
From: Roy Spencer <roywspencer@hotmail.com>
Sent: Tuesday, April 15, 2025 5:31 PM
To: John Christy
Subject: RE: [4.3]Apr15[JC] CO2 impact on global climate

Ok, thanks.

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: John Christy <climateman60@gmail.com>
Date: 4/15/25 4:29 PM (GMT-06:00)
To: Ross McKittrick <ross.mckittrick@gmail.com>, Roy Spencer <roywspencer@hotmail.com>, Steve Koonin <steven.koonin@gmail.com>
Subject: [4.3]Apr15[JC] CO2 impact on global climate

Roy

I see you have section 4.3. Attached is a short background on the vehicle thing with calculations I did for the Vermont Trial (which eventually led to the vehicle rules and the EF) and my work on the EPA SAB vehicle rule before I was canned.

John C.

From: Fisher, Travis
Sent: Monday, July 28, 2025 9:06 AM
To: Roy Spencer; Ross McKitrick; John Christy
Cc: Steven Koonin; Judith Curry; Loucks, Joshua; Cohen, Seth
Subject: RE: [EXTERNAL] RE: July 23rd version - final (?)

Hi Roy,

The report should be released tomorrow, likely in the afternoon. I'll make sure everyone here is in the loop when it goes out. I believe the Secretary is aware that he owes you all some glowing public comments and an open bar tab at some point.

On media issues, my preference is to let the professionals take the lead. I suggest you forward media requests to Andrea Woods in DOE's Office of Public Affairs so she's aware of the questions: andrea.woods@hq.doe.gov

That said, people will want to talk to the CWG authors. If you're willing to talk to reporters, just let Andrea know. She should have a good sense of which ones are coming to this issue in good faith and can set up interviews.

Best,
Travis

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Monday, July 28, 2025 6:01 AM
To: Fisher, Travis <travis.fisher@hq.doe.gov>; Ross McKitrick <ross.mckitrick@gmail.com>; John Christy <climateman60@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: Re: [EXTERNAL] RE: July 23rd version - final (?)

Travis:

Any word on when the Report will be released?
I'm leaning toward not responding to any media queries, unless others think it's needed at some point.

-Roy

From: Fisher, Travis <travis.fisher@hq.doe.gov>
Sent: Friday, July 25, 2025 3:52 PM
To: Ross McKitrick <ross.mckitrick@gmail.com>; John Christy <climateman60@gmail.com>
Cc: Roy Spencer <roywspencer@hotmail.com>; Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth

<seth.cohen@hq.doe.gov>

Subject: RE: [EXTERNAL] RE: July 23rd version - final (?)

Hi all,

I have a request for a minor change in the preface. The last line presently reads: "We are also grateful to a team of anonymous peer reviewers whose input helped improve the final report."

Would it cause any heartburn to change the line to read "We are also grateful to a team of anonymous **DOE and national lab** reviewers whose input helped improve the final report."?

Best,

Travis

PS – the Secretary is reading the updated version tonight.

From: Ross McKittrick <ross.mckittrick@gmail.com>

Sent: Thursday, July 24, 2025 7:12 PM

To: John Christy <climateman60@gmail.com>

Cc: Roy Spencer <roywspencer@hotmail.com>; Steven Koonin <steven.koonin@gmail.com>; Fisher, Travis <travis.fisher@hq.doe.gov>; Judith Curry <curry.judith@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>

Subject: Re: [EXTERNAL] RE: July 23rd version - final (?)

Didn't even think of that. If it comes up I guess I'd invoke McShane and Weiner and say the ipcc has never addressed the problem that the millennial scale back-projections at the hemispheric scale are simply too noisy to draw precise conclusions. And nothing core to our report depended one way or the other on those issues.

On Thu, Jul 24, 2025 at 5:59 PM John Christy <climateman60@gmail.com> wrote:

Ross

What will you say when asked why we didn't deal with all the Hockey Sticks from Mann to IPCC AR6?

John C.

Sent from my iPhone

On Jul 24, 2025, at 4:27 PM, Roy Spencer <roywspencer@hotmail.com> wrote:

Dang! Wish I had thought of getting a Canadian phone!

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Thursday, July 24, 2025 3:20 PM
To: Steven Koonin <steven.koonin@gmail.com>
Cc: John Christy <climateman60@gmail.com>; Roy Spencer <roywspencer@hotmail.com>; Fisher, Travis <travis.fisher@hq.doe.gov>; Judith Curry <curry.judith@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: Re: [EXTERNAL] RE: July 23rd version - final (?)

They'll have trouble reaching me. My Canadian phone died and I won't be able to replace it and reactivate the number until I'm back home next week.

On Thu, Jul 24, 2025 at 3:14 PM Steven Koonin <steven.koonin@gmail.com> wrote:

Got a similar call from Scott Waldmann, but let it go to voicemail.

He said he wanted to speak on background about the endangerment finding and “some of the climate work” I’ve been doing.

I’ve not returned his call.

From: John Christy <climateman60@gmail.com>
Sent: Thursday, July 24, 2025 3:13 PM
To: Ross McKittrick <ross.mckittrick@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; Roy Spencer <roywspencer@hotmail.com>; Fisher, Travis <travis.fisher@hq.doe.gov>; Judith Curry <curry.judith@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: Re: [EXTERNAL] RE: July 23rd version - final (?)

Just got a call from Scott at Politico stating he knows I've worked on a DoE science report. I said no comment. (He uses his wife's cell phone, so you don't know it's him when you pick up.)

John C.

On Thu, Jul 24, 2025 at 10:24 AM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

PS here are the report files now with a hi-res logo included.

On Thu, Jul 24, 2025 at 10:18 AM Steven Koonin <steven.koonin@gmail.com> wrote:

If you want to shorten Ross' proposed title a bit, it could read:

Department of Energy Releases Report That Challenges Common Misconceptions About Climate Change

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Thursday, July 24, 2025 11:16 AM
To: John Christy <climateman60@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; Roy Spencer <roywspencer@hotmail.com>; Fisher, Travis <travis.fisher@hq.doe.gov>; Judith Curry <curry.judith@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: Re: [EXTERNAL] RE: July 23rd version - final (?)

The title might need to say a bit more, e.g.

Department of Energy Releases Report of Climate Working Group That Challenges Common Misconceptions About Climate Change

and then the remainder follows the text as shown in Steve's edit, with "renowned" replaced by "eminent", there being no adjective that won't draw scorn from the haters, but we might as well pick the word we like best.

On Thu, Jul 24, 2025 at 9:09 AM John Christy <climateman60@gmail.com> wrote:

Looks good.

John C.

On Thu, Jul 24, 2025 at 8:59 AM Steven Koonin <steven.koonin@gmail.com> wrote:

And with me.

SEK

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Thursday, July 24, 2025 9:49 AM
To: Fisher, Travis <travis.fisher@hq.doe.gov>; Steven Koonin <steven.koonin@gmail.com>; 'John Christy' <climateman60@gmail.com>
Cc: 'Judith Curry' <curry.judith@gmail.com>; 'Ross McKittrick' <ross.mckittrick@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: RE: [EXTERNAL] RE: July 23rd version - final (?)

Fine with me.

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: "Fisher, Travis" <travis.fisher@hq.doe.gov>

Date: 7/24/25 8:42 AM (GMT-06:00)

To: Steven Koonin <steven.koonin@gmail.com>, 'John Christy'
<climateman60@gmail.com>

Cc: 'Judith Curry' <curry.judith@gmail.com>, 'Ross McKitrick'
<ross.mckitrick@gmail.com>, "Loucks, Joshua" <Joshua.Loucks@hq.doe.gov>, "Cohen,
Seth" <seth.cohen@hq.doe.gov>, "Roy W. Spencer" <roywspencer@hotmail.com>

Subject: RE: [EXTERNAL] RE: July 23rd version - final (?)

Ok I'm going with eminent for now. All of this is subject to review by the office of public affairs, so we'll see what sticks.

In this next iteration I added your bios at the end (straight copy/paste from the report). Are you all comfortable if we decide to take that approach?

From: Steven Koonin <steven.koonin@gmail.com>

Sent: Thursday, July 24, 2025 9:21 AM

To: Fisher, Travis <travis.fisher@hq.doe.gov>; 'John Christy' <climateman60@gmail.com>

Cc: 'Judith Curry' <curry.judith@gmail.com>; 'Ross McKitrick' <ross.mckitrick@gmail.com>;
Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>; 'Roy W.
Spencer' <roywspencer@hotmail.com>

Subject: RE: [EXTERNAL] RE: July 23rd version - final (?)

Perhaps “eminent” .

Although in some eyes, “notorious” would be appropriate.

From: Fisher, Travis <travis.fisher@hq.doe.gov>
Sent: Thursday, July 24, 2025 9:07 AM
To: John Christy <climateman60@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>; Ross McKittrick <ross.mckittrick@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>; Roy W. Spencer <roywspencer@hotmail.com>
Subject: RE: [EXTERNAL] RE: July 23rd version - final (?)

I don't want anyone to think of you all as circus performers! I was looking for a synonym for “distinguished,” with the bonus of being well-known. I'm open to ideas: [RENOWNED Synonyms: 104 Similar and Opposite Words | Merriam-Webster Thesaurus](#)

From: John Christy <climateman60@gmail.com>
Sent: Thursday, July 24, 2025 8:53 AM
To: Fisher, Travis <travis.fisher@hq.doe.gov>
Cc: Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>; Ross McKittrick <ross.mckittrick@gmail.com>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>; Roy W. Spencer <roywspencer@hotmail.com>
Subject: Re: [EXTERNAL] RE: July 23rd version - final (?)

Travis

“Renowned” sounds a little like a circus performer.

I wonder how many reporters will actually read the whole document? I suspect one of our common answers to their questions is, “just read the report!”

John C.

Sent from my iPhone

On Jul 23, 2025, at 8:28 PM, Fisher, Travis <travis.fisher@hq.doe.gov> wrote:

It's a heck of a report. I can't wait to see where we go from here!

Here's my first attempt at a press release—please make any edits or suggestions you like.

From: Steven Koonin <steven.koonin@gmail.com>
Sent: Wednesday, July 23, 2025 5:50 PM
To: 'Judith Curry' <curry.judith@gmail.com>; 'Ross McKitrick' <ross.mckitrick@gmail.com>
Cc: Fisher, Travis <travis.fisher@hq.doe.gov>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>; 'John Christy' <climateman60@gmail.com>; 'Roy W. Spencer' <roywspencer@hotmail.com>
Subject: [EXTERNAL] RE: July 23rd version - final (?)

Second that! Amazing effort, Ross.

SEK

From: Judith Curry <curry.judith@gmail.com>
Sent: Wednesday, July 23, 2025 5:49 PM
To: Ross McKitrick <ross.mckitrick@gmail.com>
Cc: Fisher, Travis <travis.fisher@hq.doe.gov>; Loucks, Joshua <Joshua.Loucks@hq.doe.gov>; Cohen, Seth <seth.cohen@hq.doe.gov>; John Christy <climateman60@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Steven Koonin <steven.koonin@gmail.com>
Subject: Re: July 23rd version - final (?)

congrats to us all, and special thanks to RM for pulling it all together

On Wed, Jul 23, 2025 at 2:19 PM Ross McKitrick
<ross.mckitrick@gmail.com> wrote:

Attached in MSWord and PDF formats.

All of Steve's corrections incorporated, also John's stray L and everything else I'm aware of.

The only remaining correction I have not been able to make is using a high-res version of the DoE logo. If that becomes the main focus of public criticism I will say we did well.

Ross

--

Judith Curry, President
CFAN - Climate Forecast Applications Network
<image001.jpg> Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

This message does not originate from a known Department of Energy email system.

Use caution if this message contains attachments, links or requests for information.

<CWG Press Release.docx>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Monday, May 12, 2025 10:42 PM
To: Ross McKitrick
Cc: Steven Koonin; Judith Curry; John Christy; Roy W. Spencer
Subject: Process for edits & comments
Attachments: 0.Intro.May1 [SEK] TF comment.docx

Hi all,

I know some of us will spend the day tomorrow at the Heritage event or streaming it: <https://www.heritage.org/climate/event/the-sky-falling-reconsidering-the-endangerment-finding>

Very soon (probably later this week), I'll go through each chapter and offer comments regarding readability for non-experts and highlighting anything that seems out of place. What is the best way to do that? I don't seem to have edit/comment rights in Dropbox, which I think is the right approach because I'm sure I would only ruin your work.

Is it ok with you all if I send an email with an attachment once I've completed reading a chapter? My guess is I'll only have minor comments in bubbles to provide killer insights like "please spell out," "this could use more explanation," or "I don't understand this at all." Maybe I'll get bold and ask, "How does this square with [insert inferior analysis]?"

