From:

Gruen, David

Sent: To:

Wednesday, 19 November 2014 9:31 AM Taylor, Marie; Wilson, Helen, Hazlehurst, David

Cc:

Subject:

RE: Hunt Letter and PM;'s brief [SEC=UNCLASSIFIED]

UNCLASSIFIED

Provided the PMO has no objections to the alternative wording, I am fine with it.

David Parker has been on a campaign to get us to change it.

David

From: Taylor, Marie

Sent: Tuesday, 18 November 2014 6:28 PM

To: Wilson, Helen; Gruen, David; Hazlehurst, David

Subject: RE: Hunt Letter and PM;'s brief [SEC=UNCLASSIFIED]

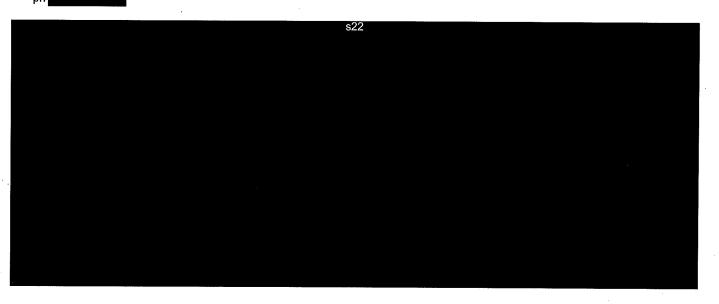
UNCLASSIFIED

Interesting.

Note Minister Hunt recommends the removal of the reference to the BOM review and the removal of the reference to doing due diligence on climate and emissions data. The second issue is more problematic isn't it?

Marie

Marie Taylor First Assistant Secretary Industry, Infrastructure & Environment Division Department of the Prime Minister & Cabinet



From: Parker, David

s2.

Sent: Tuesday, 18 November 2014 3:44 PM

To: Gruen, David; Hazlehurst, David; Wilson, Helen

Cc: de Brouwer, Gordon; Archer, Brad Subject: FW: [SEC=UNCLASSIFIED]

Colleagues

Apparently this was signed at about the same time we were meeting this morning.

Regards David

From: Gibbons, Patrick

Sent: Tuesday, 18 November 2014 3:31 PM

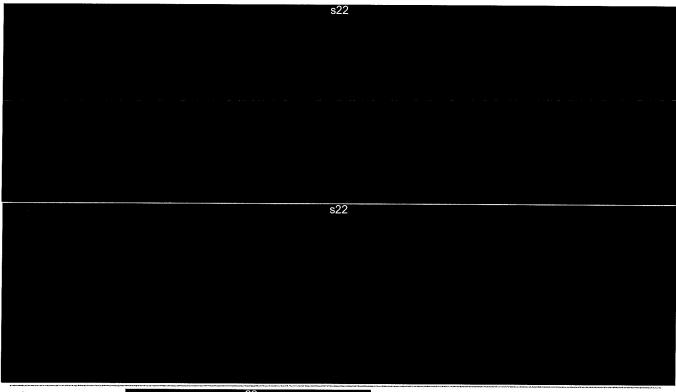
To: Parker, David

Subject: [SEC=UNCLASSIFIED]

David, attached is the letter to the PM.

Regards

Patrick



From: Parker, David
Sent: Tuesday, 18 November 2014 3:58 PM

To: Wilson, Helen

Cc: Hazlehurst, David; Gruen, David; Taylor, Marie; de Brouwer, Gordon; Archer, Brad **Subject:** RE: PM Brief on UNFCCC Taskforce - para's on BOM [DLM=For-Official-Use-Only]

Helen,

Thanks – this looks OK. No doubt you will pick up that Minister Hunt has now written and you can reflect specifics of the response as necessary in the brief.

Regards David

From: Wilson, Helen \$22

Sent: Tuesday, 18 November 2014 3:33 PM

To: Parker, David

Cc: Hazlehurst, David; Gruen, David; Taylor, Marie

Subject: PM Brief on UNFCCC Taskforce - para's on BOM [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

Hi David,

as discussed this morning, grateful for you clearance/comments (by cob today if at all possible) on the para's below and the attached letter. The paras are for our brief to the PM, seeking his agreement to the Terms of Reference (track changes version attached).

- Minister Hunt is yet to write to you. We know he will suggest removing the reference to the Bureau of
 Meteorology's (BOM) temperature dataset. Your office has been working with Senator Birmingham to
 appoint one or two external statisticians and/or scientists to undertake a quality assurance review of the
 dataset by February 2015. This work need not be duplicated by the Taskforce. The review will look into the
 specific claims published in *The Australian* that BOM was adjusting its data to fit a predetermined view of
 global warming.
 - The draft reply to Minister Hunt asks him to ensure Senator Birmingham writes to you with the outcome of the review.
- Senator Birmingham will also appoint a separate technical advisory panel to maintain long-term oversight of the BOM. The panel will review annually BOM's processes and methodologies in relation to the temperature dataset.

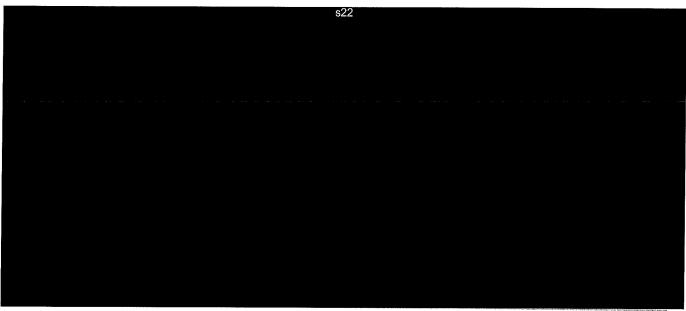
Happy to discuss

kind regards

Helen

Helen Wilson Assistant Secretary Infrastructure, Climate and Energy Branch Industry, Infrastructure & Environment Division Department of the Prime Minister and Cabinet p. \$22
e. s22 PO Box 6500 CANBERRA ACT 2600
*Please note I do not work Fridays. Please contact

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From: Wilson, Helen

Sent: Tuesday, 18 November 2014 3:33 PM

To:

s22

Cc: Hazlehurst, David; Gruen, David; Taylor, Marie

Subject: PM Brief on UNFCCC Taskforce - para's on BOM [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

Hi David,

as discussed this morning, grateful for you clearance/comments (by cob today if at all possible) on the para's below and the attached letter. The paras are for our brief to the PM, seeking his agreement to the Terms of Reference (track changes version attached).

s22

- Minister Hunt is yet to write to you. We know he will suggest removing the reference to the Bureau of Meteorology's (BOM) temperature dataset. Your office has been working with Senator Birmingham to appoint one or two external statisticians and/or scientists to undertake a quality assurance review of the dataset by February 2015. This work need not be duplicated by the Taskforce. The review will look into the specific claims published in *The Australian* that BOM was adjusting its data to fit a predetermined view of global warming.
 - o The draft reply to Minister Hunt asks him to ensure Senator Birmingham writes to you with the outcome of the review.
- Senator Birmingham will also appoint a separate technical advisory panel to maintain long-term oversight of the BOM. The panel will review annually BOM's processes and methodologies in relation to the temperature dataset.

