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Davidson: Animals migrated all over the world, and if we want to

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be able to look at those global migrations, and if

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we also want to be able to network and compare data

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about animal movements and behaviors in different regions, different species

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in different parts of the world, and over long periods of time, we really need a global

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database for that. So one tool we offer in

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MoveBank is called the Environmental Data Automated Track

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Annotation System, which we—or for short, EnvDATA,

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and this is a free service that lets researchers and the public link

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animal movement data to environmental information from

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remote sensing products and weather models from NASA and other

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providers, including the GPM precipitation data.

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And so by connecting these data sources,

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we make it much easier for researchers to investigate questions

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about how animals' movements and migrations are affected

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by the environment around them. Part of

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climate change is a phenomenon called polar amplification, which means

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the rate of warming is going to occur more quickly at the

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poles, at the North Pole and the South Pole. So, in the Arctic, we're seeing

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warming rates more than twice as high as the global

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average. So this is causing really dramatic changes in what animals experience.

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In this recent project, led by

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Dr. Peter Mahoney at the University of Washington, we looked at how

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movement speeds of different animal species change with precipitation

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and temperature. And so we looked at data from more than

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1700 animals, and we found that movement speeds of wolves,

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caribou, bears and moose did not seem to be affected by heavy summer

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rains, but that wolves, moose and boreal caribou

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moved less where there was higher snowfall in the winter.

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We also found that at higher temperatures, some species moved

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less while others were moving more, which could impact predator-prey

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relationships and the ability to find food as global temperatures continue to

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increase and as precipitation patterns change.

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We link almost entirely to globally available datasets.

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The same methods can be used anywhere in the world.

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This means that researchers can make assessments across migratory routes

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of species traveling really long distances, make comparisons across

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regions and species. And this also makes it easier for researchers in different countries