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To: Benjamin Santer <e782144@popgun.llnl.gov>
Subject: JGR paper
Date: Fri Aug 18 17:19:46 2000

Ben,

Here a few main points about the paper. I've ignored minor English/wording things I spotted.

p4 It seems better to put the other anthro forcings before the natural get discussed. (top of page). ie Other heterogeneous.. sentence should be before Stratospheric aerosols.

p4 Bottom. Could reference Delworth et al to illustrate the 'perfect' model argument. They reproduced reality 1 out of 5 attempts.

p5 Don't like phenomenology of ENSO, change to ENSO sequences ?

p6 middle. Emphasise that with the models you can look at a lot longer series.

p6 bottom. Whether the model was really 'perfect' Michaels would find some problem.

p7 2/3rd way down. Say something about Santer et al (2000a).

p9 Don't think you need to say you got the SOI from CRU.

p10 ECHAM4 has solar, but how much does it change by. Or is it constant ?

p11 end of 2. Presumably in combining the SAT and SST you used anomalies. Worthwhile saying.

p12-15 Section 3 gets to read like a recipe. It is important, but it might be better as an Appendix. Also I guess the amount of detail depends on success of other submissions. I think the section needs reworking a bit as the style changes somewhat.

Have you considered whether alpha and tau and t(ramp) can differ by a month between the surface and 2LT.

The lag you use is 7 months. The science paper of Tom's uses 6 months.

In the later tables I wasn't clear how raw and nofilt relate to each other. I guess all the Tables need longer captions with more explanation. I couldn't figure out what the () numbers referred to in the Tables.

p17 I wonder if it's possible to show in a diagram that the iterative scheme works and you're getting to a global rather local minimum.

p19 The higher 'ratios' get nearer to my 2, but only at the high end.

p20 The last 4 numbers in Table 3 have been multiplied by 0.1 .

p23 An interesting aside would be to show in one of the Tables how much change in the observations is due to volcanoes (ie show how much cooling due to this there has been). People will quote this value. It shows that 'natural' factors (solar/volcanoes) have led to cooling as solar effects will be very small over this time.

p24 Emphasise later that models and obs all show 2LT level changes more than surface.

p24 Say something about how good ECHAM4 is for ENSO, or refer to a paper.

p25-33 All good stuff, but it does take a time to read. Not a very helpful comment, I know, but I'm being a referee.

p33 Does Fig 7 use the same data as in Fig 5 ? One shwing things through time, the other as a distribution.

p35 PCM crept into the Hamburg section, so it should be said here when the GISS section starts.

p38 Quantify the volcanic cooling. I mentioned this earlier.

p39 Not clear what independent components are wrt Smith et al (2000).

p42 Surface data has errors too.

p43 The last sentence of the acknowledgements is like a red rag to a bull for Michaels. Even the perceptive adjective will not placate him.

Have to go home now. I think I've covered most things I noticed.

Have a good weekend !

Cheers
Phil