From: **Patrick Frank** pfrank830@earthlink.net
Subject: submission query
Date: December 10, 2017 at 5:11 PM
To: dbunn@london.edu

PF

Dear Prof. Bunn,

I'm writing to ask whether Journal of Forecasting will receive a submission concerning error analysis of climate model air temperature projections.

The title and abstract appear below.

I would like to submit the manuscript to JoF because your editors and reviewers are most likely to understand analysis of forecast error, and specifically the impact of model calibration error on the reliability of a forecast.

The manuscript study is entirely concerned with analysis of model calibration error, and its impact. It does not concern the climate itself, or the physics of climate.

I believe the study is unique and uniquely important. It certainly is the first to propagate error through climate model air temperature projections. It is also the first to evaluate the reliability of air temperature projections in terms of model physical error, rather than their statistical precision.

The study is controversial. However, I am confident the analysis is correct. I hope only for dispassionate and competent reviews and an editor with the courage of a scientist.

To be transparent, I have submitted the manuscript to several climate science journals, and have found that their reviewers do not understand physical error analysis at all.

For example, they uniformly do not know to distinguish accuracy from precision nor to distinguish statistical uncertainty from an energetic perturbation. They also typically confuse a ±K confidence interval with a physical temperature. This all can be documented to your satisfaction.

I have found climate journal editors loathe to even accept for review must less publish this critical analysis.

This brings me to another reason for moving to JoF: the editors and reviewers will have no professional conflicts with a critical analysis of climate model reliability.

The work is done on my own personal time. My professional association is scientific staff at the Department of Chemistry and at SLAC National Accelerator Laboratory, Stanford University. I am happy to provide a CV and publication list, as desired.

Thank-you for your consideration,

Pat

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These things are, we conjecture, like the truth;
But as for certain truth, no one has known it.

Xenophanes, 570-500 BCE
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Title: Propagation of Error and the Reliability of Global Air Temperature Projections

Abstract: The reliability of global air temperature projections of general circulation climate models (GCMs) is evaluated by propagation of calibration error. GCM air temperature projections are first shown to be linear extrapolations of fractional greenhouse gas (GHG) forcing. The linearity of projections justifies linear propagation of error. CMIP5 average ±12.1% long-wave cloud forcing (LWCF) error is strongly pair-wise correlated across models, implying a source in theory-bias. Model LWCF error introduces an average annual uncertainty of ±4 Wm^-2 into the simulated tropospheric thermal energy flux. LWCF error is ±114 times larger than the annual average ~0.035 Wm^-2 change in tropospheric thermal energy flux from increasing GHG forcing since 1979. Propagation of LWCF error through the historically relevant 1988 projections of GISS Model II scenarios A, B, and C, the IPCC SRES scenarios CCC, B1, A1B, and A2, and the RCP scenarios of the 2013 IPCC Fifth Assessment Report reveal a ±15 C uncertainty in air temperature at the end of a centennial-scale projection. Analogously large but previously unrecognized uncertainties must therefore exist in all the past and present air temperature projections and hindcasts of even advanced climate models. The unavoidable conclusion is that an anthropogenic air temperature signal cannot have been, nor presently can be, evidenced in climate observables.