Climate Audit [http://climateaudit.org/]

by Steve McIntyre

Tip Jar

Make A Donation

[http://www.climatea

(The Tip Jar is working again, via a temporary location)

Pages

About
[http://climateaudit.

Blog Rules and Road Map
[http://climateaudit.
-rules-and-road-map

CA Assistant
[http://climateaudit.
-assistant/]

CA blog setup
[http://climateaudit.
-blog-setup/]

Contact Steve Mc
[http://climateaudit.
-steve-mc/]

Econometric References
[http://climateaudit.
-references/]

FAQ 2005
[http://climateaudit.

Gridded Data
[http://climateaudit.
-data/]

High-Resolution Ocean Se
[http://climateaudit.
-resolution-ocean-
sediments/]

Hockey Stick Studies
[http://climateaudit.
-pdfs/]

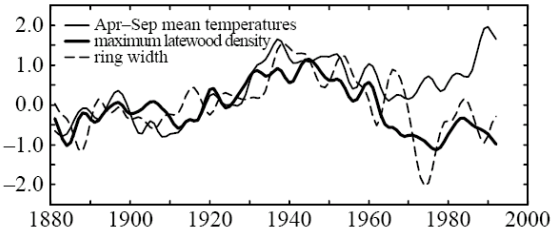
Yamal and the Divergence Problem

One of the aspects of the Yamal discussion that is perhaps clearer to regular CA readers than to new readers is that Briffa's Yamal chronology was very different from ring width chronologies previously reported in the area (including by Briffa itself.)

Shortly after the publication of Osborn and Briffa 2006 and D'Arrigo et al 2006 in February 2006, I **reviewed** [http://www.climateaudit.org/?p=529] the findings of Briffa et al (1998) on the wide-spread decline of ring-widths and MXD since 1960 (the "divergence problem"), an issue that was discussed at the NAS panel presentations the following month (and very unsatisfactorily in the NAS report).

Briffa et al 1998 reported on the very large Schweingruber survey – a survey of 314 NH sites selected ex ante to be temperature sensitive. See **here** [http://www.cru.uea.ac.uk/~timo/ for list.

At the time, I excerpted the following graphic from Briffa et al 1998 showing the decline:



Briffa et al. 1998 Original Caption.

NOTICE

Click on the "Reply" link to respond to a comment.

Jan 20 CA Assistant [http://climateaudit.org -assistant/] updated. Better support for Lucia's blog; "Recent comments" improved. *Frequent visitors will want this.*

Search

Find

Blog Stats

2,402,986 hits since 2009-Dec-08

the2007 weblog awards winner best science blog

the2008 weblog awards finalist

[http://2008.weblogaw -science-blog//]

6 Top Blogs WIKIO Sciences

[http://www.wikio.com

Recent Posts

World Dendro 2010 Withdrav
[http://climateaudit.or
-dendro-2010-withdrav

Muir Russell
[http://climateaudit.or
-russell/]

Proxy Data [http://climateaudit.
-data/]
Station Data [http://climateaudit.
-data/]
Statistics and R [http://climateaudit.
-and-r/]
Subscribe to CA [http://climateaudit.
-to-ca/]
Tip Jar [http://climateaudit.
-jar/]

Categories

Select Category

Articles

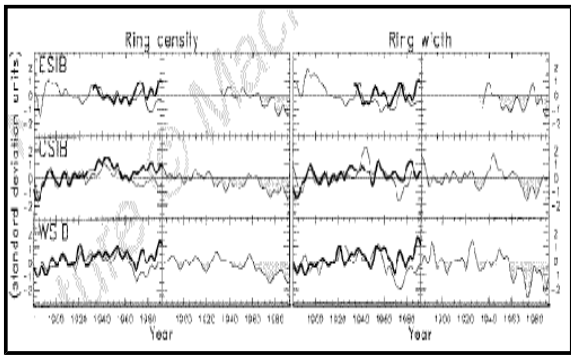
CCSP Workshop Nov05 [http://climateaudit.
-workshop05.pdf]
McIntyre/McKitrick 2003 [http://www.climatea
MM05 (GRL) [http://climateaudit.
-grl-2005.pdf]
MM05(EE) [http://climateaudit.
-ee-2005.pdf]
NAS Panel [http://climateaudit.
-mm.pdf]
Reply to Huybers [http://climateaudit.
-huybersreply.pdf]
Reply to von Storch [http://www.climatea

Blogroll

Accuweather Blogs [http://www.accuwea
-bloggers.asp?partne
Andrew Revkin [http://dotearth.blog

tree-ring density (thin solid line), averaged across all sites in Figure 1, and shown as standardized anomalies from a common base (1881-1940), and compared with equivalent-area averages of mean April-September temperature anomalies (thick line). [SM - it looks to me like the labels in the caption are reversed between density and temperature]

Figure 2 of Briffa et al 1998 breaks this down into regions. The figure below is an excerpt from their Figure 2 showing Siberia – Yamal would be in West Siberia. The left half shows density (MXD), the right half ring width (RW). The figure of particular interest to us is WSIB ring width (third row, right half). The thick line in the left panel shows temperature, the thin line ring width (both smoothed), showing that ring widths in this region, as elsewhere in the world, had not kept pace with temperature. The right panel shows the difference (the "divergence problem"). The "divergence problem" affects both ring width and density.



[http://climateaudit.files.wordpress
From Briffa et al 1998 *Figure 2. Figure 2 Regional tree growth and temperatures over the past 120 years. Decadally smoothed tree growth (thin lines), maximum-latewood density or ring width, plotted against mean summer temperatures (thick lines), April–September for density and June–August for ring width, for each of the*

Boulton Information [http://climateaudit.or
-information/]
The Boulton Bio Watch [http://climateaudit.or
-boulton-bio-watch/]
Boulton's Changing Story [http://climateaudit.or
-changing-story/]

Recent Comments

The One — Chopped Down to [http://shewonk.wordp
-one-chopped-down-to
on
Miracles and Strip Bark Stanc [http://climateaudit.or
-at-the-canadian-socie
geologists/#comment-
Steve McIntyre on
World Dendro 2010 Withdraw [http://climateaudit.or
-dendro-2010-withdraw
invitation/#comment-2
DABbio on
World Dendro 2010 Withdraw [http://climateaudit.or
-dendro-2010-withdraw
invitation/#comment-2
Bradley J. Fikes [http://sandiegoscienc
on
Cicerone at the AAAS [http://climateaudit.or
-at-the-aaas/#commer
David Longinotti on
World Dendro 2010 Withdraw [http://climateaudit.or
-dendro-2010-withdraw
invitation/#comment-2
Pat Frank on
World Dendro 2010 Withdraw [http://climateaudit.or
-dendro-2010-withdraw
invitation/#comment-2

temperature), shaded to emphasize negative values, are shown to the right of each pair of curves. All data series have been scaled to have zero mean and unit variance over the period 1881–1940 (except the short ESIB temperature series which uses 1932–75

One of the sites included in this survey is Khadyta River, Yamal. I'll do a count of how many series are included in the WSIB region, but it is obviously a considerable number.

The "divergence problem" has been discussed on many occasions at this site. If ring widths have gone down in the last half of the 20th century despite increasing temperatures, how can we use information from prior periods to reconstruct past temperatures? Kurt Cuffey was much puzzled by this conundrum at the NAS panel hearings.

In the present case, we're talking a different sort of divergence entirely. Here we're not talking about temperature. We're talking about the discrepancy between Schweingruber's large-scale network of both ring width and density (a network involving hundreds of cores and thousands of measurements), with a WSIB network with dozens of sites where late century ring widths and MXD go down, as compared to Yamal – one site where late century ring widths go strikingly up.

I got an email this morning in which Hantemirov told a correspondent that they used 120 cores in a forthcoming study and only used long cores for corridor standardization because that's what you need for this method. This confirms my prior point that the requirements of the corridor method were different than the RCS method and that a much larger population of

However, Hantemirov also says that the results with a larger population are very similar to the Briffa results – raising the question of why the Yamal results are so different from Polar URals and the Schweingruber network – a question that I'll ask him. Hantemirov:

> *Low number of used for reconstruction subfossil series is explained by standardisation method ("corridor method"). We had to select the longest series. The same concerns to living trees. There are not much old living trees in this area (in contrast to Polar Urals), therefore we used only 17 (not 12) samples from living trees. At that time we had close collaboration with CRU and I sent to Keith Briffa these raw data.*
>
> *So, selection of samples has been made by me taking into account length of individual series as well as common requirements to increment cores (exclusion samples with compression wood, rotten wood etc.).*
>
> *As to reliability of recent increase in tree growth – we have updated our data using many additional subfossil and living trees and using RCS-method. I.e. we used not only long series. Therefore many (120) living trees have been used. Finally, we have got almost the Briffa's result. These results not published yet. I'm going to prepare paper at the end of this / beginning next year. Some preliminary data you can find*

Wegman Reply to Stupak [http://www.uoguelp
Wegman Report [http://www.uoguelp

Weblogs and resources

Ross McKitrick [http://www.uoguelp
Surface Stations [http://www.surfaces

Archives

Select Month

http://vak.ed.gov.ru/common/in -07/KHantemirovRM.pdf

fig 2 – sample replication, fig 5 – temperature reconstruction (smoothed by three filters – 50-, 100- and 200-year)

Possibly related posts: (automatically generated)

- **The Trick** [http://www.climateaudit.org/ -trick/]
- **Trouet et al 2009: "Scuppering the Deniers"** [http://www.climatea -et-al-2009-the-medieval- nao/]
- **The Impact of Yamal on the Spaghetti Graph** [http://www.climateaudit.org/ -impact-of-yamal-on-the- spaghetti-graph/]

This entry was written by , posted on , filed under Briffa [http://en.wordpress.com/tag/osbo -briffa-2006/] , Yamal and Urals [http://en.wordpress.com/tag/yam -and-urals/] . Bookmark the permalink [http://climateaudit.org/2009/10/0 -and-the-divergence-problem/] . Follow any comments here with the RSS feed for this post [http://climateaudit.org/2009/10/0 -and-the-divergence-problem/feed/] . Post a comment [#respond] or leave a trackback: Trackback URL [http://climateaudit.org/2009/10/0 -and-the-divergence-problem/trackback/] .

240 Comments

bender

Posted Oct 7, 2009 at 9:03 AM | Permalink [#comment-197580] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197580#respond]

Hantemirov also says that the results with a larger population are very similar to the Briffa results

A result I've been anticipating and that I'm guessing Briffa would have established before issuing his unresponsive "response". Hence my view that the stick **is currently** broken, but **might be** reparable. For a while, at least.

Tom C Posted Oct 7, 2009 at 9:04 AM | Permalink [#comment-197581] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197581#respond]

Steve -

I'm not sure why you have problem understanding this. There is a widespread "divergence problem" with tree ring widths declining at sites across the globe since about 1960. However, if you do a "reconstruction" these data show a sharp uptick in late 20th century temperatures. QED

Michael Smith Posted Oct 7, 2009 at 9:24 AM | Permalink [#comment-197582] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197582#respond]

Steve, will you also ask him which temperature record he is using?

Mike Lorrey Posted Oct 8, 2009 at 8:49 PM | Permalink [#comment-197773] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197773#respond]

Re: **Michael Smith (#3)** [#comment-360285] ,

Well, there is no point using a *global* temperature record to compare against a local population of trees. Unless they have a reliable temperature surface station in the region, any correlation with a temperature record in some other reason is utterly useless. You might

as well use a temperature record from Mars.

Then they will have to look at the temperature records kept, if in fact there is a local surface station to compare against, and deal with the well known "vodka effect", in which commissars in northern regions of Russia and Siberia during the USSR period were known to fudge lower than actual temperatures in the record as a means of justifying getting more heating fuel/coal shipped to the reporters jurisdiction in the 5 year plans. So, they'd need to look at the 1960-1992 period for any significant uptick anomaly of 2-5 degrees that would reflect the artificiality of the prior record.

Kenneth Fritsch

Posted Oct 7, 2009 at 9:28 AM | Permalink [#comment-197583] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197583#respond]

Can we get a link to an explanation of the corridor method [#comment-197583] as [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197583#respond] trees.

Until we understand the difference between the corridor and RCS methods, I will continue to have layperson's doubts about these methods capability to compensate for the type of changing growth that has been described in the literature for the larches used in the Yamal series.

mjt1st

Posted Oct 7, 2009 at 9:33 AM |

Re: [**Kenneth Fritsch (#4)** [#comment-360287],

Permalink | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197584#respond]

http://www.cybis.se/forfun/dendro/corridor/ [http://www.cybis.se/forfun/dendro/corridor/]

C.Baxter

Posted Oct 7, 2009 at 11:44 AM | Permalink [#comment-197600] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197600#respond]

Re: **mjt1st (#5)** [#comment-360288], The corridor method looks like stock-market charting gone mad. Can someone post the mathematical analysis behind this mumbo jumbo?

mjt1st

Posted Oct 7, 2009 at 12:00 PM | Permalink [#comment-197604] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197604#respond]

Re: **C.Baxter (#21)** [#comment-360320],

http://halshs.archives-ouvertes.fr/docs/00/10/97/51/PDF/Fribo-TRACE2005.pdf [http://halshs.archives-ouvertes.fr/docs/00/10/97/51/PDF/Fribourc-TRACE2005.pdf]

This is where the details are posted on corridors…sorry if this is a duplicate post my other didn't seem to go through.

mjt1st
Posted Oct 7, 2009 at 9:39 AM | Permalink [#comment-197585] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197585#respond]

Re: **Kenneth Fritsch (#4)** [#comment-360287] ,

This may be more helpful by the authors G. Lambert, S. Durost & J. Cuaz…

http://halshs.archives-ouvertes.fr/docs/00/10/97/51/PDF/Fribourg-TRACE2005.pdf
[http://halshs.archives-ouvertes.fr/docs/00/10/97/51/PDF/Fribourg-TRACE2005.pdf]

Jeff Alberts [http://whatcatastrophe.com]
Posted Oct 7, 2009 at 7:35 PM | Permalink [#comment-197666] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197666#respond]

Re: **Kenneth Fritsch (#4)** [#comment-360287] ,

> My goggle failed

Maybe you should try Google instead 🙂

Alan S. Blue
Posted Oct 7, 2009 at 9:44 AM | Permalink [#comment-197586] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197586#respond]

Thank you mjt1st.

dearieme
Posted Oct 7, 2009 at 10:17 AM | Permalink [#comment-197587] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197587#respond]

I see: "divergence" means "Oh bugger, my instrument doesn't work".

Micajah [http://crokersack.blogspot.com/]
Posted Oct 7, 2009 at 10:19 AM |

Permalink [#comment-197588] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197588#respond]

> "...therefore we used only 17 (not 12) samples 2758 living trees. At that time we had close collaboration with CRU and I sent to Keith Briffa these raw data."

Name those 17 and show that they are used in Briffa [QSR 2000].

Kuzbad
Posted Oct 7, 2009 at 10:20 AM |
Permalink [#comment-197589] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197589#respond]

Hello,

Realize this is off-topic for this thread, so please feel free to move this post as needed.

You've done a great job highlighting many deficiencies in archiving, sharing, and openness by many climate scientists. My question is the reverse of this–are there are any scientists or papers (maybe even ones who have worked with The Team?) that are exemplars? Papers with open data, open methods, and full archiving? Scientists who both talk the talk and walk the walk? Examples of the way things SHOULD be for everybody working in a scientific field and publishing papers?

I think it would be very interesting to see some examples of papers or scientists who do chose to do the Right Thing!

-Kuz

tallbloke
Posted Oct 7, 2009 at 10:26 AM |

From Steve's post at 197590:

[SM – It looks to me like the labels in the caption are reversed between density and temperature]

It would certainly make sense to a layman like me that density would increase if ring widths diminished. It would also make sense to me as a layman if this had more to do with water availability than temperature. But like Gavin, I don't have much of a clue about this stuff.

So did the summertime temps in the Yamal region drop away post 1940 in the thermometer record?

ATHiker

Wow! Do you have the acid levels for the tree for the 60s, 70s, and 80s? I notice the maximum divergence occurs right at the maximum of acid rain during that time and start to recover after we started the clean air acts. The US (USGS) and Russia worked together to track the growth rings and PH levels during studies of acid rain during that time. One way around this other then the PH records would be to use the tree that were on or around limestone this would eliminate the need for PH records (The Limestone would remove the acidity caused by the rains). Could you plot the change in the PH starting around the 60s? It should be with the growth ring records.
Thanks

bender

Re: **ATHiker (#11)** [#comment-360299] , Cite a published study linking acid rain to enhanced growth on or off limestone and show that Yamal has the appropriate soil acidity to generate the predicted response.

ATHiker

Posted Oct 7, 2009 at 10:47 AM | Permalink [#comment-197592] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197592#respond]

Re: **bender (#12)** [#comment-360301] , Got one better for you! It appears that Steve has just reaffirmed Briffa Letters to Nature
Nature 391, 678-682 (12 February 1998) | doi:10.1038/35596; Received 14 May 1997; Accepted 11 November 1997

> "When averaged over large areas of northern America and Eurasia, tree-ring density series display a strong coherence with summer temperature measurements averaged over the same areas, demonstrating the ability of this proxy to portray mean temperature changes over sub-continents and even the whole Northern Hemisphere.
>
> During the second half of the

Posted Oct 7, 2009 at 11:13 AM | Permalink [#comment-197593] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197593#respond]

> twentieth century, the decadal-scale trends in wood density and summer temperatures have increasingly diverged as wood density has progressively fallen. The cause of this increasing insensitivity of wood density to temperature changes is not known, but if it is not taken into account in dendroclimatic reconstructions, past temperatures could be overestimated.

> Moreover, the recent reduction in the response of trees to air-temperature changes would mean that estimates of future atmospheric CO2 concentrations, based on carbon-cycle models that are uniformly sensitive to high-latitude warming, could be too low.”
> Steve is just doung what Briffa did 10+

years ago.
http://www.nature.com/nature/journal/v391
[http://www.nature.com/nature/journal/v391/r

Posted Oct 7, 2009 at 11:18 AM | Permalink [#comment-197596] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197596#respond]

bender

Re: **ATHiker (#13)** [#comment-360306],
That's not "one better"; it's irrelevant to what I asked. And as for Steve "re-doing" what someone "did 10 years ago", that's pretty much what audit is: checking that everything adds up as stated, investigating discrepancies.

Posted Oct 7, 2009 at 11:42 AM | Permalink [#comment-197599] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197599#respond]

Ferdinand Engelbeen [http://www.ferdinand-engelbeen.be/]

Re: **ATHiker (#13)** [#comment-360306] ,

If there is a current divergence problem when temperatures go up above a (species dependent?) treshold, how can one deduce any temperature

trend from the past, if e.g. a similar (or higher) temperature during the MWP will cause a similar (or deeper) divergence?

ATHiker

Posted Oct 7, 2009 at 11:58 AM | Permalink [#comment-197603] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197603#respond]

Re: **Ferdinand Engelbeen (#19)** [#comment-360318] , Briffa states that at middle of the 20th century tree diverge from temperature for some unknown reason When reconstructing temperatures you need to remove the divergent trees!!!!

Ferdinand Engelbeen [http://www.ferdinand-engelbeen.be/]

Posted Oct 7, 2009 at 12:20 PM | Permalink [#comment-197610] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197610#respond]

Re: **ATHiker (#23)** [#comment

-
360325] ,

> Briffa states that at middle of the 20th century tree diverge from temperature for some unknown reason When reconstructing temperatures you need to remove the divergent trees!!!!

