



Precipitation Patterns Observed over the Southwest Region of Saudi Arabia

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During 2008 and 2009, an intensive field program has been conducted in the southwest region of Saudi Arabia, which is adjacent to the Red Sea and is bounded by the Yemen border to the south and the region around Jeddah to the north. The period of study focused on analysis of observations for the months of June-August. This period coincides with a climatological peak in precipitation over the region. This region is mountainous with terrain ranging from sea level to a maximum height of about 2800 m. During the field program, convection was observed almost daily during mid-afternoon was focused along the mountain peaks. This peak in convection coincided with the sea breeze reaching the top of the tallest terrain features. The intensity of convection was modulated by the strength of the sea breeze (predominate wind direction, amount of moisture in the boundary layer, etc.) and strength of a persistent mid-level inversion. The main objective of this study focuses on characterizing the spatial and temporal features of convection and related it to the atmospheric conditions that were observed during the months of June-August. The study examines precipitation and atmospheric conditions using a network of C-Band radars (Abha, Baha, Jeddah, Jizan, and Taif) and surface and upper data collected from the site located in Abha. The presentation will provide an overview of the field program and give a summary of the precipitation and atmospheric characteristics for the two years used in the study.