Activities surrounding the Year of Tropics-Midlatitude Interactions and Teleconnections

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The study of the general circulation of the atmosphere has been traditionally carried out by considering the regions of the tropics, mid-latitudes and high-latitudes as primarily separate components, with distinct dynamics and sources of variability. The mutual interactions between these components in the atmosphere and ocean on the seasonal and longer time scales has been well recognized. In recent years, there has been a greater appreciation of the importance of two-way interactions between the tropics and the mid- and high-latitudes *on intraseasonal time scales*. The teleconnections between the tropical and extra-tropical regions on subseasonal-to-seasonal time scales are emerging as a leading candidate to explain high-impact weather events in low- and midlatitudes in a changing climate. They also seem to provide a source of predictability for the large-scale circulation of the midlatitudes. In this presentation, I will describe a project with potential for advancing our understanding on this subject. This project is designed to foster relationships between research, forecasting, and stakeholder communities, and will facilitate the sharing of common interests to explore the links between the tropics and midlatitudes. This international program will include an integrated observations component (using existing products of Global Observing System, reanalyses, and field campaigns), an operational forecast and reforecast component (using the S2S and NMME databases), an applications component, and a research component aligned with the research priorities of the S2S/Teleconnection sub-project science plan, WWRP and WCRP missions. The research component will consist of a combination of theoretical, diagnostic, and modeling studies and will be focused on understanding the physical nature of the tropical-midlatitude interactions and teleconnections and their potential as sources of predictability. All the components will interact and provide feedbacks as suggested by the diagram, to help make more rapid progress.