Indeed, but as trees have a growth optimum with temperature (all other necessities in sufficient quantity available), when the

divergence starts is up to each tree individually. A warmer temperature in the MWP may have consequences for more trees in that period than in the current period…

Posted Oct 7, 2009 at 12:27 PM | Permalink [#comment-197611] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197611#respond]

bender

Re: **ATHiker (#23)** [#comment-360325] ,

On what basis do you remove the "divergers"? You don't know why there is some

divergence or what trajectory they're diverging from. You can't even prove the "positive responders" are responding positively, or what they might be responding to.Whichc trees are the divergent ones? You seem to be advocating doing exactly what Briffa – for good reason – denied doing: tinkering with samples within a chronology. . The

cause of the divergence is a mystery. That's why Briffa had a large grant to study it.

Posted Oct 7, 2009 at 12:29 PM | Permalink [#comment-197612] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197612#respond]

Paul Penrose

Re: **ATHiker (#23)** [#comment-360325] ,

Yes, but which trees are divergent and which ones are showing the "true signal"? It could be argued that for samples within the instrumental period

one could use a comparison to temperature. But that just games the calibration process. The real point of the reconstruction is to obtain a temperature profile of pre-instrumental times. Since the reason that some trees don't respond (or stop responding) to temperature is unknown, it is possible that this will also happen in

the pre-instrumental period as well and not be detected. This would lead a rational person to conclude that such reconstructions can't be relied upon until the reason for the divergence is understood.

steven mosher

Posted Oct 7, 2009 at 12:30 PM | Permalink [#comment-197613] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197613#respond]

Re: **ATHiker (#23)** [#comment-360325] , Hmm, the temperature readings we get from some

thermometers diverge from others. Remove them.

One issue I would think is the problem of creating CIs after making these kinds of choices. For example, what level of divergence is divergent enough to be removed?

I have no issue whatsover in reporting two things.

1. A reconstruction based on all

cores both divergent and non divergent.
2. A reconstruction based on cores that don’t diverge, where divergence is characterized, So for example, you define ahead of time a correlation required to be classed as non divergent.

Is that really hard? I just dont get why people don’t do this stuff automaticaly. here

are the results for the entire population. here are the core selection criteria we used. here are the results for those selection criteria. You wanna do something else "go knock yourself out"

Posted Oct 7, 2009 at 12:34 PM | Permalink [#comment-197614] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197614#respond]

bender

Re: **steven mosher (#33)** [#comment-360338] ,

Exactly. Do the test. Put it in the SI.

Posted Oct 7, 2009 at 12:37 PM | Permalink [#comment-197615] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197615#respond]

ATHiker

Re: **steven mosher (#33)** [#comment-360338] ,

Let see. Steve adds divergence tress to show what? That Briffa left out divergence tress (hiding the fact) Steve ether did not know or did not understand Briffa Letters to Nature Nature 391, 678 - 682 (12 February 1998) Apparently Briffa read his

own letter when he did the temperature reconstruction and did not use divergence tress, but Steve did.

How hard is that.

bender

Posted Oct 7, 2009 at 12:52 PM | Permalink [#comment-197621] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197621#respond]

Re: **ATHiker (#35)** [#comment-360341] , Ummm, you should read about divergence before pretending to understand you know what you're talking about. Cherry-picking samples to

suit your hypothesis under the guise of "removing divergers" is a very dicey proposition – especially given the source of divergence is not known. Which is why Briffa, in his reply, stated that he did not engage in that practice.

ATHiker

Re: **bender (#40)** [#comment-360350] ,

Posted Oct 7, 2009 at 1:26 PM | Permalink [#comment-197624] | **Reply** [/2009/10/07/yamal-

and-the-divergence-problem/?replytocom=197624#respond]

Ummm, you should read about divergence before pretending to understand you know what you're talking about. Cherry-picking samples to suit your hypothesis under the guise of "removing divergers" is a very dicey proposition – especially given the source of divergence is not known. Which is why Briffa, in

his reply, stated that he did not engage in that practice.

Briffa did temperature reconstruction using what trees rings. The reason is to determine the temperature of the past right. Not to determine current temperature we have a thing called a thermometer. If Briffa put bad data in that would

be cherry-picking. How do we know if it is divergent after mid 20th. By definition if it is divergent because it no long map to current temps per Nature letter.

Posted Oct 7, 2009 at 1:41 PM | Permalink

steven mosher

Re: **ATHiker (#43)** [#comment-197627] [#comment-360356] ,

I would like to see the mapping analysis both

with and without divergent. To my mind the critical choice would be the degree of "divergence" one applies, since as we know the tree response function is dependent on many variables. Further, as noted before the most extreme tree in the series has a 8 sigma response. It's divergent too. An 8

sigma response is outside the bounds of responsiveness. It's like hypersensitive.

Morgan

Posted Oct 7, 2009 at 1:58 PM | Permalink [#comment-197628]

Re: **ATHiker (#43)** [#comment-360356],

Is there a compelling reason to presume that trees were significantly more accurate thermometers in the past than they are today? Tree growth responds to factors other than temperature, and

even holding all else constant it doesn't respond linearly (and maybe not even monotonically) to changes in temperature. This "other factors enter in" problem is a) obvious on its face, and b) implied by the existence of the divergence problem.

But by what logic do you think these factors did not

impact the growth of trees in the past? Or if they did impact growth in the past, how can one justify comparing a "cleaned up" version of the recent record with a "dirty" version of the older record?

DaveJR

Posted Oct 7, 2009 at 2:04 PM | Permalink

Re: **ATHiker (#45)** [#comment-197629] [#comment-360356] ,

How do

we know if it is divergent after mid 20th. By definition if it is divergent because it no long map to current temps per Nature letter.

Which is a fair statement, with just one glaring defect. The problem of divergence isn't that it happens now, it's that it could very

well have happened to many of the other different trees used throughout the rest of the reconstruction and these divergences cannot be tested for like they can during the temperature period.

> If Briffa put bad data in that would be cherry-picking.

Then you are accusing Briffa

of cherry-picking because it would be impossible for him to remove bad data from the vast majority of the reconstruction, which has no temperature record.

Posted Oct 7, 2009 at 12:46 PM | Permalink [#comment-197618] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197618#respond]

bender

Re: **steven mosher (#33)** [#comment-360338] , The problem, mosh, is that politicians, given a choice among alternative

reconstructions, will choose the most expedient datum, not the one with the highest probability of being correct. So the scientists try to (over?) constrain the politicians by taking away latitude, giving them just once choice – the reconstruction that they subsequently market as maximum likelihood (never mind the bias). That is why

the establishment didn't like Berger and Cubash's approach: "so many flavors to choose from; what kind you like?". The reality is there really are a hundred decisions to make in a reconstruction. Enough degrees of freedom to make an elephant wiggle his tail if that's what you're into. "What you like

better: RCS or corridor method?”

Jason Lewis Posted Oct 7, 2009 at 11:15 AM | Permalink [#comment-197594] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197594#respond]

[http://homoon.org]

There’s some interesting info on both the Yamal and Ural regions in an article calld **Climate change and forest distribution in the Arctic** [http://www.eoearth.org/article/Climate_change_and_ at the Encyclopedia of Earth. Hantemirov and Shiyatov are discussed. Here are some comments from the section on the Yamal Peninsula:

> During the last 1,700 years, forest–tundra and forest associations have been primarily restricted to river valleys in the southern part of the Peninsula. Somewhat more favorable conditions occurred from 1200 to 900 BC, from 100 BC to AD 200 and during the Medieval Warming Period (MWP) (AD 700 –1400).

> Figure 3 shows the change in the proportion of spruce in forest stands (the remaining part is all

> larch). In the first six centuries, from AD 900 to 1500, the proportion of spruce decreased from 22% to 3–5%. After that, the percentage of spruce stabilized in the range of 7-10%. The 20th century is characterized by an increasing percentage of spruce in forest stands in the valley of the River Khadytayakha, and a weak northward advance of the polar treeline.

Jeff Id — Posted Oct 7, 2009 at 11:16 AM | Permalink [#comment-197595] | **Reply** [http://noconsensus.wordpress.com/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197595#respond]

This post is a little confusing.

> that a much larger population of cores was available, though, for some reason, not used in Briffa et al 2008.

Are you certain that the 120 cores was all from recent times becasue Briffa's version used over 200. If they are only using 120 total, the net result of an RCS version wouldn't change much. Basically it's toms result.

If we know that the hockey stick in it's current form is absolutely incorrect, I'm not ready to accept a new one until we see data and code.

Also when he said – are not much old living trees in this area (in contrast to Polar Urals),

therefore we used only 17 (not 12) samples from living trees.

Is he indicating that there are 5 missing cores from Briffa's version?

ATHiker
Posted Oct 7, 2009 at 11:23 AM | Permalink [#comment-197597] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197597#respond]

This whole thing is been about diverging trees near the middle of the 20th century. This is a repeat!!

bender
Posted Oct 7, 2009 at 11:54 AM | Permalink [#comment-197602] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197602#respond]

Re: **ATHiker (#17)** [#comment-360310],
You proposed an explanation and I asked for evidence. It's an audit.

ATHiker
Posted Oct 7, 2009 at 12:09 PM | Permalink [#comment-197606] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197606#respond]

Re: **bender (#22)** [#comment-360324],
I ask the question #11
Do you have the acid levels…?
Could you plot the PH for that period?
I was very nice about it too!!

Ferdinand Engelbeen
Posted Oct 7, 2009 at 11:36 AM | Permalink [#comment-197598] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197598#respond]

Used the Google translater for the caption below the Figure 2 in the upcoming paper of Hantemirov:

> Figure 2 – Distribution of the number of

samples of wood used for climate reconstructions based on the width of annual rings (thin line shows the proportion of samples from living trees)

If one looks at the number of samples in the last century, that dwindles to near zero, but the ratio of living trees increases to 100% (from one or a few trees?)…

Jeff Id Posted Oct 7, 2009 at 11:48 AM | Permalink [#comment-197604] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197601#respond]

Here's part of my answer. Re: **Jeff Id (#15)** [#comment-360308],

For climatic reconstructions based on the width of annual rings were used measurements of trees in 1103: 120 indie ers series on living larch and 983 on poluiskopaemym, which amounted to more than 148 thousand rings on trees and poluiskopaemym more than 16 thousand rings on the living. To maintain uniformity reconstruction Dendroclimatic analysis were not included samples collected north of 68 ° N Distribution of samples in time for this type of analysis is shown in Fig. 2

[http://noconsensus.wordpress.com]

Harry Eagar Posted Oct 7, 2009 at 12:00 PM | Permalink [#comment-197605] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197605#respond]

OK, I'll bite.

If these trees are growing near the northern limit of their

existence, and the limit is due, more or less, to cold; and if it has been warming recently, then why are the trees living shorter lives?

ATHiker
Posted Oct 7, 2009 at 12:13 PM | Permalink [#comment-197607] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197607#respond]

Re: **Harry Eagar (#25)** [#comment-360328],
PLEASE read
http://www.nature.com/nature/journal/v391/n6
[http://www.nature.com/nature/journal/v391/n666
Briffa states that at middle of the 20th century tree diverge from temperature for some **unknown reason**

Ferdinand Engelbeen [http://www.ferdinand-engelbeen.be/]
Posted Oct 7, 2009 at 12:16 PM | Permalink [#comment-197608] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197608#respond]

Some more translations:

Figure 3 – Distribution of the number of samples of wood used for the analysis of abnormal structures in the annual rings of two types trees. 1 – Larch, 2 – spruce.

Figure 4 – Correlation coefficients (bars) indices width rings and the average air temperature for five days at station Salekhard. Line with markers – changes in air temperature for five days

This needs some more explanation, which is found at the same page:

> Greatest influence on the growth of annual rings of larch provided the air temperature in the period from 16 June to 30 July.
> The correlation coefficient between the indices of the width of annual rings and average temperature during this period is 0.71, the proportion of explainable dispersion of 58.1%. Therefore, as prediktanta was used average temperature of this period.
> Tree-ring reconstruction of mean summer temperature air (smoothed data) for the period from 5150 BC (data earlier periods provided an insufficient number of samples) on 2005 AD presented in Fig. 5. Data are presented as deviations the average for the whole period of reconstruction of temperature.
> In terms of the study area the average summer temperature (from 16 June to 30 July) in the last 7-odd thousand years was about 10 ° C. The reconstructed temperature deviations from this average for individual years varies from -2,4 ° (in 1818

> AD) to +4,2 ° C (in 427 BC).

And at last the capture of Fig.5, the reconstruction:

> Figure 5 – Reconstruction of summer temperatures on the Yamal Peninsula. Data are presented as deviations from the mean value after smoothing the 50 -, 100 – and 200-year filters. At the lower graph the dotted line shows linear trend of temperature change from 5150 BC to 1850 AD

The growth spurt at the end starts about 1800, together with the increase in percentage of living trees. Some coincidence?

Jean S

Posted Oct 7, 2009 at 12:19 PM | Permalink [#comment-197609] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197609#respond]

"some kind of report" seems to be a draft of Hantemirov's Doctor of Biological Sciences thesis, and there seems to be some type of meeting (for approval/disapproval?, defence?) regarding his thesis on 13th of October. Someone with familiarity with the Russian PhD system (and good knowledge of Russian) could clarify this.

> **deadwood**
>
> Re: **Jean S (#30)** [#comment-360334]
>
> Posted Oct 7, 2009 at 8:54 PM | Permalink [#comment-197673] | **Reply** [/2009/10/07/yamal-

and-the-divergence-problem/?replytocom=197673#respond]

Google translates the title page of the "some kind of paper" as:

Hantemirov Rashit Migatovich
DYNAMICS OF VEGETATION WOOD AND CLIMATE CHANGE THE NORTH OF WESTERN SIBERIA IN THE HOLOCENE
03.00.16 – Ecology
ABSTRACT
dissertation for the degree Doctor of Biological Sciences
Ekaterinburg – 2009

EW

Posted Oct 9, 2009 at 8:18 AM | Permalink [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197782#respond] | **Reply** [#comment-197782]

Re: **Jean S (#30)** [#comment-360334],

The Hantemirov's report is an "autoreferat" which is a very shortened "abstract" version of the Thesis with the most important Figs. When submitting Thesis, some 50 reprints of the autoreferat are added and later distributed among the people interested (for e.g., before the defending of Thesis takes place or similar)..

mjt1st

Posted Oct 7, 2009 at 12:42 PM | Permalink [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197616#respond] | **Reply** [#comment-197616]

The corridor methodology paper linked above by G. Lambert, S. Durost & J. Cuaz is a fairly interesting read.

The opening line to the introduction:

> We propose an experimental method,

> using curvilinear regressions, called corridor method, for dating and building a global useful signal based on oak ring widths in northern and eastern France. The resulting signal seems to be more useful than others to progress in the domains of ancient climate and ancient environments: dendrodating, dendroclimatology, dendroecology and, of course, human history (Lambert, 2002, Houbrechts and Lambert, 2004, Durost, 2005).

One quote in regards to site selection and size in relation to this particular paper:

> …The necessary starting condition was to find enough sites or better, sectors – which group several sites – for a sufficiently long period (minimum 500 years) and for each sector to be able to build comparable data. It is very rare to find long ring chronologies and long enough meteorological records for the same location. The dendrochronological information in particular is spread over a large area but the internal structure of this area changes with time:

buildings or sites used several times rarely give data over a long time and none of them give information for the whole of the period in question. Precise maps of known areas change from a century to another. As a result, site chronologies are not adequate to work from withsuch a process. We were therefore led to consider theoretical spaces, which yield dendrochronological and meteorological records…

Robert

We all know that when wood dies, then ages, it becomes more dense. This is most of the reason a Stradivarius sounds better than a modern violin of even the most competent manufacture.

Posted Oct 7, 2009 at 12:42 PM | Permalink [#comment-197617] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197617#respond]

bender

Posted Oct 7, 2009 at 12:47 PM | Permalink [#comment-197619] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197619#respond]

Re: **Robert (#36)** [#comment-360344]

Evidence? I was told that it was the narrow rings of trees formed during the little ice age. Would you like areference?

bender

Posted Oct 7, 2009 at 12:49 PM | Permalink [#comment-197620] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197620#respond]

Re: **bender (#38)** [#comment-360348]

The rings are denser because there's more latewood than earlywood in a narrow ring and

latewood is higher in lignin, which is what gives wood its density and dark color.

jae
Posted Oct 7, 2009 at 2:42 PM | Permalink [#comment-197638] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197638#respond]

Re: **bender (#41)** [#comment-360349],

> The rings are denser because there's more latewood than earlywood in a narrow ring and latewood is higher in lignin, which is what gives wood its density and dark color.

The first part is true, the second part is not. The density and dark color are due to smaller

lumen diameters. The density of the cell wall, itself, is constant at about 1.5 g/cc.

bender
Posted Oct 7, 2009 at 2:44 PM | Permalink [#comment-197640] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197640#respond]

Re: **jae (#58)** [#comment-360376], The lumens are smaller because the cell walls are thicker because they've got more lignin in them.

jae
Posted Oct 7, 2009 at 2:46 PM | Permalink [#comment-197641] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197641#respond]

Re: **bender (#60)** [#comment-360379], NO, unless you can produce a reference!

jae
Posted Oct 7, 2009 at 2:23 PM | Permalink [#comment-197633] | **Reply** [/2009/10/07/yamal-

Re: **Robert (#36)** [#comment-360344],

and-the-divergence-problem/?replytocom=197633#respond]

> We all know that when wood dies, then ages, it becomes more dense. This is most of the reason a Stradivarius sounds better than a modern violin of even the most competent manufacture.

Naw.
[http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0002554]

bender
Posted Oct 7, 2009 at 2:42 PM | Permalink [#comment-197639] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197639#respond]

Re: **jae (#54)** [#comment-360369] ,

> Yes, the more heavily lignified earlywood samples (with thinner annual rings) transmit sound better. Ever tried building with yellow pine from Georgia? The nails pop out. I'll take spruce from Maine any day.

Geoff Sherrington

Re: **Robert (#38)** [#comment-360344] ,

Posted Oct 8, 2009 at 1:32 AM | Permalink [#comment-197677] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197677#respond]

> We all know that when wood dies, then ages, it

becomes more dense.

In the references to this paper on violins **http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0002554** [http://www.plosone.org/article/info:doi%2F10.1371%2Fjournal.pone.0002554] there is ref 23 Eriksson K-EL, Blanchette RA, Ander P (1990) Microbial and Enzymatic Degradation of Wood and Wood Components. New York: Springer-Verlag.

they place importance on biological mechanisms post-death, including assistance from water immersion. In the photos shown from around Yamal, some of the dead trees have been undercut by streams, thus increasing the probability of greater immersion. This is a mechanism by which dead trees might give different results to live trees. Fungi, etc, as I have noted elsewhere, are more important than discussions would seem to indicate.