I promised you all that I won't try to change the substance at all. If that's how any of my comments come across, then I've clearly made a mistake, and you should feel free to ignore me or call me out. I intend to keep my promise and make sure you all are 100% comfortable with the report. I'm confident we'll get there, especially since we're keeping the whole effort under Secretary Wright. And the substance is truly impressive, by the way.

Attached is my read of the intro. In case you're reading on a phone or just don't want to open the file, my only comment was on the paragraph about this team not being wrapped up in the EPA process. I wrote:

You could say it's public knowledge that the EPA announced in March 2025 that it was "kicking off a formal reconsideration of the 2009 Endangerment Finding in collaboration with the Office of Management and Budget (OMB) and other relevant agencies. EPA also intends to reconsider all of its prior regulations and actions that rely on the Endangerment Finding."
<https://www.epa.gov/newsreleases/trump-epa-kicks-formal-reconsideration-endangerment-finding-agency-partners>

I think you can acknowledge that this effort is designed to inform the EPA's policymaking process.

If you want to reiterate your independence from EPA, especially EPA's political team, I think that's completely fair. They've been pretty hard for me to get a hold of, so even I have a level of independence that has basically happened by accident!

Best,
Travis

From: Judith Curry <curry.judith@gmail.com>
Sent: Thursday, July 10, 2025 9:33 AM
To: Ross McKitrick
Cc: Steven Koonin; Travis Fisher; John Christy; Roy Spencer; Josh Loucks
Subject: Re: a follow-on thought

I'm convinced by Ross' argument. NASEM is hopeless re climate change (McNutt is a menace). I suggest DOE put together a blue ribbon list of reviewers (either a committee, or preferably individual reviews).

On Wed, Jul 9, 2025 at 8:50 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:

I understand the temptation to have a group like NASEM undertake a review because the payoff, if they do a fair job of it, is additional credibility for the report. But we have to be realistic. NASEM has never dealt with climate change in anything like a fair or objective manner and they are not going to now. John and I watched up close when they made a total hash of the hockey stick inquiry. They rewrote the terms of reference to shield Mann, buried all the evidence confirming Steve's and my critique and then in the press conference allowed Gerald North to misrepresent the findings and claim vindication for Mann. Every time since then that they've looked at related topics they've deferred to the narrative, including in their review of NCA5.

When our report is released the narrative engineers will politicize it as the Trump report and look to the academic community to try to discredit it. If NASEM is asked to review it, while we can dream up a list of reasonable people to write the review, Marcia McNutt will be in charge. She will think of the headline she wants to see in the NYT and work backwards to the required report and the required team of writers. The press release might have lots of complimentary things to say but will include a killer quote like "While the report makes some valid points, including that climate science must continue to improve the models used to study climate dynamics, it is unfortunately biased and incomplete, and fails to provide a comprehensive summary of the current evidence regarding the seriousness of the climate crisis." Or something along those lines. Once they get to set the narrative and the headlines all the objections in the world from us will count for naught.

I reiterate my suggestion that the report be published by the DoE and then submitted by Sec Wright as a comment on the EF filing by the EPA.

On Wed, Jul 9, 2025 at 12:26 PM Judith Curry <curry.judith@gmail.com> wrote:

Graeme Stephens is another good one (not economist, radiation and general climate), he is NAE

On Wed, Jul 9, 2025 at 8:59 AM Steven Koonin <steven.koonin@gmail.com> wrote:

I know Andrew Gelman at Columbia is a statistician who's been critical of statistical methods in climate:

https://en.wikipedia.org/wiki/Andrew_Gelman

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Wednesday, July 9, 2025 11:39 AM
To: Judith Curry <curry.judith@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Roy Spencer <roywspencer@hotmail.com>; Josh Loucks <loucksj14@gmail.com>
Subject: Re: a follow-on thought

I'd want at least one statistician or econometrician.

On Wed, Jul 9, 2025 at 10:04 AM Judith Curry <curry.judith@gmail.com> wrote:

other NAS members:

Kerry Emanuel

Isaac Held

On Wed, Jul 9, 2025 at 6:52 AM Steven Koonin <steven.koonin@gmail.com> wrote:

Another possible “peer” group would be some subset of the authors of NCA5 Chapters 1-3 and/or the (former) USGCRP or NCA5 leadership.

SEK

From: Judith Curry <curry.judith@gmail.com>
Sent: Wednesday, July 9, 2025 9:31 AM
To: Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>; Ross McKittrick <ross.mckittrick@gmail.com>; Roy Spencer <roywspencer@hotmail.com>; Josh Loucks <loucksj14@gmail.com>
Subject: Re: a follow-on thought

I agree, NASEM would be the appropriate group. The challenge would be to get NASEM to appoint a serious group of scientists, not like the group they appointed to review NCA5. Ideally the recommendations would come from BASC, not the CRC

On Tue, Jul 8, 2025 at 6:05 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

This idea would get us a lot closer to peer review, as opposed to relying exclusively on public comments. I like it!

Are there other, similarly situated peer groups we should consider? I plan to propose this soon, but I'll give us all a few days to consider it.

On Tue, Jul 8, 2025 at 7:46 PM Steven Koonin <steven.koonin@gmail.com> wrote:

If the Secretary is interested in promoting a serious scientific discussion, he could charter NASEM to do a review of CWG25.

NASEM would find it difficult to say no, given their charter of advising the USG and current financial difficulties. I'd guess there'd be plenty of volunteers.

A review shouldn't take very long (after all, CWG was written in about 2 months). And shouldn't be very expensive (a committee of 5 volunteers, $\frac{1}{2}$ a staff member, 15% overhead ●)

Once NASEM produced a review, might even have a $\frac{1}{2}$ - or 1-day workshop/conference to sort out differences.

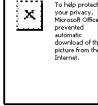
SEK

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Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

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Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

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CFAN - Climate Forecast Applications Network
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curry.judith@cfanclimate.com | +1.404.803.2012
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<http://www.cfanclimate.net>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Thursday, April 24, 2025 3:06 PM
To: John Christy
Cc: Ross McKittrick; Roy Spencer; Steve Koonin; Judith Curry
Subject: Re: Apr 20 update

Hi all,

I've been waiting to chime in because I was hoping for more certainty by now, but the only thing I have to add is that Ross has won his fight with the White House about joining via contract (even though Ross is an evil foreigner from a strange place where people are conspicuously nice). It took a call from the Secretary, but we prevailed. (Ross, you'll be hearing more very soon.)

I can also confirm all the other information that was shared so far by Ross and John. The Secretary wants a thorough report that you all are proud of. If the EPA declines to use it, or demands an April 30 deadline, so be it, but the Secretary will move forward with the full report in any case.

The remaining variable (for me, anyway) is what to offer EPA if they demand a document before you all are comfortable putting your names on it. My preference is to supply them with something, even if it's in rough shape and unfit for attribution. Please think about what you all might want to do in that case because I think it's still a strong possibility. The main argument against supplying something in that case is that it would essentially be an early draft of the report Secretary Wright wants, so think about ways to differentiate the documents, etc.

Thanks again for your hard work under an impossible deadline. I'll update you all as soon as we get a new (interim/rushed) deadline from EPA. It's my understanding that the Secretary initially asked for May 15, but it's possible he will ask for even more time after hearing directly from Ross about how helpful it would be to get another full month (or more). Wright and Zeldin are traveling together today, so we should have an answer soon.

Best,
Travis

On Thu, Apr 24, 2025 at 1:12 PM John Christy <climateman60@gmail.com> wrote:
All

My plane was late, so I just missed the meeting with Ross, Travis and the Secretary, but did meet with Ross and Travis for over an hour immediately afterward.

Ross's summary below is what I gathered from our meeting. My sense was that the difficulties being encountered are related to a lack of communication between EPA and DoE, and even the White House, aided by the general sand-in-the-gears that some career federal employees are supplying. As Ross indicates we may have two phases - a generic, "un-authored" document fairly soon and a compete "authored" document later. The purpose of these documents is still murky as the challenge to the EF may or may not use them, but the Secretary absolutely wants the products. I mentioned again that an authored document would be a real commitment because we would have to deal with answering criticism as well as dealing with personal attacks for months.

As Ross said, we should be hearing more very soon.

John C.

John Christy
Director, Earth System Science Center
Professor, Atmos and Earth Science
Alabama State Climatologist
The University of Alabama in Huntsville
climateman60@gmail.com

On Apr 23, 2025, at 7:49 AM, Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Thanks Steve and Roy. I have a few wording suggestions but am off to a meeting so I'll write later.

Travis and I had a meeting with Secretary Wright yesterday. I'll let Travis provide a more complete summary but my takeaway was:

- Chris was unaware of the problems we had encountered until we briefed him
- The current deadline and lack of direction conflicts with his vision of the project
- He is going to try to get more time for us; and there might be an option which gives us a lot more time
- He wants us to have the time and support to produce a substantive document with our names on it. He understands why if we are held to an Apr 30 deadline we would not be able to do that.
- More to come as he digs into the situation.

On Wed, Apr 23, 2025 at 6:59 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I've made some edits to Steve's document (attached).

The first (rather large) edit has to do with the implication that climate change is only due to changes in the radiative energy balance of the Earth, which I (and Dick Lindzen) disagree with. How to handle this, though, is not that obvious to me. I realize we are addressing human influences on climate, but I don't think we should accept such an anthropocentric view of climate change at the outset... This comes up later, too, in the discussion of global radiative forcing since the 1700s... We have no clue what kinds of other energy imbalances (either at the surface or at top-of-atmosphere) might have been occurring due to Nature since the 1700s.

Again, I'm open to suggestions. Maybe such issues are not necessary to mention if even the putative human forcings lead to non-damaging impacts (?)

-Roy

From: Steven Koonin <steven.koonin@gmail.com>
Sent: Tuesday, April 22, 2025 11:05 PM

To: 'Ross McKittrick' <ross.mckittrick@gmail.com>; 'Travis Fisher' <travis.scott.fisher@gmail.com>; 'John Christy' <climateman60@gmail.com>; 'Roy W. Spencer' <roywspencer@hotmail.com>; 'Judith Curry' <curry.judith@gmail.com>
Subject: RE: Apr 20 update

Attached is my take on an integrated Part 1 (together with a modest introduction). I've incorporated relevant material from others.

1. See if you like the narrative arc, which to me feels pretty natural. Note that the subsections turned out to have somewhat different titles
2. Most problematic for me is the technical level. Trying to avoid too much "Climate 101", but some of the material, particularly in Parts 2 and 3 will get pretty technical
3. I'm feeling like it lacks punch. "So what" is missing
4. Obviously, the mechanics need work. Formatting, citations, better figures, ...
5. If you all aren't too dissatisfied with this, I'd propose doing a similar job on Part 2 in the next few days.

SEK

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Sunday, April 20, 2025 8:09 PM
To: Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>
Subject: Apr 20 update

I've created a new dropbox folder called April 20 version which contains the revised outline, the associated chapters and the reference list for all my sections. I took the documents done prior to this point and renumbered the files and sections accordingly.

The new outline is (bold denotes draft posted)

Part I: Human influence on the climate

- 1 Components of anthropogenic radiative forcing and their history to date
- 2 The carbon cycle and future emission scenarios**
- 3 Aerosols and the uncertainties associated with them

Part II: Climate response to anthropogenic influence

4 Measuring climate sensitivity to CO₂ doubling

- 5 Models versus observations in recent past**
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Part III: Impacts on ecosystems and society

- 9 Managing risks of extreme weather**

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14 Estimates of the Social Cost of Carbon

15 US vehicle-based CO2 emissions and the global climate

Steve: can you draft 1 & 3?

Judy: hoping you can do 8, 10 and 14 (I have info on 14 as well.)

John I think you have something on 15.

Cheers,
Ross

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Thursday, April 24, 2025 6:05 PM
To: John Christy
Cc: Ross McKittrick; Roy Spencer; Steve Koonin; Judith Curry
Subject: Re: Apr 20 update

Great news!

The Secretary just told me our new deadline is May 28th. I feel pretty strongly that this is a firm and final deadline, but it also feels like the best case scenario because we have renewed buy-in that EPA will wait for this work and include it in its rulemaking.

Please let me know how I can support your work. I've been intentionally hands-off so far, but I want you to feel free to assign research, drafting, or editing duties to me as needed.

Ross suggested we increase our coordination with EPA, particularly the legal team drafting the rulemaking. If you want to be included in those conversations, please let me know. But I'm also happy to handle the legal and policy issues if you'd rather not be involved in that nexus. The goal would be to make sure policymakers get your input on all the scientific questions they feel are relevant.

As you all get onboarded in various ways, please connect with me (ideally by phone) if you have any questions or if something about the offer or paperwork doesn't seem quite right. I'll work with the folks at DOE to make sure everything turns out the way you want.