Happy to discuss

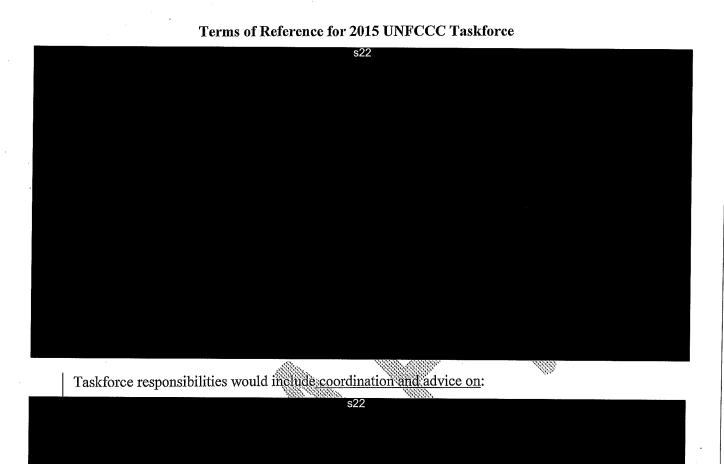
kind regards

Helen

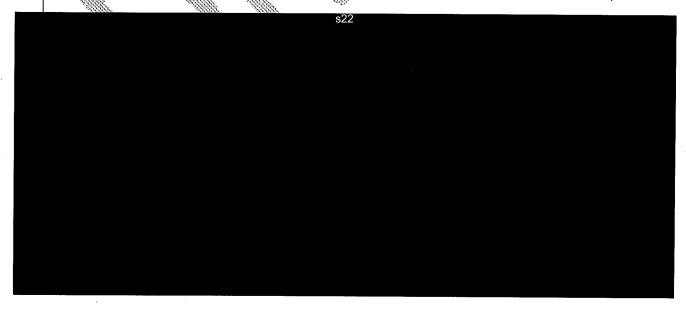
Helen Wilson | Assistant Secretary

Infrastructure, Climate and Energy Branch Industry, Infrastructure & Environment Division Department of the Prime Minister and Cabinet p. s22 m s22 f. s22 e. s22 PO Box 6500 CANBERRA ACT 2600
*Please note I do not work Fridays. Please contact

PROTECTED



• quality assured to ensure Australia's climate and emissions data for Australia; are the best possible, including the Bureau of Meteorology's Australian temperature dataset and other related data; and



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Reference: B14/3074

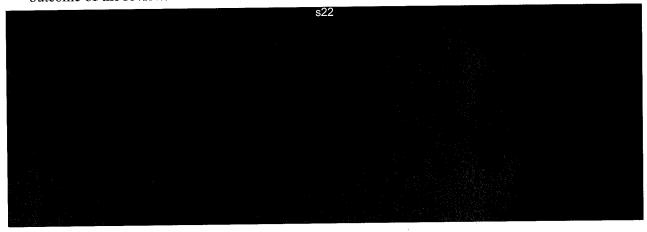
The Hon Greg Hunt MP Minister for the Environment Parliament House CANBERRA ACT 2600

Dear Minister

I am writing to you in relation to the terms of reference for the taskforce coordinating an approach to preparations for the 2015 UNFCCC Paris Climate Change Conference.

Please find attached the final terms of reference, revised following consideration of Ministers' suggestions.

The final terms of reference no longer include reference to the Bureau of Meteorology, as I understand Senator Birmingham is already working to strengthen oversight of the Bureau's temperature dataset. The credibility of government agencies is important and must be ensured. Given there have been questions regarding the Bureau's methods, I fully support Senator Birmingham's review. I ask that Senator Birmingham write to me reporting on the outcome of the review.



For Official Use Only

I have copied this letter to the Minister for Foreign Affairs, the Treasurer, the Minister for Industry and the Parliamentary Secretary to the Minister for the Environment.

Yours sincerely

TONY ABBOTT

s22

From:

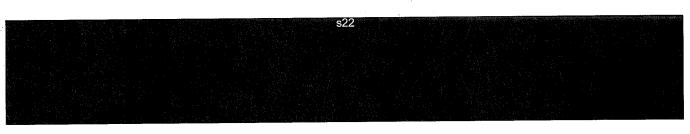
om: Wilson, Helen

Sent: To: Monday, 17 November 2014 1:35 PM

Hazlehurst, David s22 Tav

Cc: Subject: Taylor, Marie
Email to David Parker re; BOM [SEC=PROTECTED, DLM=Sensitive]

PROTECTED Sensitive



Extract from the brief

1. Senator Birmingham has appointed a panel to strengthen oversight of the BOM. This work need not be duplicated by the taskforce. The draft reply to Minister Hunt asks him to ensure Senator Birmingham writes to you with the outcome of the quality assurance review of the temperature dataset by the end of the year.

Extract from the letter

The final terms of reference no longer include reference to the Bureau of Meteorology, as I understand Senator Birmingham is already working to strengthen oversight of the Bureau's work in this area. The credibility of government agencies is important and must be ensured. Given there have been questions regarding the Bureau's methods, I fully support Senator Birmingham's review. I ask that Senator Birmingham write to me by the end of the year reporting on the outcome of the review."

s22	
0.0	avid vember 2014 2:44 PM
To: s22 Cc: s22 Subject: RE: UNFCCC	Gruen, David; Wilson, Helen; Taylor, Marie; S22 taskforce next steps [SEC=PROTECTED, DLM=Sensitive:Cabinet]
·	PROTECTED Sensitive: Cabinet
Thanks S22 Very helpful. See below.	
From: \$22 Sent: Friday, 14 November 2014 12:57 PN To: Hazlehurst, David Cc: Morgan, Nick; Gruen, David; Wilson, F Subject: UNFCCC taskforce next steps [Si	lelen; Taylor, Marie;
P	ROTECTED Sensitive: Cabinet
Hi David	
	s22
PM Brief on UNFCCC taskforce. We put th feedback on the brief. Also, do you know it discussed a couple of times further with he's gone.	e current draft brief in your in tray this morning. Would appreciate your resolved the BOM issue with Senator Birmingham? Have He's speaking to the Parl Sec this arvo and will let me know how
don't have a reply by Minister Hun	ly, but consider the brief is still worth putting up early next week if we t by then. The updated terms of reference incorporate most of Ministers I wording. Of course if we get a letter from Minister Hunt, we'll update
	s22
Thanks	
s22	
A/g Assistant Secretary Infrastructure, Climate and Energy Branch Industry, Infrastructure and Environment Division S22	on Department of the Prime Minister and Cabinet
1 O DON 0000 CHNDERIUM MCT 2000	

s22

From:

s22

Sent: To: Thursday, 13 November 2014 10:25 AM

To: Cc: Wilson, Helen

Subject:

UNFCCC taskforce ToR [DLM=Sensitive:Personal]

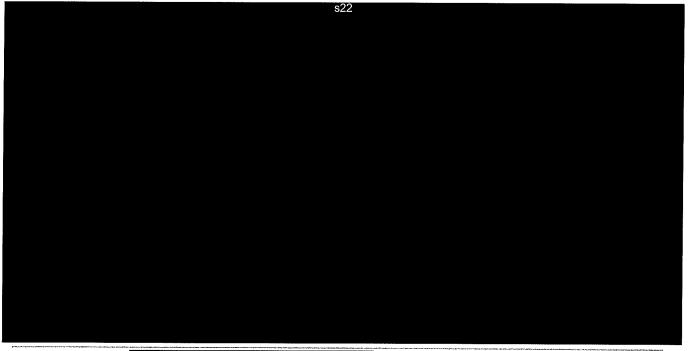
Attachments:

UNFCCC ToR with tracked changes.docx

UNCLASSIFIED Sensitive: Personal

Hi Helen,

Please see attached the original Terms of Reference that the PM would have seen, with the amendments in track changes. These are consistent with those cleared by David Hazlehurst.