Re: **ATHiker (#12)** [#comment-360299] , Sulphur is a mid-level nutrient that can limit the yield of native plants. It is documented that industrial SO2 can increase yield. Many references, see **http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VB5-4037PMP-N&_user=10&_rdoc=1&_fmt=&_orig=search&_so**

[http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VB5-4037PMP-N&_user=10&_rdoc=1&_fmt=&_orig=search&_sort

It would be hard to backdate the sulphur record because there are many acid/alkaline mechanisms in nature, including volcanos with a high SO2 yield. So SO2 is just another unknown variable from the past, but one with a reasonable chance of having affected growth in ways we cannot reconstruct. We cannot reconstruct if S or another element was limiting growth of a tree at some place in the past.

These are but diversions. As Prof Briffa wrote,"The cause of this increasing insensitivity of wood density to temperature changes is not known,"

Until it becomes known, we are must accept Re: **bender (#32)** [#comment-360336] ,

> "On what basis do you remove the "divergers"? You don't know why there is some divergence or what trajectory they're diverging from."

This statement, of course, applies to past and present.

Logic indicates that if you cannot relate tree ring properties to measured temperatures in a predictive manner (without extraordinary contortions and weak correlations) then **you do not have a method**.

MoJon Labe | Posted Oct 7, 2009 at 1:18 PM | Permalink [#comment-197622] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197622#respond]

ATHiker, the issue is when you look at a subfossil tree, how do you know if it's a teleconnected or a diverger?

mpaul | Posted Oct 7, 2009 at 1:20 PM | Permalink [#comment-197623] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197623#respond]

How Curious. I am currently working on a temperature reconstruction using the S&P 500 as a proxy. I too am finding a divergence problem since about 2001. However, I've discovered that many of the component stocks that make up the S&P 500 are not good temperature responders… actually, most of the components are not good responders. However, I've found at least 6 of the 500 stocks that are good responders. Google in particular is an excellent responder. Once I eliminate all the non-responders, my reconstruction will be remarkably robust.

thomas hine | Posted Oct 7, 2009 at 1:30 PM | Permalink [#comment-197625] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197625#respond]

[http://www.myspace.com/thomashinelink]

Concerning the ATHiker debate and the bigger picture. What is the divergence, and what is truth, and what to discard?

Can someone correct me if I'm wrong, but is the CRU temperature that is being used to "test" divergence the CRU global temperature analysis? If so, then of course there is a divergence problem because the "global analysis" is a reification and not "real" as compared to local instrumental temperature record. I must be wrong, I cannot believe that tree-cores would be "tuned" to a "global" metric instead of local temperature record.

The divergence is real, don't assume a reified "global" metric is real and question the trees, everything except YAD06 seems to jibe with the local temperature record.

thomas hine

Posted Oct 7, 2009 at 1:34 PM | Permalink [#comment-197626] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197626#respond]

[http://www.myspace.com/thomashinelink]

my comment/question still stands, although upon further review it is not a "global" analysis but "full (northern) hemisphere" – still a reification (i.e. does not reflect the real temperature at point locations)!

MikeN

Posted Oct 7, 2009 at 2:26 PM | Permalink [#comment-197634] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197634#respond]

Bender, this is the same paper that I linked to.

Michael, the paper definitely does not say that.

bender

Posted Oct 7, 2009 at 2:33 PM | Permalink [#comment-197635] | **Reply** [/2009/10/07/yamal-and-

Trees can respond to increases in temperature when they're in cold places, such as near treeline. Accepted. That doesn't mean that the correlation between temperature and ring

width or density is going to be? as high as 0.5 0.7 0.9! If the true correlation nowadays is 0.2 to 0.3 and you choose your samples to artificially bias that number upwards, to say 0.4 or 0.5 (or higher!), then you are going to disappear the MWP through biased selection alone.

.

Sure, if the tree response is nonlinear (inverted U) and on some sites you are now on the backside of the curve, then you will have some negative responders in your sample. But you can't just get rid of them and pretend the response is lienar – because it's the same negative response that would have occurred in warmer times – only possibly more severely!

.

Read the blog. Read about the MWP megadroughts.

.

I expect that the positive uptick responders are, as mosher says, not "sensitive", but **hyper**sensitive. Increase in temperature is serving to increase the sensitive response to something else. Something in the soil. Something rejuvenating. Only Briffa knows becasue he's the one with the research data.

.

The solution is to bar all hypersensitive samples until we know what the heck is going on with them. This is the very sensible decision came to by NAS. Except that's a case where you have an external cue as to the who the outliers are – the stripped bark. No such external cues for the most influential trees in the world.

.
So we thirst.

Espen Posted Oct 7, 2009 at 2:42 PM | Permalink [#comment-197637] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197637#respond]

What temperature record is shown in that first graph?

I downloaded the GISS data for nearby station Ostrov Dikson and plotted 10-year moving averages of june to august temperatures for the period 1930-1994 (appr. where the graph seems to end?) and got:

jae Posted Oct 7, 2009 at 2:49 PM | Permalink [#comment-197642] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197642#respond]

I'll be from Maine any day.

Sitka spruce from the west coast is the best. IIRC, it is the strongest wood for it's weight in the world.

Jonathan Dumas Posted Oct 7, 2009 at 2:56 PM | Permalink [#comment-197644] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197644#respond]

Hi,

I am reading this blog daily and I get a lot of intellectual satisfaction from it. Much than I get from reading books, which was what I did before we had blogs as interesting as this one. So I gave some money today (in the TIP JAR, upper left corner), and I want to remind you that you might want to do it, too.

I think Mr McIntyre is retired and is probably financially indpendant (I have no idea, really), but that has nothing to

do. I do it for the establishment of a new business model.

MikeN Posted Oct 7, 2009 at 3:05 PM | Permalink [#comment-197646] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197646#respond]

ATHiker, RC censors me, so I'll respond here. You referred to Steve as "McLiar". What evidence do you have that Steve places himself in a horizontal position, or is in a helpless or defenseless state?

mjt1st Posted Oct 7, 2009 at 3:06 PM | Permalink [#comment-197648] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197648#respond]

Am I understanding this correctly that the modern correlation is based on temperature readings from the weather station in Salekhard, which is about 100miles from the Khadytayakha, Yadayakhodyyakha and Tanlovayakha river basins? I wonder if this station has been checked for accuracy and variations due to movement, UHI etc.

Cold Lynx Posted Oct 7, 2009 at 3:12 PM | Permalink [#comment-197650] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197650#respond]

Linn to **"Spatial and temporal stability of the climatic signal in northern Fennoscandian pine tree ring width and maximum density"** [http://people.su.se/~hgrud/documents/Tuov20et%20al%202009.pdf]

Quote:
"If palaeoclimate reconstructions are to be used to
test general circulation models, and constrain the
array of possible futures, there is no need to spatially
average proxy data and
reproduce the average

climate over vast areas. These procedures degrade
the climate signal at all sites and smooth out potentially important spatial differences.
General Circulation
Models produce data that are both spatially
and temporally explicit: so we can test them using
different palaeoclimate signals in different places.
The aim should be to maximize the signal-to-noise
ratio and reconstruct the real climate of real places."

Love it.

bender
Posted Oct 7, 2009 at 3:13 PM | Permalink [#comment-197651] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197651#respond]

Re: **Cold Lynx (#71)** [#comment-360395],
And you disagree with this approach in principle?

Ferdinand Engelbeen [http://www.ferdinand-engelbeen.be/]
Posted Oct 7, 2009 at 3:58 PM | Permalink [#comment-197655] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197655#respond]

I wonder if the Hantemirov dissertation uses the same dataset as sent to Briffa. The number of samples in 1900 starts with about 20, but declines thereafter. Maybe the same 17 (or 12 – 5) trees, including YAD06… That indeed would show that Briffa can be repeated… if you use the same few trees!

Anyway, it is sure that Hantemirov used RCS to adjust the curve for age, but that introduces a start and end bias:

> To address the age trend was used as a method regional curves (Briffa et al., 1992), which maintains the distinction between the growth rate of trees that existed in various climatic epoch, ie identifies long-term fluctuations increase, exceeding the lifetime of individual trees.

And the data were used by Briffa:

> used in the analysis patterns of temperature changes in the northern hemisphere and evaluation current climate trends to make recommendations authorities (Briffa, 2000; ACIA, 2005).

And he noted differences in growth pattern between living and dead trees…

Harry Eagar

Posted Oct 7, 2009 at 4:45 PM | Permalink [#comment-197656] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197656#respond]

I don't think Hiker is worth very much more attention, but given his take on the short-lived trees, it seems that any graph that goes past about 1950 is worthless, whether the pre-1950 graphs have value or not.

However, his take does raise yet another question. Are we to suppose that "fungus, bugs" have only arrived at Yamal in

the past 60 years and were unimportant at every other time in the past millenium?

bender Posted Oct 7, 2009 at 5:52 PM | Permalink [#comment-197659] | **Reply**

Re: **Harry Eagar (#77)** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197659#respond]

> Are we to suppose that "fungus, bugs" have only arrived at Yamal in the past 60 years and were unimportant at every other time in the past millenium?

May I rephrase your question along a more productive line of inquiry? Given that North American larch have suffered from massive outbreaks of larch sawfly in the past, what would happen if we attempted to reconstruct insect outbreaks using standard methods accepted by dendros? Is there any historical evidence of outbreaks in the tree rings – even though these areas might presently be too cold to support insect populations?

.

Now your good question has some positive direction.

steven mosher Posted Oct 7, 2009 at 8:18 PM | Permalink [#comment-197672] | **Reply**

Re: **Harry Eagar (#77)** [/2009/10/07/yamal-and-the-divergence-problem/#comment-360413],

and-the-divergence-problem/?replytocom=197672#respond]

Actually it might be an interesting piece of work to truncate all cores to 1950.

Dave L

Posted Oct 7, 2009 at 4:46 PM | Permalink [#comment-197657] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197657#respond]

I visited Fairbanks last month for the first time. The white spruce trees grow in geometric patterns that sharply contrast with the deciduous trees in Central Alaska. I was informed that the spruce grew in areas with permafrost, whereas the deciduous trees grew where there wasn't permafrost. I understand that larch trees are deciduous, so when the study lists spruce and larch trees, does this also relate to permafrost versus no permafrost?

mjt1st

Posted Oct 7, 2009 at 4:59 PM | Permalink [#comment-197658] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197658#respond]

After reading all the back and forth its getting harder to keep track of all the issues that Steve's findings bring up and how they relate to the bigger picture.

Am I correct as it stands now the issues are:

* The Yamal data set diverges from other nearby proxies, Schweingruber network and Polar Urals, this is not a temperature issue but a divergence of proxies issue.
* The Yamal study may have been contrary to Briffa's own guidelines in regards to sample size in the use of RCS
* Briffa suggests that Steve offers no valid reason to choose Schweingruber over Yamal and

further doesn't properly weight Yamal when the studies are combined.
* The corridor method was used by H&S in their study and they correlated with Sale(k)hard temperature data.
* We're not quite sure what data was sent to Briffa and whether it was pre-correlated or raw.
* One specific tree YD06 skews the Yamal results heavily toward a hockey stick
* The Yamal Study itself influences others and further skews them toward a hockey stick shape.
* Some have suggested that modern temperature correlation is a valid method to determine the validity of the study, although Briffa himself does not say this and further states he did not cherry pick data to reflect this.
* Lucy Skywalker and Jeff ID have shown that the Yamal Study diverges from the temperature data at Salehard, although Schweingruber has not been checked for modern temperature correlation at Salehard.
* Previous issues have arisen regarding the accuracy of Soviet/Russian temperature data due to data loss, potential UHI issues and other bias.
* Without the Yamal study, there are no major studies (that are free of their own issues) that reflect the current rise in temperatures as unprecedented.

What am I missing or where did I get it wrong?

Thanks
MJT

Good Captain

Posted Oct 7, 2009 at 6:08 PM | Permalink | Reply

Re: [#comment-197660]

As a fellow observer of the resultant dialogue resulting from today's post, I applaud your summary of today's "proceedings". Although you're re-call is much better than mine, I would add the following subject matter at some point (assuming my own takeaway isn't otherwise flawed):

> "During the second half of the twentieth century, the decadal-scale trends in wood density and summer temperatures have increasingly diverged as wood density has progressively fallen…" and that, "The cause of this increasing insensitivity of wood density to temperature changes is not known, but if it is not taken into account in dendroclimatic reconstructions, past temperatures could be overestimated."

(Per *Hiker's* claim) Briffa's statement above provides an appropriate basis for his use of an admittedly small sample size used in the study; trees not appropriately **"sensitive"** to warming climatic circumstances would inappropriately skew results obfuscating actual climate conditions.

(Counter-point by *Bender*, et. al.) Briffa's small sample size having culled alleged **"non-sensitive"** trees from the data set is inappropriate as currently understood. Furthermore, the attempted correlation of two factors (tree-ring density to temperature) has not and cannot isolate all other potential factors sufficiently in his efforts (i.e., assumes those trees he views as appropriately "sensitive" themselves are not otherwise biased by factors not necessarily related to climatic change leading to a false positive finding – the YD06 tree comes to mind).

mjt1st
Posted Oct 7, 2009 at 11:53 PM | Permalink [#comment-197674] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197674#respond]

Re: **Good Captain (#81)** [#comment-360424]

Thanks for the comment Good Captain. In regards to your addition, I would agree that is also part of the issue. In a previous topic though, in regards to Briffa's upcoming exploration of that issue, I was

concerned that the base assumption of that may be flawed. Consideration should be given to the issue of whether the methodology in determining the sensisitivity is accurate before you can make the statement about the trees becoming increasingly insensitive. If your methodology is not separating the signal from the noise correctly, its hard to make a determination of the trend of that signal. Specifically to Yamal, if it statistically inappropriate to use RCS on such a small sample size, then all arguments on whether its appropriate to cull or not to cull are moot due to the flawed methodology in the first place.

It certainly keeps the brain exercised doesn't it?

MikeN

Not bad mjt.
However, H&S I don't know if they used Salehard in their 2002 paper. The 2009 paper does reference Salehard. It is in Russian, so I'm not sure how Schweingruber has been checked for correlation and it does OK. I don't think Jeff and

Posted Oct 7, 2009 at 6:40 PM | Permalink [#comment-197661] | **Reply** [/2009/10/07/yamal-and-

Lucy have shown a non-correlation with Yamal. More on this later.

mjt1st

Re: **MikeN (#82)** [#comment-360425] ,

Hey MikeN I was referring specifically to this post cited by Jeff ID from Lucy:

> Salehard borders on Yamal, yet its thermometer record is strikingly different from the treering record. And since the pattern at Salehard is backed up by Murmansk, Bjørnøya, Vardø, Kanin Nos, Turuhansk, Ostrov Dikson, Ostrov Vize, and Hatanga, it seems reasonable to conclude that the Yamal treering record is the one that is suspect.

http://noconsensus.wordpress.com/2009/09/25/-yamal-delinquent-treering-records/ [http://noconsensus.wordpress.com/2009/09/25/c-yamal-delinquent-treering-records/]

Did you mean that I misunderstood this as a statement to correlation or that what they have

Posted Oct 8, 2009 at 12:13 AM | Permalink [#comment-197675] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197675#respond]

written is not altogether accurate?

Also you may be right in regards to the 2002 vs 2009 and the use of Salehard. I haven't been able to see a copy of the 2002 paper so it may only be referenced in 09. From Ferdinands translation above…

> Figure 4 – Correlation coefficients (bars) indices width rings and the average air temperature for five days at station Salekhard. Line with markers – changes in air temperature for five days

Ferdinand Engelbeen [http://www.ferdinand-engelbeen.be/]

Posted Oct 8, 2009 at 3:07 AM | Permalink [#comment-197679] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197679#respond]

Re: **mitest (#96)** [#comment-360453],

Hantemirov used even a smaller subset of the Salehard summer temperature record, see page 18, fig. 4, where he calculates the best fit correlation between ring width and 5-days temperature intervals. As he

found the best fit for the 16 June – 30 July period, he used these temperatures to compare with the tree ring widths from living trees in first instance and further back for all trees.

So we need the daily temperature record of Salehard to make a check possible.

But even if that fits, what to do with the discrepancy in growth pattern between living and dead trees (no matter if that is caused by real changes in temperature regime or after dead biochemical changes)?

From page 14 (some messy translation by Google, but the essence is clear!):

> Next to assess patterns of tree growth in height were used data on the growth of 13 living and 13 poluiskopaemyh model trees. There was a very high correlation between growth of

tree diameter (at a height of 0,2 m) and height (correlation coefficient = 0.97). It was found differences in the patterns of the growth of modern trees and those that grew in the past.

This seems to point to post-dead changes in diameter/height ratio…

Dean

Posted Oct 8, 2009 at 6:04 AM | Permalink [#comment-197683] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197683#respond]

Re: **Ferdinand Engelbeen (#101)** [#comment-360465],

Ferdinand,

Is Hantemirov really implying that tree rings are most sensitive to temperatures during a half-month period of the year? If so, then isn't it more an indicator of weather and NOT of climate? In other words, how do you remove an

anomalous warm spring week from the climate signal without knowing ahead of time what the temperatures were?

It is an interesting theory, if that's what he's proposing. And it kind of makes sense in that plants do exhibit an early spring growth spurt. Now whether it's real or not is a completely different matter.

Nick Stokes
Posted Oct 8, 2009 at 6:53 AM | Permalink [#comment-197685] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197685#respond]

Re: **Dean (#105)** [#comment-360480], Briffa2008 refers to correlation studies, and says

> While noting the probable sensitivity of the results to

the particular analysis period (Esper et al. 2005), it is still apparent that the optimum sensitivity in Fennoscandia, is to July and August temperatures. In Yamal, the season is somewhat earlier, in June and July, whereas in Avam – Taimyr, only warm July temperatures exert a clear positive growth influence.

> Proxies aren't perfect, but there's not much else.

Ferdinand Engelbeen [http://www.ferdinandengelbeen.be/]

Posted Oct 8, 2009 at 8:12 AM | Permalink [#comment-197699] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197699#respond]

Re: **Dean (#104)** [#comment-360480],

Dean:

> Is Hantemirov really implying that tree rings are most sensitive to temperatures during a half-month period of the year? If so, then isn't it more an

> indicator of weather and NOT of climate? In other words, how do you remove an anomalous warm spring week from the climate signal without knowing ahead of time what the temperatures were?

Indeed:

> Tree-ring reconstruction of mean summer temperature air (smoothed data) for the period from

5150 BC (data earlier periods provided an insufficient number of samples) on 2005 AD presented in Fig. 5. Data are presented as deviations the average for the whole period of reconstruction of temperature. In terms of the study area the average summer temperature (from 16 June to 30 July) in the last

7 - odd thousand years was about 10 °C. The reconstructed temperature deviations from this average for individual years varies from -2,4 ° (in 1818 AD) to +4,2 ° C (in 427 BC).

