

A CHANGE IN THE AIR

Vital signs

Taking the pulse of climate change in the Colorado Rockies



Possible sign of global warming: Researcher Dan Blumstein coaxes a marmot out of a trap at the Rocky Mountain Biological Laboratory in Gothic. Marmots in the area now emerge from hibernation about a month earlier than they did 30 years ago. During the same period, the average April low temperature in Crested Butte rose 5.9 degrees.

Stories by Jim Erickson ■ Photos by Judy DeHaas ■ Graphics by Michael Hall ■ Rocky Mountain News

"It is not the strongest of the species that survive, nor the most intelligent, but the most responsive to change." **Charles Darwin, 1835.**

GOTHIC — The marmot was holding his own until the second coyote blindsided him. The coarse-furred, groundhog-like rodent emerged from his hibernation burrow last April onto a thick crust of snow that blanketed this former mining town several miles north of Crested Butte.

A band of coyotes had been hanging around, and one of them pounced on the marmot. The feisty rodent rose to his hind legs and batted at the coyote with his clawed front paws, like a boxer, as he struggled to escape.

But a second coyote bounded in from behind and joined the fray. The two canines killed the marmot, then dragged him off.

To University of Maryland ecologist David Inouye, this grisly account serves as a cautionary tale about — believe it or not — the potential perils of global climate change.

Around the world, scientists are looking for biological red flags, signs that global warming is already affecting high-altitude plants and animals and could imperil fragile mountaintop ecosystems.

In the Colorado high country, that work includes studies of three seemingly unrelated phenomena: the shifting hibernation pattern of marmots, subtle changes at the forest tree line, and the chemical fingerprint of mountaintop air molecules trapped in glass flasks.

Continued on next page