

A proposal to

The Lamont Climate Center April 2013

## ***Mini-Conference: Connecting the Tropics to Polar Regions***

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### **Abstract.**

In recent decades sea ice has decreased in the Arctic and increased in the Antarctic. The decreased ice in the Arctic is as expected, albeit the rate of decrease was not. The Antarctic sea ice increase on the other hand was not expected. Initial work suggested that a climatic link with the tropics was responsible for this increase. Other work suggests that the Antarctic ozone hole was responsible for the unexpected Antarctic change. But most recently, modeling shows that the response to ozone should be less ice. This latter result refocuses attention on the connection from the tropics to the poles. We request funding to support a 2-day mini conference that focuses on understanding of connection between the tropical climate variability and polar responses. The conference will bring together experts on tropical climate variability, polar climate variability, atmospheric dynamics and polar oceanography as well as climate modelers. It will share most recent advancements in tropical climate studies and studies of polar processes. The conference will provide the knowledge on how well we understand the connections between tropical-polar regions in both hemispheres. Direct communications among climate modelers, polar oceanographers and climate scientists will greatly foster understanding of what the new generation of climate models can offer and their limitations in terms of investigating the tropical-polar connections. Moreover, the conference will foster collaborations between the tropical climate community and polar research groups. The funding will be primarily used to support invited speakers.