Thus the whole reconstruction reflects a part of the summer at Yamal. No matter if the rest of the summer was warmer, colder,

dryer, wetter, or the rest of the year had complete different weather in some periods than other periods. Thus even if there is a hockeystick in the 1.5 months temperature trend used, the total summer or yearly averages may be just flat…

Don’t know of East of Ural climate, but North Russia up to the Urals is under influence of the NAO: with a positive NAO (since 1976), winters are warmer and wetter, reducing the winter

-summer difference, but give a jump of +2 degr.C in yearly average temperature in Fennoscandia and North Russia, while summer temperatures may be equal (but I didn't look it up) …

Posted Oct 8, 2009 at 10:26 AM | Permalink [#comment-197713] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197713#respond]

bender

Re: **Ferdinand Engelbeen (#119)** [#comment-360513] ,

The Yamal peninsula is as likely to be a climatic outlier vis a vis the Arctic as the Antarctic peninsula is in the Antarctic – despite

what Steig et al's distorted graphics show. Anyone with facts suggesting otherwise?

mjt1st

Posted Oct 8, 2009 at 7:56 AM | Permalink [#comment-197693] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197693#respond]

Re: **Ferdinand Engelbeen (#100)** [#comment-360465] ,

Interesting, and it would seem to suggest as you say about post death changes, although it could other factors such as previous microclimate changes but I wonder if he adjusts for the differences.

kuhnkat

ATHiker,

Posted Oct 7, 2009 at 6:50 PM | Permalink [#comment-197662] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197662#respond]

You asked for data on PH based on the idea that acid rain could have caused, or influenced, the Divergence issue.

I would point out that acid rain has been greatly reduced, but not the divergence problem. Lack of correlation = Red Herring.

toot
Posted Oct 7, 2009 at 6:54 PM | Permalink [#comment-197663] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197663#respond]

I haven't read all of the comments to see if someone caught this earlier, but the caption under the first figure is not consistent with the key identifying the lines in the graph's upper left hand corner. Which line plots temperature and which line plots ring density?

toot
Posted Oct 7, 2009 at 6:57 PM | Permalink [#comment-197664] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197664#respond]

Sorry, I got hung up on the mix up and didn't read the last sentence of the caption.

SciDog
Posted Oct 7, 2009 at 7:32 PM | Permalink [#comment-197665] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197665#respond]

Sorry to burst your the denier bubble, but Deep Climate blows all of this nonsense completely out of the water here:

http://deepclimate.org/2009/10/07/let-the-backpedalling-begin/ [http://deepclimate.org/2009/10/07/let-the-backpedalling-begin/]

How about a nice "never mind" rather than a long drawn out backpedal? I suspect this will be the end of McIntyre's 15 minutes.

John M
Posted Oct 7, 2009 at 7:45 PM | Permalink [#comment-197667] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197667#respond]

Re: **SciDog (#86)** [#comment-360433]

Deep Climate? I wondered what happened to him.

He used to comment over here, but I guess he decided to start his own blog where he had more "control."

Also:

> However, Hantemirov also says that the results with a larger population are very similar to the Briffa results – raising the question of why the Yamal results are so different from Polar URals and the Schweingruber network – a question that I'll ask him. Hantemirov:

I guess you're not interested in that.

Kenneth Fritsch
Posted Oct 7, 2009 at 8:01 PM | Permalink [#comment-197669] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197669#respond]

SciDog (#86)
[#comment-360433]

Don't be stupid SciDog. None of the conjecture from DC overrides the sensitivity test that Steve M did or that Tom P did and interpreted completely backwards. Like Briffa before them we know little of what the Russians did or how they compensated for age. You people write about things you do not understand and then do

gotchyas that are transparently silly. Bless SM and others here for their patience, because in my mind you are simply a waste of time.

kuhnkat Posted Oct 7, 2009 at 7:55 PM | Permalink [#comment-197668] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197668#respond]

SciDog,

what don't you understand about "almost" and "will publish later!!"

You might want to wait until the new study is also Peer Reviewed AND Audited!!

Since Deep Climate posts nothing substantive to correct SteveM, I don't believe there will be any backpedaling by Steve. I wonder where that leaves you and DeepClimate??

Ron Manley Posted Oct 7, 2009 at 8:03 PM | Permalink [#comment-197670] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197670#respond]

[http://www.climatedata.info]

One thing that is very noticable is that almost all tree ring temperature reconstructions represent the natural temperature increase from 1910 to 1945 but not all of them show the increase from 1975 to 2005. Could it be that the first increase is genuine and the second an artefact of the heat island effect.

Steve: I think that the 2nd increase is real enough and that the issue is with tree rings as a proxy – the divergence problem.

MikeN

Not entirely accurate. Lucy is eyeballing a few charts. I think she's right that the growth doesn't match the temperatures there, but there is some correlation.

Posted Oct 8, 2009 at 1:04 AM | Permalink [#comment-197676] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197676#respond]

The 5 day temperature for the Russian paper, may be the same thing Briffa did. He used pentads, and calculated that Yamal is correlated to a 10 pentad period from May to July.

Lucy Skywalker

Posted Oct 8, 2009 at 2:09 AM | Permalink [#comment-197679] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197679#respond]

[http://www.greenworldtrust.org.uk/Science/Curio

Re: **MikeN (#97)** [#comment-360457]

yep.

What we need is the CRU records, and the methods they have used for UHI correction etc. Based on my work with GISS so far, I'm not impressed with their UHI corrections. They jack down start temperatures instead of jacking down end temperatures, and this leaves an inflated trend, not a reliable calibrator. And that's just "eyeballing plus".

Nick Stokes

Posted Oct 8, 2009 at 3:46 AM | Permalink [#comment-197681] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197681#respond]

Re: **Lucy Skywalker (#99)** [#comment-360462]

> What we need is the CRU records, and the methods they have

used for UHI correction etc.

Do you really expect UHI corrections to be an issue around the Yamal region?

Briffa2008 shows the correlation of the Yamal RCS treering indices with measured temperatures in his Fig 7. As MikeN says, he uses a pentad selection, and the correlation is not bad (not much HS either for 20C – it looks rather different from Steve's plot). Appendix 1 discusses the temperature sources, which he says were mostly daily data from the Russian Meteorological Service. The CRUTEM3 gridded values are also mentioned.

Posted Oct 8, 2009 at 6:17 PM | Permalink [#comment-197766] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197766#respond]

Lucy Skywalker [http://www.greenworldtrust.org.uk/Scienc

Re: **Nick Stokes (#102)** [#comment-360469] , I said "UHI *etc*". Been working all day on what I can access, because *something* is up

with the GISS thermometer record adjustments, which does put suspicion on CRU as calibrator.

Jeps J Posted Oct 8, 2009 at 3:39 AM | Permalink [#comment-197680] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197680#respond]

As a layman, but as a forest owner and farmer one thing about this entire discussion others in the field, use tree rings as a measure of temperature. Yet, looking at current forests, temperature is only a very small variable in determining tree growth rate. Here, in Sweden, this is exemplified by trees growing on Gotland. Gotland is one of the warmest parts of Sweden. Still, the trees there are among the slowest growing and most dense trees in the entire nation, while some of my forests in the sub-arctic regions of northern Sweden are much faster growing. The thing that seems to effect the Gotland growth rate the most are high winds, salty air from the surrounding ocean and lack of rain, which is not compensated by the large difference in mean temperatures compared to northern Sweden. This leaves me questioning as to how anyone can claim to get accurate temperature records from tree cores, when they are obviously so sensitive to other factors. To me it seems that in order to be able to claim that a year of good growth was caused by high temperature you would

need to know the specific wind and rain conditions for that same year, which makes the entire field of investigation moot.

stephen richards
Posted Oct 8, 2009 at 3:50 AM | Permalink [#comment-197682] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197682#respond]

Jeez smack on the nail!! I mentioned this problem earlier when I said that tree rings were only ever used for dating and even that was somewhat difficult when crossing from live to dead trees. How the hell you filter all the climatic factors from each other, temps, rain, wind etc, I would like to know.

Denny
Posted Oct 8, 2009 at 8:46 PM | Permalink [#comment-197772] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197772#respond]

Re: **stephen richards (#103)** [/2009/10/07/yamal-and-the-divergence-problem/#comment-360470], Stephen, yes, very true. There's another problem I would like to bring up and that is "genetics". I haven't seen this word used here nor any other site that talks about this field. As we all know genetics determine a lot of what and who we are. The variances show! Same with all Life. No two are exactly the same. Cross Pollination amoung groups with groups depending on climate at the time of fertillization should be a "big" factor. I know that a Red Maple tree grows faster that a Hard Maple (Sugar)tree. You can tap a Red Maple within 8-12 years as compared to Hard Maple at 25 to 35 years. I know for a fact that thru

genetics a “Super Maple” was grown and sold. It is suppose to produce at least 3% sap. That’s 26 gallons of sap to make 1 gallon of syrup. I would like to see any papers on this. It would be nice to know “all” things are being considered.

bender
Posted Oct 9, 2009 at 8:17 AM | Permalink [#comment-197781] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197781#respond]

Re: **Denny (#191)** [#comment-360660]
Genetics? You just haven’t read the blog. Read it.

Dave L
Posted Oct 8, 2009 at 6:17 AM | Permalink [#comment-197684] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197684#respond]

Below is a recent tree ring study that demonstrated decreasing radial growth with increasing temperature in central Alaska. Again with spruce trees. The authors suggest a relationship to drought. But perhaps there is something inherently present in the metabolism of spruce trees that favors colder temperatures.

Nature 405, 668-673 (8 June 2000) | doi:10.1038/35015049; Received 25 August 1999; Accepted 10 April 2000.
Reduced growth of Alaskan white spruce in the twentieth century from temperature-induced drought stress
Valerie A. Barber1,2,3, Glenn Patrick Juday2,3 & Bruce P. Finney1
http://www.nature.com/nature/journal/v405/n6787/
[http://www.nature.com/nature/journal/v405/n6787/a

bender

Generic dendro debate in #106 and #107: move to unthreaded?

Nick Stokes

Re: **bender (#108)** [#comment-360490] , #107 is a quote from Briffa re Yamal.

bender

Re: **Nick Stokes (#110)** [#comment-360493] I read the quote already. I know what it says. You made a statement that is generic, thus requiring generic reply – which Steve has previously indicated he doesn't want in these threads. Would you care to make a non-generic statement relevant to Yamal divergence?

Posted Oct 8, 2009 at 6:59 AM | Permalink [#comment-197686] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197686#respond]

Posted Oct 8, 2009 at 7:11 AM | Permalink [#comment-197688] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197688#respond]

Posted Oct 8, 2009 at 7:18 AM | Permalink [#comment-197689] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197689#respond]

Nick Stokes

Re: **bender (#110)** [#comment-360494] , The substance of the comment is a direct response, quoting Briffa, to #105 (now 104), which in turn follows from #100. It won't make any

Posted Oct 8, 2009 at 7:34 AM |

Permalink [#comment-197692] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197692#respond]

Re: If isolation = you might as well erase it.

bender

Posted Oct 8, 2009 at 8:09 AM | Permalink [#comment-197695] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197695#respond]

Re: **Nick Stokes (#112)** [#comment-360502], The goal is not censorship. It is to focus the discussion. Re-read my last comment. If you introduce generic arguments about the use of proxies you will distract discussion AWAY from Yamal, not focus in on it. Steve has made this comment perhaps a dozen times in the last week. Read the blog.

bender

Posted Oct 8, 2009 at 8:17 AM | Permalink [#comment-197696] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197696#respond]

Re: **Nick Stokes (#112)** [#comment-360502], I re-iterate my invitation to make a specific point about Yamal-divergence in the context of the Briffa quote that you seem to want cited here. As it stands it seems all you are saying is: "yes, divergence is a problem in this case, but what can you do?" If that is your material question, bring it up and it can be discussed.

mpaul

Re: **bender (#116)** [#comment

-
360507] ,

Ah,
but
what
really
is
the
topic.
Some
of
the
Briffa
supporters
are
arguing
that:
(1)
not
all
trees
are
temperature
responders,
(2)
you
should
only
select
responders
when
doing
a
reconstruction,
(3) a
responder
is
defined
by
its
correlation
to
instrument
data,
(4)
there
is
not
a
divergence
problem

Posted Oct 8, 2009 at 12:30 PM | Permalink [#comment-197732] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197732#respond]

when one only looks at responders.

This is, of course, a logical fallacy in its very construction, IMHO.

So is the topic 'is there really a divergence problem, aka, is it correct to cherry pick' or 'what is the source of the divergence problem, aka are tree rings good temperature proxies at all'?

Posted Oct 8, 2009 at 12:43 PM | Permalink [#comment-197736] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197736#respond]

bender

Re: **mpaul (#151)** [#comment-360582] , I know exactly what they're arguing. What I know is this: "presuming the consequences" is a logical error. If I were to review a dendroclimatological paper that did this, they would get a one-sentence review. (Ok, well I would go on

to explain, quantitatively, as I have here, why it's a problem, but they would still face rejection.) Until you have an independent basis for deciding (1) which trees to sample in a chronology, and (2) which chronology to include in a climate reconstruction, all must go in. Any deletions must be reported.

All sample sizes must be reported. Sampling error must be reported. I'm ok with mosher's formula: present both biased and unbiased reconstructions. Sensitivity analyses go in SI. All papers get the same even treatment. [Read my reviews of Judith Curry, Craig Loehle, and others.]. So I guess there is no mystery

after all what the topic is. The topic is (1) how to handle data in a paper and (2) how to handle papers in a political review process where the data papers have been mishandled. i.e. How to avoid deceiving people through the torturing

of data.

bender
Posted Oct 8, 2009 at 7:02 AM | Permalink [#comment-197687] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197687#respond]

and #102

AThiker
Posted Oct 8, 2009 at 7:34 AM | Permalink [#comment-197690] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197690#respond]

OK, let see if I get the point across.
The problem appears to be that there is not a problem (excluding who letting out the data on time).
Briffa is saying that if you add trees that are divergent you will increase the error bars more.
Steve is showing that if you add the divergent trees back into the reconstruct you would get increasing errors bars. This is the something but saying it a little different way. Basically (yes wrong word I know), Briffa is saying it and Steve is showing it.
It also appears that all proxy data reconstructs are poor thermometers and that is way the error bars are so very very very large here. (Only very broad general statement came be made)
http://www.ncdc.noaa.gov/paleo/pubs/briffa2001/br
[http://www.ncdc.noaa.gov/paleo/pubs/briffa2001/brif
So someone tell me what is it that I am missing here?
Please.

Eric J D [http://terminusest.info]
Posted Oct 8, 2009 at 8:26 AM | Permalink [#comment-197700]

| Reply

Re: **ATHiker (#111)** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197700#respond]

I guess the first thing that I can tell you from looking at your link is that the abstract is lying.

From the abstract *"The 20th century is clearly shown by all of the palaeoseries composites to be the warmest during this period."*

After looking at the graph for all of ten seconds you can clearly see that the 20th century is not the warmest in even the majority of those plotted palaoseries.

(a)NEUR peaks in 1690; (c)NSIB peaks between 1400 and 1500; (e)CAS peaks in 1640; and (i) ECCA peaks in the 1800's.

Not only that, but it is quite obvious that the temperature record diverges from the tree ring records just as often as it matches up. How you can base a past reconstruction on this kind of data is, well, pure magic.

The headline to that article should be "Tree Rings Proven to be Non-Indicators of Temperature"

Paul Penrose

Re: **ATHiker (#111)** [#comment-360498] ,

Posted Oct 8, 2009 at 10:59 AM |

Permalink [#comment-197717] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197717#respond]

So someone tell me what is that I'm missing here?

You are assuming that the original data is not divergent and that the cores Steve added in his sensitivity test are. You have presented no cogent basis for this assumption. This has already been pointed out to you many times.

bender

Re: **Paul Penrose (#136)**

Posted Oct 8, 2009 at 1:44 AM | Permalink [#comment-197723] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197723#respond]

[#comment-360552], you put that very well.

The trees of "B" diverge strongly from those of "S". You don't know why. You do know that some portion of the pattern in B and S is attributible to temperature; but you can be sure it is no higher than 20-30% at the very best, and likely lower because the trees are growing only 10% of the time that the weather is climating (5 weeks out of 52). Shoulder season permafrost melting might double that time-span to 20%. If you assume that the strong correlation in B is

more valid than the weak correlation in S – by throwing out S and keeping only B – then you are building a strong bias into the ultimate hypothesis test – that current temperatures are warmer than past.
.
B=Briffa
S=Schweingruber
.
Granted, combining B+S may not provide the most accurate or unbiased estimate of the tree-temperature correlation. The question, then, is, what WILL you do? Both (1) scientifically, at the publication stage, and (2) bureaucratically, at the IPCC assessment stage? Would a policy maker NOT be interested in seeing all three recons, B, S, B+S? Should a scientist endeavor to figure out ways of easily communicating data certainty given this dilemma of plurality? mosher came up with an answer in a nanosecond. What's IPCC's problem?

ATHiker

Re: **bender (#142)**

Posted Oct 8, 2009 at 12:00 PM | Permalink [#comment-197725] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/#comment-360564]

and-the-divergence-problem/?replytocom=197729#respond]

Or he picks the one that had the smallest error bars. You could not correct a false peer-review anyone in the area of the study would kill his career in a heartbeat!!

Posted Oct 8, 2009 at 12:07 PM | Permalink [#comment-197729] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197729#respond]

bender

Re: **AThiker (#144)** [#comment-360569], Precisely.

Posted Oct 8, 2009 at 12:31 PM | Permalink [#comment-197733] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197733#respond]

Paul Penrose

Re: **AThiker (#144)** [#comment-360569], That's just a form of post hoc data selection. You need to have a priori selection criteria if you want valid results from these kind of statistical procedures. Besides,

there's no indication that Briffa even calculated confidence intervals for any of his reconstructions. With Yamal they probably wouldn't mean much anyway in the late 20th century due to the limited degrees of freedom.

bender
Posted Oct 8, 2009 at 12:44 PM | Permalink [#comment-197737] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197737#respond]

Re: **Paul Penrose (#152)** [#comment-360583], They're huge.

steven mosher
Posted Oct 8, 2009 at 1:29 PM | Permalink [#comment-197743] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197743#respond]

Re: **bender (#142)** [#comment-360564], Thx bender. You made me remember an incident in my

career where I presented just such an analysis. A chart for the believers and a chart for the fence sitters. Same data, different cuts. With all the pros and cons of each choice. I became a very unpopular guy at that review. Thank god the VP said..”lay off the kid he’s just plotting data and doing his job.” Sad to say the Phd candidate I was doing the analysis for decided to pick the data she needed for her thesis to be accepted. Sad to say everyone else got acknowledgements in her publications. It didn’t change my practice much to the consternation of many bosses. “what’s your conclusion steve?”
hehe: more data please!

Cold Lynx

Posted Oct 8, 2009 at 7:50 AM | Permalink [#comment-197691] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197691#respond]

The divergence problem seems not to be the tree side.
Use the first figure 1 in Briffa et al 1998. AND figure from Espen (#58)

Tree rings seems to follow this temperature data but not the temp data Briffa used.
I am not convinced the divergence problem is a tree ring witdh or tree ring density problem.
It might end up in a CRU gridded temperature problem.

It is maybe the gridded temperature that have the divergence problem.
If Briffa used the gridded temperatures instead of real temperatures do we now have proof of that the gridded are rigged.
It the tree ring is plotted against the measured local raw data is there hardly any divergence at all. Seem to be a divergence to the temperature data that Briffa used. That is probably a CRU gridded data.

Such a lovely story if the gridded CRU temperatures are proved wrong by a CRU employee.

Naindj

Posted Oct 8, 2009 at 7:57 AM | Permalink [#comment-197694] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197694#respond]

Athiker,
You are right.
So next question:
Is the hockey stick a very broad general statement?
Or in other words, can we affirm with treerings that the present warming is unique and that the medieval period was not warmer than now?

