NASA Spots the Farms Behind a Holiday Favorite

A new satellite image shows how Georgia became a major pecan-growing region, and why weather and water matter to crops.



Rows of pecan orchards spread across farmland beside a winding river.

NASA Earth Observatory published a new **satellite** view of southwest Georgia, where pecan **orchards** cluster along the Flint River, according to NASA. The image was taken on October 23, during pecan **harvest** season, which usually runs from October into December. **Pecans** may show up in pies and side dishes, but before that they grow on trees called Carya illinoinensis, a kind of hickory tree in the walnut family that is native to North America.

The image focuses on the area around Albany, Georgia, in Dougherty County. NASA says this part of the state is one of the hot spots for pecan growing. The satellite that took the image is Landsat 8, and its Operational Land Imager is an instrument that works like a special camera for studying Earth from space. The same region also grows crops such as peanuts, cotton, and corn.

This matters because it shows that food is tied to **geography**. Pecan trees need plenty of water. In this part of Georgia, many orchards sit near the Flint River and above the Floridan **aquifer** system. An aquifer is an underground layer of rock or sand that can hold water, and farmers can use that water for **irrigation**, which means adding water to crops when rain is not enough. NASA also notes that the area has well-drained sandy soils, which means water can move through the ground instead of sitting around roots.

The story also shows how scientists and farmers use satellite data. Landsat observations help build the **Cropland** Data Layer, an annual map of crop types across the contiguous United States, meaning the 48 connected states. The map is produced by the U.S. Department of Agriculture's National Agricultural Statistics Service. Instead of only looking from the ground, scientists can compare images from above to see where different crops are growing and how land is being used.

Georgia's pecan belt did not appear overnight. NASA reports that Georgia had less than 100 acres of pecan orchards in the late 1800s. In the early 1900s, Dougherty and Mitchell counties went through a pecan planting boom, when thousands of acres were planted and sold to investors. By the end of the 1950s, Georgia led the nation in pecan production, making more than 17

million pounds, according to 1959 agricultural census numbers cited by NASA.

The same region has also faced serious challenges. **Hurricane** Michael damaged orchards in October 2018, and Hurricane Helene hit the area again in September 2024. Orchards are not like some crops that can be replanted and harvested within one growing season; pecans grow on trees, so storm damage can affect farms for years. Even with those setbacks, USDA numbers cited by NASA show that Georgia produced more than 100 million pounds of pecans in each year from 2023 through 2025.

In 2026, the crop faced a different problem. NASA says a wet summer in parts of Georgia helped pecan scab spread. Scab is a fungal **disease**, meaning it is caused by a fungus, that leaves brown spots on pecan twigs, leaves, and nut shucks. At the same time, some growers still recovering from Hurricane Helene reported a solid crop. A satellite image cannot tell the whole story of a farm, but it can show how land, water, weather, and human choices come together in the food people eat.

Written from reporting by NASA.

THINK IT THROUGH

1. **Should communities depend heavily on one major crop if the land and climate are especially good for it? Why or why not?**

   > **A strong answer:** A strong answer weighs economic benefits against risks from storms, disease, water needs, and changing markets.

2. **What can a satellite image help people understand about farming, and what important information would still need to come from people on the ground?**

   > **A strong answer:** A strong answer distinguishes broad patterns visible from space from local details such as damage, costs, worker experiences, and farm decisions.

3. **If you were planning for Georgia's pecan farms after several years of storms and disease, what would you want leaders or scientists to study first?**

   > **A strong answer:** A strong answer identifies a priority and explains how evidence about water, weather, crop disease, or recovery time could guide choices.

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AQUIFER CROPLAND DISEASE GEOGRAPHY HARVEST
HURRICANE IRRIGATION ORCHARDS PECANS SATELLITE

