From: "Michael E. Mann" <mann@multiproxy.evsc.virginia.edu>
To: Tim Osborn <t.osborn@uea.ac.uk>
Subject: Re: New tree-ring density data
Date: Fri, 01 Dec 2000 12:58:19 -0500
Cc: srutherford@virginia.edu, mann@virginia.edu

Scott, Tim,

Here's the abstract.

If the results pan out, then several us us may want to be discussing this
work on the talk circuit.

This is the first stab! Notice how safe (a very results-insensitive abstract!)

mike

XXVI General Assembly, Spring EGS Meeting

Comparison of Large-Scale Proxy-Based Temperature Reconstructions Over the
Past Few Centuries

MANN, M.E.; RUTHERFORD, S; OSBORN, T.J.

OA28.0 Study of past climates: Climate of the past millennium

JOUZEL, J.; (co-conveners: JONES, P.D.; MANN, M.E.)

Comparison of Large-Scale Proxy-Based Temperature Reconstructions Over the
Past Few Centuries

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A promising approach to the problem of reconstructing patterns of past
climate variability
involves the application of spatial climate field reconstruction (CFR)
techniques to networks of proxy
climate indicators (e.g., Mann et al 1998;2000--see
http://www.ngdc.noaa.gov/paleo/ei/ei_cover.html).
This approach seeks to exploit the complimentary information in a diverse
network of proxy indicators by determining the most consistent
relationships between these
networks of data and the leading spatial patterns of climate variability
during a recent "calibration" period of overlap with the modern
instrumental record.
The calibrated relationship is then used to estimate large-scale patterns
of climate variability
in the past from the proxy data. This method makes no assumptions regarding
the relationship between a given proxy indicator and specific local
annual/seasonal climate variable, but
does assume that the proxy indicator is tied to some combination of
large-scale patterns of climate variability.
Alternatively, it is possible to estimate large-scale temperature
patterns from a relatively homogenous network
of proxy climate indicators (e.g., tree-ring density data--see Briffa et
al, 1998) by invoking
a local calibration between each climate indicator and the climate variable
(e.g., summer temperature)
of interest. This approach is more conservative in the amount of
information it seeks to
extract from the proxy data network, but it is free from assumptions
regarding the large-scale
patterns of past climate variability. Recent reconstructions of Northern
Hemisphere annual-mean and
warm-season temperature patterns using these respective approaches and data
show some similarities,
but also some important differences. Here we investigate these differences

more closely, examining
the sensitivity of Northern Hemisphere temperature pattern reconstructions
to (a) the underlying
proxy data used, (b) the particular method used to estimate large-scale
patterns from these data,
and (c) the target seasonality of the reconstruction. By controlling
independently for each of these
three factors, we gain insight into the reasons for differences between
various proxy-based estimates
of past large-scale temperature variability.

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