Since February 2009, an automatic weather station has been operating at the Princess Elisabeth (PE) base in Dronning Maud Land (72°S, 23°E, 180 km inland, 1.5 km asl). Measurements show that snow accumulation during the past two years has been completely different: from 232 mm water equivalent during 2009 to almost zero during 2010. To understand this difference in accumulation, we classified meteorological states at PE using multivariate hierarchical cluster analysis (based on temperature inversion, specific humidity, pressure, wind speed and incoming longwave flux). Synoptic situation, water vapor and cloud fields were analyzed for the identified warm events using ECMWF ERA-Interim reanalysis data, and infra-red and water vapor satellite maps. The majority of accumulation occurred in winter 2009 during a few warm events associated with intense near-coastal cyclones positioned in the 0-30°E sector. The high pressure ridge blocking these cyclones on the east directed the north-easterly advection of moisture into the continent in the 30-60°E corridor, turning easterly over the continent before reaching PE. Since May 2010, most of the cyclones approaching PE were either further to the east or wider in the absence of the high pressure blocking, giving only small increase in specific humidity at PE (below 0.5 g/kg daily mean) and insignificant accumulation. A suite of ground-based remote sensing instruments (ceilometer, infra-red pyrometer and K-band radar) show that low level clouds (below 2km) occurred during a warm event with intense snowfall at PE in February 2010, however snowfall originated from mid-level clouds at about 3km height.