From: Parker, David

s22

Sent: Friday, 10 October 2014 5:52 PM

To: Wilson, Helen

Cc: Hazlehurst, David; Gruen, David; Taylor, Marie; de Brouwer, Gordon **Subject:** RE: 2015 UNFCCC Paris Conference [DLM=Sensitive:Personal]

Helen – thanks this is a good step forward.

I struggle to grasp exactly what it is that the taskforce would do to fulfil its responsibilities in the revised ToRs of:

- Due diligence to ensure that Australia's climate and emissions date are the best possible; and
- Ensuring public transparency about the data (so the public can have confidence in all such information).

In other words, what due diligence activities must it do and how will it ensure public transparency.

The other responsibilities are much more specific (appropriately so) and if we can be similarly specific in these two areas then it would be preferable to say so. To be helpful, here is an alternate suggestion:

Collate verified information from Australia's climate and emissions datasets.

As foreshadowed at the meeting at PM&C we have prepared a draft letter from the Minister in response to the Prime Minister's letter. I will shortly forward it to you from our protected system.

Following is the other info you requested re the BOM data set and some other background info:

- The brief to the Parliamentary Secretary and response on the quality assurance process re the temperature dataset is attached.
- This link to the BOM website has all the background on the review of the data (the other tabs on that page will give you the data, and the adjustments, and why, and all sorts of stuff that fascinates weather buffs): http://www.bom.gov.au/climate/change/acorn-sat/#tabs=Expert-review
- The story about Australian emissions data and the quality assurance process which involves a UNFCCC process this is a big job for experts, with the UNFCC delegation of country experts here all this week to pour over our stuff. We repay the favour by participating in delegations to verify the emissions info produced by other countries: http://www.environment.gov.au/system/files/pages/63b569ff-ae63-4d7b-be54-16f2e79900e0/files/nga-factsheet1.pdf
- All the data on emissions: http://www.environment.gov.au/climate-change/greenhouse-gas-measurement/publications#national

Cheers
David

From: Wilson, Helen
Sent: Thursday, 9 October 2014 7:45 PM

To: Parker, David

Cc: Hazlehurst, David; Gruen, David; Taylor, Marie

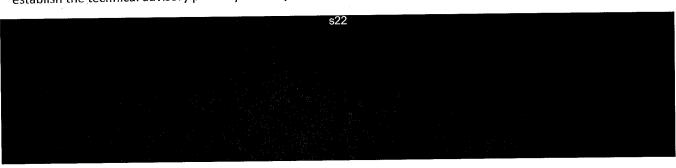
Subject: 2015 UNFCCC Paris Conference [DLM=Sensitive:Personal]

UNCLASSIFIED Sensitive: Personal

Hi David,

As discussed yesterday would be grateful for any comments you have on the attached amended Terms of Reference by cob Monday.

Also would be great if we can have the information I requested on the BOM and Senator Birmingham's process to establish the technical advisory panel by Monday.



Helen

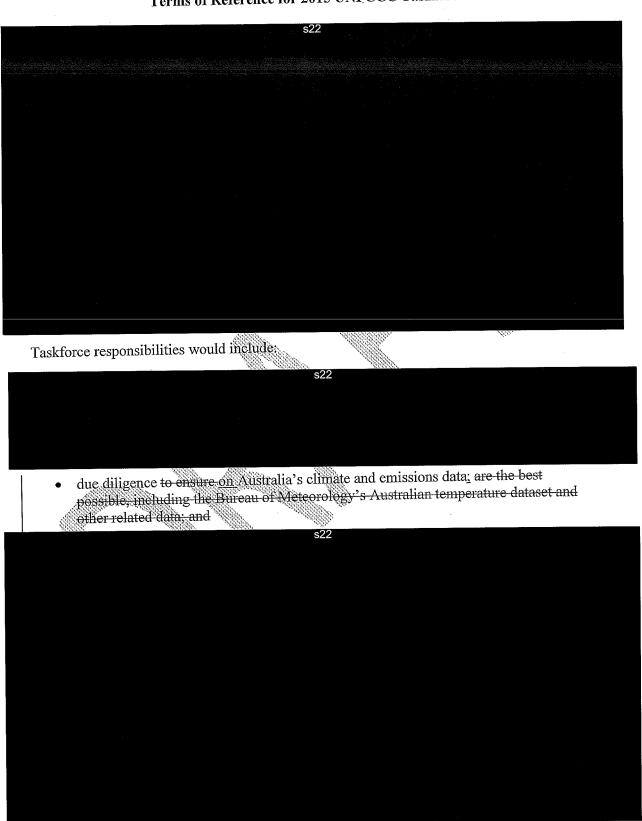
Helen Wilson | Assistant Secretary

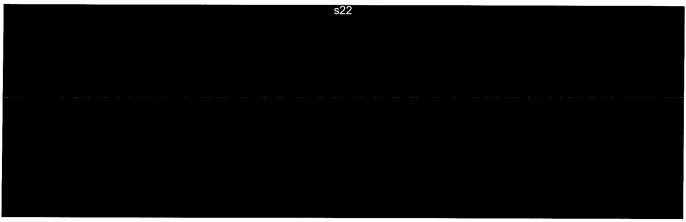
Infrastructure, Climate and Energy Branch Industry, Infrastructure & Environment Division Department of the Prime Min p	ister and Cabinet
FO BOX 0300 CAMBERINA ACT 2000	
*Please note I do not work Fridays. Please contact \$22	

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Terms of Reference for 2015 UNFCCC Taskforce





From: Gruen, David

Sent: Monday, 10 November 2014 5:47 PM **To:** Wilson, Helen<u>; Hazlehurst</u>, David

Cc: Taylor, Marie; \$22

Subject: RE: Quick ACORN-SAT assessment draft terms of reference [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

Helen

s22

David

From: Wilson, Helen

Sent: Monday, 10 November 2014 5:35 PM

To: Gruen, David; Hazlehurst, David

Cc: Taylor, Marie; \$22

Subject: RE: Quick ACORN-SAT assessment draft terms of reference [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

David,

s22

thanks Helen

s22

(David Hazlehurst, Executive Coordinator, Domestic Policy Group)

We have been working with departments to finalise the terms of reference. Minister Hunt is likely to recommend removing specific reference to the Bureau of Meteorology (BoM). Senator Birmingham has initiated a process to appoint a panel of independent scientists and statisticians to confirm the veracity of the BoM's temperature data and methods. We have told the Department of the Environment it would be ideal if the panel could be appointed

ASAP and do a short piece of work before the end of the year to assess the specific criticisms in the media in relation.

to the temperature records. s22

From: Gruen, David

Sent: Monday, 10 November 2014 4:40 PM **To:** Wilson, Helen; Hazlehurst, David **Cc:** Taylor, Marie;

Subject: RE: Quick ACORN-SAT assessment draft terms of reference [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

Helen

David G

From: Wilson, Helen

Sent: Monday, 10 November 2014 4:35 PM

To: Hazlehurst, David

Cc: Taylor, Marie; Gruen, David;

Subject: RE: Quick ACORN-SAT assessment draft terms of reference [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

Hi David Hz,

Just to add, we have a brief drafted for the PM ready to go once we receive Minister Hunts reply on the ToR for the UNFCCC taskforce (Bishop and Macfarlane have already replied).