ATHiker

Posted Oct 8, 2009 at 9:46 AM | Permalink [#comment-197708] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197708#respond]

Re: **Naindj (#114)** [#comment-360504], Which part? That they are saying the same thing? Are you saying by itself (excluding the instrumental record (beginning in 1856) proxies only) only very broad general statements are made yes.
1) Can we affirm with treerings that the present warming is unique proxies? only no!
2) That the medieval period was not warmer than now. Proxies only no!
Does climatologist except the same answer (1 and 2 as no)? They (Majority would agree) the above answers are correct.
Ask them if they agree with the Board on Atmospheric Sciences and Climate (BASC) 2006 conclusions?
http://books.nap.edu/openbook.php?record_id=11676&page=4 [http://books.nap.edu/openbook.php?record_id=11676&page=4]

> …the committee finds it plausible that the Northern Hemisphere was warmer during the last few decades of the 20th century than during any comparable period over the preceding millennium. The substantial uncertainties

currently present in the quantitative assessment of large-scale surface temperature changes prior to about A.D. 1600 lower our confidence in this conclusion compared to the high level of confidence we place in the Little Ice Age cooling and 20th century warming. Even less confidence can be placed in the original conclusions by Mann et al. (1999) that "the 1990s are likely the warmest decade, and 1998 the warmest year, in at least a millennium" **because the uncertainties inherent in temperature reconstructions for individual years and decades are larger than those for longer time periods and because not all of the available proxies record temperature information on**

such short timescales….

It like pocking small hole into a larger hole.

bender Posted Oct 8, 2009 at 10:21 AM | Permalink [#comment-197712] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197712#respond]

Re: **ATHiker (#127)** [#comment-360535],
Please stay on the topic of Yamal divergence. Generic questions about "treemometers" can go on "unthreaded". My apologies for asking your age yesterday. Perhaps language is a barrier. I had not thought of that.

bender Posted Oct 8, 2009 at 8:08 AM | Permalink [#comment-197697] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197697#respond]

#114 is a generic dendro distraction.

Hu McCulloch [http://www.econ.ohio-state.edu/jhm/jhm.html] Posted Oct 8, 2009 at 8:14 AM | Permalink [#comment-197698] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197698#respond]

I'm afraid I haven't kept up with all the comments on every Yamal thread, so please forgive me if this question has already been answered.

How do we know how old the trees are in Briffa's newly released Yamal data file at **http://www.cru.uea.ac.uk/cru/people/melvin/PhilTra** [http://www.cru.uea.ac.uk/cru/people/melvin/PhilTrans

Each core in the file has a start date and an end date, but do we know the core reached the oldest part of the tree? The person taking the core presumably aimed for the center, but often trees grow lopsided. Even the relatively symmetrical tree round held by Michael Mann in the **photo** [http://holocene.meteo.psu.edu/Mann/] on his webpage has off-center heartwood.

Evidently age is the critical factor in the RCS standardization that is central to much of this discussion. For example, our friend YAD06 had an admittedly hunking 28.70 mm ring in 1993, which is astonishing for any species that is not bamboo! But skimming through the Yamal file, lots of trees had similar rings throughout the past 2000 years. In 1611, during the LIA no less, tree L15581 actually had a 41.30 mm ring!

YAD06's record went back to 1803, or 190 years before its big ring, while L15581's went back to 1574, only 37 years before its big ring, so maybe there was an age difference that means we should interpret these growth spurts differently. But how do we know how old L15581 was in 1574 when its record started?

Even if dendros can measure the increasing curvature of the rings as the bottom of the core is approached, and can extrapolate to where the true center would be, where is this estimate recorded in the Briffa file?

Of course, to the extent that these "day in the sun" growth spurts are just due to competing neighbors being taken down by old age or tornadoes, the *median* age-adjusted ring size must be a more representative indicator of local climate than the *mean*, provided the sample size is large enough to be representative.

Jean S Posted Oct 8, 2009 at 8:29 AM | Permalink [#comment-197701] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197701#respond]

Re: **Hu McCulloch (#118)** [#comment-360509],

> the median age-adjusted ring size must be a more representative indicator of local climate than the mean, provided the sample size is large enough to be representative.

I agree, see **here** [http://www.climateaudit.org/?p=7257#comment-359339] .

Ferdinand Engelbeen [http://www.ferdinand-engelbeen.be/] Posted Oct 8, 2009 at 8:36 AM | Permalink [#comment-197702] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197702#respond]

Re: **Hu McCulloch (#118)** [#comment-360509],

Hu,

As far as the Google translation is reliable (which seems quite good as a first approach), Hantemirov says that extreme rings are not used, as good as double rings (caused by a sudden frost in the growth season) and "missing" rings (if there is no summer at all).
I understand that finding the real start of the tree may be important for RCS growth compensation, but I am not sure if that gives a huge error if you are missing a few years. Matching the patterns is used to go back in time, which also gives the start date of the tree ring core, but that indeed may be wrong missing several years of the real start of the tree…

Morgan Posted Oct 8, 2009 at 8:51 AM | Permalink [#comment-197704] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197704#respond]

Re: **Hu McCulloch (#118)** [#comment-360309],

In theory, I don't think it will make a difference to the RCS standardization divisors.

I created a curve described by rw= A+B*exp(-C*age), A=1, B=.5, C=.03 going from age = 1 to age = 159 years. Not surprisingly, a least squares fit recovered the parameters.

Then I lopped off the first 19 years, and fit rw= A+B*exp(-C*age) to the truncated "rings", and

additionally allowed the "age of the first ring" to vary freely. It came back with A=1, B=.283, C=.03, age at first ring = 1. Even though the age of the first ring is completely wrong, the new parameters exactly reproduced the curve described by the original parameters at true years 20-159. In other words, A=1, B=.283, C=.03 produces a value for age=1 that is the same as A=1, B=.5, C=.03 produced for age=20. And so on down the line.

So basically, subject to potential complications arising from the fact that I was fitting to an error-free negative exponential while real trees are real, it looks like you will end up with the same set of RCS divisors on the truncated series as you would for the non-truncated series.

Hu McCulloch
Posted Oct 8, 2009 at 8:38 AM | Permalink [#comment-197703] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197703#respond]

[http://www.econ.ohio-state.edu/jhm/jhm.html]

RE Jean S #120,

Thanks. Your plot shows only the difference between the mean and median ("robust"), however. What does the median series look like by itself?

The quartiles of the distribution of age-adjusted ring sizes would give a useful indication of the confidence that can be placed on the median.

Jean S
Posted Oct 8, 2009 at 8:58 AM | Permalink [#comment-197705] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197705#respond]

Re: **Hu McCulloch (#122)** [#comment-360520],

```
ts.plot
(robust.yamal$series,col="red",ylim=c
(0,3),xy.labels=TRUE)
title('"Robust"
Yamal')
```

Dave L
[http://none]
Posted Oct 8, 2009 at 9:30 AM | Permalink [#comment-197706] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197706#respond]

I understand Bender's criticism about trying to stay focused upon the issue. But what if there isn't sufficient data available to analyze properly the divergence? There is no data about yearly or seasonal precipitation which could vary widely per location, there is mixing of tree species (which respond differently to "climate" changes and perhaps non linearly), no correlations about tree height and tree diameter and population density for the living trees, etc. If the purpose is to only analyze the statistical methodology, that may led to misleading conclusions because the comparisons are being made between apples and oranges.
Now tell me I am way off base and I will be quiet.

Morgan
Posted Oct 8, 2009 at 9:46 AM | Permalink [#comment-197707] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197707#respond]

Re: **Dave L (#125)** [#comment-360529],

I don't think the admonition is to be quiet

about it, just to move it to the **Unthreaded n+?** [http://www.climateaudit.org/?p=7213] topic.

Good Captain
Posted Oct 8, 2009 at 10:05 AM | Permalink [#comment-197710] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197710#respond]

Re: **Dave L (#125)** [#comment-360529],

Whether right or wrong, I think the conversation has evolved in significant part to include speculation of non-temperature related factors affecting Briffa's findings. Per *Jens* and *S. Richards*, the question of whether Briffa's proxy (Yamal tree-ring study) properly and adequately serves as a valid indicator of Northern Hemisphere temperature change is properly at issue. *N. Stokes* indicates that

> "Proxies aren't perfect, but there's not much else".

This fact maximizes the importance that any proffered proxy be subject to heightened scrutiny of the study from top to bottom.

bender
Posted Oct 8, 2009 at 10:17 AM | Permalink [#comment-197711] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197711#respond]

Re: **Dave L (#125)** [#comment-360529]

Thanks for clarifying what you were getting at. In fact there AREN'T enough data to "analyze properly"

the divergence. So you can drop the "What if". The divergence between the Russian data and Schweingruber's is a serious problem. So it's not clear here what you are protesting. The divergence is there. It's a problem. What to do about it? Great question.

.

First, maybe it's something that should have been discussed more fully in IPCC 4AR? That there is this weird problem (not generic, but specifically regarding Yamal) whose consequences have not been studied that introduces large uncertainties in climate reconstructions. Second, canonical studies could do what mosher suggests: publish two recons – one with cherrypicking and one without. Let the policy guys decide how they want to cope with the uncertainty. Lots of things could be done if the issue isn't swept under the rug. Third, minimize potential conflicts of interest by disallowing chapter lead authors from squashing reviewer complaints when those complaints pertain to their work. Fourth: go get more data and try to solve the mystery. Once you know the cause, perhaps it's effects can be minimized through statistics or targeted sampling.

.

Briffa chose #4. Not a bad choice at all. But there are

other things that could be done as well. Does that help answer the question?

Jeff Id
Posted Oct 8, 2009 at 9:48 AM | Permalink [#comment-197709] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197709#respond]

I've done a post which looked at the poor fit of the standardization equation of Yamal based on the low quantity of older trees. I'm of the opinion that the data in this case is not what is creating the huge uptrend but rather a poor correction factor combined with the data

[http://noconsensus.wordpress.com]

bender
Posted Oct 8, 2009 at 10:27 AM | Permalink [#comment-197714] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197714#respond]

Re: **Jeff Id (#128)** [#comment-360536]

Can you quantify the relative contributions of each? How much attributable to raw data vs. how much attributable to treamtent?

Gordon
Posted Oct 8, 2009 at 10:36 AM | Permalink [#comment-197715] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197715#respond]

I usually just lurk here because I have only an elementary knowledge of statistics. However there is perhaps a difference between the statistical analysis that I know of and the "signal extraction" methodology of climatologist at say, Yamal. To test a coin for bias it could be spun ten times, the number of heads recorded, repeated one hundred times and the results fed into an appropriate statistical analysis engine, to test the null hypothesis that the coin is unbiased, against an

alternative hypothesis that it is biased in favour of tails.

However, it seems that if I was a dendro at Yamal looking to extract a "signal", those outcomes with eight or more heads would be excluded as being too noisy, or divergent,or even "in denial" whereas those with eight or more tails would be "signal rich" and given greater weights.

That the conclusion would be that the coin is biased in favour of tails is almost certain and that the procedure would be not so much a statistical experiment, but "an empirical verification of logical necessity" is hardly in doubt!

ATHiker

Posted Oct 8, 2009 at 10:45 AM | Permalink [#comment-360347] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197716#respond]

Re: **Gordon (#134)** [#comment-197716],

> However, it seems that if I was a dendro at Yamal looking to extract a "signal", those outcomes with eight or more heads would be excluded as being too noisy, or divergent,or even "in denial" whereas those with eight or more tails would be "signal rich" and given greater weights.

What if you could not make out that it was

heads or tails? how would you treat the eight?

(b. ok. Problem is with speech to text)

Dale S

Posted Oct 8, 2009 at 11:05 AM | Permalink [#comment-197718] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197718#respond]

Re: **AtHiker (#135)** [#comment-360549] ,

If you flip a coin ten times and can't tell whether it is a head or a tail eight of the times, you can't make any judgement about the bias of the coin from the remaining two tries.

You would have a good reason to question your methodology.

Good Captain

Posted Oct 8, 2009 at 11:32 AM | Permalink [#comment-197720] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197720#respond]

Re: **Gordon (#134)** [#comment-360547] ,

That the conclusion would be that the coin is biased in favour of tails is almost certain and that the procedure would be not so much a statistical experiment, but "an empirical verification of logical necessity"

> is hardly in doubt!

I believe I understand your point but I have less faith Briffa's study has sucessfully verified his proxy of tree-ring analysis to temperature *(I know this is inartfully said)*. His winnowing of the sample towards one end of the spectrum in search of **"signal rich"** samples appear to inadequately discount other potential factors that may explain his selected tree-ring data. Correlation studies attempt to isolate the study factors as best they can, but at the end of the day, most studies can only go so far.

I am an AGW skeptic but I acknowledge my understanding is far less than that of many paticipants on this thread and that my skepticism may be misplaced. That said, the recent series of posts by Mr. McIntyre begining 27 Sept have played to my skepticism. I am unaware of the steps or assumptions made by Briffa in this study to appropriately account for and to potentially exclude **positive** bias in the small sample on which his study is based. Stated differently, is his search for signal rich data (i.e., appropriately *temperature sensitive* trees) really stemming substantially or

even significantly from increased temperature?

Gordon

Posted Oct 8, 2009 at 11:11 AM | Permalink [#comment-197719] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197719#respond]

ATHiker

But the problem is that the assumption in favour of tails corresponds to the climo assumption that there **is** a temperature signal in the ring widths. What if there isn't? Even worse, what if there is a qualitative, but not quantitative signal, so that no conclusions can be drawn about the ratio of MWP temperatures to 21st century ones?

ATHiker

Posted Oct 8, 2009 at 11:35 AM | Permalink [#comment-197721] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197721#respond]

To put it another way. How is it statically different (in the error bars) would it be between (if Steve did a reconstruction?) Steve and Briffa? Because of the divergence Trees from (Briffa's letter) it would appear to increase Steve's error bars would increase more so over time so. This would be a good point to calculations of the error bar of Steve's and compare it over time with Briffa's(e. bars) would it not???

ATHiker

Posted Oct 8, 2009 at 11:44 AM | Permalink [#comment-197724] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197724#respond]

Re: **ATHiker (#140)** [#comment-360562],

Sorry fail to remove word error !!!

This would be a good point to calculate the error bars of Steve's methods vs. Briffa.

Morgan

Posted Oct 8, 2009 at 12:00 PM |

Permalink [#comment-197726] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=360565#respond]

Re: **ATHiker (#143)** [#comment-360565],

It sounds like you're suggesting that smaller error bars = less error = better estimate. Unfortunately, the problem isn't that simple.

bender
Posted Oct 8, 2009 at 12:06 PM |
Permalink [#comment-197728] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197728#respond]

Re: **ATHiker (#143)** [#comment-360565],

ATHiker, that is the point I made in the very first comment in the first thread two weeks ago. I did the calculation and sent the graph it to Steve. I don't want to post the R code because it isn't turnkey. But I will tell you this: there is no question of the divergence. And the plot also shows how unreliable Briffa's chronology is. You are right to suggest that Briffa should have done this himself 10 years ago. [Steve, did you check the "CENSORED" directory?]

a reader
Posted Oct 8, 2009 at 11:40 AM |

Permalink [#comment-197722] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197722#respond]

Novaya Zemlya appears to block a warm current (the North Cape Current) coming out of the Barents Sea from reaching the Yamal Peninsula, while there is a cold current which circles counter clockwise around the Kara Sea. Since Novaya Zemlya is an extension of the Urals, I expect it must have an effect on the weather reaching Yamal P.

Hu McCulloch | Posted Oct 8, 2009 at 12:00 PM | Permalink [#comment-197727] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197727#respond]

RE Morgan #123,

~~While it's true that~~ [W]ith an exponential growth model, all lopping 19 years off all tree chronologies does is change the coefficient by exp(C*19), leaving the residuals the same.

But the problem is that there is no reason to think that equal numbers of years are missing from each core. If one core is missing 1 year while another is missing 50, it could make a big difference.

Another source of missing rings would be if the center of the tree was rotten, as often happens. Does Briffa's file include such trees, or were these discarded for quality reasons?

Morgan | Posted Oct 8, 2009 at 12:28 PM | Permalink [#comment-197731] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197731#respond]

Re: **Hu McCulloch (#146)** [#comment-360971],

I thought the exponential was fit to each tree individually, in which case this one missing x and

that one missing y is no problem. No? Here I run into my own ignorance regarding the details of RCS – my post was based on that "individual fit" assumption. An assumption that seemed safe, because the method makes no sense to me otherwise. If I was wrong about that, consider my previous comment retracted.

BTW, was the exp(C* [years lopped off]) factor obvious to you at a glance, or did you do the math *de novo* to find it? Either way, I appreciate your spelling it out.

MikeN
Posted Oct 8, 2009 at 12:25 PM | Permalink [#comment-197730] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197730#respond]

Morgan, all you've shown is that a regression fit tends to approximate what you are fitting. But do your corrections have an impact on the final chronology numbers?

Morgan
Posted Oct 8, 2009 at 12:33 PM | Permalink [#comment-197735] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197735#respond]

Re: **MikeN (#149)** [#comment-360579],

Your point is clear to me. Apologies.

Hu McCulloch
Posted Oct 8, 2009 at 12:32 PM | Permalink [#comment-197734] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197734#respond]

RE Jean S #124, ATTiker #143, I'll retract what I said in #122 about the sample quartiles [http://www.econ.ohio-state.edu/jhm/jhm.html]

being a good indicator of median accuracy, since this depends heavily on sample size.

Exact confidence intervals for the true median of the Yamal data can easily be found using the binomial distribution with p = .5. The probability that the m -th largest value from a sample of size n is larger than the true median is equal to the probability that m-1 or fewer are less than the true median. This in turn is binocdf(m-1, n, .5) in Matlab. With n = 10 as for Yamal in 1990, this yields

>> [1:10; binocdf((1:10)-1, 10, .5)]

ans =

1.0000 2.0000 3.0000 4.0000 5.0000 6.0000 7.0000 8.0000 9.0000 10.0000
0.0010 0.0107 0.0547 0.1719 0.3770 0.6230 0.8281 0.9453 0.9893 0.9990

This probability is .025 somewhere between the 2nd and 3rd smallest observation, and .975 somewhere between the 8th and 9th largest. One can either interpolate somehow between these observations to obtain a 95% CI, or else just conservatively use the 2nd and 9th largest observations as the 95% confidence interval. Obviously Yamal has a serious small sample problem in 1990 etc. if its 95% CI extends down to its 2nd smallest observation!

With a more respectable sample size, the normal approximation is adequate. Then a 95% CI for the true median approximately covers fraction .5 +/- 1/sqrt(n) of the data. This gives (.4, .6) with n = 100, i.e. the 40th to

60th empirical percentiles of the data.

Of course, this is just the uncertainty surrounding the median of the observed proxy series, whatever it measures. The uncertainty of any derived temperature reconstruction would also have to take into account the uncertainty of the slope, intercept, and regression error.

Using the sample median and sample quantiles to form a CI mean that logs can be taken beforehand or afterwards, with exactly the same results, so there is no need to worry about geometric vs arithmetic means, etc. Also, taking logs of the occasional 0 ring width (YAD06 itself had one in 1883) would no longer be an issue, since unless a substantial number of trees simultaneously had "0" width, these would lie outside the CI.

(Since the Yamal data is only recorded to the nearest 0.1mm, I would interpret a "0" as 0.05mm or less, and just take the log of .05mm if necessary.)