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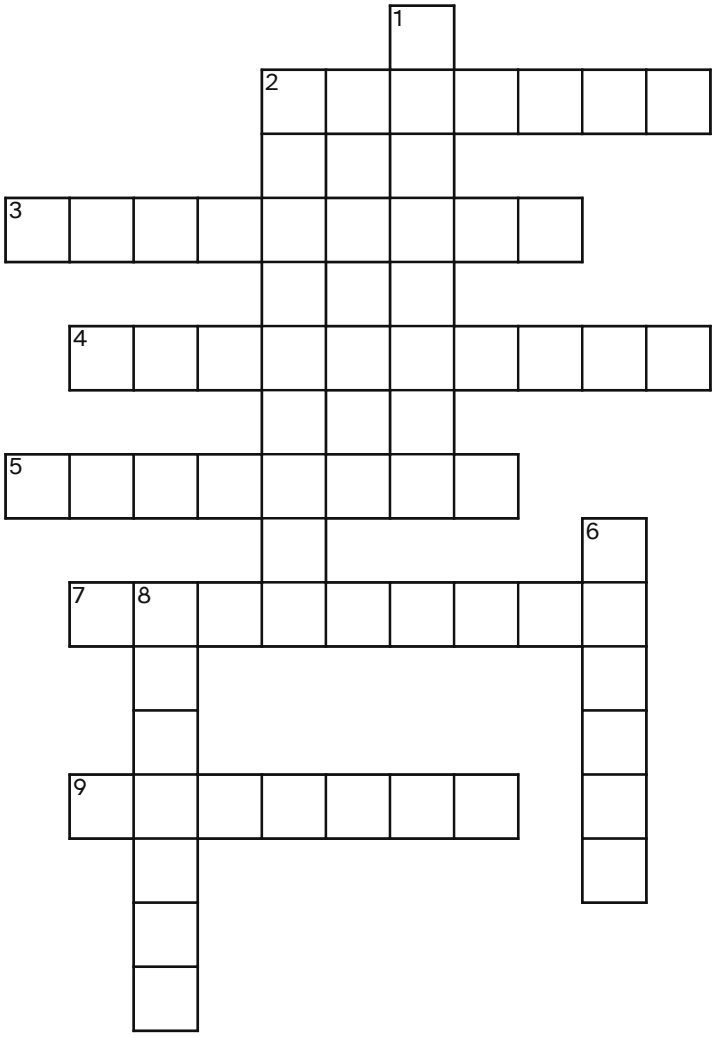

ACROSS

2 Time when ripe crops are collected

3 Study of places and links among land, water, climate, and people

4 Giving water to plants when rain is scarce

5 Land where fruit or nut trees are grown

7 Space object that sends pictures and facts about Earth

9 Plant or animal health problem that harms growth

DOWN

1 Fields used to raise plants for food or products

2 Powerful tropical storm with fierce winds and heavy rain

6 Pie nuts from a certain hickory tree

8 Underground rock or sand layer that holds water

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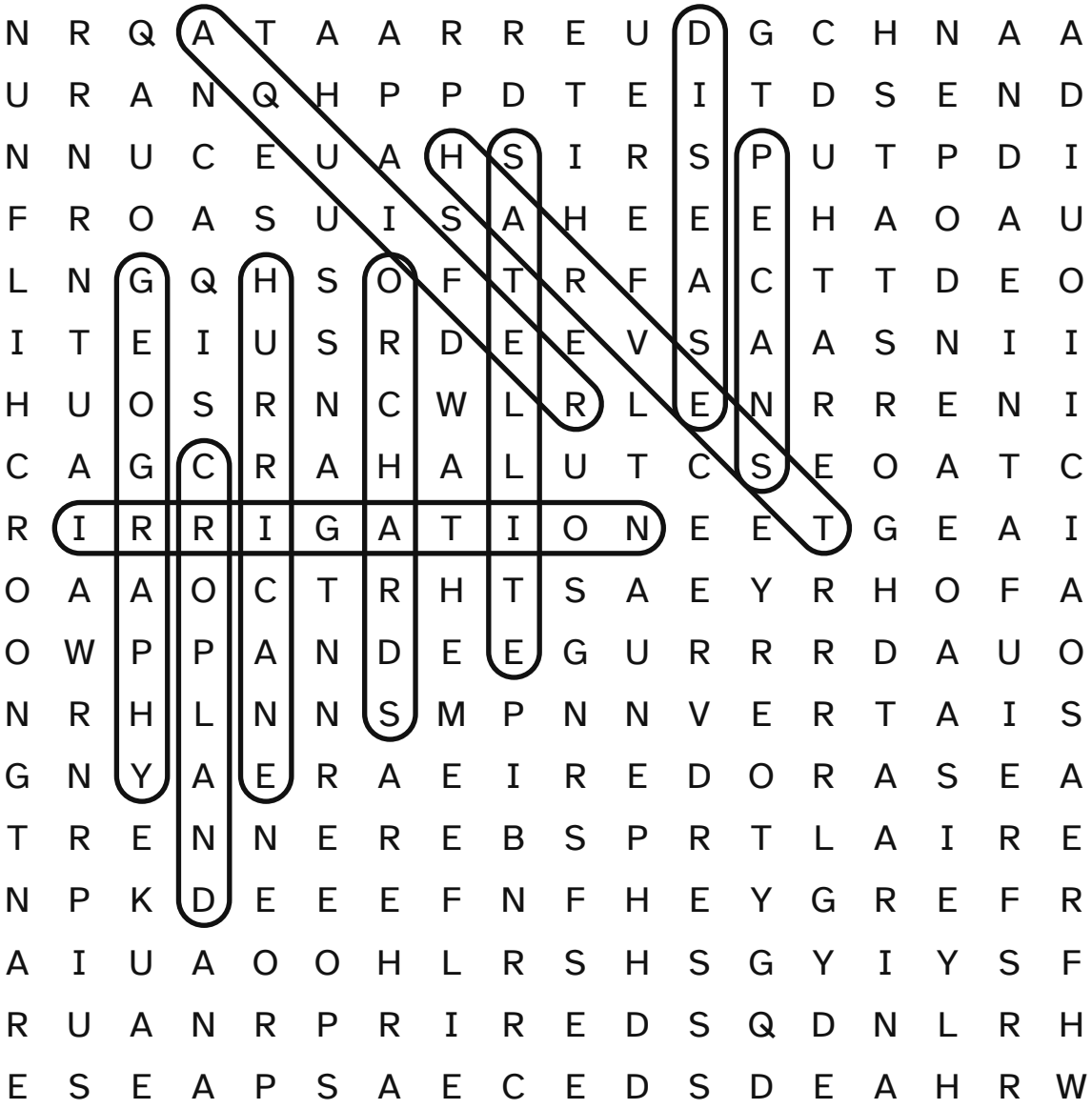
— answer key