As you know we were recommending the PM agree: the amended ToR's; thanks Helen

From: Hazlehurst, David

Sent: Monday, 10 November 2014 3:40 PM

Cc: Wilson, Helen; Taylor, Marie; Gruen, David

Subject: FW: Quick ACORN-SAT assessment draft terms of reference [SEC=UNCLASSIFIED]

UNCLASSIFIED

s22

We got the attached draft ToR through from Environment late last week. As discussed, the plan here is, ahead of setting up the ongoing panel, to have a quick independent assessment of the most criticisms of the BOM's ACORN SAT data set.

- you mentioned the Parliamentary Secretary may have spoken to you briefly about this on Friday. Not sure if he's also passed these ToRs on.

I've provided the following feedback to Environment (David Parker, the relevant Deputy)...

'Two thoughts from us:

• We had thought the 'quick' assessment was to be commissioned by the Parliamentary Secretary rather than the BOM itself, but the ToRs start with 'The BOM is seeking ...'(?)

s22

Obviously we're running out of time to get this done this year. I wonder whether it might be quickest for you to engage directly back with the Parliamentary Secretary and/or the Minister, given that the Parl Sec has now contacted you directly.

Very happy to discuss.

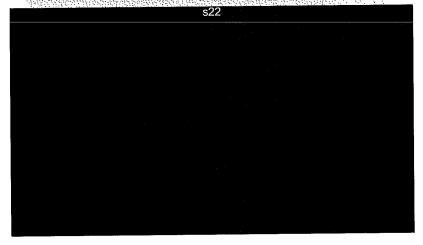
David

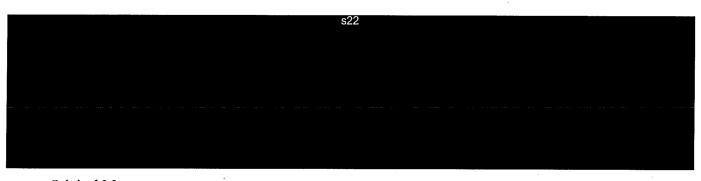
s22 s22

30 October 2014 - 75/14

s22

(David Hazlehurst, Executive Coordinator, Domestic Policy Group)
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reference. Minister Hunt is likely to recommend removing specific
reference to the Bureau of Meteorology (BoM). Senator Birmingham
has initiated a process to appoint a panel of independent scientists and
statisticians to confirm the veracity of the BoM's temperature data
and methods. We have told the Department of the Environment it
would be ideal if the panel could be appointed ASAP and do a short
piece of work before the end of the year to assess the specific
criticisms in the media in relation to the temperature records.





-----Original Message-----From: Hazlehurst, David

Sent: Thursday, October 23, 2014 04:21 PM AUS Eastern Standard Time

To: 'Parker, David (Protected)'; Gruen, David Cc: Wilson, Helen; de Brouwer, Gordon (Protected)

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Sounds great. Thanks David.

From: Parker, David (Protected)

Sent: Thursday, 23 October 2014 4:23 PM

To: Hazlehurst, David; Gruen, David

Cc: Wilson, Helen; de Brouwer, Gordon (Protected)

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

David

I am working up a couple of options in the quick pre-review space, in addition to the proposal to get the panel proper together before the end of the year.

Will get back soon

Regards David

From: Hazlehurst, David

s22

Sent: Thursday, 23 October 2014 2:56 PM
To: Parker, David (Protected); Gruen, David

Cc: Wilson, Helen; de Brouwer, Gordon (Protected)

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Hi David

Thanks. The approach on, and nominees for, the membership looks good.

It would be really helpful to get a specific proposal on the approach to examining the immediate specific criticisms.

Further to Gordon and David's discussion yesterday, we're wondering whether it might be possible for Minister Birmingham to ask for an examination of these specific criticisms ahead of the formal establishment/first meeting of

the forum. This could be by a just a couple of the proposed forum members with appropriate skills, and could be announced at the same time as the forum (ie. an announcement of the longer terms arrangements, as well as an immediate action to clear the air on current specific criticisms). The outcomes could be shared with the PM and then perhaps publicly released.

If you could provide us with a proposal Minister Birmingham is comfortable with we'll then test with the PMO.

Will give you a ring to discuss.

Cheers

David

From: Parker, David (Protected)

Sent: Tuesday, 21 October 2014 7:54 PM

To: Gruen, David; Hazlehurst, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

David G - Yes it does - no members chose by BOM.

David H – re you mail on timing, the idea will be to get something done prior to the end of the year. Attached is the brief and letters I mentioned earlier. You will see the draft ToR which has been sent to the academies for consideration at the end of the document. The intention is to accelerate the timing mentioned therein for the final ToR. You will also see the nominees that we already have which includes some serious statistical talent.

Could you send me the latest ToR for the UNFCCC taskforce.

Cheers

David P

From: Gruen, David

Sent: Tuesday, 21 October 2014 11:02 AM

To: Parker, David (Protected); Hazlehurst, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Thx David P

Just to make sure I understand: does that mean all members chosen by institutions other than the BoM?

Thx

David G

From: Parker, David (Protected)

Sent: Tuesday, 21 October 2014 10:35 AM

To: Hazlehurst, David; Gruen, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

David,

The Parl Sec signed letters to the two science academies before estimates so we are now awaiting nominations. We have nominations from the ABS and Chief Scientist. Incidentally, I have been made the "returning officer" for nominations rather than the $\mathsf{BOM}-\mathsf{it}$ will be the Parl Sec that makes the appointments.

I will send you copies of letters if you would like them – that would be late today.

Cheers David

From: Hazlehurst, David

s22

Sent: Monday, 20 October 2014 1:35 PM **To:** Gruen, David; Parker, David (Protected)

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Hi David

Just wondering how you're going with this. (Apologies if there's been another email I've missed).

We're hoping to go back to the PMO in the next few days to test the revised ToRs, but need to have a firm position on BOM.

Perhaps we can discuss at estimates (expect we'll be there around 2.30pm).