RE Gordon #134, Dale S #137, these numbers show that 2 heads out of 10 flips would allow you to reject that the coin was fair (p = .5) with a 5% two -sided test size, though not quite with a 2% test size. The 2 -tailed p-value would be 2 (.0107) = .0214.

Dale S
Posted Oct 8, 2009 at 1:27 PM | Permalink [#comment-197741] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197741#respond]

Re: **Hu McCulloch (#153)** [#comment-

I was responding to ATHiker's #135 comment,

where the results of 8 of 10 tries were unknown. With only two remaining results, no matter what they were, I don't think you could reject the fair coin hypothesis.

How it relates to Yamal in ATHiker's mind I'm not so sure. To make a coin analogy fit, it seems you'd need a bunch of Siberian coins, flip them each ten times, then use the Yamal coin because it came up with 8/10 tails.

Jack Okie

Posted Oct 8, 2009 at 12:48 PM | Permalink [#comment-197738] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197738#respond]

Have been visiting here off and on for a couple of years. Many thanks to Steve, Yamal and the diligent commenters for airing out the "Climate Change" alarms. I last had statistics in high school, but I'm having trouble accepting any conclusions from a sample size of 17, much less 5 or 10. The discussion just seems to get more bizarre; I recently saw an ad on a website that said "Help Stop Climate Change". Don't know if it was satire or serious.

Re the Stradivarius issue. I have seen several articles pointing to the Little Ice Age as a factor. The latest introduces an additional factor:

http://dsc.discovery.com/news/2009/09/30/violin-fungus-wood-02.html [http://dsc.discovery.com/news/2009/09/30/violin-fungus-wood-02.html]

Artemus

Posted Oct 8, 2009 at 4:27 PM |

Re: [Jack Okie (#157)
Permalink [#comment-197658] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197658#respond]

Stradivarius violins **cannot be identified from modern instruments in controlled blind tests** [http://en.wikipedia.org/wiki/Stradivarius#Controv fungus treatment used on the modern instruments or not. It is folklore.

Curious
Posted Oct 8, 2009 at 1:10 PM |
Permalink [#comment-197739] |
Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197739#respond]

If Hantemirov and Briffa-CRU used the same raw data, shouldn't they show the same number of cores?:

http://www.climateaudit.org/wp-content/uploads/2009/09/count_briffa.gif [http://www.climateaudit.org/wp-content/uploads/2009/09/count_briffa.gif]
http://www.climateaudit.org/wp-content/uploads/2009/09/count_hantemirov.gif [http://www.climateaudit.org/wp-content/uploads/2009/09/count_hantemirov.gif]
*I'm not speculating, it's a sincere question, I'd be grateful if someone could answer.

Son of Mulder
Posted Oct 8, 2009 at 1:22 PM |
Permalink [#comment-197740] |
Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197740#respond]

If Wegman (or any other professor of Statistics) they'd be able to adjudicate this debate in 5 minutes.

curious
Posted Oct 8, 2009 at 1:28 PM |

Curious, could you add a prefix/suffix to your tag just to differentiate us? Thanks.

Permalink [#comment-197742] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197742#respond]

Person of Choler

Posted Oct 8, 2009 at 1:58 PM | Permalink [#comment-197744] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197744#respond]

Are there studies correlating actual measured local temperatures and tree ring sizes, while considering sensitivity to other important variables like sunlight, soil conditions, and rainfall?

If not, this whole discussion is meaningless.

Important, yes, because huge political decisions are based on these assumed correlations, but meaningless nonetheless.

Son of Mulder

Posted Oct 8, 2009 at 2:21 PM | Permalink [#comment-197747] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197747#respond]

Re: **Person of Choler (#163)** [#comment-360602] , “Are there studies correlating actual measured local temperatures and tree ring sizes, while considering sensitivity to other important variables like sunlight, soil conditions, and rainfall?”

And if there were, each of the variables would require a proxy extrapolation backwards (unless you had a time machine). Has that been done?

bender

Posted Oct 8, 2009 at 2:25 PM | Permalink [#comment-197748] | **Reply** [/2009/10/07/yamal-

Re: **Person of Choler (#163)** [#comment-

and-the-divergence-problem/?replytocom=197748#respond]

360602],

This is a generic question requiring a generic response. The specific response is that to my knowledge there have been no controlled experiments on larch growing under Yamal-like conditions to calibrate responses to Temp, Precip and interactions between. But if there are, they would be in the Russian literature or possibly even unpublished. So my lack of knowledge there means nothing.

.

The paucity of such studies on treeline conifers in general is, I think, why the dendros feel they are justified in giving themselves wide latitude to cherry-pick and report the correlations that please them. It's not the sort of novel experiment that is going to attract a lot of academic interest or funding.

.

Nevertheless I have come across a few cases of controlled experimentation that address this question – usually in the context of trying to explain fluctuations in treeline in response to climate change. I recall seeing one paper on white spruce in Canada. It was temperature, not moisture that they controlled. But, to answer your question squarely, to my knowledge I don't know of any factorial designs that calibrate the full response. I am more than happy to

be corrected by the experts, however. I saw "Craig Allen" comment here yesterday. If he is Dr. Craig Allen he may know much better than I what calibration data might exist.

.

It's a topic that has been discussed many times before here, more in the context of Calfornia pine. But it is just as relevant to Yamal larch.

.

Please discuss generic dendro issues in "unthreaded".

curious
Posted Oct 8, 2009 at 1:59 PM | Permalink [#comment-197745] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197745#respond]

Hu at 153 – sorry, I've not followed this closely, but is it a valid assumption that the distribution will be binomial? Isn't the binomial a distribution for independent events with binary outcomes? I'm not sure how this relates to tree ring widths from a geographically colocated sample which are not independent (accepting the proposal that they are responders according to some to-be-defined physical relationship to environmental factors including temp.) continuous variables? Or is the proposition that the test is whether the mean is correct or not and that is the binomial event? Sorry if I've got the wrong end of the stick – long time since I studied!

Hu McCulloch
[http://www.econ.ohio

-
state.edu/jhm/jhm.html]

Posted Oct 8, 2009 at 2:20 PM | Permalink [#comment-197746] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197746#respond]

RE curious #164 (not to be confused with Curiouser #158):
The advantage of the approach in #153 is that no matter what the distribution of TR widths is, the number that are below the median has a binomial distribution, provided only that they are independent draws from the same distribution.

Of course, if they were pre-screened for their correlation with temperature, they would not be independent. Or if some were from apple trees and others from orange trees, they would not be from the same distribution. But it doesn't matter how skewed or heavy-tailed the distribution is, as long as we have iid draws from it.

RE Son of Mulder #159, RomanM *is* a Professor of Statistics (retired), at U. New Brunswick.

[RomanM: I would suggest the renaming as Curious2 (a little play on words/numbers) 😉]

Son of Mulder

Posted Oct 9, 2009 at 1:49 AM | Permalink [#comment-197774] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197774#respond]

Re: **Hu McCulloch (#165)** [#comment-360604] "RE Son of Mulder #159, RomanM is a Professor of Statistics (retired), at U. New Brunswick."

So whichever curious proxy might like to answer this question

If there is a real temperature-tree ring

signal that is masked by other signals eg.water, CO2, sunlight, SO2 etc

1) Do we have a statistically significant way of assessing the temperature signal from tree rings over the last 100 years, and so have a good match to local thermometer readings? Thanks.

2) If the answer to 1) is yes, then what historical data (proxies) will be needed to enable the successful use of other local trees to act as statistically significant proxies for a historical local temperature reconstruction? And has that been done successfully for Yamal and all the other areas used in tree ring based temperature reconstructions?

3) In constructing the global historical average temperature have my questions 1) and 2) been addressed successfully for each sampled region where tree rings have been used?

4)Should I trust tree ring based historical global temperature reconstructions as reasonable if it should be that the answers to any of my questions is No? If so why?

I need these answers to stop going round and round in circles.

bender

Posted Oct 9, 2009 at 8:26 AM | Permalink [#comment-197783] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197783#respond]

Re: **Son of Mulder (#193)** [#comment-360677],

> Should I trust tree ring based historical global temperature reconstructions as reasonable if it should be that the answers to any of my questions is No? If so why?

For the moment I think you might want to trust all those that:
-do not make use of California bristlecone pines
-do not make use of Briffa's Yamal larch
-plot confidence intervals using a reasonably robust method (not MBH99)

I'm not a very trustful person, myself. However these criteria will filter out the least reliable.

Neil Fisher

Posted Oct 9, 2009 at 10:07 PM |

Permalink [#comment-360770] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=360770#respond]

Re: **Son of Mulder (#194)** [#comment-360677], if I might add:
Has anyone developed a methodology that enables one to select, a priori, which trees respond well to temperature? And if so, how reliable is it?

Posted Oct 10, 2009 at 5:41 AM | Permalink [#comment-197802] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197802#respond]

Son of Mulder

Re: **Neil Fisher (#220)** [#comment-360788],
"Has anyone developed a methodology that enables one to select, a priori, which trees respond well to temperature? And if so, how reliable is it?"

And by extension so identifying the trees that don't respond to changes in CO2, SO2, sunlight, water etc

That should narrow the field (or the forest).

Cold Lynx

Posted Oct 8, 2009 at 2:37 PM | Permalink [#comment-197749] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197749#respond]

My original reply have been stuck in moderation for half a day, it is probably something with the links that is not working.
BUT:
The divergence problem seems not to bee the tree side.
Use the first figure Briffa et al. 1998. AND figure from Espen (#58)

Tree rings seems to follow this temperature data provided by Espen but not the temp data Briffa used.
I am not convinced the divergence problem is a tree ring witdh or tree ring density problem.
It might end up in a CRU gridded temperature problem.

It is maybe the gridded temperature that have the divergence problem.
If Briffa used the gridded temperatures instead of real temperatures do we now have proof of that the gridded temperature are rigged temperatures.
If the tree ring is plotted against the measured local raw data is there hardly any divergence at all.
Seem to be a divergence to the temperature data that Briffa used. That is probably a CRU gridded data.
Conclusion. The divergense problem is about CRU gridded temperatures. And now we have some proof about this.

Such a lovely story if the gridded CRU temperatures are

proved to be wrong by a CRU employee.

curious Posted Oct 8, 2009 at 2:42 PM | Permalink [#comment-197750] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197750#respond]

Thanks Hu – understood! Response (and proposed naming convention) appreciated 😉

MikeN Posted Oct 8, 2009 at 2:47 PM | Permalink [#comment-197751] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197751#respond]

Morgan, I thought your functions were different. They actually are the same.
A+exp(-.693-.03*age)
A+exp(-1.262-.03*age)
A difference of -.57, so an age of 19.

That eliminates my objection.

AJStrata [http://www.strata-sphere.com]

ATHiker Posted Oct 8, 2009 at 3:27 PM | Permalink [#comment-197752] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197752#respond]

I agree with you. If trees diverge in terms of known modern temperatures, throw them out – they are clearly no good as tree-mometers. It proves they cannot even track the current temperaure record, let alone be a bridge to the past. It also means they cannot be calibrated to distill out a temp record.

It seems Briff was just lucky at selecting so many of these outliers. Truth is, a lager sample, which had a lot of tree-mometers that did not diverge during modern times, would simply overwhelm those few broken tree-mometers. That seems to be what happens

when you look at the larger record. And that record shows no unusual warming.

You don't have to know 'why' the tree-mometer is broken, just that it cannot measure temperature changes or that it reads backwards.

Bender is being a bit obtuse, and seems 'unbending' in his belief you can't find and throw out bad data. Happens all the time. Bad sensor, bad data, into the bit bucket.

BTW, to tray and answer your original question I did not find any absolute acidic numbers but I did find some overall numbers that hint your hunch may have been a good one. It definitely deserved more than a sniffy rejection.

It turns out that Russian trees do show an increasing **growth problem with acid rain** [http://www.livescience.com/environment/050314_aci
I assume they have shown ever weaker growth through smaller rings, more dense rings.

What this means is acid rain probably completely obliterate the temperature signal in trees for the last 100 years as the industrial age took off. Which means these tree ring proxies are basically useless. If the industrial revolution obliterated the link to modern temperatures (and therefore the bridge to ancient temps) then the whole lot should be tossed as broken proxies.

Additionally, the efforts to reverse acid rain **have actually been quite successful** [http://en.wikipedia.org/wiki/Acid_rain#History_of_aci

So much so that we are be seeing, since 1990 in US at least, enormous reductions in SO2 emissions. One would suspect the tree rings would correspondingly bounce back over this period of reducing acid rain strength. That 'bounce back' would have little to nothing to do with temperature of course.

I also found this interesting [http://www.junkscience.com/news/tree-rings.html] :

> On average, tree ring widths have been getting wider (and the global climate warmer) since the mid-1800s, before significant accumulation of greenhouse gases.
>
> Tree ring widths peaked in the 1960s, indicating no increased growth (and no increased global warming) since then.

The problem I have with this whole mess is people (including PhDs) see things so linearly when the world is much more Fourrier. In that I mean there is one driver (function) dominating over one range of parameters (integral), and another driver (function) replaces it over the range. Nature is much more like this – and biology definitely is if you look at how hormones and other governing chemicals can shift the entire physiological direction at various levels of the hormone, as systems are triggered in and out.

If I had to speculate on the fact that tree rings were getting wider since the Earth was coming out of the last cool spell, I would suggest the warmer temperature (and RESULTING higher CO2) would obviously increase the spring wood production. But the peak in the 1960's, which fell since, would seem to indicate to me that maybe something else took over.

It seems logical that, as the industrial revolution spread across the Earth and humanity pumped all sorts of chemicals and particles into the air that the Earth's natural 'scrubbers' began to saturate and the SO2 levels got to a point they offset the warming temps and rising CO2. It is not unreasonable to see the increasing acid rain over running the biological response to warmer temps.

If Bender needs reasonable a scenario that fits ALL the data (not those crazy outliers) this is as good as any. And I left it open to be proven in the tree ring record from 1990-present day. I have not looked to see if there is a pattern that would support the theory.

If we see a recent bounce back in spring wood thickness in these trees that are in regions where slight changes in conditions (like acid rain) can have major impacts on growth (more so than in lower latitudes with more rain, sun, warmth, nutrients – all the things a tree needs to fight off mild acid rain poisoning) then I would claim:

The expansion of the industrial revolution obliterated the

temperature signal in the tree ring data around 1960, making any correlations between rings and temps with data after that time period completely bogus and useless.

This of course is completely independent of throwing out broken tree-mometers which cannot even detect temperature changes in the last 50 years. The theory acid rain broke them is just that, a theory. Being a broken tree-mometer is not a theory but a fact that can be shown in the divergence.

AJStrata

Dave Dardinger
Posted Oct 8, 2009 at 3:43 PM | Permalink [#comment-197753] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197753#respond]

Re: **AJStrata (#170)** [#comment-360616]

> If trees diverge in terms of known modern temperatures, throw them out – they are clearly no good as tree-mometers.

Bender's right. You're wrong. A tree is not a thermometer for one thing. You can't find prehistoric glass/mercury thermometers you can use as "proxies" for another thing. Thermometers are fine in the instrumental period (though some of the things done to the thermometer readings are not). But since trees have to be calibrated with thermometers, you have to use good statistical

methods and simply throwing out trees with wrong readings is not a good statistical method. Until you understand why that is the case, everything else you say is worthless.

steven mosher
Posted Oct 8, 2009 at 4:23 PM | Permalink [#comment-197757] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197757#respond]

Re: **Dave Dardinger (#171)** [#comment-360617] , thanks dave. the divergence problem goes to the heart of calculating CIs. Suppose that we resample the divergers 10 years from now and find that they have re converged.
then what? keep them? toss them? by including all the trees we get the most conservative (and correct in my mind) CI.
the bottom line is that good science will tell us one thing. we can't re construct past temp with a lot of confidence. in my mind that has only tangential import on the agw debate and does nothing to blunt the fundamentals of radiative physics.

bender
Posted Oct 8, 2009 at 4:42 PM | Permalink [#comment-197759] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197759#respond]

Re: **Dave Dardinger (#171)** [#comment-360617]

> A paper by Wilmking et al (2004) cited in unthreaded would have you throwing out 1/3 as negative responders and 1/3 as no-responders. Only 1/3 "respond positively" to temperature. Does this sound like a coin flip to you, Dave?

DaveJR
Posted Oct 8, 2009 at 3:44 PM | Permalink [#comment-197754] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197754#respond]

Re: **AJStrata (#170)** [#comment-360016],

> Truth is, a lager sample, which had a lot of tree-mometers that did not diverge during modern times, would simply overwhelm those few broken tree-mometers. That seems to be what happens when you look at the larger record. And that record shows no unusual warming.

How do you determine which "bad" trees to throw out from the pre-modern data samples which cannot be calibrated to temperature?

.

Maybe what is actually happening in the larger record is that the signal from the "good" trees is being overwhelmed by the

signal from "bad" trees, whilst in the present, the "bad" trees have been removed, suddenly revealing a signal from only "good" trees.

Geoff Sherrington
Posted Oct 8, 2009 at 6:25 PM | Permalink [#comment-197767] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197767#respond]

Re: AJStrata (#171) [#comment-360616]

Re acid rain,

Presuming reasonably that SO2 is the main component, we are facing another "U" shaped response. If S was a limiting nutrient, increasing acid rain would increase growth. After a point, increasing acid rain would reduce leaf functions and reduce growth.

Then as a minor(?) side issue, the uptake availability of a number of other nutrients would be affected by the pH, in ways that take quite large factorial control experiments to understand – and which tend to be specific to the study.
……..

There is a further underdiscussed possibility. The properties of tree rings in general might alter to seek an optimum while all around them is changing. After all, some mechanism limits plant species to certain size ranges, from tiny plants like the much-studied Arabidopsis to huge forest

trees. You can make them only so large under optimum conditions, implying a feedback that limits growth. Auxins are one group that have been implicated. How do we know if auxins are temperature levellers or temperature enhancers in the tree ring record? e.g. see **http://jxb.oxfordjournals.org/cgi/content/full/58** [http://jxb.oxfordjournals.org/cgi/content/full/58/5

suspicious
Posted Oct 8, 2009 at 3:51 PM | Permalink [#comment-197755] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197755#respond]

I find this whole AGW debate is getting more and more interesting. I like to know how come various places around the world are commenting on record low temperatures (eg, ski resorts opening earlier than usual, cool summers, colder winters, etc.). If the Yamal studies says we had record high temperatures in the 20th century based on a relatively small number of trees in a relatively small area compared to the rest of the world, why can't one come the opposite conclusion and say we are now experiencing much colder temperatures? After all, which would one trust more? Trees as thermometers or real thermometers? I know there has been disputes about the urban island effects but they can't all be wrong. Besides, people's memory of the trend in the weather is probably a better measure of long term temperature patterns than trees. Also, NASA keeps telling us the we are having record high temperatures. Something is starting to smell in NASA. It

will be interesting if the prediction by some that we will have a cooling period over the next decade or so becomes true, yet NASA continues to keep telling us we are having record high temperatures, or at least fails to agree with the real world experiences. If that happens then it will seal my suspicions about them. Time will tell. Perhaps Steve should do a divergence analysis on them as well.

ATHiker
Posted Oct 9, 2009 at 6:57 AM | Permalink [#comment-197779] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197779#respond]

Re: **suspicious (#174)** [#comment-360619],
You do know that there is no forecast for cooling!!!
Over the next decade or two.

