

Climate Change in Mid-latitude Western Europe Over the Last Two Centuries - Possible Links to Solar Activity (Preliminary Results)

B.J.L. Bromage and C.J. Butler

Proceedings of 16th NSO/Sacramento Peak International Summer Workshop, 'Solar Drivers of Interplanetary and Terrestrial Disturbances' Sunspot, 1995

Butler and Johnston (1994) have reported on the changes in mean air temperature in Northern Ireland over the last 200 years and have found a correlation with solar cycle length, consistent with that reported by Friis-Christensen and Lassen (1991) between solar cycle length and mean Northern hemisphere air temperature. We have now extended the analysis to consider the changes in rainfall that have occurred in this area. As well as data from Northern Ireland, we have used measurements made in Preston, located close to Ireland on the West coast of England. Initial analysis of these data suggests the possibility of a link with solar variability. In particular, it appears that there may be a correspondence between fluctuations in the rainfall and variations in solar proton flux and cosmic ray counts over the solar cycle. A possible mechanism for such a relationship is discussed.