Geophysical Research Abstracts Vol. 20, EGU2018-10103, 2018 EGU General Assembly 2018 © Author(s) 2018. CC Attribution 4.0 license.



European and North American Heat Wave Predictability

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According to the WMO, extreme temperatures were the cause of 94% of the total lives lost due to natural disasters in Europe during the 1970-2012 period. Accurate prediction of heat waves is necessary to prepare for such impacts. By calculating specific threshold values from daily maximum 2m temperatures of the NCEP/NCAR reanalysis data (Kalnay et al. 1996), the frequency of heat waves during summer months (JJA) in Europe and North America for the period of 1982 to 2017 is computed. We also use 1.0° resolution CCSM4 retrospective forecasts of daily maximum 2m temperature with 12-month hindcasts to evaluate the predictability of heat wave frequency in the boreal summer. We strive to assess the accuracy of these results by including analysis of heat wave predictability based on additional models of the Subseasonal Experiment (SubX) project.