A Wetland in Scotland Stores a Giant Amount of Carbon

NASA's new view of the Flow Country shows why a soggy, quiet landscape matters to Earth.



A wet Scottish bog with moss, pools of water, grasses, and cloudy hills in the distance.

NASA Earth Observatory published a new satellite view of Scotland's Flow Country this week, according to NASA Earth Observatory. The picture shows a wet, open land of dark bogs, lakes, and nearby farms. A satellite is a machine in space that takes pictures and measurements of Earth. From above, this place may look quiet and brown. On the ground, it would feel squishy under boots, with mosses, grasses, and **heather** instead of tall trees.

The Flow Country matters because its bogs hold **carbon**, a material found in living things and in air as carbon dioxide. Too much carbon dioxide in the air can warm the planet. In a normal forest, dead leaves and wood break down. Tiny living things called microbes help that happen. In these bogs, the ground is so full of water that microbes cannot finish the job. Dead plants pile up slowly. They become peat, a soft, dark soil made from partly rotted plants.

NASA says these places are called blanket bogs because wet peat spreads over the land like a blanket. They need lots of rain, poor **drainage**, and little drying from sun and wind. They are rare. NASA says blanket bogs cover less than one-tenth of one percent of Earth's land. Northern Scotland has the largest one in Europe.

This is not a rainforest story. It is a soggy sponge story. The Flow Country has more than 30 kinds of **sphagnum** moss. That moss helps hold water. Some of its peat has been building for more than 9,000 years, according to UNESCO, a world group that names important places. In some spots, the peat is more than eight meters thick. That is taller than many two-story houses.

Peatlands cover only 3 percent of Earth's land. Yet NASA says they store more than 600 gigatons of carbon. That is about twice as much carbon as all the world's forests store. A gigaton is a billion metric ton.

That makes the Flow Country important, even if it looks plain from the ground. For scientists, NASA's image is a way to see how a quiet **wetland** can help shape Earth's **climate** over time.

Written from reporting by NASA.

THINK IT THROUGH

1. **If people wanted to use wet land for farms or trees, what should they weigh before changing it?**

   > **A strong answer:** A strong answer should balance human uses of land with the hidden climate value of keeping peat wet and storing carbon.

2. **What can a satellite picture show about a place, and what might it miss?**

   > **A strong answer:** A strong answer should compare the wide view from space with ground-level details, such as how the bog feels, smells, and works.

3. **Should plain-looking places be treated as important if they do an important job? Why or why not?**

   > **A strong answer:** A strong answer should make a claim and support it with the Flow Country's role in storing carbon.

