



Were recent climate changes occurring in the Arctic predictable?

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Was the unprecedented Arctic Sea-Ice retreat during summer 2007 predictable? At least it was not predicted by any of the numerical models actually applied for simulating Arctic Climates including those selected by the International Panel for Climate Changes (IPCC). This is rather paradoxical not only because of the amplitude and rapidity of those recent changes but even more importantly due to the number of indices that were observed simultaneously in the atmosphere, the ocean and sea-ice and all in favour of a major sea-ice retreat. Did we crossed a tipping point ?

In this presentation we will describe some of the major changes affecting (1) the Atmosphere and the onset of melting and freezing and the intensity of the cold that decreased constantly during the past 20 years, (2) the Ocean and the increased advection of Pacific water in the Arctic and the massive formation of frazil ice in winter, (3) the Sea-Ice and the recent decrease in replenishing perennial ice with second year ice.