Thanks about the SO2 data (others), but we are back to the same point.
Now how do we proceed?
In other words let's start moving on now. We could keep the trees, do some with some, and do one without.
Now what?

John F. Hultquist
Posted Oct 8, 2009 at 4:18 PM | Permalink [#comment-197756] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197756#respond]

Ferdinand Engelbeen provided translations in an earlier comment (#29).
I'm unsure of 197756#.

"Greatest influence on the growth of annual rings of larch provided the air temperature in the period from 16 June to 30 July.
The correlation coefficient between the indices of the width

of annual rings and average temperature during this period is 0.71, the proportion of explainable dispersion of 58.1%."

I've questions.
One: Is "explainable dispersion" the same as or similar to the coefficient of determination, R2, namely the proportion of variability in a data set that is accounted for by the statistical model? If not, what is it?

Two: In this case it appears, R2 will be 50.4%, so I assume something is going on here I am unaware of.

Three: Assuming the 58.1% "explainable dispersion" is correct in this matter that I don't know about – is this considered poor, good, or great?

I didn't find an explanation of explainable dispersion on the web.

EW

Posted Oct 9, 2009 at 8:54 AM | Permalink: [#comment-197784] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197784#respond]

Re: **John F. Hultquist (#175)** [#comment-360621],
Ad **explainable dispersion**:
In the original it says доля объяснимой дисперсии. I did some searching in Russian and **дисперсия** means definitely *variance*. The word доля means something like part or percentage (of total). So it most probably refers to an analysis of variance, maybe the part of the overall tree-ring variance (58,1%) attributed to summer temp.

Henry
Posted Oct 9, 2009 at 4:31 PM | Permalink [#comment-197795] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197795#respond]

Re: **EW (#203)** [#comment-360713] доля объяснимой дисперсии seems to mean "share of explained variance" at least in the context of eigenvalues in discriminant analysis.

bender
Posted Oct 9, 2009 at 9:02 AM | Permalink [#comment-197785] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197785#respond]

Re: **John F. Hultquist (#175)** [#comment-360621] R2 = 58% explained variation would be considered very good.

AJStrata [http://www.strata-sphere.com]
Posted Oct 8, 2009 at 4:42 PM | Permalink [#comment-197760] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197760#respond]

Bender #57 [http://www.climateaudit.org/?p=7320#comment-360374]:
you rightly noted:

> For chrissakes. You don't know which of thew two groups is anomlaous. All you know is that you have two populations that diverge from each other (actually there is everything in between as well). Your assumption that the "positive 'responders'"

> are not the anomaly is nothing more than that: an assumption.

Which is the same as saying you have no way of deriving a temperature signal from tree rings. But I think the point YOU miss is, if Briffa, Mann, et al can rationalize selecting data that proves their fantasies, then the reverse is true. The fact is what Steve has done is destroy the tree-mometer as an scientifically valid (let alone precise) instrument.

It never was an instrument of any value. Any more than the ground based real thermometers that everyone uses with questionable precision, siting, calibration are actually more accurate than a long lived satellite instrument. There is no comparison between a network of haphazard ground sensors being stitched together through phantom statistics when compared to a single source making global measurements.

It's like comparing a butter knife to a scalpel – which one do you want to have surgery with?

ATHiker has a valid point in claiming at leas equivocation in terms of what data to include and not include. the But in my mind it is nothing more than debating the brand of butter knife you select for surgery.

bender

Posted Oct 8, 2009 at 4:47 PM |

Re: [#comment-197762] | **Reply** I dissent nothing.

bender Posted Oct 8, 2009 at 4:47 PM | Permalink [#comment-197761] | **Reply**

> Don't take my word for it. Listen to a real live consensus of three dendros: "Without accounting for these processes and temperature thresholds, climate reconstructions based on ring width will miscalibrate past climate, and biogeochemical and dynamic vegetation models will overestimate carbon uptake and treeline advance under future warming scenarios."

bender Posted Oct 8, 2009 at 4:49 PM | Permalink [#comment-197763] | **Reply**

> It's like comparing a butter knife to a scalpel - which one do you want to have surgery with?

Always trying to force the debate using absurd analogies. I think I'll take the homeopath, thanks, if you're the surgeon.

AJStrata [http://www.strata-sphere.com]

DaveJR, Posted Oct 8, 2009 at 5:04 PM | Permalink [#comment-197764] | **Reply**

I can't be wrong. [http://www.climateaudit.org/?p=7320#comment-360618]

I said the same thing - just in a different way.

I don't think trees are thermometers. But I do think ATHiker was onto something important. If you DO believe trees can measure temperature then you have to look at what could effect the tree-ometers readings.

BTW, statistics cannot prove the connection, they can only detect a possible correlation – they are not transfer functions which take in ring width and spit out temps in C. Only a proven, measurable, repeatable mechanism that maps ring width to degrees C can prove trees can be thermometers.

Statistically the more sun you experience the more likely you are to die. It is not the sun that is killing you, it's actually the days you are alive running your odds of seeing another day down.

Don't over sell statistics – the field has a lot of power, but it has to be anchored in a sound physical or biological concept.

Anyway, what ATHiker touched on was a intriguing and measurable mechanism that could wipe out the temperature record in tree rings – acid rain. Bender was too quick to dismiss this point.

Play along on this thought experiment: Assume tree rings can be a sensor for at least relative temperature shifts. There are obvious conditions that would override this 'signal'. Things like drought, disease, etc. These other signals simply overwhelm the temp signal. There is no doubt this is a fact.

Now, we have good temperature records (relatively speaking) for the last 100 years, just as the industrial revolution took off and the SO2 emissions into the atmosphere spread the acid across the world's forests. It is no doubt this peaked in 1990 and began to be reduced (at least here in North America). This is established.

You now have three concurrent data sets to analyze against a physical process (not just some vague 'correlation'). If you run the tree ring data against the temperature data against the rising SO2 levels (which later decreased in North America) you may find that the SO2 completely overwhelmed the weaker temp signal in these mythical tree-ometers.

SO2 has been shown to impact the rings, no need to prove that. What will probably be discovered is the GLOBALLY tree rings in the last 100 years were driven not by temp alone. Maybe initially, but later the SO2 took over and wiped out the temp record.

If that can be shown, then you have PROVEN that trees are lousy thermometers and all these larches and bristol cones get thrown out of the UN/IPCC's data. They should have been anyway, but now you have a real, measurable process (which need statistics to show a stronger correlation between rings and SO2 than rings and temp).

You throw all these tree rings out by showing how the success in saving the planet from acid

rain worked to clean the air, but also made it impossible for Mann, et al to define the MWP down or the current temperature up.

A little green jujitsu.

bender
Posted Oct 8, 2009 at 8:03 PM | Permalink [#comment-197771] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197771#respond]

Re: **AJStrata (#183)** [#comment-360632]
dendrorumination
destination unthreaded

AJStrata
Posted Oct 8, 2009 at 5:11 PM | Permalink [#comment-197765] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197765#respond]

DaveJR,

Good question, [http://www.climateaudit.org/?p=7320#comment-360618] simple answer. If you have a reference (i.e, a modern temp record) and the tree ring core is not following the temp record, you know you have a busted thermometer.

It's like testing any sensor, if it fails to 'sense' it's bad. You don't even need to know why it failed. Some trees are in conditions where other factors are drowning out any temperature (illness, shade, sudden sun, etc).

The OTHER way to do this is to assume the population as a whole can detect temperature variations. This assumes the one or two broken ones will be averaged out in the end (some not getting any signal, some hypersensitive, etc). The if the bad apples are a sufficiently small portion of the total

population, larger samples will remove these 'bad apples'. I am not saying this is better. But what you don't ever want to do is to use a small sample with lots of broken tree-mometers and call it gospel!

curious
Posted Oct 8, 2009 at 6:36 PM | Permalink [#comment-197768] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197768#respond]

Geoff – you seem to know your stuff. Have you seen bender's flagged paper on unthreaded by Wilmking et al? Any thoughts? (Maybe best on unthreaded)

Geoff Sherrington
Posted Oct 9, 2009 at 4:44 AM | Permalink [#comment-197775] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197775#respond]

Re: **curious (#197)** [#comment-360650]

Background – I was in the parent company of one of Australia's largest timber/paper/pulp companies and received monthly management briefings. Also, in the 1960-70s I worked in or owned labs researching diverse plant growth responses to nutrients full-time. However, these were for Australian conditions and I have no hands-on with sub-Arctic species. There is enough climate variation within Australia as it is.

The most clarification I can offer here is to repeat **http://www.climateaudit.org/?p=6910** [http://www.climateaudit.org/?p=6910]

This sums up the way I see the multiplicity of problems. The abstract of the paper by Wilmking

referenced by bender says nothing too much in conflict. The U curves lurk in about every paper I have read.

It is almost a common sense assumption that trees from one species will grow faster in warmer regimes. Surprisingly, this assumption has been little tested but that has not stopped the advance of dendrothermometry. At my present stage of thought, there are too many confounding variables that cannot be measured well enough to allow any robust conclusions about dendrothermometry. The papers I have read do not cope well with such variables. Near their fore is the local temperature measurements. I simply do not trust GISS or CRU and I supporting evidence as to why it is unwise to rely on them for some purposes.

How many people have seen a simple graph relating tree ring properties to local temperatures, all other likely factors held constant? It's almost as big a problem as Steve's quest for an engineering quality paper on the effects of GHG on radiative balance.

Whistleblower
Posted Oct 8, 2009 at 6:41 PM | Permalink [#comment-197769] | **Reply**
Steve, you are a bloody legend. I'm going to nominate

you for the Nobel Peace Prize next year.

Need to get you over to Australia for a tour.

Aussie.

curious
Posted Oct 8, 2009 at 7:24 PM | Permalink [#comment-197770] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197770#respond]

Roman M upthread - quite liked it but "curious and Curiouser" has a certain ring and relevance I thought. Also given the Capitalisation I thought "ICurious" might work as another take on word/"Roman numeral"/identity play….time for bed! 😀

AJStrata
Posted Oct 9, 2009 at 6:21 AM | Permalink [#comment-197776] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197776#respond]

[http://www.strata-sphere.com]

Bender,

You do know some of us cannot access the unthreaded comments since accounts are closed (that would be in the 'you missed something' category).

Why move my last comment after all the other ones were here? Was it really so far off topic?

I wonder why I waste my time with people who literally, cannot see the globe for the trees.

Cheers, All!

MrPete
Posted Oct 9, 2009 at 6:48 AM | Permalink [#comment-197778] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197778#respond]

Re: [**AJStrata (#195)**](#comment-360687)

I'm confused. All comments, threads here are public, including "unthreaded"

threads.
Nobody has to login or have an account to post a comment.
The only purpose of accounts here is for those who post a new article or help administer the system.

So: what are you having trouble with?

If you can't find a thread through the top line links or the most-recent links on the right, then look for a category on the left ("unthreaded" is in there). If you can't find it that way, use the CA search function.

Does that help?

Mike B Posted Oct 9, 2009 at 7:27 AM | Permalink [#comment-197780] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197780#respond]

Re: **MrPete (#197)** [#comment-360690], Pete I think AJ may be confusing unthreaded (which doesn't require and account) with the message board (which does).

AJStrata [http://www.strata-sphere.com] Posted Oct 9, 2009 at 6:28 AM | Permalink [#comment-197777] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197777#respond]

Geoff

Re: Geoff 186 [http://www.climateaudit.org/?

p=7320#comment-360648] ,

Agreed, SO2 could have been a growth enhancer throughout the early industrial revolution period, hitting toxic levels sometime in the latter half of the century and lowering growth.

That would explain a surge and then drop off in tree growth. Sadly, with all these successes in removing SO2 emissions we could see the trees rebound again – which would then be a false signal of global warming!

jae

Posted Oct 9, 2009 at 9:40 AM | Permalink [#comment-197789] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197789#respond]

Re: **AJStrata (#196)** [#comment-360688] ,

I'm sure this has been pointed out here before, but maybe it's worth repeating. It is possible and maybe even plausible that, because of the inverted quadratic(upside-down U-shaped) relationship between growth rate and temperature in trees, the "divergence" could actually be a sign of INCREASING TEMPERATURES. If so, how ironic this would be!

SteveF

Posted Oct 9, 2009 at 9:16 AM | Permalink [#comment-197786] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197786#respond]

ATHiker,

Now what?

After reading over the thread, it looks to me like the issue of divergence/selection at Yamal places an enormous burden on Briffa (and perhaps others

involved in dendro work) to offer a compelling rational (along with supporting data) for the selection criteria used for modern trees, and even more importantly, an explanation for why those same criteria need not be applied to trees from the pre-instrument record.

.

I am no dendro, but everything I have ever seen in science and engineering screams that the Briffa 2000 Yamal paper is incredibly weak; indefensible really. I wonder how such a dubious analysis could ever get published in a reviewed journal without the above mentioned rational for selection and supporting data. That this weak paper becomes highly sited in the field and relied upon in many subsequent climate reconstructions begs belief.

bender

Posted Oct 9, 2009 at 9:18 AM | Permalink [#comment-197787] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197787#respond]

Anyone else here think that the divergence shown in the opening post looks like an investment guru's nightmare? He gets lucky with his picks at the start of his career, fools himself into thinking he has skill, scratches his head over some puzzling losses during the "divergence" phase, goes broke, and eventually goes off the deep end when he realizes what a fool he's been all those years – believing in "positive responders", convincing others to buy in, until everyone's broke.

jae

Posted Oct 9, 2009 at 9:35 AM | Permalink [#comment-197788] | **Reply** [/2009/10/07/yamal-

Re: **bender (#206)** [#comment-360719]

Hell, I edit it

frost

Posted Oct 9, 2009 at 9:35 PM | Permalink [#comment-197799] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197799#respond]

Re: **bender (#207)** [#comment-360719],

> puzzling losses during the "divergence" phase, goes broke, and eventually goes off the deep end

In real life, he starts a Ponzi scheme. What would the dendroclimatology analog of a Ponzi scheme be?

Patrick M.

Posted Oct 9, 2009 at 9:41 AM | Permalink [#comment-197790] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197790#respond]

Layman question:

Are these **local** tree ring "signals" being thrown out based on **global** temperature records or based on matching **local** temperature records?

I mean if a tree actually does for some reason work as a temperature proxy but the local temperature diverges from the global temp, would that correctly functioning treemometer get thrown out?

Carl G

Posted Oct 9, 2009 at 11:02 AM | Permalink [#comment-197791] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197791#respond]

#206: That has been this outsider's almost obvious conclusion since I heard of the "divergence problem" two years ago. It's a laughable concept to assume that models failing to

validate is the result of anything other than a poor model (although other reasons could be at play, the first best assumption should be model failure). I don't get why people don't get it.

bender
Posted Oct 9, 2009 at 11:17 AM | Permalink | **Reply**

Re: **Carl G (#210)** [#comment-360739],
There are tidbits of supporting data that help keep the treemometer faith strong. See the Danby study I cite in unthreaded.

JFD
Posted Oct 9, 2009 at 2:58 PM | Permalink | **Reply**

Below is a URL for a 2007 thesis study (2009 Update) on Fir (cousins of Larch) stands in Oregon that concludes there is a strong correlation between tree ring growth width and rainfall. Firs are in the same family as Larches. Three stands (young mature and old growth) were studied. The best correlation was in rainfall in the start of growth in June and rainfall in October which was the end of the growing season. Young trees had a negative correlation to rainfall. Recorded rainfall and temperature records were available for the study period.

Go to:
https://scholarsbank.uoregon.edu/xmlui/handle/179
show=full
[https://scholarsbank.uoregon.edu/xmlui/handle/1794/
show=full]

Eastern Oregon is not a cold climate but the study does show that available moisture is more important than temperature for conifers growing in a high

rainfall but relatively low sunlight area. Given the low rainfall in Siberia, available water would also seem be to an important driving force for larches that would have to be accounted for in any Siberian tree ring correlation.

bender
Posted Oct 9, 2009 at 5:47 PM | Permalink [#comment-197797] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197797#respond]

Re: **JFD (#213)** [#comment-360761],

That fir and larch are in the same family says absolutely nothing about their likely responses to different factors or what factors might be limiting.

MrPete
Posted Oct 12, 2009 at 6:20 AM | Permalink [#comment-197806] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197806#respond]

Re: **bender (#218)** [#comment-360779],

That may be true, bender.

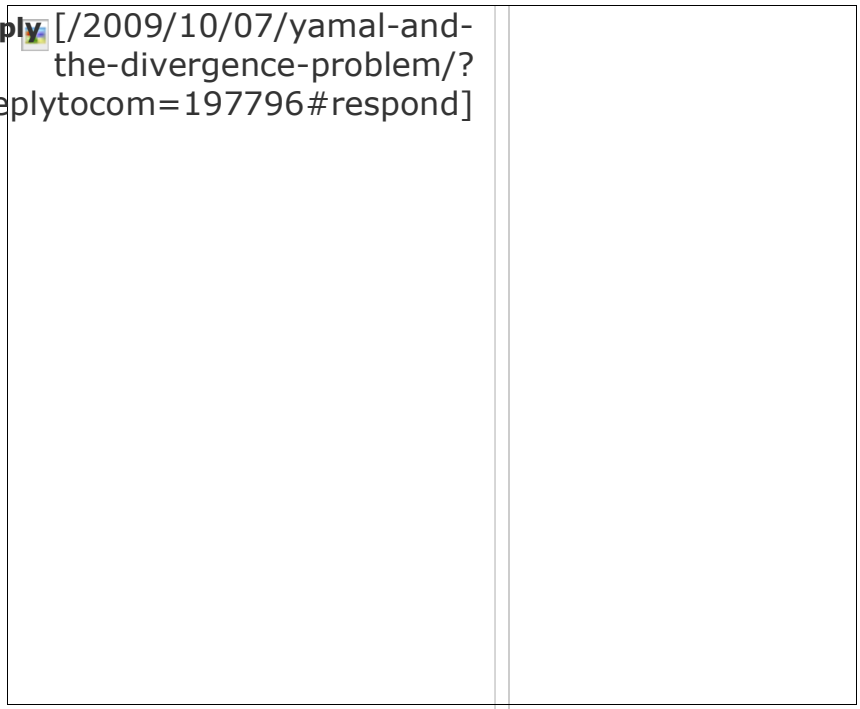
However, isn't it interesting how this study seems to call into question some pretty basic assumptions? I.e., here they show that rainfall can be a limiting factor even though there's plenty of rain.

Oh well, no time to look into this. Life calls this week…

Hans Erren [http://home.casema.nl/errenwijlens/co2/howmuch.ht

Posted Oct 9, 2009 at 4:32 PM | Permalink [#comment-197796] |

Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197796#respond]



Aaron

Posted Oct 9, 2009 at 7:43 PM | Permalink [#comment-197798] |

Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197798#respond]

Steve McIntyre,

Hang in there. Your motives are pure. The truth is truth no matter what the outcome of your tireless efforts in regard to ancient tree growth and how best to handle the ring data. As I pointed out to Real Climate, you are simply trying to give climate science a gift, the gift of absolute scrutiny and rigor. Why are they so angry? Only the "Know It All's" who can't stand a little bright light yelp the loudest. They should be thankful you've got the brains and desire to ask a few fundamental questions about this erudite field of paleo-dendro-climatology and more importantly, application of the very best statistical approaches to tease out fact from fiction. After all, these tree ring data climate reconstructions are the pillars AGW. Let's be certain we've got the columns properly

plumbed before piling on a whole lot more intellectual weight. Gravity and Nature have a nasty habit of exposing the weaknesses of any man made structure, be it brick and mortar or ideas and laws.

snip – prohibited word

Please understand there are many educated people who find your efforts both refreshing and courageous. I want to express my gratitude and admiration for your tenacity and admirable conduct in this matter with Briffa. Hang in there. Not to mention, it is terribly entertaining, much more so than Dancing with the Stars.