Finally, the Secretary wanted me to send his thanks and appreciation for taking on this work. Thank you!

Best,
Travis

On Thu, Apr 24, 2025 at 3:05 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

Hi all,

I've been waiting to chime in because I was hoping for more certainty by now, but the only thing I have to add is that Ross has won his fight with the White House about joining via contract (even though Ross is an evil foreigner from a strange place where people are conspicuously nice). It took a call from the Secretary, but we prevailed. (Ross, you'll be hearing more very soon.)

I can also confirm all the other information that was shared so far by Ross and John. The Secretary wants a thorough report that you all are proud of. If the EPA declines to use it, or demands an April 30 deadline, so be it, but the Secretary will move forward with the full report in any case.

The remaining variable (for me, anyway) is what to offer EPA if they demand a document before you all are comfortable putting your names on it. My preference is to supply them with something, even if it's in rough shape and unfit for attribution. Please think about what you all might want to do in that case because I think it's still a strong possibility. The main argument against supplying something in that case is that it would

essentially be an early draft of the report Secretary Wright wants, so think about ways to differentiate the documents, etc.

Thanks again for your hard work under an impossible deadline. I'll update you all as soon as we get a new (interim/rushed) deadline from EPA. It's my understanding that the Secretary initially asked for May 15, but it's possible he will ask for even more time after hearing directly from Ross about how helpful it would be to get another full month (or more). Wright and Zeldin are traveling together today, so we should have an answer soon.

Best,
Travis

On Thu, Apr 24, 2025 at 1:12 PM John Christy <climateman60@gmail.com> wrote:

All

My plane was late, so I just missed the meeting with Ross, Travis and the Secretary, but did meet with Ross and Travis for over an hour immediately afterward.

Ross's summary below is what I gathered from our meeting. My sense was that the difficulties being encountered are related to a lack of communication between EPA and DoE, and even the White House, aided by the general sand-in-the-gears that some career federal employees are supplying. As Ross indicates we may have two phases - a generic, "un-authored" document fairly soon and a compete "authored" document later. The purpose of these documents is still murky as the challenge to the EF may or may not use them, but the Secretary absolutely wants the products. I mentioned again that an authored document would be a real commitment because we would have to deal with answering criticism as well as dealing with personal attacks for months.

As Ross said, we should be hearing more very soon.

John C.

John Christy
Director, Earth System Science Center
Professor, Atmos and Earth Science
Alabama State Climatologist
The University of Alabama in Huntsville
climateman60@gmail.com

On Apr 23, 2025, at 7:49 AM, Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Thanks Steve and Roy. I have a few wording suggestions but am off to a meeting so I'll write later.

Travis and I had a meeting with Secretary Wright yesterday. I'll let Travis provide a more complete summary but my takeaway was:

- Chris was unaware of the problems we had encountered until we briefed him
- The current deadline and lack of direction conflicts with his vision of the project

- He is going to try to get more time for us; and there might be an option which gives us a lot more time
- He wants us to have the time and support to produce a substantive document with our names on it. He understands why if we are held to an Apr 30 deadline we would not be able to do that.
- More to come as he digs into the situation.

On Wed, Apr 23, 2025 at 6:59 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I've made some edits to Steve's document (attached).

The first (rather large) edit has to do with the implication that climate change is only due to changes in the radiative energy balance of the Earth, which I (and Dick Lindzen) disagree with. How to handle this, though, is not that obvious to me. I realize we are addressing human influences on climate, but I don't think we should accept such an anthropocentric view of climate change at the outset... This comes up later, too, in the discussion of global radiative forcing since the 1700s... We have no clue what kinds of other energy imbalances (either at the surface or at top-of-atmosphere) might have been occurring due to Nature since the 1700s.

Again, I'm open to suggestions. Maybe such issues are not necessary to mention if even the putative human forcings lead to non-damaging impacts (?)

-Roy

From: Steven Koonin <steven.koonin@gmail.com>
Sent: Tuesday, April 22, 2025 11:05 PM
To: 'Ross McKittrick' <ross.mckittrick@gmail.com>; 'Travis Fisher' <travis.scott.fisher@gmail.com>; 'John Christy' <climateman60@gmail.com>; 'Roy W. Spencer' <roywspencer@hotmail.com>; 'Judith Curry' <curry.judith@gmail.com>
Subject: RE: Apr 20 update

Attached is my take on an integrated Part 1 (together with a modest introduction). I've incorporated relevant material from others.

1. See if you like the narrative arc, which to me feels pretty natural. Note that the subsections turned out to have somewhat different titles
2. Most problematic for me is the technical level. Trying to avoid too much "Climate 101", but some of the material, particularly in Parts 2 and 3 will get pretty technical
3. I'm feeling like it lacks punch. "So what" is missing
4. Obviously, the mechanics need work. Formatting, citations, better figures, ...
5. If you all aren't too dissatisfied with this, I'd propose doing a similar job on Part 2 in the next few days.

SEK

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Sunday, April 20, 2025 8:09 PM
To: Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>
Subject: Apr 20 update

I've created a new dropbox folder called April 20 version which contains the revised outline, the associated chapters and the reference list for all my sections. I took the documents done prior to this point and renumbered the files and sections accordingly.

The new outline is (bold denotes draft posted)

Part I: Human influence on the climate

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- 9 Managing risks of extreme weather**
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- 15 US vehicle-based CO₂ emissions and the global climate

Steve: can you draft 1 & 3?

Judy: hoping you can do 8, 10 and 14 (I have info on 14 as well.)

John I think you have something on 15.

Cheers,
Ross

From: Judith Curry [curry.judith@gmail.com]
Sent: 5/4/2025 3:09:39 PM
To: John Christy [climateman60@gmail.com]
CC: Roy Spencer [roywspencer@hotmail.com]; Ross McKittrick [ross.mckittrick@gmail.com]; Travis Fisher [travis.scott.fisher@gmail.com]; Steven Koonin [steven.koonin@googlemail.com]
Subject: Re: Chapter 14: U.S. Vehicle-Based CO2 Emissions and the Global Climate
Attachments: [8]_Extremes_T_P_3May[JRC] JAC.docx

Hi John, I really like this chapter, comments are attached (mostly editorial)

On Sat, May 3, 2025 at 6:47 PM John Christy <climateman60@gmail.com> wrote:
Ross

Attached is my latest work on CONUS extremes (Chapter 8). I dealt mostly with NCA5 since there won't be an NCA6 that is alarmist. I did not look at other countries since it takes years to build these kind of datasets and other countries make it hard to track down problems, let alone the data themselves.

I included something for a sidebar - PacNW 2021 heat wave which was called out by NCA5. Perhaps others might like to put a specific idea in a sidebar that goes with their chapter but is not necessarily part of the main flow.

If you want some more extreme analyses of these stations, they are quick to do. We have 31 stations in Minnesota for precipitation if you want to add an upper Midwest result. If I had time, I could build some more continuous daily datasets for precipitation, but unless I get lucky on some, they take several hours, sometimes days, per station. For several I had to manually key-in the pre-1893 data as well as other random years ... not easy for an old fart. I can assure you that no one else has datasets that are as clean as these.

I thought it appropriate to include a Canadian station (Montreal) in the Northeast given your involvement. The data were actually easy to retrieve, though they came in those dang mm.

I'll be in Hawaii Monday to Monday, but should have internet access at times. We'll be on Oahu only, so no big trips while there.

I'd like to know where Steve was driving around on our last call - couldn't tell out the car window.

Aloha.

John C.

John Christy
Director, Earth System Science Center
Professor, Atmos and Earth Science
Alabama State Climatologist
The University of Alabama in Huntsville
climateman60@gmail.com

On May 2, 2025, at 6:34 AM, Roy Spencer <roywspencer@hotmail.com> wrote:

This is quite brief, but it gets to the crux of the issue as I understand it based upon my discussions with EPA attorneys from a previous administration.

Feel free to add/subtract/edit/suggest.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Thursday, May 1, 2025 11:49 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@googlemail.com>; Judith Curry <curry.judith@gmail.com>
Subject: RE: May 1 status update

This kind of outline update is VERY helpful. I'll touch base with John and do something on U.S. vehicle emissions.

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKittrick <ross.mckittrick@gmail.com>
Date: 5/1/25 11:31 AM (GMT-06:00)
To: Travis Fisher <travis.scott.fisher@gmail.com>, "Roy W. Spencer" <rowspencer@hotmail.com>, John Christy <climateman60@gmail.com>, Steven Koonin <steven.koonin@googlemail.com>, Judith Curry <curry.judith@gmail.com>
Subject: May 1 status update

Here's the current Table of Contents as I have it and the status of each chapter

Secretary's Preface - **needed**

Introduction: Overview and purpose of document - **draft posted**

Part I: Direct human influence on ecosystems and the climate

- 1 Carbon dioxide as distinct from criteria air contaminants **draft posted**
- 2 Global greening and CO2 fertilization **draft posted**
- 3 Increasing CO2 and the alkaline oceans **draft posted**
- 4 Anthropogenic Radiative forcing
 - 4.1 Components of anthropogenic radiative forcing and their history to date **draft posted**
 - 4.2 The carbon cycle and future emission scenarios **draft posted**
 - 4.3 Aerosols and the uncertainties associated with them **draft posted**

Part II: Climate response to greenhouse gas emissions

- 5 Measuring climate sensitivity to CO2 doubling **draft posted**
- 6 Models versus observations in recent past **draft posted**
- 7 Uncertainties in analysis of attribution **draft not posted**
- 8 Evidence on trends and attributable changes in extreme weather **draft posted**
- 9 Sea level rise **draft not posted**

Part III: Impacts on ecosystems and society

- 10 Climate change and US agriculture **draft posted**
- 11 Managing risks of extreme weather **draft not posted**
- 12 Mortality risk from extreme heat and cold **draft not posted**
- 13 Climate change and the Economy
 - 13.1 Climate change and economic growth **draft posted**
 - 13.2 The Social Cost of Carbon **draft posted**
- 14 US vehicle-based CO2 emissions and the global climate **draft not posted**

Chapters without drafts posted:

Ch 7 - Judy I think you're working on that one?

Ch 9 - Judy do you have this draft? I lost track of who's working on this.

Ch11 - Should Ch 11 and 12 be merged?

- Judy has written an overview on the topic of managing risks and I have some material to add from the econ literature.
- John can you write a section about the hot/cold extremes data that you've tabulated and charted? It provides a very clear picture that the US climate is getting less extreme and the warming is mainly in the form of fewer cold events not more heat waves.
- John can you also write a section on US precipitation, drawing on our paper and your newest data collections. I've done the regressions for the data you sent me on the US SE humid zone and I'll get those tables and charts written up. I can't remember if you sent me a new batch of Pacific data, but if you did re-send and I'll run those too.
- I plan to write a section summarizing critiques of extreme event attribution. That can make use of John's data on the Pacific NW heat wave, which is a perfect test case to focus on.
- I also have material on mortality risk from a comment I submitted on the Bressler mortality paper to nature a few years ago (which was not published).

Ch 14 - Roy did you have something written on US vehicle emissions? I guess we're just working out the fractional contribution.

Also the document would benefit from a glossary of technical terms, acronyms etc. Roy could you make a start on that?

Cheers,
Ross

<U.S. Vehicle-Based CO2 Emissions and the Global Climate [RS].docx>

--



Judith Curry, President
CFAN - Climate Forecast Applications
Network
Reno, NV USA
curry.judith@cfanclimate.com |
+1.404.803.2012
<http://www.cfanclimate.net>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Wednesday, June 25, 2025 12:05 PM
To: Roy Spencer
Cc: Ross McKittrick; Cohen, Seth; Judith Curry; Steven Koonin; John Christy; Josh Loucks
Subject: Re: CO2 Coalition requests Trump admin. review of NCA5...

The briefing was just me, Audrey Barrios, and Roger Pielke Jr. after the students left. Closed door, etc. The Secretary wanted to be there but was called away for a security briefing in a SCIF.

As we approach the action date (TBD), the DOE team will develop a public affairs rollout plan. If/when you want to shift your attention to outreach, we would love your input on that. I imagine you all have extensive networks of the types of people we'd want to call on for support.

What would be a good time to meet next week to discuss next steps on the NCA5 critique? I may also have an update on the ongoing rulemaking process, but as of today I don't have any news.

I'll propose midday Wednesday (July 2), noon ET to 1pm or 1:30.

On Wed, Jun 25, 2025 at 10:59 AM Roy Spencer <roywspencer@hotmail.com> wrote:
I don't understand why Will allows his work with vanWijngaarden to be misrepresented; after all of their line-by-line calculations they still got a 2XCO2 radiative forcing in line with what the climate models radiative codes get.