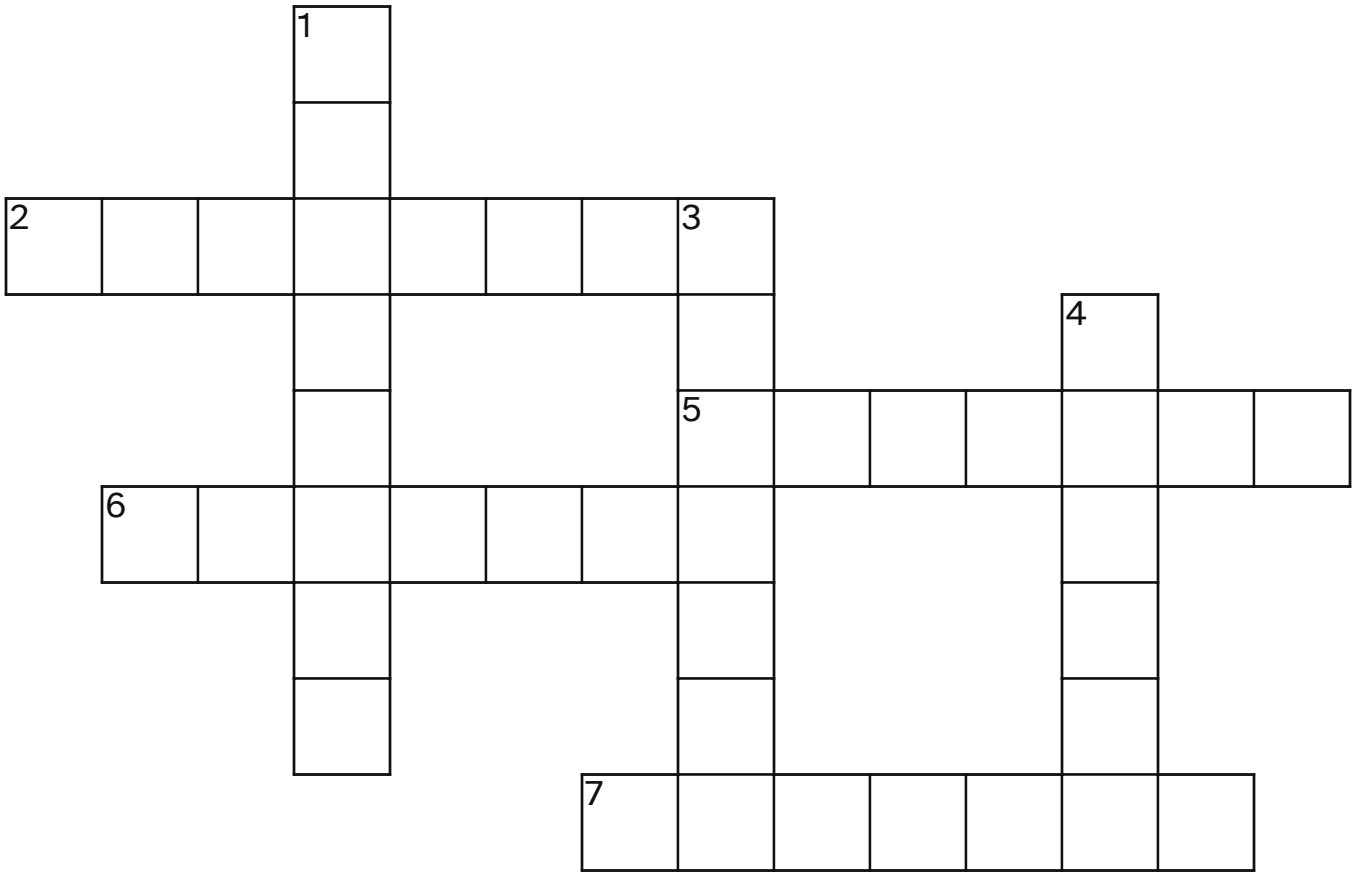
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CARBON CLIMATE DRAINAGE HEATHER MICROBE
SPHAGNUM WETLAND

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ACROSS

2 Water-holding moss found in boggy ground

5 Usual weather pattern in a place over many years

6 Small tough-stemmed plant that grows in open, soggy places

7 Water-soaked area where water-loving plants grow

DOWN

1 How water travels away through soil or ground

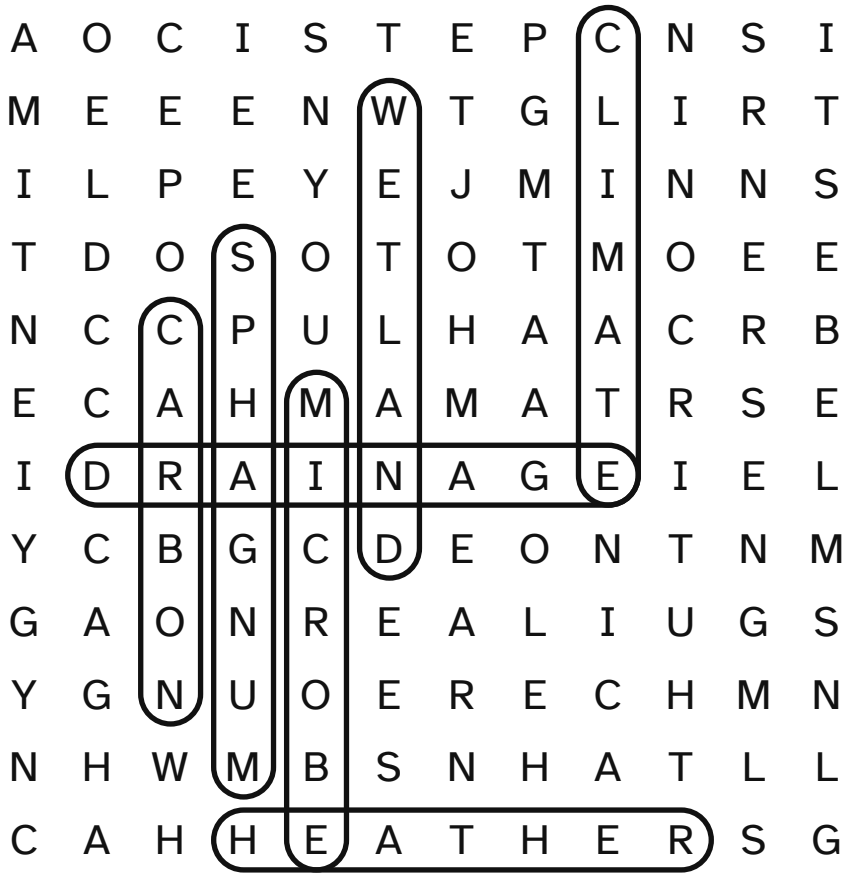
3 Tiny living thing that helps break down dead plants