Cheers

David

From: Gruen, David

Sent: Monday, 13 October 2014 10:28 AM

To: Parker, David (Protected); Wilson, Helen; Hazlehurst, David; Taylor, Marie **Subject:** RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Thanks David. This came up in the first of my catch-ups with Gordon last week:

• My Parliamentary Secretary has brought forward implemention of a recommendation from the previous quality assurance exercise to establish strengthened governance oversight of the Bureau's ongoing work in this area. This will involve a panel of eminent persons, particularly with statistical skills, which will meet annually to review the Bureau's work. (It is important to emphasise that this is primarily a matter of meteorology, statistics and data assurance — not a matter of climate science.) This will be a public and ongoing process. Should you have views to strengthen this process we would welcome them.

"meeting annually" doesn't sound sufficiently urgent to allay the concerns raised by previous criticism of the BoM. Gordon and I discussed the benefits of the panel (with all members chosen by institutions other than the BoM) getting some work done to confirm the veracity of the BoM's data and methods by the end of the year, so it can feed into the Taskforce processes by early next year.

Does that make sense and can it be done?

David G (there are too many David's in this process!!)

From: Parker, David (Protected)

s22

Sent: Friday, 10 October 2014 6:05 PM

To: Wilson, Helen; Hazlehurst, David; Gruen, David; Taylor, Marie **Subject:** Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

Colleagues

As foreshadowed, here is a copy of the draft reply re the taskforce - not yet sent I understand

Regards David

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BUREAU OF METEOROLOGY

To: Parliamentary Secretary (cc Minister) (for decision)

MEMBERSHIP OF ACORN-SAT TECHNICAL ADVISORY FORUM

Timing: 17 October 2014, to commence process.



Recommendation:

1. Note the nominees provided by Australia's Chief Scientist, Professor Ian Chubb, and the Acting Australian Statistician, Mr Jonathan Palmer, at Attachment A.

Noted)/ Please discuss

2. Sign the letter to Professor Andrew Holmes, President of the Australian Academy of Science, and provide further

nominations, at Attachment C.

Signed) Not signed

3. Sign the letter to Dr Alan Finkel AO seeking nominations from the Australian Academy of Technological Sciences and Engineering at <u>Attachment C</u>.

Parliamentary Secretai Comments: Signed / Not signe

Date: <--//

Key Points:

- This is a supplementary brief to MS14-002380, which advised of progress with implementing recommendations from the 2011 Australian Climate Observations Reference Network - Surface Air Temperature (ACORN-SAT) expert review.
- 2. One of the recommendations of the international peer review of ACORN-SAT's processes and methodologies undertaken in 2011 was that "A Technical Advisory Group should be established to meet approximately annually, to review progress on the development and operation of the ACORN-SAT data-set. The Group should comprise respected external scientists and statisticians, as well as representatives of data users, stakeholders with relevant experience in regional Australia, and representatives from other relevant functional areas of the Bureau. An alternative would be to establish a by-invitation annual technical advisory forum involving respected external scientists, statisticians and stakeholders to provide an opportunity for external comment on the further development of the ACORN-SAT system".
- 3. MS14-002380 contained draft Terms of Reference for the establishment of a Technical Advisory Forum for the ACORN-SAT, and advised of plans to nominate experts to participate in the Forum.

s47C

I wrote to Australia's Chief Scientist, Professor lan Chubb, and the s47C Acting Australian Statistician, Mr Jonathan Palmer, to request they each nominate suitably qualified and experienced participants to participate in the Forum. Both have responded positively and their nominees are listed at Attachment A.

5.

Nominees from the Australian Academy of Technological Sciences and Engineering would also be an appropriate addition.

- 6. The draft Terms of Reference for the forum have been updated to reflect your feedback at Attachment B.
- 7. Letters have been drafted to the President of the Australian Academy of Science, Professor Andrew Holmes, and the President of the Australian Academy of Technological Sciences and Engineering, Dr Alan Finkel AO, for your consideration at Attachment C.



Dr Rob Vertessy Director of Meteorology and CEO

Bureau of Meteorology

Ph:

Mob: 16 October 2014 Mr Graham Hawke Deputy Director Environment and Research **Bureau of Meteorology**

s22 Ph:

Mob:

ATTACHMENTS

- A. Nominees received from the Chief Scientist and Australian Statistician
- B. Update draft Terms of Reference
- C. Draft letters to Professor Andrew Holmes and Dr Alan Finkel AO



Senator the Hon Simon Birmingham

Parliamentary Secretary to the Minister for the Environment Senator for South Australia

MS14-2685

Professor Andrew Holmes President Australian Academy of Science GPO Box 783 CANBERRA ACT 2601

Dear Professor Holmes

I am writing to request your assistance with the establishment of an independent forum to support the further development of the Australian Climate Observations Reference Network -Surface Air Temperature (ACORN-SAT) data-set that is collected and managed by the Bureau of Meteorology.

In August 2011, a panel of world-leading experts examined the methods used to analyse the Bureau's temperature data. This entailed submissions and presentations from the scientists developing ACORN-SAT, as well as examination of observations practices, station selection methodology, data homogenisation, data analysis methods and communication. After reviewing all of the processes the Bureau employs to prepare and maintain ACORN-SAT the panel was satisfied, overall, with the methodologies used by the Bureau. It ranked the Bureau's procedures and data analysis as amongst the best in the world.

The panel made 31 recommendations regarding the future management of ACORN-SAT, including establishing a Technical Advisory Group or Forum to review progress on the development and operation of the ACORN-SAT data-set. Given the importance of this data-set it is my preference for the forum to be independent and include appropriately qualified climate scientists and statisticians.

I would welcome nominations to the forum from the Australian Academy of Science and would request that the Academy consider hosting the forum. Nominees for the forum are also being sought from Australia's Chief Scientist, Professor Ian Chubb, the Acting Australian Statistician, Mr Jonathan Palmer and the President of the Australian Academy of Technological Sciences and Engineering, Dr Alan Finkel AO.

Enclosed are the draft Terms of Reference for your consideration and I would appreciate suitable nominations being sent to Mr David Parker, Deputy Secretary in the Department of Environment by the 31st October 2014. The Bureau will provide the secretariat to the forum and meet associated costs.

Should you have any questions regarding the forum, please contact my adviser on \$47F or \$47F

I look forward to your consideration.

Yours sincerely s22

Simon Birmingham

s47F



Senator the Hon Simon Birmingham

Parliamentary Secretary to the Minister for the Environment Senator for South Australia

MS14-2685

Dr Alan Finkel AO President Australian Academy of Technological Sciences and Engineering GPO Box 4055 MELBOURNE VIC 3001

Dear Dr Finkel

I am writing to request your assistance with the establishment of an independent forum to support the further development of the Australian Climate Observations Reference Network. Surface Air Temperature (ACORN-SAT) data-set that is collected and managed by the Bureau of Meteorology.

In August 2011, a panel of world-leading experts examined the methods used to analyse the Bureau's temperature data. This entailed submissions and presentations from the scientists developing ACORN-SAT, as well as examination of observations practices, station selection methodology, data homogenisation, data analysis methods and communication. After reviewing all of the processes the Bureau employs to prepare and maintain ACORN-SAT the panel was satisfied, overall, with the methodologies used by the Bureau. It ranked the Bureau's procedures and data analysis as amongst the best in the world.

