

Sharp decreases in African water seen

By Adam Tanner in San Francisco
December 13, 2006 07:00am

Article from: Reuters

A PAIR of satellites surveying Earth's water in unprecedented detail show sharp decreases in parts of Africa over the past five years.

"This is the first time we have been able to track these variations," Jay Famiglietti, an Earth system sciences professor at the University of California, Irvine, told a meeting of the American Geophysical Union.

"It's a very sensitive indicator of climate change."

By detecting the gravitation pull of water, the Gravity Recovery and Climate Experiment, or GRACE, launched in 2002, measures water both above and below Earth's surface, amounts that are in constant flux.

The nearly five-year-old partnership between NASA and the German Aerospace Centre found that over a three-year period, water storage along the Congo River Basin had decreased by nearly double the amount Africans consumed annually, excluding irrigation, Professor Famiglietti said.

The GRACE data also found drying along the Zambezi and Nile basins in Africa, and increases along the American Mississippi and Colorado River basins.

"We know that things go up and down so there is no cause for alarm," Prof Famiglietti said.

GRACE earlier this year showed Greenland's massive ice sheet is melting much quicker than estimated and that the Antarctic ice sheet was shrinking significantly. Many scientists are more concerned about these ice melting trends, in which they say global warming plays a significant role.

If properly used, GRACE's data could help people react to changing water patterns. For example, information about snow packs on mountains that will later melt could prove valuable to farmers.

"If you are a farmer downstream and you know that this year there is a lot of snow up there, then you can say, well, this is going to be a good year for crops," said Matt Rodell, a hydrologist at the NASA Goddard Space Flight Centre.

"This is actually happening in Lake Chad ... They can have a prediction based on GRACE a month or two or three in advance."

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