4 Earth-warming material found in living things and some gases

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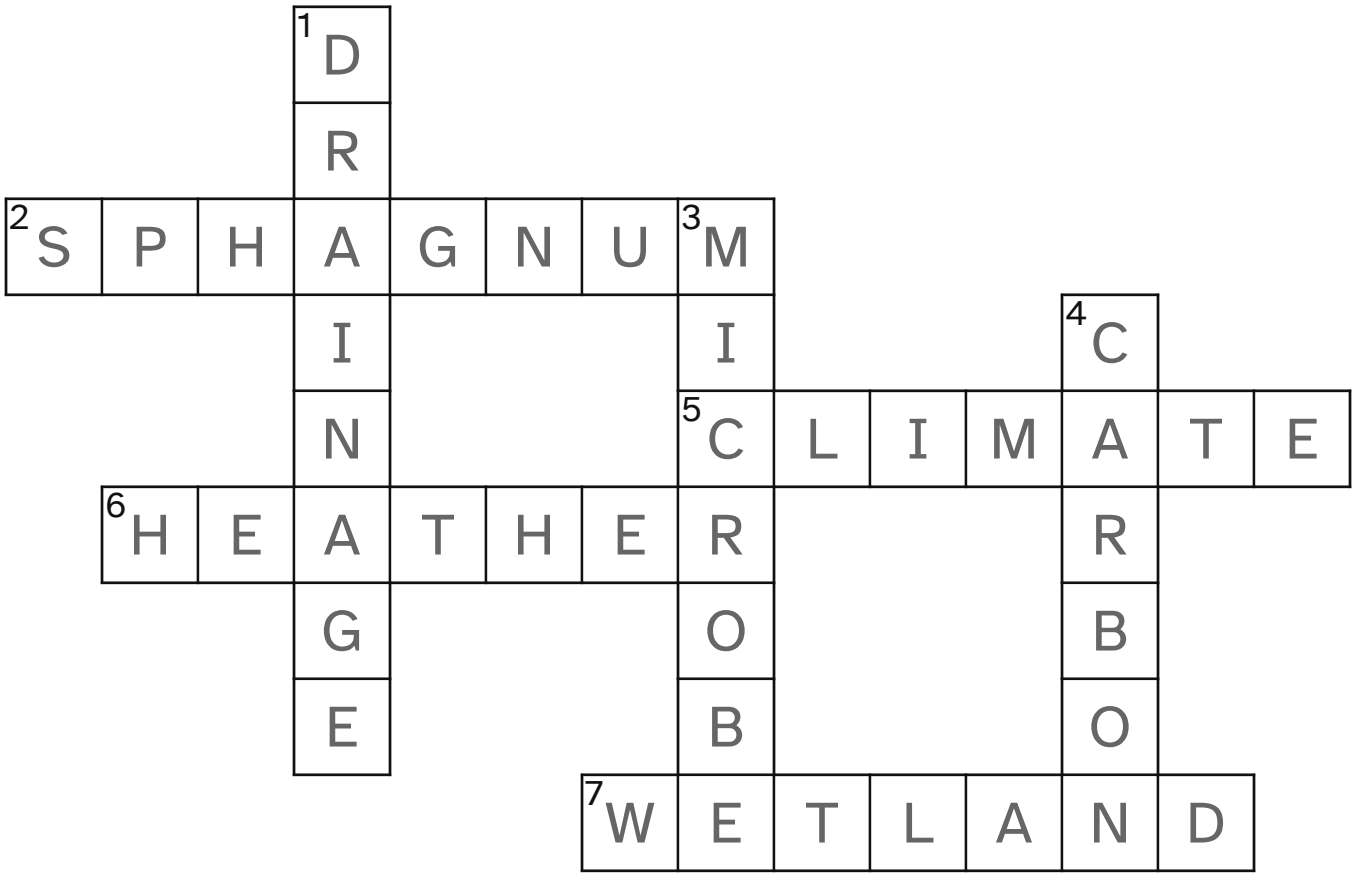
— answer key



CARBON CLIMATE DRAINAGE HEATHER MICROBE SPHAGNUM WETLAND

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— answer key



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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

"Scotland's Flow Country"

Published	Thursday, November 12, 2026
Read by us on	Thursday, November 12, 2026

https://science.nasa.gov/earth/earth-observatory/scotlands-flow-country/

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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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