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**Hill no, we won't go.**

Elephants avoid steep hills during their daily treks.

Credit: Liz Leyden

## Ain't No Mountain Low Enough

By Briahna Gray  
ScienceNOW Daily News  
25 July 2006

In his attempt to conquer the western world in 218 B.C. E., Carthaginian general Hannibal famously lost all but one of his elephants while crossing the Alps. A new study may explain why: Elephants just don't dig climbing.

It may not be much of a surprise that elephants aren't mountaineers. They weigh an average of 5000 kilograms, after all. And anecdotal evidence suggests that the pachyderms avoid hills when they migrate. So Iain Douglas-Hamilton, a zoologist and chief executive of the Save the Elephants charity based in Nairobi, Kenya, decided to spy on a group of elephants in Northern Kenya. Over 8 years, Douglas-Hamilton and colleagues tracked 60 elephants with global positioning technology.

By plotting the routes on topographical maps, they learned that the pachyderms consistently avoided all slopes with inclines over 33 degrees. Even hills with lush vegetation that would have been tempting during droughts were judged off-limits. On the surface, it may be difficult to imagine why a little exercise would stand between an elephant and a five-star meal, especially because elephants walk up to 30 kilometers a day searching for the 150 odd kilos of food they need to satisfy their appetites.

More than sloth is to blame, says Douglas-Hamilton. "If you're as heavy as an elephant, you look at the landscape in a very different way." He notes that the animals are probably considering risks such as overheating and injury. Moreover, says first author and landscape ecologist Jake Wall, large animals consume many more calories when climbing than smaller ones do. "It's over 2500% more costly to move a vertical meter than a horizontal meter if you're an elephant," he says. Climbing an extra 100 meters would require an elephant to add another half hour of foraging to its daily dietary regime just to keep from losing weight, the team reports 25 July in *Current Biology*. For elephants, says Wall, even mole hills seem like mountains.

Understanding the movement patterns of elephants is important in planning for their future habitat needs, says Thure Cerling, a geologist at

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the University of Utah in Salt Lake City. "We try to say we'll set this space aside for them," he says, "but if it's space that they don't use traditionally, then it's not so useful."

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