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I would welcome nominations to the forum from the Australian Academy of Technological Sciences and Engineering. Nominees for the forum are also being sought from Australia's Chief Scientist, Professor Ian Chubb, the Acting Australian Statistician, Mr Jonathan Palmer and the President of the Australian Academy of Sciences, Professor Andrew Holmes.

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Should you have any questions regarding the forum, please contact my adviser on \$47F

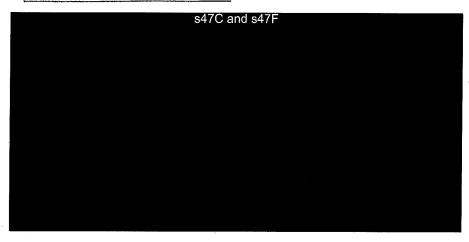
I look forward to your consideration.

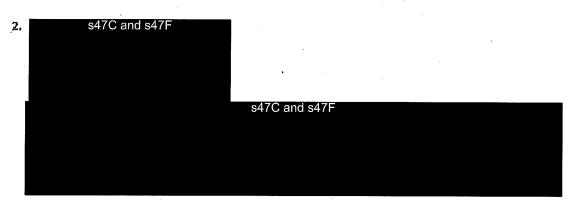
Yours sincerely

Simon Birmingham

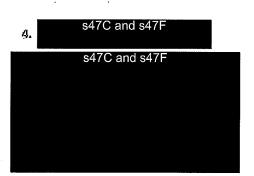
Attachment A

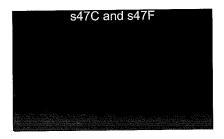
Nominations from the Chief Scientist











Nominations from the Acting Australian Statistician

Refer to attached letter.



Austrelian Statistician

ABS Flouse 45 Benjamin Way Belconnon ACT 2617

Locked Bäg 10 Belconnen ACT 2616

Telephone: (02) 6252 6705 Lacsimile: (02) 6252 8080

Dr Rob Vertessy Director of Meteorology and CEO GPO Box 2334 Canberra ACT 2601

Dear Dr Vertessy

In regard to your letter dated the 18 September, I am submitting to you two people as requested to be involved in the establishment of a Technical Advisory Forum on the Bureau of Meteorology 's Australian Climate Observations Reference Network.

s47C and s47F

Yours sincerely

((

s22

Jonathan Palmer Acting Australian Statistician

3 October 2014

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Attachment B

Bureau of Meteorology

Technical Advisory Forum for the Australian Climate Observations Reference Network Surface Air Temperature data-set (ACORN-SAT)

Background

The Bureau of Meteorology gathers and maintains the national climate record for Australia. A sub-set of the national record is the Australian Climate Observations Reference Network Surface Air Temperature data-set. This includes long-term, high-quality, homogenised data for 112 stations distributed across Australia. The Bureau uses this data-set (amongst others) to report on changes in Australia's climate.

In August 2011, a panel of world-leading experts convened in Melbourne to examine the methods used to analyse the Bureau's temperature data. This entailed submissions and presentations from the scientists developing ACORN-SAT, as well as a review panel examination of the Bureau's observations practices, station selection methodology, data homogenisation, data analysis methods and communication.

After reviewing all of the processes the Bureau employs to prepare and maintain ACORN-SAT the panel was satisfied, overall, with the methodologies used by the Bureau. It ranked the Bureau's procedures and data analysis as amongst the best in the world.

The panel made 31 recommendations regarding the future management of ACORN-SAT. One of those was to establish a Technical Advisory Group or Forum to review progress on the development and operation of the ACORN-SAT data-set:

Review Recommendation E4:

A Technical Advisory Group should be established to meet approximately annually, to review progress on the development and operation of the ACORN-SAT data-set. The Group should comprise respected external scientists and statisticians, as well as representatives of data users, stakeholders with relevant experience in regional Australia, and representatives from other relevant functional areas of the Bureau. An alternative would be to establish a by-invitation annual technical advisory forum involving respected external scientists, statisticians and stakeholders to provide an opportunity for external comment on the further development of the ACORN-SAT system.

The Bureau agreed with the recommendation and undertook to establish a Technical Advisory Forum, to meet every two years:

Burëau response:

Agreed. The Bureau agrees that there would be value in enhancing the level of technical dialogue around the ACORN-SAT data-set and methods. The Bureau will hold a technical workshop every two years, starting in March 2014 (two years after the public release of the ACORN-SAT data-set) to

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review the state of the science and to identify possible improvements to the ACORN-SAT database and analysis methods. The Bureau will ensure that a broad range of experts from outside the agency is inducted into the workshop process.

Forum Draft Terms of Reference

Provide comment on the further development of the ACORN-SAT data-set and methods, particularly:

- 1. the list of stations included
- 2. the climate data homogenisation methods used
- 3. the trend analysis methods used
- 4. the communication methods used
- 5. comparisons with other leading climate centres

The above Terms of Reference will be finalised prior to the first meeting of the Forum.

Forum membership

Nominations will be sought from the Chief Scientist, the Australian Statistician, the Australian Academy of Science and the Australian Academy of Technological Sciences.

The Bureau of Meteorology will provide the secretariat to the forum.

Forum format

Forums will run over one day, every two years. The morning will be devoted to ACORN-SAT status updates, provided by Bureau scientists. The afternoon will be devoted to discussion, with forum members provided the opportunity to comment on the ACORN-SAT data-set and methods and related activity in Australia and abroad.

Forum pre-reading will be made available to members a fortnight prior to meeting. A member-approved record of each Forum will be made available on the Bureau web site.

Subject to availability of members, the first Forum will be held in early 2015.

s22

From:

Wilson, Helen

Sent:

Thursday, 23 October 2014 2:57 PM

TO:

Subject:

FW: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

Follow Up Flag: Flag Status:

Follow up Completed

PROTECTED

s22

see below for background on the BOM issue for the brief to the PM -- will keep you both posted

thanks Helen

From: Gruen, David

Sent: Thursday, 23 October 2014 2:56 PM

To: Hazlehurst, David **Cc:** Wilson, Helen

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Thx David.

Hopefully we'll get action pretty smartly.

David

From: Hazlehurst, David

Sent: Thursday, 23 October 2014 2:54 PM **To:** 'Parker, David (Protected)'; Gruen, David

Cc: Wilson, Helen; de Brouwer, Gordon (Protected)

s22

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

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Hi David

Thanks. The approach on, and nominees for, the membership looks good.

It would be really helpful to get a specific proposal on the approach to examining the immediate specific criticisms.

Further to Gordon and David's discussion yesterday, we're wondering whether it might be possible for Minister Birmingham to ask for an examination of these specific criticisms ahead of the formal establishment/first meeting of the forum. This could be by a just a couple of the proposed forum members with appropriate skills, and could be announced at the same time as the forum (ie. an announcement of the longer terms arrangements, as well as an immediate action to clear the air on current specific criticisms). The outcomes could be shared with the PM and then perhaps publicly released.

