**Massive chunk of ice breaks off Greenland glacier** By Brian Jackson, August 6, 2010; 2:15 PM ET



NASA's MODIS satellite sensor, which has a history of providing breathtaking shots of our planet, was at it again yesterday. A large -- approximately 97-square-mile -- chunk of ice broke away from the Petermann Glacier in northern Greenland. This new ice island (as seen in the image above just to the right of center) is the largest iceberg formed in the Arctic since 1962, according to a University of Delaware news release. It's about 40-percent larger than the District of Columbia.

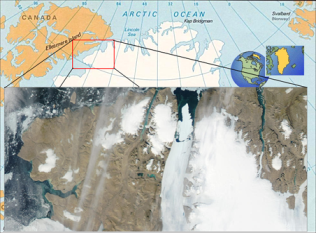
Icebergs calving off of Greenland's glaciers are nothing new. In fact, the Canadian Ice Service and the U.S. Coast Guard's International Ice Patrol estimate that anywhere between 10,000 and 40,000 icebergs calve from the glaciers of western Greenland in a given year.

What is unusual, however, is the size of this new iceberg, which is more typical of Antarctic than Arctic waters.

The National Ice Center in Suitland, Md., tracks a number of massive icebergs in the oceans surrounding Antarctica, some of which are truly monsters. One, known as D-15, is a little larger than the state of Rhode Island, and 33 are currently being tracked that are more than 10 nautical miles long on one axis.

Most Arctic icebergs are on the order of hundreds of meters long or less. Typically once every few years a larger one, miles long, will break off. Though such occurrences have become more frequent in recent years, as detailed in a news article last month:

The Canadian Ice Service, a federal agency that monitors ice hazards in the Northwest Passage and other summer shipping routes in northern Canadian waters, issued alerts last year about another massive "ice island" from Greenland -a 29-square-kilometre monolith that broke away in 2008 from the Petermann Glacier on the island's northwest coast -as it floated south toward Canada's Arctic shores.

Officials were concerned at the time about the potential risk to cruise and cargo ships, but the Petermann Ice Island eventually eroded and broke into smaller pieces along the coast of Baffin Island.

The collapse of several Arctic ice shelves in recent years has kept the Canadian Ice Service on alert for possible threats to ships and oil exploration activity.

In 2005, a 66-square-kilometre chunk of the Ayles Ice Shelf on Ellesmere Island's northern coast broke free and began drifting south. Federal scientists kept a watch on the resulting Ayles Ice Island as it tracked a worrisome route toward the Beaufort Sea.

But in August 2007, the five-by-15-kilometre slab turned down a dead-end channel between Meighen and Axel Heiberg islands, where it was expected to slowly break up over years and become an anonymous part of the Arctic pack ice.

The Petermann Glacier has been in the news as recently as 2008 when a smaller, though still massive piece of it broke free. The most recent calving is also a bit out of the ordinary when compared to other Greenland glaciers such as the Jakobshavn , which is believed to be the source of the iceberg that sank the Titanic, and Helheim. The Jakobshavn had a noteworthy melting event earlier this summer. (See this RealClimate article for a technical look at the dynamics of glacier retreat.)

So, what will become of this latest iceberg? Chances are that the majority of the iceberg will remain inside its fjord and become frozen in place this fall during the annual freeze up. Still, a large number of smaller icebergs are likely to break off from it and some of these should make it out into the Nares Strait, and from there be swept along with the currents into the northern portions of Baffin Bay.