1
00:00:00,834 --> 00:00:02,152
[Music throughout]

2
00:00:02,211 --> 00:00:04,304
Global temperatures are on the rise.

3
00:00:04,337 --> 00:00:05,705
As our climate changes,

4
00:00:05,705 --> 00:00:09,009
Earth is seeing more extreme and unusual weather.

5
00:00:10,110 --> 00:00:13,797
In 2019, the National Audubon Society reported

6
00:00:13,797 --> 00:00:18,168
that two-thirds of America’s birds are threatened by climate change.

7
00:00:18,168 --> 00:00:22,980
That’s 389 species in danger of extinction.

8
00:00:23,000 --> 00:00:25,875
Scientists at the University of Wisconsin-Madison

9
00:00:25,875 --> 00:00:28,011
are trying to figure out how temperature affects

10
00:00:28,011 --> 00:00:31,081
bird biodiversity across the country,

11
00:00:31,650 --> 00:00:33,883
which will help conservationists figure out

12
00:00:33,883 --> 00:00:36,486
where to prioritize their efforts.

13
00:00:37,153 --> 00:00:40,240

The team used data from Landsat's thermal sensor,

14
00:00:40,290 --> 00:00:41,658
called TIRS,

15
00:00:41,658 --> 00:00:44,694
to map temperature across the United States.

16
00:00:44,811 --> 00:00:49,349
They also used a computer algorithm to map small-scale temperature differences.

17
00:00:49,566 --> 00:00:52,819
For example, a grove of trees in an open field.

18
00:00:52,886 --> 00:00:56,389
The algorithm compares the temperature variability in one area

19
00:00:56,389 --> 00:00:59,059
to those adjacent to it.

20
00:01:03,647 --> 00:01:06,232
The team then compared their temperature data

21
00:01:06,232 --> 00:01:08,818
to bird biodiversity across the country,

22
00:01:08,935 --> 00:01:10,737
focusing on the winter months

23
00:01:10,737 --> 00:01:14,574
and birds that don't migrate to find warmer temperatures.

24
00:01:14,874 --> 00:01:17,227
Turns out, large-bodied bird species

25
00:01:17,227 --> 00:01:20,563
tend to choose places with higher overall temperatures.

26
00:01:20,563 --> 00:01:23,299
But for small birds and climate-threatened species,

27
00:01:23,299 --> 00:01:27,737
having a habitat with variable temperatures seems to be more important.

28
00:01:27,971 --> 00:01:31,925
The researchers speculate that some birds may use pockets of warmer habitat –

29
00:01:32,192 --> 00:01:36,212
like a nest, a snow burrow, or a patch of dense tree cover –

30
00:01:36,212 --> 00:01:38,631
to wait out a cold spell or weather event.

31
00:01:40,366 --> 00:01:43,837
In the study, temperature explained about a third of why some areas

32
00:01:43,837 --> 00:01:46,306
have more bird species than others.

33
00:01:46,306 --> 00:01:49,926
But that still leaves nearly two-thirds unaccounted for.