

# When is Weather Climate?

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Scientists at Imperial College, London have reported in the journal *Science*<sup>[1]</sup> that shorter, milder winters experienced since 1985 on St Kilda Island in the Hebrides, have resulted in smaller Soay sheep. This seems to be one of many impacts that are arising from changes in climate. Others, such as short term flooding, increasing storminess, longer and more frequent hot and cold spells, will give rise to significant social and economic consequences and the meteorological industry could potentially make a significant contribution to their management. But the charges levied by the National Meteorological Services (NMS), the custodians of climate data, for access to those data, are preventing this in many cases by making the resulting value-added contributions uneconomic.

“Climate” is actually the historical, integrated effect of “weather” and establishing what the past climate was and the current climate is requires the analysis of what are, on a day to day basis, mainly normal weather observations. Some observations are made specifically to allow the climate to be more fully defined than would be possible using only routine weather observations but often these “climate” observations are available to and used by the NMS for routine weather work as well. Which makes it all the more strange that some of these same NMS do not make such observations available to the Private Sector in real time. Moreover, when they are eventually made available as “climate data”, the NMS often charge huge sums of money for access to them.

It is true that data on which climate records are eventually based require additional quality control and computation beyond that which is normal for purely “weather” observations. A “daily” average temperature, for example, may be compiled from several hourly temperature measurements but in the age of automatic observing, processing and communication, this hardly justifies either preventing real time access to the original observational data or, when access to the climate data is available, the massive costs that are often charged for them. To obtain the full set of daily average temperatures (that is one number per day!) from a single station in Latvia for ten years (not at all an unusual requirement for the simplest climatological task) costs about 27,010 Euro! And this is for PSI for which the industry and the citizens, through their taxes, have already paid!

Is it any wonder that the information economy in weather and climate is growing at less than 2% per annum in Europe and is less than half the size of that of the USA?

[1] Ozgul A, et. Al. The dynamics of phenotypic change and the shrinking sheep of St Kilda. *Science* DOI: 10.1126/science.1173668