If you could provide us with a proposal Minister Birmingham is comfortable with we'll then test with the PMO.

Will give you a ring to discuss.

Cheers

David

From: Parker, David (Protected)

s22

Sent: Tuesday, 21 October 2014 7:54 PM To: Gruen, David; Hazlehurst, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

David G - Yes it does - no members chose by BOM.

David H – re you mail on timing, the idea will be to get something done prior to the end of the year. Attached is the brief and letters I mentioned earlier. You will see the draft ToR which has been sent to the academies for consideration at the end of the document. The intention is to accelerate the timing mentioned therein for the final ToR. You will also see the nominees that we already have which includes some serious statistical talent.

Could you send me the latest ToR for the UNFCCC taskforce.

Cheers

David P

From: Gruen, David

Sent: Tuesday, 21 October 2014 11:02 AM To: Parker, David (Protected); Hazlehurst, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Thx David P

Just to make sure I understand: does that mean all members chosen by institutions other than the BoM?

Thx

David G

From: Parker, David (Protected)

Sent: Tuesday, 21 October 2014 10:35 AM

To: Hazlehurst, David; Gruen, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

David,

The Parl Sec signed letters to the two science academies before estimates so we are now awaiting nominations. We have nominations from the ABS and Chief Scientist. Incidentally, I have been made the "returning officer" for nominations rather than the BOM - it will be the Parl Sec that makes the appointments.

I will send you copies of letters if you would like them - that would be late today.

Cheers

David

From: Hazlehurst, David

Sent: Monday, 20 October 2014 1:35 PM To: Gruen, David; Parker, David (Protected)

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Hi David

Just wondering how you're going with this. (Apologies if there's been another email I've missed).

We're hoping to go back to the PMO in the next few days to test the revised ToRs, but need to have a firm position on BOM.

Perhaps we can discuss at estimates (expect we'll be there around 2.30pm).

Cheers

David

From: Gruen, David

Sent: Monday, 13 October 2014 10:28 AM

To: Parker, David (Protected); Wilson, Helen; Hazlehurst, David; Taylor, Marie Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Thanks David. This came up in the first of my catch-ups with Gordon last week:

My Parliamentary Secretary has brought forward implemention of a recommendation from the previous quality assurance exercise to establish strengthened governance oversight of the Bureau's ongoing work in this area. This will involve a panel of eminent persons, particularly with statistical skills, which will meet annually to review the Bureau's work. (It is important to emphasise that this is primarily a matter of meteorology, statistics and data assurance - not a matter of climate science.) This will be a public and ongoing process. Should you have views to strengthen this process we would welcome them.

"meeting annually" doesn't sound sufficiently urgent to allay the concerns raised by previous criticism of the BoM. Gordon and I discussed the benefits of the panel (with all members chosen by institutions other than the BoM) getting some work done to confirm the veracity of the BoM's data and methods by the end of the year, so it can feed into the Taskforce processes by early next year.

Does that make sense and can it be done?

David G (there are too many David's in this process!!)

From: Parker, David (Protected)

Sent: Friday, 10 October 2014 6:05 PM

To: Wilson, Helen; Hazlehurst, David; Gruen, David; Taylor, Marie Subject: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

Colleagues

s22

As foreshadowed, here is a copy of the draft reply re the taskforce – not yet sent I understand

Regards David

IMPORTANT: This message, and any attachments to it, contains information that is confidential and may also be the subject of legal professional or other privilege. If you are not the intended recipient of this message, you must not review, copy, disseminate or disclose its contents to any other party or take action in reliance of any material contained within it. If you have received this message in error, please notify the sender immediately by return email informing them of the mistake and delete all copies of the message from your computer system.

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s22

From:

Hazlehurst, David

Sent: To: Tuesday, 21 October 2014 12:44 PM Gruen, David; Parker, David (Protected)

Subject:

RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Thanks David. Extra question from me.

Where's your thinking at on David G's other comment ...

""meeting annually" doesn't sound sufficiently urgent to allay the concerns raised by previous criticism of the BoM. Gordon and I discussed the benefits of the panel (with all members chosen by institutions other than the BoM) getting some work done to confirm the veracity of the BoM's data and methods by the end of the year, so it can feed into the Taskforce processes by early next year."

We really need something on this point (very soon) to test with the PMO. Otherwise we're likely to be back where we started,

Happy to discuss

Cheers

David

From: Gruen, David

Sent: Tuesday, 21 October 2014 11:00 AM To: Parker, David (Protected); Hazlehurst, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

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Thx

David G

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s22

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To: Hazlehurst, David; Gruen, David

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

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Cheers David

From: Hazlehurst, David [mailto:David.Hazlehurst@pmc.gov.au]

Sent: Monday, 20 October 2014 1:35 PM To: Gruen, David; Parker, David (Protected)

Subject: RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

PROTECTED

Hi David

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Sent: Monday, 13 October 2014 10:28 AM

To: Parker, David (Protected); Wilson, Helen; Hazlehurst, David; Taylor, Marie **Subject:** RE: Draft Minister Reply - Hunt 2015 UNFCCC [SEC=PROTECTED]

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Sent: Friday, 10 October 2014 6:05 PM

s22

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Colleagues

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Regards David

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s22

From:

Pearce, Kelly

Sent:

Wednesday, 3 September 2014 6:19 PM

To:

Cc: Subject:

FW: BOM and homoginising weather data [DLM=For-Official-Use-Only]

UNCLASSIFIED For Official Use Only

Hi s22

In addition to the article I sent you (which is a simpler explanation than the BOM one), below is the media release put out by the Bureau of Meteorology, setting out the facts around its climate records and how they are managed (it can be found at http://www.bom.gov.au/announcements/media releases/ho/20140827.shtml).

We understand Senator Birmingham's office has chosen not to buy into this and has not been responding to media enquiries on this issue and all requests for information are being directed to the Bureau. The media has started to die down, although The Australian is still seeking some information from the Bureau and there is a possibility the ABC's Media Watch may do a segment on how the issue has been reported. Some of the questioning may be about correcting data at specific monitoring sites, such as Rutherglen, and a claim that this was not according to BOMs normal practice, which BOM disputes.

Below are some short talking points you could use if required:

- The way the Bureau manages its climate records is recognised internationally as amongst the best in the world.
 - It uses a scientific approach that has been peer-reviewed.
 - o The approach is transparent all data is publicly available on the Bureau's website.
- Given the technical nature of the issue, any specific enquiries (such as on data for specific monitoring sites like Rutherglen) should be directed to the Bureau.

Please let me know if you need anything further.

Regards, Kelly

Bureau of Meteorology Media Statement - Climate Records

Contrary to assertions in some parts of the media, the Bureau is not altering climate records to exaggerate estimates of global warming.

Our role is to make meteorological measurements, and to curate, analyse and communicate the data for use in decision making and to support public understanding.

To undertake these tasks, the Bureau employs highly skilled technicians and scientists and invests in high quality monitoring equipment.

The Bureau measures temperature at nearly 800 sites across Australia, chiefly for the purpose of weather forecasting. The Australian Climate Observations Reference Network - Surface Air Temperature (ACORN-SAT) is a subset of this network comprising 112 locations that are used for climate analysis. The ACORN-SAT stations have been chosen to maximise both length of record and network coverage across the continent. For several years, all of this data has been made publicly available on the Bureau's web site.