Gordon
Posted Oct 10, 2009 at 2:54 AM | Permalink [#comment-197801] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197801#respond]

Emmanuel Le Roy Ladurie is a French historian who has written about the medieval climate. I found this interesting.
http://www.asmp.fr/travaux/communications/2005/ [http://www.asmp.fr/travaux/communications/2005/la

steven mosher
Posted Oct 12, 2009 at 1:12 AM | Permalink [#comment-197803] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197803#respond]

In case people are interested

(1) Only TR data that express a robust non-biased estimate of local/regional temperatures should be used. The degree of coherence of a particular record with NH temperatures, so long as it correlates robustly with local temperatures, is only of minimal importance so long as proxy replication is high.

(2) The "divergence problem" needs to be addressed and explored at the local/regional

> scale. For those TR records where the divergence effect can be attributed to anthropogenic influences (i.e. related to pollution or dimming etc.) the data can be truncated at the point where divergence starts, and the rest of the data used [see Wilson and Elling 2004]. Alternatively if these effects are seen to be the result of detrending 'end effects' [Melvin 2004, K. Briffa and T. Melvin, Climatic Research Unit, pers. comm., 2006], correction can be made using improved detrending techniques. With respect to temporally unstable relationships, palaeoclimatology must ultimately rely on James Hutton's principle of uniformitarianism whereby relationships between proxies and their targets, drawn during the calibration interval, are assumed to remain relatively stable over time. Therefore, for those TR chronologies which express a significant response change with climate (e.g. a weakening in temperature response due to an increase in moisture stress), these series should be used with caution (or in some cases not at all) for such large-scale reconstructions of past temperatures since it is not possible to quantify whether such non-linear response changes have also occurred in the past, unless it is presumed that such a non-linear response is unique to the recent anthropogenic period.
>
> (3) Currently, most NH temperature reconstructions target the annual season despite the individual proxies generally portraying a summer signal at local scales. Although it has been argued that trees

> from selected treeline sites may integrate climate conditions during non-growing season months [Jacoby and D'Arrigo 1989; Payette et al. 1996; Frank and Esper 2005], this tendency may also be partly related to a better empirical 'fit' between the proxy and instrumental annual data prior to 1880 – a period where the quality of large-scale hemispheric instrumental data can be questioned. Calibration trials using WNH2007 against ENH temperatures (Figure 5, Table 4), excluding the pre-1880 period, show similar results for both the annual and summer seasons. Therefore, more detailed explorative work assessing the quality of instrumental series prior to the 1880s is needed before a balanced decision can be made on which is the optimal target seasonal parameter for reconstruction. Further calibration trials (Figure 8), but utilizing a mean of the gridded temperature series used for calibration of the individual TR proxy series, strongly suggest that ENH summer temperatures would be the optimal large-scale target instrumental predictand season.
>
> (4) The research of Wilson and Luckman [2003], and the simple analyses made in this study suggest that optimal calibration, with regards to tracking recent temperature trends using TR data, can be gained by targeting maximum rather than mean temperatures. To test this hypothesis, however, more explorative work on tree-ring growth/temperature relationships is needed in

regions where there is a significant difference in trend between nighttime and daytime temperatures [e.g. Youngblut and Luckman, in press; Büntgen et al. in revision]. If indeed a predominant optimal tree response is found with maximum temperatures at temperature limiting locations (i.e. altitudinal and latitudinal tree-lines), this would have major implications for dendroclimatology that must be addressed in the ongoing discussion of late 20th/early 21st-century changes in tree-ring/climate relationships.

(5) Finally, not only are much more data needed in the early pre-1400 period [Cook et al. 2004, NRC 2006; D'Arrigo et al. 2006] to increase replication and therefore improve large-scale reconstruction confidence during these earlier periods, but existing data-sets also need to be updated to present, as well as incorporating new data-sets, to allow more robust comparison with the instrumental record over recent decades.

steven mosher

sorry a link

Posted Oct 12, 2009 at 1:13 AM | Permalink [#comment-197804] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197804#respond]

http://ralph.swan.ac.uk/millennium/Millennium12a2.h

[http://ralph.swan.ac.uk/millennium/Millennium12a2.h

bender

Re: **steven mosher (#225)** [#comment-361063],

Posted Oct 12, 2009 at 2:52 AM | Permalink [#comment-197805] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197805#respond]

for those TR chronologies

which express a significant response change with climate (e.g. a weakening in temperature response due to an increase in moisture stress), these series should be used with caution (or in some cases not at all)

Esper's principle, still in play.

steven mosher

Posted Oct 12, 2009 at 11:42 AM | Permalink [#comment-361068] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=19780 7#respond]

Re: **bender (#226)** [#comment-197807] That's cause esper co wrote it with Wilson. I just spent some time reviewing the millenium project. I'm not sure if Steve covered that paper here, it's on the divergence problem. The did a new recon using cores never used before. Interestingly, they still have a slight diveregence problem in the post 1988 period with rings undershooting the temp record. They dismiss UHI as a potential problem in the text. I found that fascinating. Personally (because of Ross's work and Anthony's work) I'm of the belief that

from the late 70's on you've got some small measure of UHI entering the record, maybe .15C or so. So you have

1. Well establish Climate science that says UHI is real
2. A suspect claim that it has been removed from the record.
3. Tree rings that diverge in the last couple decades.

And dendros who are scrambling to find some reason for this divergence other than the obvious.

Michael Smith
Posted Oct 13, 2009 at 11:41 AM | Permalink [#comment-197809] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197809#respond]

Re: **steven mosher (#228)** [#comment-361099] ,

> So you have
>
> 1. Well establish Climate science that says UHI is real
> 2. A suspect claim that it has been

removed from the record.
3. Tree rings that diverge in the last couple decades.

And dendros who are scrambling to find some reason for this divergence other than the obvious.

UHI in the surface observations could also help explain another "divergence problem": the failure of the tropical troposphere to show greater warming than the surface.

bender

Posted Oct 14, 2009 at 8:45 AM | Permalink [#comment-197811] | **Reply** [/2009/10/07/yamal-

Re: **steven mosher (#228)**

and-the-divergence-problem/?replytocom=197861999#respond]

[#comment-197861999],

> dendros who are scrambling to find some reason for this divergence other than the obvious

But this would not explain why treeline trees are diverging from **each other**; i.e. "positive and negative responders". The reason for this divergence is truly not known.

EW

Posted Oct 13, 2009 at 8:28 AM | Permalink [#comment-197808] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197808#respond]

OT.

As I see in the pdf discussed here – Hantemirov was defending his Yamal PhD Thesis just today morning – Oct. 13, 2009, at the Institute of Plant and Animal Ecology in Yekaterinburg.

JFD

Permalink [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197810#comment-197810] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197810#respond]

Bender[218]
Here is a quote from a 1913 paper where Douglas Fir and Larches were growing in the same stand that has some tree stump analysis.

http://www.fs.fed.us/r6/uma/publications/history/U
[http://www.fs.fed.us/r6/uma/publications/history/Um

start paste
Growth: In order to obtain an idea of the rate of diameter growth of larch and Douglas fir, the stumps of a few trees were analysed. The stumps were chosen from a typical north slope type where larch and Douglas fir formed at least eighty per cent of the stand and were in about the same proportion in the stand. The measurements of only a few trees of each species were obtained, but it is believed that these few examples will prove typical for this locality as only young
or medium aged, representative trees were chosen for analysis. The stump analysis data obtained in the field has been combined and evened off on a curve, based on diameter and age. These curves are shown on {the diagram}.

Several points of difference may be noted in the manner of growth of Douglas fir and larch by referring to these curves. Larch shows a convex curve being an intolerant tree. It also shows a greater rapidity of growth than Douglas fir for most of its life. Douglas fir being a fairly tolerant tree, especially when growing on moist slopes, has a concave curve the same as spruce growing under similar conditions. Douglas fir can

survive a period of considerable suppression in its youth, whereas larch, under like conditions, will be killed off. If larch can not receive enough light in order to make good growth it dies, but Douglas fir will survive if the shade is not too dense, until an accident to some of the old trees causes an opening in the crown cover, which gives it an opportunity to proceed more rapidly with its development.

At about 240 years the curves of Douglas fir and larch are seen to cross. The Douglas fir has caught up with the larch. This is due to the fact that Douglas fir will tolerate more suppression in youth than larch. Douglas fir, which were in their youth suppressed, have thus been included in the curve, whereas, larch trees which were at any time badly suppressed were killed out in early youth and so have not been included in the curve. Nevertheless, it is undoubtedly true that larch for the first 150 years of its life at least is naturally a faster grower than Douglas fir.

Mark
[http://meanderingpath.blogspot.com/]
Posted Oct 14, 2009 at 11:07 AM | Permalink [/#comment-197812] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197812#respond]

I just looked at a realclimate response from Sept. 30 on the Yamal issue. It looks impressive as they reference a number of graphs that do not have Yamal but still have the hockey stick. I then decide to see if these graphs had been addressed here starting with Wahl and Ammann. Needless to say I was not impressed with realclimate's response and it only got worse

when I then looked up the Oerlemans graph.

Hu McCulloch [http://www.econ.ohio-state.edu/jhm/jhm.html]
Posted Oct 14, 2009 at 11:32 AM | Permalink [#comment-197813] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197813#respond]

RE Mark #233,
The Oerlemans graph at **http://www.sciencemag.org/cgi/reprint/1107046v1.p** [http://www.sciencemag.org/cgi/reprint/1107046v1.pc only goes back to 1600 AD, and hence sheds no light on the MWP (c. 1000 AD), which is what the HS controversy is all about. We all know there was a LIA — the big issue is whether the 20th c was just emerging from the LIA and returning to normal, or if it was warmer than the pre-LIA norm.

This and most of the other HS graphs put up by RC were just red herrings. [self-snip]

bender
Posted Oct 14, 2009 at 11:40 AM | Permalink [#comment-197814] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197814#respond]

Re: **Hu McCulloch (#234)** [#comment-361338]
Exactly what NAS said. There is confidence back to AD1600. No sane person doubts this. Prior to about AD1400 the wheels come off the wagon.

Jeff Id [http://noconsensus.wordpress.com]
Posted Oct 14, 2009 at 11:49 AM | Permalink [#comment-197815] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197815#respond]

Re: **Hu McCulloch (#234)** [#comment-361338] It's pretty bad.

> when Hu starts snipping his thoughts

Mark Posted Oct 14, 2009 at 2:08 PM | Permalink [#comment-197811] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197811#respond]

RE Hu #234,

Yes, I had gathered that just from my brief look into the matter. Thanks for making the point clearer than I did.

Hans Erren Posted Oct 17, 2009 at 5:58 PM | Permalink [#comment-197817] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197817#respond]

just curious, has there ever been an attempt to correct tree rings for co2 fertilisation?

Hu McCulloch Posted Oct 18, 2009 at 5:36 AM | Permalink [#comment-197818] | Reply [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197818#respond]

RE Hans Erren #238,

> just curious, has there ever been an attempt to correct tree rings for co2 fertilisation?

I did this in **Comment #32** [http://www.climateaudit.org/?p=2969#comment-235202] of my 4/7/08 post, "More on Li, Nychka and Ammann". See also #46 of that thread.

Briefly, I found that including CO2 greatly weakened the significance of the 4 TR series included in the 14 MBH99 series LNA considered, and in some cases eliminated it altogether.

The latter included "Urals", evidently before the "Yamal Substitution" under discussion had taken place. PC1, on the other hand, remained significant, albeit greatly weakened.

In Comment #46, I show that using Mizon's more stringent approach to serial correlation, even PC1 is not robust to inclusion of CO2.

CO2 is getting rather OT here — perhaps this could be continued on the old LNA thread?

A G Lamb
Posted Oct 19, 2009 at 6:48 AM | Permalink [#comment-197820] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197820#respond]

BBC Link:
http://news.bbc.co.uk/earth/hi/earth_news/newsid_
[http://news.bbc.co.uk/earth/hi/earth_news/newsid_8

ATHiker
Posted Oct 7, 2009 at 2:06 PM | Permalink [#comment-197630] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197630#respond]

Re: **steven mosher (#48)** [#comment-360360],
That is exactly what Steve has done over the last few weeks.
He potted trees both diverged and non-diverged tress (before mid century). The only this is that you think Briffa was hiding the fact but he did not.
Anyone doing a temperate reconstruction would review and incorporate peer-review before doing their work. They would have read about a problem with some trees at mid 20th . It is printed In Nature.
Steve has done an excellent job proving that Briffa work for his Nature letter 1998

bender
Posted Oct 7, 2009 at 2:20 PM |

Permalink [#comment-197631] | Reply

Re: **ATHiker (#51)** [#comment-360364],

Did you not read **mpaul's example** [http://www.climateaudit.org/?p=7320#comment-360355] ? Do you not understand why you would quickly go broke using his scheme? If that's the case, then please go over to RC and advertise his scheme widely. I want to buy an island in the carribean and you are my ticket. Hurry along now.

ATHiker

Posted Oct 7, 2009 at 2:21 PM | Permalink [#comment-197632] | Reply

Re: **ATHiker (#51)** [#comment-360364],

> Then you are accusing Briffa of cherry-picking because it would be impossible for him to remove bad data from the vast majority of the reconstruction, which has no temperature record.

Something is wrong with the divergent trees (fungus, bugs, I don't know). Knowing that if I included these trees without stating the fact, That would be wrong.

steven mosher

Posted Oct 7, 2009 at 3:29 PM | Permalink [#comment-197652] | Reply

Re: **ATHiker (#51)** [#comment-360364],

ATHiker.

I see nothing of the sort. When you say DIVERGENT what do you mean? do you mean

negatively correlated with temperature? slightly positive? what? That's the analysis I want to see. Not subjective " look they match"
Further, you have the problem of spurious correlation. In particular here you have 1 tree that shows an 8 sigma response. That according to the resident plant experts is waaayyy beyond the typical response. I want to see all 17 cores that were sent to briffa. I want to know how he went from 17 to 12. How was that choice made? Finally, the divergence issue is really a challenge to the whole endeavor. Until you understand WHY they diverged you cant make any reconstruction. That is, your precisious yamals may have diverged in the MWP. So, by including divergent trees now you at least get a clear view of CIs.. they will be floor to ceiling I bet. So, go ahead and use non diverent series to draw your best estimate, but the CIs have to account for the post hoc selection

bender
Posted Oct 7, 2009 at 2:39 PM | Permalink | Reply

Re: **AT Hiker (#53)**

For chrissakes. You don't know which of thew two groups is anomlaous. All you know is that you have two populations that diverge from each other (actually there is everything in between as well). Your assumption that the "positive 'responders'" are not the anomaly is nothing more than that: an assumption.

.

Why does Briffa eschew the cherry-picking of samples within

a chronology. Answer me right now.

Morgan Posted Oct 7, 2009 at 2:59 PM | Permalink [#comment-197645] | **Reply** Re: **AThiker (#53)** [#comment-360368]

> Something is wrong with the divergent trees (fungus, bugs, I don't know). Knowing that if I included these trees without stating the fact, That would be wrong.

Even if it is true that the removed trees were damaged, removing them will bias the record unless the same criteria are applied to trees throughout it, with the same degree of effectiveness. It's not a matter of why, or whether the reason is valid from a "this will weed out bad treemometers" perspective. It's a matter of treating one part of the series differently from the rest, then making claims about that one part being exceptional relative to the others.

I agree with you that stating the fact "all trees were included in the chronology, including those damaged by bugs and/or fungus, because we don't know whether our ability to detect such damage is impacted by the age and or fossil status of the tree" would be good practice. Assuming it's true.

By the way, I envy your moniker. I dearly wish I could spend more time on the trail.

ATHiker Posted Oct 7, 2009 at 2:53 PM | Permalink [#comment-197643] | **Reply**

Re: **bender (#52)** [#comment-360367], So to put it in an example. Both bender and I have a thermometer at our houses. From 1900 through today we record every hour. Once a year we check out our thermometer to the calibrated one Steve has. In 1952 bender' diverged from Steve's but mine did not. bender' thermometer diverged and mine did not so, I can use mine for 1900 till today but bender's must be excluded from 1952 on or excluded all together.

ATHiker Posted Oct 7, 2009 at 3:05 PM | Permalink [#comment-197647] | **Reply**

Re: **bender (#66)** [#comment-360390], 50+ I have to go for the day now. thanks again.

bender Posted Oct 7, 2009 at 3:08 PM | Permalink [#comment-197649] | **Reply**

Re: **ATHiker (#68)** [#comment-360392], Please, ATHiker, do not put your retirement savings into mpaul's fund. You seem like a nice guy.

Terry Posted Oct 7, 2009 at 3:32 PM | Permalink [#comment-197653] | **Reply**

Re: **ATHiker (#63)** [#comment-360384], So what allows you to conclude that the two identical thermometers are correct and that the divergent one is in error. Or is it in fact the other way around.

bender

Posted Oct 7, 2009 at 3:39 PM |

Re: **AT Hiker (#63)**
Posted Oct 7, 2009 at 8:15 PM | Permalink [#comment-197654] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197654#respond]

The example you give is flawed because you are comparing thermometers. You can be quite certain the mercury is responding to molecular collisions in the same way in each case. Heck, you might not even need calibrate the instruments. It might be 1:1 with no error. Back in the real world, you are comparing trees to thermometers. You can not be quite certain that the trees and thermometers are responding to molecular collisions in the same way. There is no question you are going to have to calibrate the "instruments". And you can expect the calibration statistics will be quite poor compared to your trivially silly example. You are not going to have 1:1 and it is not going to be without a scattershot of random variation.

.

You can't asume that trees are precise thermometers, just because growth and temperature are weakly correlated.

.

Your example is at the opposite end of the spectrum of absurdity as mpaul's. Reality is in somewhere in the middle, but closer to mpaul's.

steven mosher
Posted Oct 7, 2009 at 8:15 PM | Permalink [#comment-197671] | **Reply** [/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197671#respond]

Re: **bender (#75)** [#comment-360406],

Thanks bender, somewhere around here I pointed to a paper that employed a model of ring response. That would be cool to play with.

A G Lamb Posted Oct 19, 2009 at 6:38 AM | Permalink [#comment-197819] | **Reply** [http://news.bbc.co.uk/earth/hi/earth_news/newsid_8[/2009/10/07/yamal-and-the-divergence-problem/?replytocom=197819#respond]

Re: **A G Lamb (#240)** [#comment-362073],

One Trackback

1. By **Global Opvarmning I. Netop Afsløret Som Kæmpemæssigt Videnskabeligt Svindelnummer » Euro-med** [http://euro-med.dk/?p=11029] on Oct 9, 2009 at 4:18 PM

   [...] kan underbygge hans påstand – og at hans hold arbejder på at bestyrke den! McIntyres svar 7 Oct. 2009: "Hvis ringbredderne er aftaget i den sidste halvdel af det 20. århundrede (Briffas [...]

Post a Comment