Also misrepresented is the logarithmic nature of increasing CO2 on radiative forcing... its a red herring, because the models already include that effect.

Will **believes** warming will be weak (as does Dick), but that's a feedback issue, not forcing (which their paper demonstrated).

So, while it was nice for someone to redo the line-by-line calculations (which have been done before), I've been annoyed by skeptics' fawning over it.

-Roy

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Wednesday, June 25, 2025 9:48 AM
To: Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Cohen, Seth <seth.cohen@hq.doe.gov>; Roy Spencer <roywspencer@hotmail.com>; Judith Curry <curry.judith@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>; Josh Loucks <loucksj14@gmail.com>
Subject: Re: CO2 Coalition requests Trump admin. review of NCA5...

I hope the students weren't included in the briefing.

The CO2C / PPT letter is pretty thin on content and the long report raises a few pertinent issues but we already deal with them, and many more besides. The Happer/vanWijngaarden work on CO2 absorption is well done, IMO, I just wish they hadn't given up so soon on trying to get it published in a journal.

On Wed, Jun 25, 2025 at 10:05 AM Travis Fisher <travis.scott.fisher@gmail.com> wrote:
I agree with Seth. We can loop people in when the time is right, and we should be selective about our inner circle. To me, it comes down to what the Secretary wants and what's most helpful to the mission.

Along those lines, Roger Pielke Jr visited DOE HQ with some students yesterday, and the Secretary wanted to loop him in, so Audrey and I sketched out the state of play. Don't be alarmed if he asks you about the project—he heard about it from us and is sworn to secrecy within this group.

On Wed, Jun 25, 2025 at 9:42 AM Cohen, Seth <seth.cohen@hq.doe.gov> wrote:
Privileged & Confidential:

Please ignore this. I cannot stress enough the importance of our silence and restraint pending completion of this process.

Best regards,

SMC

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Wednesday, June 25, 2025 9:35:57 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>
Cc: Judith Curry <curry.judith@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; John Christy <climateaman60@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; Josh Loucks <loucksj14@gmail.com>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: [EXTERNAL] Re: CO2 Coalition requests Trump admin. review of NCA5...

Travis/Seth et al., should someone tell them? Or just ignore?

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Wednesday, June 25, 2025 8:21 AM
To: Roy Spencer <roywspencer@hotmail.com>
Cc: Judith Curry <curry.judith@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; John Christy <climateaman60@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; Josh Loucks <loucksj14@gmail.com>; Seth Cohen <seth.cohen@hq.doe.gov>
Subject: Re: CO2 Coalition requests Trump admin. review of NCA5...

Here's the letter

<https://justthenews.com/sites/default/files/2025-06/PPT-CO2-NCA-5-Request-for-Correction.pdf>

On Wed, Jun 25, 2025 at 9:11 AM Roy Spencer <roywspencer@hotmail.com> wrote:

...FYI, I just got this from the director of the Co2 Coalition, Gregory Wrightstone:

CO2 Coalition Request to Review NCA5

CO2 Coalition and Protect the Public's Trust (PPT) are calling on the Trump administration to fix what they call "flaws" in the influential National Climate Assessment (NCA). These flaws, according to the groups, include a reliance on unrealistic emission projections, contradictions, and false information on heat waves, hurricanes and wildfires.

The letter also argues that the NCA fabricated, falsified and omitted contradictory data in order to support a net-zero emissions agenda.

The letter includes a report by Dr. William Happer, professor emeritus in the Department of Physics at Princeton University, and Dr. Richard Lindzen, professor emeritus of atmospheric science at MIT. The report outlines a number of similar issues with the NCA in its reporting on sea level rise, the relationship between carbon dioxide emissions and recent warming, and hurricanes. <https://justthenews.com/politics-policy/energy/researchers-say-national-climate-assessment-full-flaws-ask-trump-reassess>

Read the full report here:

- <2025 06 25 PPT-CO2-NCA-5-Request-for-Correction.pdf>
3379128 bytes

This message does not originate from a known Department of Energy email system.
Use caution if this message contains attachments, links or requests for information.

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Tuesday, May 27, 2025 8:45 PM
To: Ross McKitrick
Cc: Roy W. Spencer; Judith Curry; John Christy; Steven Koonin; Josh Loucks
Subject: Re: Final draft

Ross, Roy, Judy, John, and Steve:

I can't thank you enough for your dedication to this effort. I've heard multiple times from the Secretary himself and from Audrey Barrios (his right hand) that he is incredibly proud of this report. It's been an incredible privilege to watch it unfold. Kudos to each of you, not just for the excellent work product, but also for your willingness to fight the good fight.

We'll share this with EPA leadership tomorrow (on schedule!), and then the policy work will begin in earnest for me (mostly connecting the dots between science and policy). My offer to everyone in this group stands--if you're interested in supporting (1) whatever will come of the USGCRP and NCA 6 and/or (2) rulemaking efforts at EPA, please let me know. You will also have no shortage of comments to respond to on the DOE report itself.

I'll keep you posted on the report's release date so you can brace for impact (the May 27, 2025 date on the report will remain). My best guess is that the public release could still be a few weeks away. I'll try to give everyone at least a full week of advance notice.

This has been the assignment of a lifetime for me, and I look forward to staying in touch with you all!

Best,
Travis

On Tue, May 27, 2025 at 4:51 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:
Attached

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Friday, April 18, 2025 11:49 AM
To: Roy Spencer
Cc: Travis Fisher; Steven Koonin; John Christy
Subject: Re: I'll need help: 10 sections to go

Sorry Roy, I didn't mean to swamp you, I figured those were sections you already had in the can from previous work. Looking through my own folders I have some material I forgot I had written which I can repurpose. Can you send a list of the sections you are able to do, and the ones you would like to hand off for the time being?

Also to Travis' point we should look to having Judy help some of the sections. Travis, she can be reached via curry.judith@gmail.com

Ross

On Fri, Apr 18, 2025 at 7:40 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I don't see how I'm going to do the 10 more sections assigned to me (1.6.1 onward) in the time remaining. Feel free to jump in.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Friday, April 18, 2025 6:34 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateeman60@gmail.com>
Subject: Section 1.4.3 attached

Ross:

I think we should combine sections 1.4.3 and 1.4.4 (attached) which I now call "The carbon cycle, emissions scenarios, and global greening".

I found that all of these need to be discussed together. Feel free to reword the section title.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Thursday, April 17, 2025 6:17 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateeman60@gmail.com>
Subject: Section 1.4.2 Can climate models reproduce the recent past?

Attached. This is the minimum I think needs to be in this section. Of course, more could be added, but I think we need to stick to our strongest arguments, given the limited time available.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Wednesday, April 16, 2025 7:16 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateeman60@gmail.com>
Subject: Some Spencer inputs

I took it upon myself to write a preamble in **Section 1.3 Drivers of climate change** (attached), which seemed necessary to introduce some basic concepts.

Also attached are my initial submissions for **1.3.2** and **1.3.3**.

NO references added yet.

One of the things I believe we need to watch out for is *neglecting to come to conclusions along the way...* There is a tendency to get mired in the technical details without getting around to saying what each section might mean in eventual policy decisions related to the Endangerment Finding. In my experience, it is not possible to dumb-down this stuff too much. I suggest some sort of "Summary Boxes" with 1-2 simplified statements highlighting a main conclusion of each section that would have policy relevance.

-Roy

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Monday, April 14, 2025 1:37 PM
To: Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateeman60@gmail.com>;
roywspencer@hotmail.com <roywspencer@hotmail.com>
Subject: Re: Kickoff

Hi Travis

We developed the outline a bit further and assigned sections out yesterday. We'll keep you cc'd going forward.

Here is a Dropbox link that contains the current outline (also attached) which indicates who is working on each section

https://www.dropbox.com/scl/fo/wahx6lpwzu33m5vyrr18x/ANTU1qAQJ-zXCFzP_gsJcOs?rlkey=11z3qj9v46e1t5f4ywwxq7p8c&dl=0
The link should give you all editing privileges.

I put folders in there for each of us. If the use of that Dropbox (which is on my own account) is acceptable for this project then we can share our work using it. Otherwise once we have an official Dropbox created we can transfer the material over to it.

Do you think it would be helpful to have a section specifically addressing the question of whether CO2 is a pollutant like CO, NOx, SOx, PM, etc.? If you want to add topics or suggest changes please do, the earlier the better as we begin filling out the contents.

Cheers,
Ross

On Mon, Apr 14, 2025 at 2:12 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

This is an excellent start! Can we move forward by iterating with this document for now? Please feel free to add whatever material you like, and I can collate if there are any simultaneous changes. I will leave the substance to you all because I view my role as a facilitator rather than a contributor, but please let me know how I can be most helpful.

Steve is correct that this document should be clear and understandable for non-experts. My understanding is that it should also be sufficiently technical and comprehensive to inform policymakers on all relevant aspects of the science.

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<DE.memo.outline.Apr.11.[RM].docx>

From: Judith Curry <curry.judith@gmail.com>
Sent: Friday, April 18, 2025 7:03 PM
To: Ross McKitrick
Cc: Travis Fisher; John Christy; Roy Spencer; Steven Koonin
Subject: Re: I'll need help: 10 sections to go

Quick question: is anyone tackling the "air pollutant" issue? If not, I would like to take this on

Here is another key section of the Clean Air Act, section 302(g): "The term 'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used."

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On Fri, Apr 18, 2025 at 3:21 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:

That's great news. Your assistance will be greatly appreciated Judy. I added a folder for you in the Dropbox. I just uploaded to the Dropbox the latest Table of COnents with the changes I noted this afternoon plus a couple of pther changes. As before bold indicates a draft is done and underlining indicates a section title but no text is needed. Coding to indicate responsibility now gets more complicated because JC has two meanings. So I marked a couple JC which indicate my suggestions, namely Judy would you consider writing up something on Forecasting systems for managing extreme weather risks, and Changes in sea level. In both cases the overarching focus is evaluating endangerment to the US public of rising GHG levels.

At this point to minimize multiple conflicting drafts each section is being written in its own separate document by whoever is designated lead on it, so you can just open new docs for both these sections, assuming you're amenable to the assignment. Once there is something like a complete draft everyone will get to weigh in on every section and also on the conclusions.

Cheers
Ross

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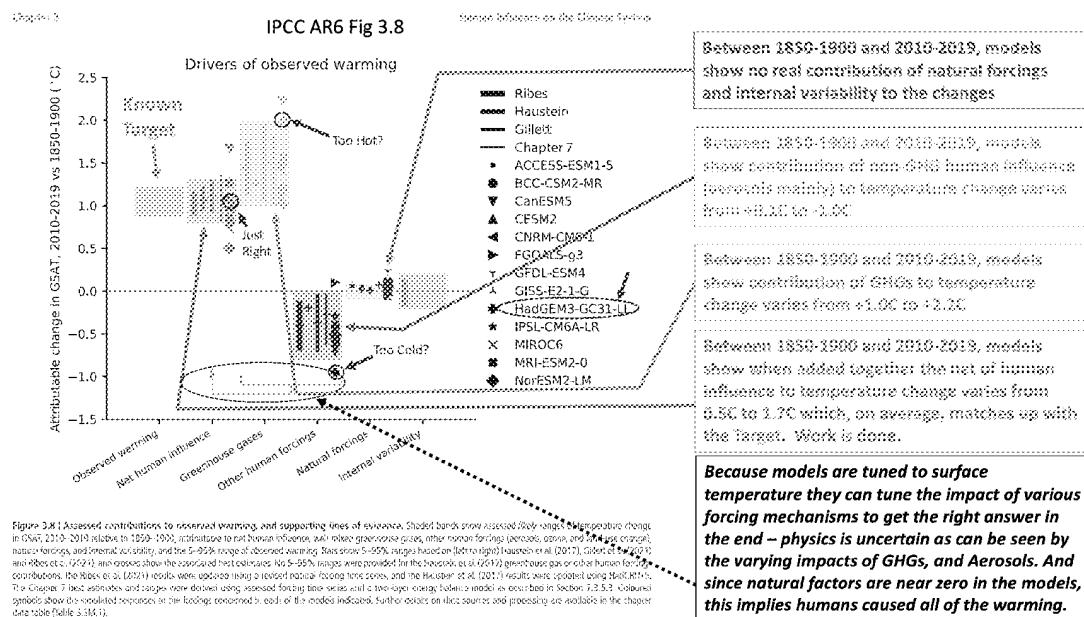
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- Roy

Sent from my Verizon, Samsung Galaxy smartphone

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Date: 4/18/25 10:49 AM (GMT-06:00)

To: Roy Spencer <roywspencer@hotmail.com>

Cc: Travis Fisher <travis.scott.fisher@gmail.com>, Steven Koonin <steven.koonin@gmail.com>, John Christy <climateman60@gmail.com>

Subject: Re: I'll need help: 10 sections to go

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Subject: Section 1.4.3 attached

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I think we should combine sections 1.4.3 and 1.4.4 (attached) which I now call "The carbon cycle, emissions scenarios, and global greening".

