

Publisher Backtracks on *Times Atlas* Claim of Dramatic Ice Loss in Greenland

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The newly revised *Times Comprehensive Atlas of the World*, which many people consider authoritative, includes a set of outstanding maps and illustrations with more than 25,000 mapping updates in addition to incorporating new information about environmental changes on the planet. However, a press release announcing the 13th edition of the atlas, published on 15 September, also indicates that Greenland's ice cover has shrunk by 15% since the publication of an earlier version of the atlas, in 1999. After some glaciologists sharply disputed that number, the atlas publisher, HarperCollins, issued a "clarification" on 20 September that apologizes for the press release but stands by the accuracy of the map.

The press release for the atlas indicated that the new edition "has had to erase 15% of Greenland's once permanent ice cover—turning an area the size of the United Kingdom and Ireland 'green' and ice-free. This is concrete evidence of how climate change is altering the face of the planet forever—and doing so at an alarming and accelerating rate."

However, glaciologists from the Scott Polar Research Institution (SPRI) at the

University of Cambridge, United Kingdom, pointed out in a 16 September letter that "a sizable portion of the area mapped as ice-free in the atlas is clearly still ice-covered. We do not know why this error has occurred, but it is regrettable that the claimed drastic reduction in the extent of ice in Greenland has created headline news around the world. There is to our knowledge no support for this claim in the published scientific literature."

The letter, which was provided to *Eos* and sent to the *Times* newspaper in London, continues: "We do not disagree with the statement that climate is changing and that the Greenland ice sheet is affected by this. It is, however, crucial to report climate change and its impact accurately and to back bold statements with concrete and correct evidence."

SPRI glaciologist Liz Morris, a signatory to the letter, told *Eos*, "We do not know for certain, but we think [the publisher] may have accidentally assigned ice to everywhere above the 500 [meter] contour rather than the real area." She added that scientists are concerned about making sure that accurate information is set forth about climate change.

A 20 September "clarification" that HarperCollins placed on its Web site states that for

the launch of the latest edition of the atlas, "we issued a press release which unfortunately has been misleading with regard to the Greenland statistics. We came to these statistics by comparing the extent of the ice cap between the 10th and 13th editions (1999 vs 2011) of the atlas. The conclusion that was drawn from this, that 15% of Greenland's once permanent ice cover has had to be erased, was highlighted in the press release, not in the Atlas itself. This was done without consulting the scientific community and was incorrect. We apologize for this and will seek the advice of scientists on any future public statements. We stand by the accuracy of the maps in this and all other editions of *The Times Atlas*."

This followed a 19 September "clarification" from the publisher that noted that the atlas's erasure of 15% of Greenland's ice sheet "is based on information provided by the much respected and widely-cited National Snow and Ice Data Center (*Atlas of the Cryosphere*, Boulder, Colo.). While global warming has played a role in this reduction [of the ice], it is also as a result of the much more accurate data and in-depth research that is now available. Read as a whole, both the press release and the 13th edition of the Atlas make this clear."

—RANDY SHOWSTACK, Staff Writer

MEETING

Understanding Processes Contributing to Regional Sea Level Change

**WCRP/IOC Workshop on Regional Sea-Level Change;
Paris, France, 7–9 February 2011**

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A joint World Climate Research Programme (WCRP)/Intergovernmental Oceanographic Commission (IOC) workshop was held to discuss regional changes of sea level. The workshop was attended by 41 experts from the world over who compared observed regional sea level changes with those inferred from numerical simulations and compared future predictions and their analyses in terms of processes. Satellite altimetry observations continue to be essential in revealing that sea level is changing prominently on a regional scale. However, existing climate models are largely in disagreement about patterns and magnitudes of observed sea level variability, and it is unclear how accurate they may be in predicting regional sea level.

Processes contributing to regional sea level variability and trends are associated with changes in the ocean, the atmosphere, and the solid Earth. Many features of observed regional sea level changes can be identified

as modes of climate variability superimposed on secular trends. Participants described results from newly available temperature and salinity observations from the Argo floats that confirm that most of the observed regional changes are caused by changes in the ocean's density and that changes in salinity are as important as those in temperature in determining regional sea level variations; models have indicated this, but observational information had been lacking in the past. Emerging results discussed at the workshop suggest that changing winds and associated changes in the flow field and transports are a very important cause of observed regional sea level changes. This mechanism is likely to remain a primary driver for future regional sea level changes on decadal to millennial time scales. Other changes in transports are also regionally important, such as changes in the Atlantic meridional overturning and ocean gyre circulations; changes in surface fluxes of heat and freshwater into the ocean will become more important with increasing time scales. It is also

being recognized that patterns of regional sea level changes are affected by changes in the geoid and the solid Earth in response to contemporaneous climate change as well as the ongoing response to the last deglaciation.

Participants agreed that further advancement is required in scientists' observational knowledge of sea level variability and trends, which depends on continuing work in improving data sets such as tide gauge and proxy data as well as on maintaining high-accuracy, stable satellite altimetry systems. At the same time, there is a need for a more extended in situ database that includes deep temperature and salinity information as well as bottom pressure information. Such data are required to decipher where regions of heat and freshwater uptake (through surface fluxes) are located in detail. Understanding modes of atmospheric forcing changes (including atmospheric teleconnections), their causes, and their relation to regional sea level changes is important and needs more attention. Initial information about regional secular trends in sea level is now available. This information needs to be improved, and similar information is required for decadal time scales.

WCRP informal report 11/2011 provides additional information on the workshop, including its agenda (see http://www.wcrp-climate.org/documents/Regional_SeaLevel_workshop.pdf).

—DETLEF STAMMER, University of Hamburg, Hamburg, Germany; E-mail: detlef.stammer@zmaw.de; and JONATHAN GREGORY, University of Reading, Reading, UK, and Met Office Hadley Centre, Exeter, UK