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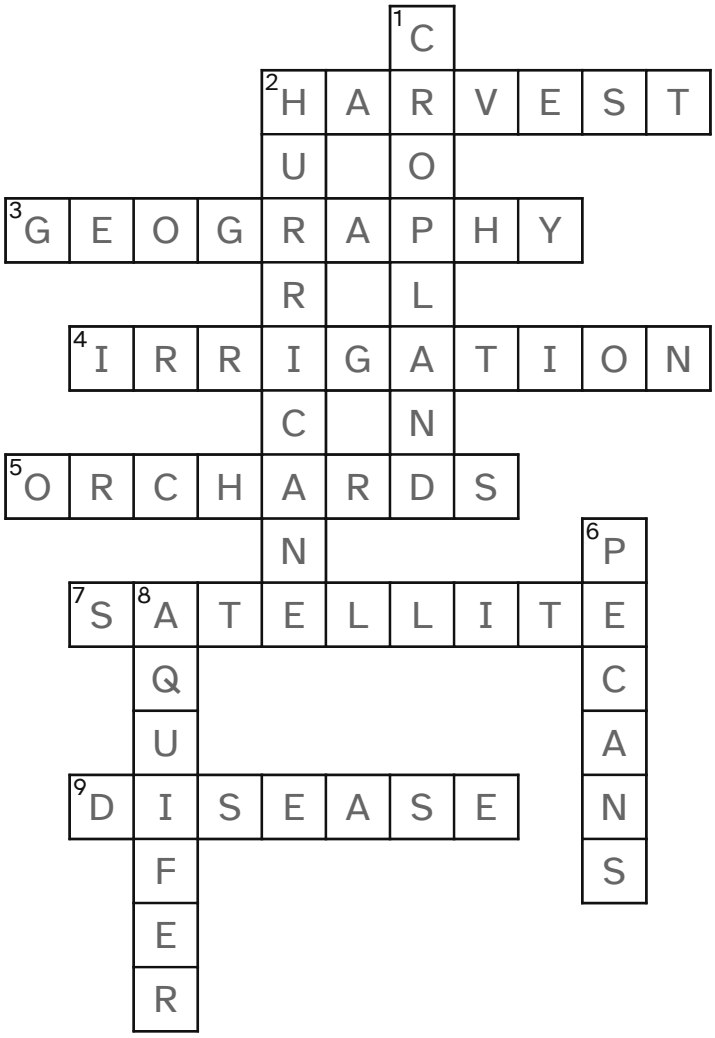

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Where this came from

This article was written for 3andB from the reporting below. It is not a reprint — the wording is ours and the facts are theirs.

NASA

"Georgia's Pecan Belt"

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https://science.nasa.gov/earth/earth-observatory/georgias-pecan-belt/

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The article with a note on each question, a word search, a crossword, and the answer key to both.

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