I found that all of these need to be discussed together. Feel free to reword the section title.

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Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>
Subject: Section 1.4.2 Can climate models reproduce the recent past?

Attached. This is the minimum I think needs to be in this section. Of course, more could be added, but I think we need to stick to our strongest arguments, given the limited time available.

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Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>



From: John Christy <climatean60@gmail.com>
Sent: Friday, April 18, 2025 9:58 PM
To: Judith Curry
Cc: Travis Fisher; Ross McKittrick; Roy Spencer; Steven Koonin
Subject: Re: I'll need help: 10 sections to go

Judy

Sounds like you're jumping in with both feet. I'm not aware of our role on the legal aspect of "air pollutant", but I think we'd like to see what you have. Travis is our guide, but we're really all throwing what we have together now to build a good draft by the end of the month. Steve will be back from India tomorrow and Ross is keeping track of the Master document.

I'm still trying to figure out Dropbox, so for now I'm sending pieces to Ross.

Glad you're aboard.

John C.

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I have a lot of material already written that should be relevant. I have a draft of the sea level rise section completed, am sending this to my assistant to format, will upload monday.

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Section 302 can be found [here](#).

As you all develop the draft, I encourage you to include as many citations to published materials as possible (links would work fine as placeholders). I have found this works

better under a tight timeline than going back and looking for sources later. Please also feel free to task me with any research help you might need.

Best,
Travis

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I think we can deal with the differences relative to 2009 in an appendix.

SEK

From: John Christy <climatean60@gmail.com>
Sent: Friday, April 11, 2025 6:34 PM
To: Ross McKittrick <ross.mckittrick@gmail.com>
Cc: Travis Fisher <travis.scott.fisher@gmail.com>; steven.koonin@gmail.com; roywspencer@hotmail.com
Subject: Re: Kickoff

Excellent list Ross. Wildfires are a significant topic to be addressed.

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Gentlemen,

I can't thank you enough for taking this on under such a tight timeline. Let's use this thread to exchange information, links, etc., and as we move forward, I'll see about a document-sharing platform and a shared document to work on simultaneously.

Best,

Travis

<DE.memo.outline.Apr.11.[RM].docx>

--



Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

From: Travis Fisher [travis.scott.fisher@gmail.com]
Sent: 4/19/2025 2:03:43 AM
To: Judith Curry [curry.judith@gmail.com]
CC: Ross McKittrick [ross.mckittrick@gmail.com]; John Christy [climate man60@gmail.com]; Roy Spencer [roywspencer@hotmail.com]; Steven Koonin [steven.koonin@gmail.com]
Subject: Re: I'll need help: 10 sections to go

Thanks so much, Judy!

Great questions. I don't think anyone has taken on the "air pollutant" issue. Please feel free to tackle it if you like!

Regarding the regulation in question, I've been told this summary of the science will be published as a technical support document relevant to a new proposed rule on tailpipe emissions standards for motor vehicles. I don't know whether that means all motor vehicles or just light- and medium-duty vehicles. It might be helpful to differentiate GHG emissions from the different classes to give the EPA flexibility in that regard.

The previous administration combined the rules for GHGs and criteria pollutants into a "multi-pollutant" rule, and I don't have any information on how this administration will package the different emissions standards. The exact charge for you all is to provide an update on the science relevant to the EPA's endangerment determination with respect to GHGs. As I understand the assignment, the scope is only GHGs, not criteria pollutants.

Keep the questions coming! I can run them up the chain if I don't know the answers, and I am happy to relay any questions you all have to the relevant folks at DOE or other agencies.

For your awareness, I was asked to share the table of contents with the EPA team this evening, which I did (the April 18 version), with the understanding that it is a one-way street (me informing them of your work so they know what's coming, not them sending feedback or micro-managing it). As I assured Steve in the early stages of this work, scientific integrity is paramount, and I will do everything in my power to preserve every word of the document as you all write it. In fact, the EPA team asked that the document be DOE-branded, meaning our true audience is the Secretary of Energy, and he emphasized to me that he wants nothing but science. In other words, the only compromise you have to make in how this is written is among yourselves, not between you all and policymakers, lawyers, or economists.

Thanks again for lending your expertise to this effort, all of you.

Best,
Travis

On Fri, Apr 18, 2025 at 8:46 PM Judith Curry <curry.judith@gmail.com> wrote:
I have a lot of material already written that should be relevant. I have a draft of the sea level rise section completed, am sending this to my assistant to format, will upload monday.

Roy, let me know if there are sections you can't complete, i may have some text that is already written

On Fri, Apr 18, 2025 at 3:06 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:
Good afternoon,

I'm happy to report that I just talked with Judy, and she accepted the mission (in case you're wondering, the vetting issue was a mishap). This is great news because the Secretary wanted all of you to be able to contribute.

Let's make sure to include Judy in all of our correspondence from now on. The documents should be available here: https://www.dropbox.com/scl/fo/wahx6lpwzu33m5vyrr18x/ANTU1qAQJ-zXCFzP_gsJcOs?rlkey=l1z3qj9v46e1t5f4ywwxq7p8c&e=1&dl=0. Please let us know if you don't have access.

Best,
Travis

On Fri, Apr 18, 2025 at 4:59 PM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Thanks John. The quote from Mauritzen and Roeckner is a great addition.

I find the figure hard to follow, whereas the quote makes the point very clearly, in their own words.

On Fri, Apr 18, 2025 at 4:55 PM John Christy <climate man60@gmail.com> wrote:

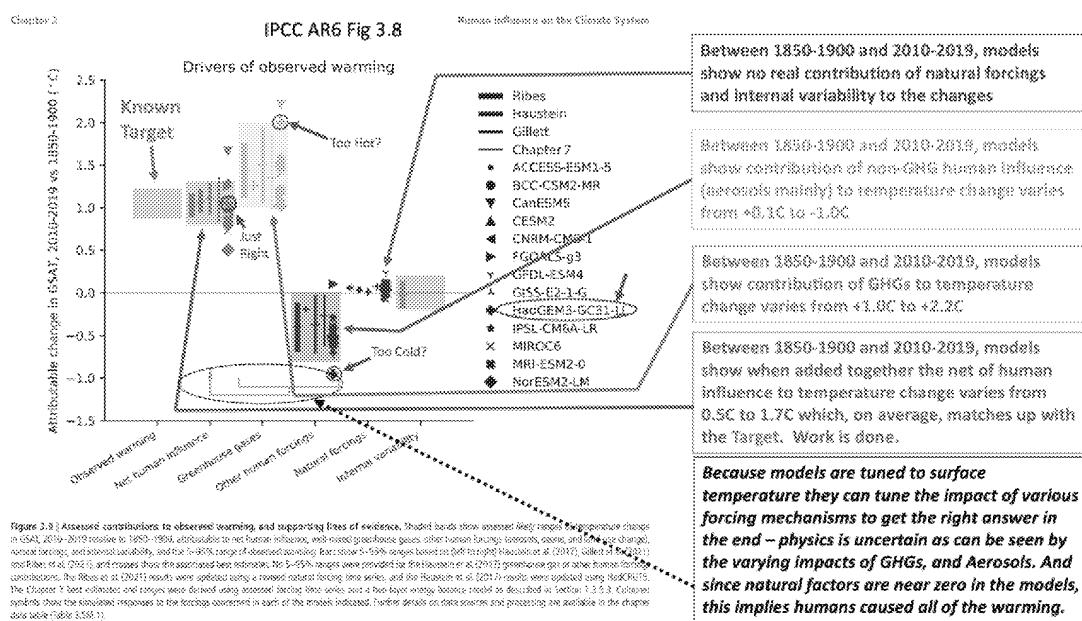
Ross

I've never been successful with dropbox and my record is still intact.

Attached is 1.6.2 to which I added a paragraph.

Also attached is a chart I annotated from AR6. I think this story demonstrates modelers are just playing with tuning parameters. Is there some way to use this information here (not necessarily in this format)?

John C.



On Fri, Apr 18, 2025 at 3:32 PM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

I've uploaded a new version of Section 2.2 to your folder. It includes the earlier material quoting all the relevant IPCC and NCA17 stuff and adds some external source information I found. Still needs a brief summary. Others may have more to add.

On Fri, Apr 18, 2025 at 3:05 PM Roy Spencer <roywspencer@hotmail.com> wrote:

Ross:

Let me look early in the morning to see which ones I feel like I can knock out the fastest. Our "guidance" has been to start from "scratch", while relying on preexisting materials where it helps. I think I know why we've been told this, but it's not my place to say.

- Roy

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKittrick <ross.mckittrick@gmail.com>

Date: 4/18/25 10:49 AM (GMT-06:00)

To: Roy Spencer <roywspencer@hotmail.com>

Cc: Travis Fisher <travis.scott.fisher@gmail.com>, Steven Koonin <steven.koonin@gmail.com>, John Christy <climateeman60@gmail.com>

Subject: Re: I'll need help: 10 sections to go

Sorry Roy, I didn't mean to swamp you, I figured those were sections you already had in the can from previous work. Looking through my own folders I have some material I forgot I had written which I can repurpose. Can you send a list of the sections you are able to do, and the ones you would like to hand off for the time being?

Also to Travis' point we should look to having Judy help some of the sections. Travis, she can be reached via curry.judith@gmail.com

Ross

On Fri, Apr 18, 2025 at 7:40 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I don't see how I'm going to do the 10 more sections assigned to me (1.6.1 onward) in the time remaining. Feel free to jump in.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>

Sent: Friday, April 18, 2025 6:34 AM

To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>

Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateeman60@gmail.com>

Subject: Section 1.4.3 attached

Ross:

I think we should combine sections 1.4.3 and 1.4.4 (attached) which I now call "The carbon cycle, emissions scenarios, and global greening".

I found that all of these need to be discussed together. Feel free to reword the section title.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Thursday, April 17, 2025 6:17 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>
Subject: Section 1.4.2 Can climate models reproduce the recent past?

Attached. This is the minimum I think needs to be in this section. Of course, more could be added, but I think we need to stick to our strongest arguments, given the limited time available.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Wednesday, April 16, 2025 7:16 AM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>
Subject: Some Spencer inputs

I took it upon myself to write a preamble in **Section 1.3 Drivers of climate change** (attached), which seemed necessary to introduce some basic concepts.

Also attached are my initial submissions for **1.3.2** and **1.3.3**.

NO references added yet.

One of the things I believe we need to watch out for is *neglecting to come to conclusions along the way...* There is a tendency to get mired in the technical details without getting around to saying what each section might mean in eventual policy decisions related to the Endangerment Finding. In my experience, it is not possible to dumb-down this stuff too much. I suggest some sort of "Summary Boxes" with 1-2 simplified statements highlighting a main conclusion of each section that would have policy relevance.

-Roy

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Monday, April 14, 2025 1:37 PM
To: Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>; roywspencer@hotmail.com <roywspencer@hotmail.com>
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Cheers,

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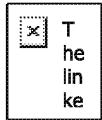
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Judith Curry, President
CFAN - Climate Forecast Applications
Network
Reno, NV USA
curry.judith@cfanclimate.com |
+1.404.803.2012
<http://www.cfanclimate.net>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Tuesday, July 1, 2025 9:36 PM
To: Ross McKitrick
Cc: Judith Curry; Steven Koonin; John Christy; Roy W. Spencer; Josh Loucks; Seth Cohen
Subject: Re: June 27 version of CWG report

We'll have a lot to discuss on Thursday!

For everyone's awareness, the draft notice of proposed rulemaking from EPA was circulated earlier today for interagency review. I expect more media questions to come given that the news of the policy change likely won't stay under wraps for long. I appreciate the close hold you all have had on this issue.

I'll elaborate on the process going forward and timelines etc. on our call. All I can say right now is rest assured your services will be in demand for the long haul!

On Tue, Jul 1, 2025 at 9:26 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:
She didn't contact me.

On Tue, Jul 1, 2025 at 8:28 PM Judith Curry <curry.judith@gmail.com> wrote:
likewise. Odd that she contacted all three of us?

On Tue, Jul 1, 2025 at 3:33 PM Steven Koonin <steven.koonin@gmail.com> wrote:
Same here.

Steven E. Koonin

On Jul 1, 2025, at 18:22, John Christy <climateman60@gmail.com> wrote:

All

Just turned down a request from a NY Times reporter to comment on the EF. Maxine Joselow.

John C.

On Tue, Jul 1, 2025 at 2:25 PM Steven Koonin <steven.koonin@gmail.com> wrote:

Now with some time back from vacation, I've gone through this version of the CWG report.

