Statement of Dr. Brooks Hanson,
Deputy Editor, Physical Sciences, *Science*
--May 2006--

The following statement was released by the AAAS Office of Public Programs on behalf of the journal Science in response to public misinterpretations of two Science articles:

"To the best of our knowledge, the Competitive Enterprise Institute (CEI) did not receive permission to use *Science* research articles in their video. We have been unable to find a record that permission was granted to them.

The text of the CEI ad misrepresents the conclusions of the two cited *Science* papers and our current state of knowledge by selective referencing. The following lay-language press summaries were approved by *Science* Editorial at the time when the papers were published. These press summaries therefore represent our official interpretation of the research.

More recent research is indeed beginning to provide such an integrated view of the entire ice sheets. A study looking at the mass balance of the entire Antarctic Ice Sheet using the GRACE gravity satellite has found an overall negative mass balance for the past several years. Other studies also show a negative overall mass balance for the Greenland Ice Sheet and other evidence of accelerated melting. See, for example, several papers and a news story in Science, 24 March 2006."

--Dr. Brooks Hanson, deputy editor, physical sciences, Science

Science Press Summaries

Antarctica Thickening in the Middle:
The ice sheet covering a large part of the interior of Antarctica, mostly within the East Antarctic ice sheet, has increased in mass since 1992, probably due to increased precipitation linked to global warming. The scientists analyzed elevation change of the Antarctic ice sheet interior from 1992 to 2003 using satellite radar altimetry measurements. The area of the Antarctic ice sheet that the authors analyzed covers approximately 70 percent of the grounded ice sheet interior. The mass balance of the entire ice sheet is still uncertain, however, since mass loss in areas near the coast that are not accessible to this technique could be even greater than the gains seen in the interior. The rise in sea level that would accompany melting of the polar ice sheets is one of the most serious potential consequences of global warming. Antarctic contains the great majority of that ice, so its mass balance is a critical parameter in any evaluation of what sea level may do in the future.

ARTICLE #22: "Snowfall-Driven Growth in East Antarctic Ice Sheet Mitigates Recent Sea-Level Rise," by C. H. Davis and Y. Li at University of Missouri, Columbia in Columbia, MO; J. R. McConnell at University and Community College System of

Nevada in Reno, NV; M. M. Frey at University of Arizona in Tucson, AZ; E. Hanna at University of Sheffield in Sheffield, UK.

Ice-Sheets and Sea Level Change:
The interior of the Greenland ice sheet is thickening, probably due to increased winter snowfall, researchers report. The behavior of this ice sheet has important implications for coastlines everywhere, since its complete melting would raise the global sea level up to 7 meters, according to Kirill Khvorostovsky and colleagues. The authors compiled a vast data set, containing 45 million measurements, of ice sheet elevations measured by satellite from 1992 to 2003. They found that the ice sheet's interior is increasing in thickness by an average of around 5 centimeters per year. This growth may be due to the effect of a weather pattern known as the North Atlantic Oscillation, which is thought to depend on global warming.

In a separate "Review," researchers explain that the Antarctic and Greenland ice sheets appear to be contributing modestly to sea-level rise, because warming has increased ice loss along coastal areas more than warming has increased ice gain from enhanced snowfall in cold central regions. Richard Alley and colleagues describe recent advances in understanding the behavior of these ice sheets, which together have the potential to raise sea level by roughly 70 meters if completely melted. Fresh water from these ice sheets may also affect ocean circulation, contributing to climate change. Observational and modeling advances have reduced many uncertainties related to ice sheet behavior, but recently detected, rapid changes at the sheets margins may indicate that ice sheets may be more sensitive to warming than previously considered, the authors say.

ARTICLE #20: "Recent Ice Sheet Growth in the Interior of Greenland," by O. M. Johannessen, K. Khvorostovsky, and L. P. Bobylev at Mohn-Sverdrup Center for Global Ocean Studies and Operational Oceanography/Nansen Environmental and Remote Sensing Center in Bergen, Norway; O. M. Johannessen at University of Bergen in Bergen, Norway; K. Khvorostovsky, and L. P. Bobylev at Nansen International Environmental and Remote Sensing Center in St. Petersberg, Russia; M. W. Miles at Bjerknes Centre for Climate Research in Bergen, Norway and at Environmental Systems Analysis Research Center in Boulder, CO.

ARTICLE #6: "Ice-Sheet and Sea-Level Changes," by R.B. Alley at Pennsylvania State University in University Park, PA; P.U. Clark at Oregon State University in Corvallis, OR; P. Huybrechts at Alfred-Wegener-Institut für Polar-und Meeresforschung in Bremerhaven, Germany and at Vrije Universiteit Brussel in Brussel, Belgium; I. Joughin at University of Washington in Seattle, WA.