Weather Watch

Pinpointing Where Rain Comes From And Where It Goes

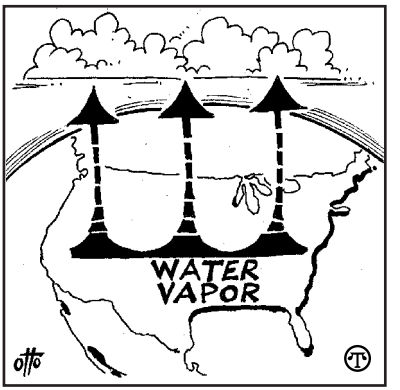
(NAPSA)—A new NASA computer model can now tell exactly where in the world rain or snow originated. Scientists can use this "water vapor tracer" to improve rainfall and drought forecasts and gain a deeper understanding of climate change.

The model simulates water movement in the atmosphere around the world, and traces it from the places where it evaporates to the places where it falls back to Earth.

"If I see rain or snow in the central U.S., I can now tell you how much of the moisture came from the Gulf of Mexico, how much came from the tropical Atlantic Ocean and so on," said meteorologist Mike Bosilovich of NASA's Data Assimilation Office at Goddard Space Flight Center in Greenbelt, Md. "The model gives us a much clearer picture of how water moves in the atmosphere than we have ever had before."

By identifying water vapor movement in the atmosphere, weather forecasters will better understand how evaporation from a particular place contributes to local and regional precipitation, leading to more accurate weather forecasts.

"You might visualize each region of a continent or ocean as having a kind of 'smokestack,'" Bosilovich explained. "Each smokestack sends up a plume of water vapor that mixes with the air."



New weather technology is making rain and snow easier to track and predict.

What complicates matters is that these smokestacks send up different-sized plumes of moisture at different times, and changes in wind and temperature can push them in different directions, depending on the day or season. Until very recently, even the fastest computers had trouble keeping track of all the variables.

The NASA model can actually pinpoint individual regional sources of atmospheric moisture, rather than combining them. According to Bosilovich, if scientists can understand how geographic sources of atmospheric moisture fluctuate from year to year, they also will have a clearer picture of how climate changes in the long term.

To learn more, visit the Web site at http://earthobservatory.nasa.gov.