Suggested changes in the attached are mostly typos and minor wording. The few of more substance are highlighted in yellow with COMMENTS IN CAPS.

It IS a very good document. It will be interesting to see how it's received.

SEK

From: Ross McKittrick <ross.mckittrick@gmail.com>

Sent: Friday, June 27, 2025 9:49 PM

To: Judith Curry <curry.judith@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; Josh Loucks <loucksj14@gmail.com>; Cohen, Seth <seth.cohen@hq.doe.gov>

Subject: June 27 version of CWG report

All errata fixed including Fig 5.7, all metadata listed.

Have a nice weekend everyone.

--
Judit Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Monday, April 14, 2025 2:58 PM
To: Steven Koonin
Cc: Ross McKittrick; John Christy; roywspencer@hotmail.com
Subject: Re: Kickoff

Excellent, thank you!

Yes, if you all have something to contribute to the definition of an air pollutant, I'd like to convey that to policymakers. I have no idea whether or not it will be included in whatever is ultimately published. One reason I ask is that the majority opinion in *Mass v. EPA* doesn't make sense to me -- it seems to over-include some classes of emissions that (to me, at least) are clearly not air pollutants. For example, both hydrocarbon- and hydrogen-fueled vehicles emit water vapor, but I'm not sure how many policymakers would find that water vapor is an air pollutant. Or is there a quantity threshold at which even water vapor becomes an air pollutant? These are the types of questions I expect to be part of the litigation, and any scientific input would be helpful to the policymaking process.

I look forward to helping this work get across the near-term finish line. If you have any questions about what's next or where your own paperwork is, etc., please call me anytime at 202-302-9953. For anyone who wants to continue to contribute to this project beyond this month, I am happy to report that we are figuring out ways to bring you on as a paid contractor. Special Government Employee status is a bit trickier, but we can likely make that work as well.

Also, I should clarify that I only play an attorney on TV. I appreciate the promotion from Steve, but I am not a lawyer (just an economist, and I'm not sure which is worse!).

Best,
Travis

On Mon, Apr 14, 2025 at 2:53 PM Steven Koonin <steven.koonin@gmail.com> wrote:
We need to be careful if we get into the issue of “what is/isn’t a pollutant”

That's ultimately a legal question and we're not lawyers (well, Travis is).

I think we can legitimately compare/contrast the various properties of the pollutants cited (and water vapor!) such as effect, potency, lifetime, dispersion, ... That's consistent with our providing technical input.

But we shouldn't make any judgements - leave that for the lawyers and policy makers.

Steven Koonin (from New Delhi)

On Apr 15, 2025, at 00:08, Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Hi Travis

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Sent from my iPhone

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The attached represents my summary of the most questions needing to be answered, which I think this group is capable of answering in the next couple of weeks. Probably lots of material already in hand.

On Fri, Apr 11, 2025 at 4:24 PM Travis Fisher
<travis.scott.fisher@gmail.com> wrote:

Gentlemen,

I can't thank you enough for taking this on under such a tight timeline. Let's use this thread to exchange information, links, etc., and as we move forward, I'll see about a document-sharing platform and a shared document to work on simultaneously.

Best,

Travis

<DE.memo.outline.Apr.11.[RM].docx>

<Table.of.Contents.Apr14.docx>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Monday, April 21, 2025 4:16 PM
To: Ross McKitrick
Cc: John Christy; Roy W. Spencer; Steven Koonin; Judith Curry
Subject: Re: legal strategies

Thanks, Ross. I think the plan is to make a two-pronged argument (covering the strictly legal case and updating/revisiting the scientific underpinnings).

On Mon, Apr 21, 2025 at 3:49 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:
This essay by Steve Milloy provides what seems to me a good explanation of why the Admin may want to move on the EF without a science paper
<https://issuesinsights.com/2025/04/21/no-due-process-for-illegal-regulations/>

In brief, they would leverage West Virginia vs EPA (Major Question doctrine) to argue that notwithstanding Mass vs EPA the EPA never had regulatory authority over GHGs so the EF was illegal.

It is more complex to argue that the science since 2010 invalidates the original EF. The danger is the Admin would implicitly be treating the original EF as legal. Given that it will likely go to SCOTUS the goal is to arrive there on the most favourable legal issue not a potentially weak issue concerning how a rule change was pursued. The Major Question doctrine appears to be favorable grounds to argue on.

From: John Christy <climateman60@gmail.com>
Sent: Tuesday, May 6, 2025 10:21 PM
To: Steve Koonin
Cc: Travis Fisher; Ross McKittrick; Judith Curry; Roy W. Spencer
Subject: Re: my review of Chapter 13

All

Chapter 13

I don't have a read on how important this section is to the EF. It is certainly applicable but will it be part of whatever our overseers want? It looks very thorough from my perspective.

Interesting about the comment regarding the location of a Toyota plant. I was on the inside of several pitches made to automobile (and other) manufacturers, trying to convince them to set up shop in Alabama. One of the largest criteria was unimpeded transportation. These assembly plants today have no inventory, relying on 'just-in-time' deliveries - every component is shipped at a specific date and time for assembly (e.g. we need 18 sets of Mercedes SUV door panels between 1:00 and 1:30 on Thursday). I wrote up the pitch related to open transportation (i.e. number of days of closures due to ice/snow etc.). Though it is far from the only reason, the South's manufacturing is booming in part to its climate as stated in the opening of Chapter 13 ... we move to where things work best for us.

John C.

John Christy
Director, Earth System Science Center
Professor, Atmos and Earth Science
Alabama State Climatologist
The University of Alabama in Huntsville
climateman60@gmail.com

On May 6, 2025, at 2:56 PM, Steven Koonin <steven.koonin@gmail.com> wrote:

See attached. More comments/questions than edits in this one.

SEK

<13 Climate, Economy and SCC.May6[SEK].docx>

From: Judith Curry [curry.judith@gmail.com]
Sent: 4/19/2025 3:14:24 PM
To: Ross McKittrick [ross.mckittrick@gmail.com]
CC: Roy Spencer [roywspencer@hotmail.com]; Travis Fisher [travis.scott.fisher@gmail.com]; John Christy [climate man60@gmail.com]; Steven Koonin [steven.koonin@gmail.com]
Subject: Re: Our authorship vs. that of the EPA's 2009 EF TSD

The issues that Ross raises are important, and I think that the deadline needs to be pushed back for a variety of reasons.

Apart from the issues raised by Ross in terms of a lack of formal designation of responsibility and statement of task (an official letter or something) and arrangement for compensation (I understand why this one would take awhile), I don't want my name associated with a document that hasn't been carefully vetted and agreed upon by all of the authors.

I will continue to work on this over the next two weeks, but I agree that the status of any document we produce should be regarded as draft work product and not distributed outside of the DOE leadership, until these issues are resolved

On Sat, Apr 19, 2025 at 7:23 AM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Travis, At this point I do not authorize you to share any work product I have contributed with any other group inside or outside the US government. At this point I am sharing notes with some colleagues on some topics of mutual interest in my private capacity as a non-US citizen. I am not a DoE employee or contractor and this is not a DoE work product.

I realize that people on your end have a use in mind for this material although so far no one has done us the courtesy of offering a clear explanation of exactly what we are being asked to do. I can't be expected to attach any more importance to contributing to the project than you guys attach to me being involved in it. So far, other than the original phone call recruiting me no one on your end has indicated you perceive any tangible value to having me involved. Providing a TSD to support a reassessment of the EF is very demanding and puts authors on the hook for a long time into the future to deal with what will be a lot of criticism. The apparent deadline for our contribution is rapidly approaching. Unless we have reached in writing an arrangement that provides suitable compensation for my time (and in my case any necessary work visas) I will have to withdraw all the material I've circulated and leave the project to others.

Cheers,
Ross

On Sat, Apr 19, 2025 at 7:12 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I spent a considerable amount of time last year reading/annotating/categorizing the December 7, 2009 Technical Support Document (TSD) for the CO2 Endangerment Finding. It is heavily referenced and undoubtedly involved years of work by a marching army of experts (guided, no doubt, by lawyers).

That document claimed to have 31 EPA authors, and 12 government expert reviewers. Attached is a spreadsheet with the backgrounds of each of those authors/reviewers.

Based upon their credentials, I would argue only one (Gavin Schmidt, an expert reviewer) had expertise directly relevant to the writing of the most important scientific claims in the document.

Arguably, *none of the EPA authors had the required expertise*. Many were new graduates in fields like geography. They then got promoted to management positions within the EPA.

It is for this reason that I now believe that most of the 2009 TSD was ghost-written, probably by more-expert volunteers and contractors to the two companies supporting the document preparation: Eastern Research Group, and Stratus Consulting.

This was no doubt a multi-million-dollar effort. Probably over \$10 Million.

About all I can hope is that what we write will provide sufficient "reasonable scientific doubt" regarding the science claims in the 2009 TSD, based upon almost 2 decades of new science, to call into question the original reasoning for the EPA Administrator's decision that CO2 presents a threat to human health and welfare.

It sounds like the lawyers involved believe they can win this fight without the science (lawyers and judges hate dealing with science).

But if the science argument is decided upon by a vote, or by the number of published citations, we lose the science argument.

-Roy

From: Travis Fisher
Sent: Friday, April 18, 2025 9:03 PM
To: Judith Curry
Cc: Ross McKittrick; John Christy; Roy Spencer; Steven Koonin
Subject: Re: I'll need help: 10 sections to go

Thanks so much, Judy!

Great questions. I don't think anyone has taken on the "air pollutant" issue. Please feel free to tackle it if you like!

Regarding the regulation in question, I've been told this summary of the science will be published as a technical support document relevant to a new proposed rule on tailpipe emissions standards for motor vehicles. I don't know whether that means all motor vehicles or just light- and medium-duty vehicles. It might be helpful to differentiate GHG emissions from the different classes to give the EPA flexibility in that regard.

The previous administration combined the rules for GHGs and criteria pollutants into a "multi-pollutant" rule, and I don't have any information on how this administration will package the different emissions standards. The exact charge for you all is to provide an update on the science relevant to the EPA's endangerment determination with respect to GHGs. As I understand the assignment, the scope is only GHGs, not criteria pollutants.

Keep the questions coming! I can run them up the chain if I don't know the answers, and I am happy to relay any questions you all have to the relevant folks at DOE or other agencies.

For your awareness, I was asked to share the table of contents with the EPA team this evening, which I did (the April 18 version), with the understanding that it is a one-way street (me informing them of your work so they know what's coming, not them sending feedback or micro-managing it). As I assured Steve in the early

stages of this work, scientific integrity is paramount, and I will do everything in my power to preserve every word of the document as you all write it. In fact, the EPA team asked that the document be DOE-branded, meaning our true audience is the Secretary of Energy, and he emphasized to me that he wants nothing but science. In other words, the only compromise you have to make in how this is written is among yourselves, not between you all and policymakers, lawyers, or economists.

Thanks again for lending your expertise to this effort, all of you.

Best,
Travis

On Fri, Apr 18, 2025 at 8:46 PM Judith Curry <curry.judith@gmail.com> wrote:

I have a lot of material already written that should be relevant. I have a draft of the sea level rise section completed, am sending this to my assistant to format, will upload monday.

Roy, let me know if there are sections you can't complete, i may have some text that is already written

On Fri, Apr 18, 2025 at 3:06 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

Good afternoon,

I'm happy to report that I just talked with Judy, and she accepted the mission (in case you're wondering, the vetting issue was a mishap). This is great news because the Secretary wanted all of you to be able to contribute.

Let's make sure to include Judy in all of our correspondence from now on. The documents should be available here: https://www.dropbox.com/scl/fo/wahx6lpwzu33m5vyrr18x/ANTU1qAQJ-zXCFzP_gsJcOs?rlkey=11z3qj9v46e1t5f4ywwxq7p8c&e=1&dl=0. Please let us know if you don't have access.

Best,
Travis

On Fri, Apr 18, 2025 at 4:59 PM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Thanks John. The quote from Mauritzen and Roeckner is a great addition.

I find the figure hard to follow, whereas the quote makes the point very clearly, in their own words.