Temperature records are influenced by a range of factors such as changes to site surrounds (eg. trees casting shade or influencing wind), measurement methods and the relocation of stations (eg. from a coastal to more inland location). Such changes introduce biases into the climate record that need to be adjusted for prior to analysis.

Adjusting for these biases, a process known as homogenisation, is carried out by meteorological authorities around the world as best practice, to ensure that climate data is consistent through time.

At the Bureau's request, our climate data management practices were subject to a rigorous independent peer-review in 2012. A panel of international experts found the Bureau's data and methods were amongst the best in the world.

The Bureau's submissions to the review were published on the Bureau's website, as were the findings of the review panel.

The Bureau's methods have also been published in peer-reviewed scientific journals.

Both the <u>raw</u> and adjusted <u>ACORN-SAT data</u> and the larger unadjusted <u>national data set</u> all indicate that Australian air temperatures have warmed over the last century. This finding is consistent with observed warming in the oceans surrounding Australia. These findings are also consistent with those of other leading international meteorological authorities, such as NOAA and NASA in the United States and the UK MetOffice. The high degree of similarity is demonstrated below in *Figure 1*.

The Bureau strives to ensure that its data sets and analysis methods are as robust as possible. For this reason we place considerable emphasis on quality assurance, transparency and communication. The Bureau welcomes critical analysis of the Australian climate record by others through rigorous scientific peer review processes.

For further information: www.bom.gov.au/climate/change/acorn-sat/

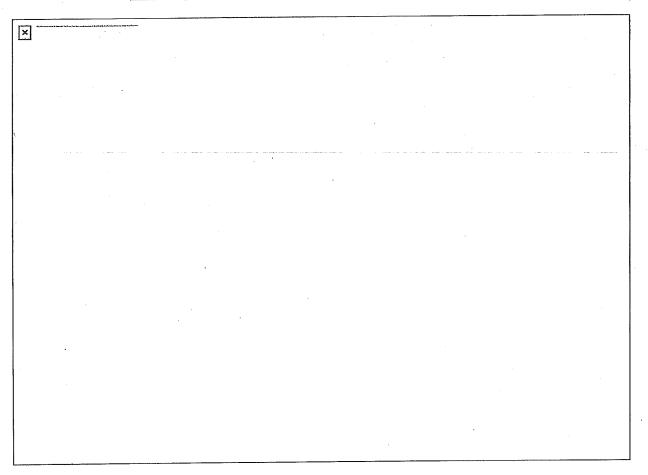


Figure 1: Comparison of the time series (1911-2010) using analysis grid sets from 18 different sources, including from adjusted and unadjusted data and from analyses from international authorities. All anomaly values in degrees C, calculated as a difference between the annual values and the respective with respect to 1981-2010 means. Satellite time series of the lower atmosphere are plotted for 1979-2010. Source: <u>CAWCR Technical Report No. 050</u>, Page 21, Figure 11.

From: Pearce, Kelly

Sent: Wednesday, 3 September 2014 10:33 AM

To:

s22

Cc: s22

Subject: BOM and homoginising weather data [SEC=UNCLASSIFIED]

UNCLASSIFIED



As discussed, short article from ARC Centre on Climate Science. We will get more info for you today.

Regards

Kelly

Kelly Pearce

acting First Assistant Secretary
Industry, Infrastructure & Environment Division |
Department of the Prime Minister and Cabinet



PO Box 6500 CANBERRA ACT 4001

http://theconversation.com/no-the-bureau-of-meteorology-is-not-fiddling-its-weather-data-31009

No, the Bureau of Meteorology is not fiddling its weather data

ver the past week or so, the Bureau of Meteorology has stood accused of fudging its temperature data records to emphasise warming, in a series of articles in The Australian. The accusation hinges on the...

Authors



Lisa Alexander

<u>Chief Investigator ARC Centre of Excellence for Climate System Science and Senior Lecturer Climate Change Research Centre at UNSW Australia</u>



Andy Pitman

Director of the ARC Centre of Excellence for Climate System Science at UNSW Australia

Disclosure Statement

Lisa Alexander receives funding from the Australian Research Council.

Andy Pitman receives funding from the Australian Research Council.

UNSW Australia does not contribute to the cost of running The Conversation. Find out more.

Over the past week or so, the Bureau of Meteorology has stood accused of <u>fudging its temperature data</u> records to emphasise warming, in a series of articles in The Australian. The accusation hinges on the <u>method that the Bureau uses</u> to remove non-climate-related changes in its weather station data, referred to as "data homogenisation".

If true, this would be very serious because these data sets underpin major climate research projects, including deducing how much <u>Australia is warming</u>. But it's not true.

Crunching the numbers

Data homogenisation techniques are used to varying degrees by many national weather agencies and climate researchers around the world. Although the World Meteorological Organization has <u>guidelines for data homogenisation</u>, the methods used vary from country to country, and in some cases no data homogenisation is applied.

Homogenisation can be necessary for a range of reasons: sometimes stations move, instruments or reporting practices change, or surrounding trees or buildings at a site are altered. Changes can be sudden or gradual. These can all introduce artificial "jumps" (in either direction) in the resulting temperature records. If left uncorrected, these artifacts could leave the data appearing to show spurious warming or cooling trends.

There are many methods that can be used to detect these "inhomogeneities", and there are other methods (although much harder to implement) that can adjust the data to make sure it is consistent through time. The Bureau uses such a technique to create its <u>Australian Climate Observations Reference Network – Surface Air Temperature (ACORN-SAT)</u> data set. These data are then used to monitor climate variability and change in Australia, to provide input for the <u>State of the Climate</u> reports, and for other purposes too.

In a statement about its climate records, the Bureau said:

The Bureau measures temperature at nearly 800 sites across Australia, chiefly for the purpose of weather forecasting. The ACORN-SAT is a subset of this network comprising 112 locations that are used for climate analysis. The ACORN-SAT stations have been chosen to maximise both length of record and network coverage across the continent. For several years, all of this data has been made publicly available on the Bureau's web site.

Complex methods

Australia has played a leading role in developing this type of complex data-adjustment technique. In 2010, the Bureau's Blair Trewin wrote a comprehensive article on the types of inhomogeneities that are found in land temperature records. As a result the <u>International Surface Temperature Initiative (ISTI)</u> has set up a working group to compare homogenisation methods.

Some of our own research at the <u>ARC Centre of Excellence for Climate System Science</u> has tried, with the help of international colleagues, to assess the impacts that different choices can make when using these different homogenisation methods. Much of our work focuses on temperature extremes. We have studied

the impacts on large-scale extreme temperature data of changing station networks, different statistical techniques, homogenised versus non-homogenised data, and other uncertainties that might arise.

Our data on extreme temperature trends show that the warming trend across the whole of Australia looks bigger when you don't homogenise the data than when you do. For example, the adjusted data set (the lower image below) shows a cooling trend over parts of northwest Australia, which isn't seen in the raw data.