# DRAFT Beekeepers Guide to Preparing for and Recovering from Hurricanes in the Southeast U.S.

***This is a draft of guidance being developed by the USDA SE Climate Hub to help beekeeping producers prepare for and recover from hurricane damage.***

**This section will focus on:**

- Guidance to help beekeepers prepare for and recover from hurricane impacts

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## I. Pre-Hurricane Planning – Long-term Preparedness

*Measures taken to prepare for an existing hurricane that is forecast to make landfall in the next week or less*



**Initial Site Planning**

- Be sure to have the hives on sturdy stands or level ground. Entire beehives can be blown over by strong winds, particularly when they are fairly tall with many honey supers or are otherwise top heavy. If the hives are on tall or insecure stands, you can move them onto (dry) level ground temporarily to lessen the chances that they topple. Importantly, if you're using solid bottom boards, be sure to have your hives tilting forward so that rain water does not pool and collect on the floor of the hive.
- Make sure the hives are not in low-lying areas or those prone to flooding. River banks can be useful apiary locations because of their proximity to fresh water, but in flooding conditions entire apiaries can be tragically swept away. Be sure to move any beehives in flood plains until the waters have subsided. Beehives on the ground but in recessed areas can cause water to flood the entrances and may even suffocate the bees if not given an upper entrance.

**Site Establishment**

- Beware of falling trees and tree limbs. These can be particularly problematic for beehives since they can completely crush all equipment and kill the entire colony. It is also hard to prevent with some sort of barrier or cover because of the sheer weight of many trees, so if your apiary is in a wooded location you may need to move the hives temporarily.

**Annual Considerations**

- Register all apiary locations with appropriate regulatory agencies (e.g., state Department of Agriculture Apiary Inspection Programs).

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## II. Pre-hurricane Planning – Short-term Preparedness

*Measures taken to prepare for an existing hurricane that is forecast to make landfall in the next week or less*

**When a Hurricane Is Forecast to Impact Your Area (1 to 7 days before)**

- Make sure beehives can resist strong winds. A simple brick on the top lid is not sufficient to keep the lid from flying off in winds above 50 mph. A lidless hive can cause problems for the bees by introducing moisture and letting heat escape. Strapping the lid down with ratchet straps or securing with duct tape might be in order, particularly for outlying yards. The same is true for hive boxes, particularly if they are relatively new (i.e., the bees have not yet propolized them together sufficiently). Also consider removing unnecessary boxes (e.g., top-hive feeders) to minimize the wind profile.
- Remove any hive equipment that is not secured, such as feeders, extra hive bodies, or unused pallets. Disassemble any bear fencing or other barriers around the apiary, if applicable.
- If possible, temporarily move hives from low-lying or flood-prone areas to higher ground.

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## III. Post-hurricane Recovery

*Measures taken to assess and repair damage after a hurricane*

**Immediately After the Hurricane has Passed**

- Once safe, visit all affected apiaries for any damage to beehives. Reconstruct any disassembled hives or replace any damaged equipment.

**Within a Week Following Hurricane Impacts**

- Following heavy rains like hurricanes, various local and state agencies have traditionally sprayed regions with stagnant water to control mosquito outbreaks. While important for public health, such insecticides can be extremely problematic for honey bees. Some states have mandatory registration in order to directly contact beekeepers if beehives are in an area schedule to be sprayed, others have volunteer programs (e.g., DriftWatch) that require prior registration, and some have no infrastructure to notify beekeepers.
- Move hives back to original locations, if appropriate. Check for any changes in landscape and resituate hives accordingly.

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**This draft guidance was developed by subject matter experts from North Carolina State University**

Managed honey bee colonies can be particularly vulnerable to the strong winds and flooding from hurricanes. Adequate and timely prevention can help mitigate the negative effects of major storms. Photo by NC State Apiculture Program.