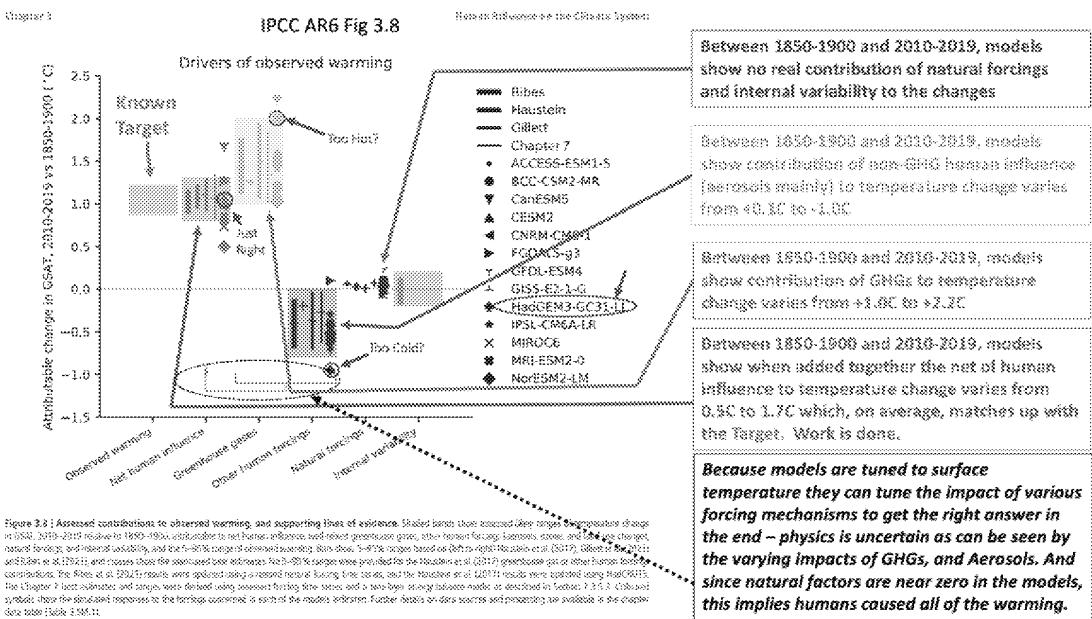
On Fri, Apr 18, 2025 at 4:55 PM John Christy <climate man60@gmail.com> wrote:
Ross

I've never been successful with dropbox and my record is still intact.

Attached is 1.6.2 to which I added a paragraph.

Also attached is a chart I annotated from AR6. I think this story demonstrates modelers are just playing with tuning parameters. Is there some way to use this information here (not necessarily in this format)?

John C.



On Fri, Apr 18, 2025 at 3:32 PM Ross McKittrick <ross.mckittrick@gmail.com> wrote:
I've uploaded a new version of Section 2.2 to your folder. It includes the earlier material quoting all the relevant IPCC and NCA17 stuff and adds some external source information I found. Still needs a brief summary. Others may have more to add.

On Fri, Apr 18, 2025 at 3:05 PM Roy Spencer <roywspencer@hotmail.com> wrote:

Ross:

Let me look early in the morning to see which ones I feel like I can knock out the fastest. Our "guidance" has been to start from "scratch", while relying on preexisting materials where it helps. I think I know why we've been told this, but it's not my place to say.

- Roy

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKittrick <ross.mckittrick@gmail.com>

Date: 4/18/25 10:49 AM (GMT-06:00)

To: Roy Spencer <roywspencer@hotmail.com>

Cc: Travis Fisher <travis.scott.fisher@gmail.com>, Steven Koonin <steven.koonin@gmail.com>, John

Christy <climate man60@gmail.com>

Subject: Re: I'll need help; 10 sections to go

Sorry Roy, I didn't mean to swamp you, I figured those were sections you already had in the can from previous work. Looking through my own folders I have some material I forgot I had written which I can repurpose. Can you send a list of the sections you are able to do, and the ones you would like to hand off for the time being?

Also to Travis' point we should look to having Judy help some of the sections. Travis, she can be reached via curry.judith@gmail.com

Ross

On Fri, Apr 18, 2025 at 7:40 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I don't see how I'm going to do the 10 more sections assigned to me (1.6.1 onward) in the time remaining. Feel free to jump in.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>

Sent: Friday, April 18, 2025 6:34 AM

To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>

Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climatean60@gmail.com>

Subject: Section 1.4.3 attached

Ross:

I think we should combine sections 1.4.3 and 1.4.4 (attached) which I now call "The carbon cycle, emissions scenarios, and global greening".

I found that all of these need to be discussed together. Feel free to reword the section title.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>

Sent: Thursday, April 17, 2025 6:17 AM

To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>

Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climatean60@gmail.com>

Subject: Section 1.4.2 Can climate models reproduce the recent past?

Attached. This is the minimum I think needs to be in this section. Of course, more could be added, but I think we need to stick to our strongest arguments, given the limited time available.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>

Sent: Wednesday, April 16, 2025 7:16 AM

To: Ross McKittrick <ross.mckittrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>

Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climatean60@gmail.com>

Subject: Some Spencer inputs

I took it upon myself to write a preamble in **Section 1.3 Drivers of climate change** (attached), which seemed necessary to introduce some basic concepts.

Also attached are my initial submissions for **1.3.2** and **1.3.3**.

NO references added yet.

One of the things I believe we need to watch out for is *neglecting to come to conclusions along the way...* There is a tendency to get mired in the technical details without getting around to saying what each section might mean in eventual policy decisions related to the Endangerment Finding. In my experience, it is not possible to dumb-down this stuff too much. I suggest some sort of "Summary Boxes" with 1-2 simplified statements highlighting a main conclusion of each section that would have policy relevance.

-Roy

From: Ross McKitrick <ross.mckitrick@gmail.com>
Sent: Monday, April 14, 2025 1:37 PM
To: Travis Fisher <travis.scott.fisher@gmail.com>
Cc: Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>; roywspencer@hotmail.com <roywspencer@hotmail.com>
Subject: Re: Kickoff

Hi Travis

We developed the outline a bit further and assigned sections out yesterday. We'll keep you cc'd going forward.

Here is a Dropbox link that contains the current outline (also attached) which indicates who is working on each section

https://www.dropbox.com/scl/fo/wahx6lpwzu3m5vyrr18x/ANTU1qAQJ-zXCFzP_gsJcOs?rlkey=l1z3qj9v46e1t5f4ywwxq7p8c&dl=0

The link should give you all editing privileges.

I put folders in there for each of us. If the use of that Dropbox (which is on my own account) is acceptable for this project then we can share our work using it. Otherwise once we have an official Dropbox created we can transfer the material over to it.

Do you think it would be helpful to have a section specifically addressing the question of whether CO2 is a pollutant like CO, NOx, SOx, PM, etc.? If you want to add topics or suggest changes please do, the earlier the better as we begin filling out the contents.

Cheers,
Ross

On Mon, Apr 14, 2025 at 2:12 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

This is an excellent start! Can we move forward by iterating with this document for now? Please feel free to add whatever material you like, and I can collate if there are any simultaneous changes. I will leave the substance to you all because I view my role as a facilitator rather than a contributor, but please let me know how I can be most helpful.

Steve is correct that this document should be clear and understandable for non-experts. My understanding is that it should also be sufficiently technical and comprehensive to inform policymakers on all relevant aspects of the science.

One area I can help with might be targeting your work for the very brief window we have open at the moment. I am including a few lines verbatim below from key documents to highlight the areas of

inquiry that are most relevant to the policymaking process. Of course, you all should make your own judgments about what to include versus what to leave out.

Here is a key section of the Clean Air Act, 202(a)(1): "The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d), relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution."

Section 202 can be found [here](#).

Here is another key section of the Clean Air Act, section 302(g): "The term 'air pollutant' means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used."

A threshold question raised in Justice Scalia's dissent in *Mass v. EPA* (which can be found [here](#)) is whether CO₂ falls under the definition of an "air pollutant" under the Clean Air Act. The majority in *Mass v. EPA* found that *any* compound emitted into the ambient air fits the definition of "air pollutant," leading to a colorful footnote in the Scalia dissent ("It follows that everything airborne, from Frisbees to flatulence, qualifies as an 'air pollutant.' This reading of the statute defies common sense."). A scientific interpretation of this definition could be very helpful.

The next section in the statute is 302(h), which defines effects on welfare: "All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." Positive impacts, including fertilization effects and beneficial warming, seem to be within scope here.

Section 302 can be found [here](#).

As you all develop the draft, I encourage you to include as many citations to published materials as possible (links would work fine as placeholders). I have found this works better under a tight timeline than going back and looking for sources later. Please also feel free to task me with any research help you might need.

Best,
Travis

On Fri, Apr 11, 2025 at 8:10 PM Steven Koonin <steven.koonin@gmail.com> wrote:
I assume we're writing for non-experts. If so, some educating beyond the root questions is in order (it always helps if people feel smarter after reading).

So I've taken Ross' material, added some broader context, and cast it into the forcing/response/impact syllogism that most non-experts seem to get. The result is attached.

I think we can deal with the differences relative to 2009 in an appendix.

SEK

From: John Christy <climateeman60@gmail.com>
Sent: Friday, April 11, 2025 6:34 PM
To: Ross McKitrick <ross.mckitrick@gmail.com>
Cc: Travis Fisher <travis.scott.fisher@gmail.com>; steven.koonin@gmail.com; roywspencer@hotmail.com
Subject: Re: Kickoff

Excellent list Ross. Wildfires are a significant topic to be addressed.

John C.

Sent from my iPhone

On Apr 11, 2025, at 4:05 PM, Ross McKitrick <ross.mckitrick@gmail.com> wrote:

The attached represents my summary of the most questions needing to be answered, which I think this group is capable of answering in the next couple of weeks. Probably lots of material already in hand.

On Fri, Apr 11, 2025 at 4:24 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

Gentlemen,

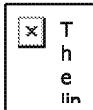
I can't thank you enough for taking this on under such a tight timeline. Let's use this thread to exchange information, links, etc., and as we move forward, I'll see about a document-sharing platform and a shared document to work on simultaneously.

Best,
Travis

<DE.memo.outline.Apr.11.[RM].docx>

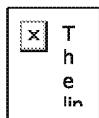
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Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>



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Judith Curry, President
CFAN - Climate Forecast Applications
Network
Reno, NV USA
curry.judith@cfanclimate.com |
+1.404.803.2012
<http://www.cfanclimate.net>



From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Friday, May 23, 2025 1:50 PM
To: Ross McKitrick
Cc: Roy W. Spencer; John Christy; Steven Koonin; Judith Curry; Josh Loucks
Subject: Re: Report draft
Attachments: Report Draft May 22.docx

Hi Ross,

I'm happy to say the handoff to the Secretary went as planned. I think we should set up a meeting on Tuesday to go through the Secretary's comments and questions, assuming he has some. If it turns out he has a lot of comments and questions, I might recommend multiple meetings or another marathon session. I haven't heard anything yet.

If you all agree we should have another round or two of conferences, what time works best for everyone? I could do Tuesday morning, Tuesday afternoon, and just about any time on Monday (but want to be mindful of the Memorial Day holiday). We could also wait and see how substantive the comments are before making any plans to meet.

Regarding the references and more recent changes, Josh and I could certainly use some help, at least with making sure we have all the right material in the right place. Josh and I can handle the formatting. The attached file is the Word version of the report that we converted to PDF and sent to the Secretary, so I think we should pick up the editing from there.

If anyone is interested in the broader legal and policy efforts at play (outside of DOE), I'd be happy to give you all a briefing on where things stand. The short version is that I've defended your editorial control, and the *powers that be* have accepted that you all have full editorial control. One piece that we may have to compromise on is timing--it's my sense that publishing well ahead of any EPA rulemaking will be an uphill battle (but one that I'm willing to fight).

Finally, start thinking about whether you want to be involved in the next NCA. If I had to bet on it, I'd say each of you will be asked to help, if not join, the USGCRP and contribute to NCA 6.

Best,
Travis

On Fri, May 23, 2025 at 12:51 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:

Hi Travis and Josh

Just wondering how the reference wrangling is going. I haven't worked on the draft since sending it out yesterday morning (11:30 AM edition). There will be some text additions and revisions from the team, so I need to know if there is a more updated version to look at.

Ross

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Monday, April 14, 2025 11:25 AM
To: John Christy
Cc: Steve Koonin; Roy Spencer
Subject: Re: Section 2.1.2 Forecast Skill

This info looks fine. For this section I was also hoping you could just provide a general description of the tools we currently have for forecasting extreme weather, e.g. NHC forecasts, flood warnings, tornado warning systems, etc. The idea is that whether weather is dangerous or not depends on our ability to predict and prepare for bad events. The information you present shows that this ability is improving and the mortality risk is declining. But it might be helpful to have a couple of paragraphs to tell readers what systems are in place for extreme weather prediction and risk management.

Ross

On Mon, Apr 14, 2025 at 11:12 AM John Christy <climateman60@gmail.com> wrote:

Ross

The aspect of improving forecasting skill as a part of an EF reconsideration is new to me. I started looking at some things, but had to come back to the astonishing drop in weather-related deaths of which enhanced forecast skill would be only a bit player. Before I go down a rabbit hole, this is what I wrote. It's not long (and shouldn't be). Is any of this useful?

John C.

