

Public Abstract

First Name:Justin

Middle Name:John

Last Name:Abraham

Adviser's First Name:Anthony

Adviser's Last Name:Lupo

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:SS 2012

Department:Soil, Environmental & Atmospheric Sciences

Degree:MS

Title:An Analysis of Northern Hemisphere Block Sizes Compared to Climatology and Seasonal Variations

The goal of the following research was to discover if any trends exist between the size of large-scale, mid-latitude anticyclonic events and seasonal characteristics. A 20-year analysis of North American blocking events was compiled by calculating the mean size of each event using NCEP-NCAR analyses and a simplified Rossby wave equation. Blocking events were identified using block definitions from previous studies and retrieved from the University of Missouri-Columbia blocking database. The sizes of blocking events were then compared to Northern Hemisphere climatological information derived in previous research. Block sizes were compared to El Niño-Southern Oscillation, blocking intensity as defined by Wiedenmann et al. 2002, and other seasonal characteristics. Results will assist researchers and long-range forecasters to predict the scale and potential impacts of blocking events, of which onset and duration are currently difficult to forecast.