are other factors discussed in the research we reviewed. The conclusions from these studies point to mixed results on the influences on hurricane evacuation. It is common to have some variation in science, due to how items are measured, what is included or left out of a specific analysis, and other differences in how data is collected. This section outlines a set of findings that are important and should be considered but the exact impacts of these elements on evacuation decision-making is still evolving.

Income: Individuals and families with higher incomes are more likely to evacuate than those with lower incomes as they have more access to evacuation resources and multiple transportation methods.

Race/Ethnicity: Racial and ethnic minorities are less likely to evacuate as these households disproportionately represent marginalized communities compared to their representation in the population and therefore may not have enough resources available for evacuation.

Family with Young Children: Families with young children are more likely to evacuate than those without children or with older children, as families with young children feel a greater responsibility to keep them safe.

Gender: Females are more likely than males to evacuate, as they are more likely to personalize the risk and perceive overall greater risk that then motivates evacuation behavior.
Hurricane Evacuation Decision Making

**Age:** Elderly individuals are less likely to evacuate than the general population. Some evidence suggests that logistical challenges in evacuating contribute to their inability to leave, such as potentially not being able to transport necessary medical devices or machines.

**Disabilities:** People with disabilities are less likely to evacuate as warnings may not be disseminated in a manner that is fully accessible. People with disabilities may also have concerns about shelter accessibility. Some may need to contend with unique challenges, such as access to appropriate transportation.

**Family Size:** Larger families are less likely than smaller families to evacuate, given the higher financial costs related to the evacuation.

**Education:** Education is positively related to hurricane evacuation compliance. That is, those with more education are also more likely to evacuate because they have a better understanding of the hazard itself and the risks associated with it.

**Coastal Proximity:** Living closer to a coastline impacts hurricane evacuation decision-making. Those who live closest to the coast or are located in designated risk zones are more likely to evacuate than those who are located further inland.

**Prior Evacuation Experience:** There is a complex interaction between experience in a hurricane and evacuation behavior depending on how people perceive those experiences. For example, those who previously evacuated and found it unnecessary may be less likely to evacuate in the future. Yet, those who that experienced significant impacts from prior events are more likely to evacuate.

**Shadow Evacuation:** The evacuation of those who are not in high risk or recommended evacuation areas (shadow evacuation) is an increasing concern. It is noted that individuals from lower-risk areas can overestimate their risk perceptions, causing them to evacuate and add congestion to evacuation routes and highways unnecessarily.

**Environmental Cues:** Specific hurricane characteristics - such as intensity, movement, and location - can influence the evacuation decision. When the physical impacts of the storm are more apparent, people are more likely to evacuate.

**Social Cues:** What others say and do can influence evacuation. We often rely on other people in our social networks to make sense of risk. What we see neighbors doing (evacuating or staying) can also influence our own evacuation decisions.

**Evacuation Impediments:** Even when people want to leave, that does not always mean they can. Financial concerns, traffic fears, lack of a car, concern for the effects on employment, and other constraints have mixed influences on evacuation behavior. The intersection of multiple factors often helps to explain the contradictory findings.