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Tuesday, July 15, 2025 8:43 AM
To: Roy Spencer
Cc: Ross McKitrick; Judith Curry; John Christy; Steven Koonin; Josh Loucks; Cohen, Seth
Subject: Re: Spencer edits as of 6 a.m. ET

In a stroke of luck for the authors here, Seth and I have been pulled into a meeting from 9am to 11am ET, so I think we should keep the window open until 11am ET.

Regarding the next step of circulating the report for internal comment, I plan to include all eight of the proposed lab reviewers (I took John's note about on-record comments to mean it's ok to include people who are sure to hate the report).

If you all have suggestions about which offices within DOE's present structure should be included in the distribution, please let me know. This will likely be more for their awareness than any substantive review, although I think we should be open to comments that improve the report. Here is an org chart to give you an overview of the agency: https://www.energy.gov/sites/default/files/2023-09/DOE_Organization_Chart.pdf

My recommendation would be to include the newly sworn-in S3, the Office of Science (SC, including the acting S4),

Congressional & Intergovernmental Affairs (CI), Office of Policy (OP), Office of Public Affairs (PA), and the Office of General Counsel (GC). The Secretary and Deputy Secretary have already reviewed the report in detail. Do any others stand out?

On Tue, Jul 15, 2025 at 7:52 AM Roy Spencer <roywspencer@hotmail.com> wrote:

The only substantive additional edit I have is on p. 130, where I would replace "emitted" CO2 with "extra" (or "excess") CO2:

"Following the emission of a pulse (release) of CO2 into the atmosphere only about 40 15 percent of the **extra** CO2 will have been sequestered after twenty years."

....it's not the actual CO2 molecules we emit that take so long to be removed (they disappear much faster), but the atmospheric excess above some Nature-determined equilibrium level.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Tuesday, July 15, 2025 5:02 AM
To: Ross McKitrick <ross.mckitrick@gmail.com>; Judith Curry <curry.judith@gmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; Josh Loucks <ljoucks14@gmail.com>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: Spencer edits as of 6 a.m. ET

I worked from Steve's version... I was slowed down by searching for missing & misspelled references. I'm through only p. 34 so far. Let me know when you need final, I'll send what I have at that point. -Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Monday, July 14, 2025 3:45 PM
To: Ross McKittrick <ross.mckittrick@gmail.com>; Judith Curry <curry.judith@gmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; Josh Loucks <loucksj14@gmail.com>; Cohen, Seth <seth.cohen@hq.doe.gov>
Subject: RE: CWG current edition

Would by 6 am EDT tomorrow be sufficient?

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKittrick <ross.mckittrick@gmail.com>
Date: 7/14/25 3:34 PM (GMT-06:00)
To: Judith Curry <curry.judith@gmail.com>, "Roy W. Spencer" <roywspencer@hotmail.com>, John Christy <climateman60@gmail.com>, Steven Koonin <steven.koonin@gmail.com>, Travis Fisher <travis.scott.fisher@gmail.com>, Josh Loucks <loucksj14@gmail.com>, "Cohen, Seth" <seth.cohen@hq.doe.gov>
Subject: CWG current edition

I went through and accepted all the grammar and minor edits from Steve and Judy. Items needing everyone's sign-off:

- modified text in Preface (in red)
- minor wording insertion p. 27
- minor wording insertion p. 34
- minor wording p. 58
- treatment of dead link p 60
- wording p. 75
- wording p. 91
- New section 9.4 on nutrient dilution p. 108 (doesn't change pagination thereafter)
- Fig 10.1

Note p. 131: is that Glossary entry (climate change) correct?

Need a quick turnaround if this is to be submitted tomorrow.

From: John Christy [climateman60@gmail.com]
Sent: 4/25/2025 4:18:20 PM
To: Travis Fisher [travis.scott.fisher@gmail.com]
CC: Ross McKittrick [ross.mckittrick@gmail.com]; Roy Spencer [roywspencer@hotmail.com]; Steve Koonin [steven.koonin@gmail.com]; Judith Curry [curry.judith@gmail.com]
Subject: Re: Apr 20 update

Ross

I meant to say that the paragraph was important to insert, not the figure.

John C.

On Fri, Apr 25, 2025 at 11:16 AM John Christy <climateman60@gmail.com> wrote:
Ross

I believe you put together section 4 Climate. Sensitivity? I think we should take advantage of the IPCC AR6 Fig 3.8 (sent earlier) and insert it somewhere in this section. I think that HadGM is really a hoot as it had the strongest aerosol cooling and almost the hottest GHG warming, but, magically, ended up "just right". Anyway, something like this.

The uncertainty in modeled responses to specified aerosol and GHG forcings is indicated in Fig. 3.8 IPCC AR6 in which the historical temperature response from 1850-1900 to 2010-2019 is generated. The models' temperature responses to aerosol forcing varies from -1.0 to +0.1 °C (a range of 100% from the mean) and to GHG forcing of +1.0 to +2.2 °C (a range of 37% from the mean) as each model attempts to reach the pre-assigned target represented as the sum of the responses which is +1.0 °C. This wide range of responses to specified forcing given by the AR6 models (only 13 were used in Fig. 3.8) indicates physical processes within the models are based on very different formulations (parameterizations) which are thus of questionable physical meaning.

John C.

On Thu, Apr 24, 2025 at 5:11 PM John Christy <climateman60@gmail.com> wrote:
Thanks Travis. I did not know things could move that quickly in the government.

John C.

John Christy
Director, Earth System Science Center
Professor, Atmos and Earth Science
Alabama State Climatologist
The University of Alabama in Huntsville
climateman60@gmail.com

On Apr 24, 2025, at 5:04 PM, Travis Fisher <travis.scott.fisher@gmail.com> wrote:

Great news!

The Secretary just told me our new deadline is May 28th. I feel pretty strongly that this is a firm and final deadline, but it also feels like the best case scenario because we have renewed buy-in that EPA will wait for this work and include it in its rulemaking.

Please let me know how I can support your work. I've been intentionally hands-off so far, but I want you to feel free to assign research, drafting, or editing duties to me as needed.

Ross suggested we increase our coordination with EPA, particularly the legal team drafting the rulemaking. If you want to be included in those conversations, please let me know. But I'm also happy to handle the legal and policy issues if you'd rather not be involved in that nexus. The goal would be to make sure policymakers get your input on all the scientific questions they feel are relevant.

As you all get onboarded in various ways, please connect with me (ideally by phone) if you have any questions or if something about the offer or paperwork doesn't seem quite right. I'll work with the folks at DOE to make sure everything turns out the way you want.

Finally, the Secretary wanted me to send his thanks and appreciation for taking on this work. Thank you!

Best,
Travis

On Thu, Apr 24, 2025 at 3:05 PM Travis Fisher <travis.scott.fisher@gmail.com> wrote:

Hi all,

I've been waiting to chime in because I was hoping for more certainty by now, but the only thing I have to add is that Ross has won his fight with the White House about joining via contract (even though Ross is an evil foreigner from a strange place where people are conspicuously nice). It took a call from the Secretary, but we prevailed. (Ross, you'll be hearing more very soon.)

I can also confirm all the other information that was shared so far by Ross and John. The Secretary wants a thorough report that you all are proud of. If the EPA declines to use it, or demands an April 30 deadline, so be it, but the Secretary will move forward with the full report in any case.

The remaining variable (for me, anyway) is what to offer EPA if they demand a document before you all are comfortable putting your names on it. My preference is to supply them with something, even if it's in rough shape and unfit for attribution. Please think about what you all might want to do in that case because I think it's still a strong possibility. The main argument against supplying something in that case is that it would essentially be an early draft of the report Secretary Wright wants, so think about ways to differentiate the documents, etc.

Thanks again for your hard work under an impossible deadline. I'll update you all as soon as we get a new (interim/rushed) deadline from EPA. It's my understanding that the Secretary initially asked for May 15, but it's possible he will ask for even more time after hearing directly from Ross about how helpful it would be to get another full month (or more). Wright and Zeldin are traveling together today, so we should have an answer soon.

Best,

Travis

On Thu, Apr 24, 2025 at 1:12 PM John Christy <climateman60@gmail.com> wrote:

All

My plane was late, so I just missed the meeting with Ross, Travis and the Secretary, but did meet with Ross and Travis for over an hour immediately afterward.

Ross's summary below is what I gathered from our meeting. My sense was that the difficulties being encountered are related to a lack of communication between EPA and DoE, and even the White House, aided by the general sand-in-the-gears that some career federal employees are supplying. As Ross indicates we may have two phases - a generic, "un-authored" document fairly soon and a compete "authored" document later. The purpose of these documents is still murky as the challenge to the EF may or may not use them, but the Secretary absolutely wants the products. I mentioned again that an authored document would be a real commitment because we would have to deal with answering criticism as well as dealing with personal attacks for months.

As Ross said, we should be hearing more very soon.

John C.

John Christy
Director, Earth System Science Center
Professor, Atmos and Earth Science
Alabama State Climatologist
The University of Alabama in Huntsville
climateman60@gmail.com

On Apr 23, 2025, at 7:49 AM, Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Thanks Steve and Roy. I have a few wording suggestions but am off to a meeting so I'll write later. Travis and I had a meeting with Secretary Wright yesterday. I'll let Travis provide a more complete summary but my takeaway was:

- Chris was unaware of the problems we had encountered until we briefed him
- The current deadline and lack of direction conflicts with his vision of the project
- He is going to try to get more time for us; and there might be an option which gives us a lot more time
- He wants us to have the time and support to produce a substantive document with our names on it. He understands why if we are held to an Apr 30 deadline we would not be able to do that.
- More to come as he digs into the situation.

On Wed, Apr 23, 2025 at 6:59 AM Roy Spencer <roywspencer@hotmail.com> wrote:

All:

I've made some edits to Steve's document (attached).

The first (rather large) edit has to do with the implication that climate change is only due to changes in the radiative energy balance of the Earth, which I (and Dick Lindzen) disagree with. How to handle this, though, is not that obvious to me. I realize we are addressing human influences on climate, but I don't think we should accept such an anthropocentric view of climate change at the outset... This comes up later, too, in the discussion of global radiative forcing since the 1700s... We have no clue what kinds of other energy imbalances (either at the surface or at top-of-atmosphere) might have been occurring due to Nature since the 1700s.

Again, I'm open to suggestions. Maybe such issues are not necessary to mention if even the putative human forcings lead to non-damaging impacts (?)

-Roy

From: Steven Koonin <steven.koonin@gmail.com>
Sent: Tuesday, April 22, 2025 11:05 PM
To: 'Ross McKittrick' <ross.mckittrick@gmail.com>; 'Travis Fisher' <travis.scott.fisher@gmail.com>; 'John Christy' <climateman60@gmail.com>; 'Roy W. Spencer' <roywspencer@hotmail.com>; 'Judith Curry' <curry.judith@gmail.com>
Subject: RE: Apr 20 update

Attached is my take on an integrated Part 1 (together with a modest introduction). I've incorporated relevant material from others.

1. See if you like the narrative arc, which to me feels pretty natural. Note that the subsections turned out to have somewhat different titles
2. Most problematic for me is the technical level. Trying to avoid too much "Climate 101", but some of the material, particularly in Parts 2 and 3 will get pretty technical
3. I'm feeling like it lacks punch. "So what" is missing
4. Obviously, the mechanics need work. Formatting, citations, better figures, ...
5. If you all aren't too dissatisfied with this, I'd propose doing a similar job on Part 2 in the next few days.

SEK

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Sunday, April 20, 2025 8:09 PM
To: Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>
Subject: Apr 20 update

I've created a new dropbox folder called April 20 version which contains the revised outline, the associated chapters and the reference list for all my sections. I took the documents done prior to this point and renumbered the files and sections accordingly.

The new outline is (bold denotes draft posted)

Part I: Human influence on the climate

1 Components of anthropogenic radiative forcing and their history to date

2 The carbon cycle and future emission scenarios
3 Aerosols and the uncertainties associated with them

Part II: Climate response to anthropogenic influence

4 Measuring climate sensitivity to CO₂ doubling
5 Models versus observations in recent past
6 Uncertainties in analysis of attribution
7 Evidence on trends and attributable changes in extreme weather
8 Sea level rise

Part III: Impacts on ecosystems and society

9 Managing risks of extreme weather
10 Mortality risk from extreme heat and cold
11 Climate change and US agriculture
12 Climate change and global greening
13 Climate change and economic growth
14 Estimates of the Social Cost of Carbon
15 US vehicle-based CO₂ emissions and the global climate

Steve: can you draft 1 & 3?

Judy: hoping you can do 8, 10 and 14 (I have info on 14 as well.)

John I think you have something on 15.

Cheers,
Ross

0. Introduction

This document provides technical support for the endangerment and cause or contribute analyses concerning greenhouse gas (GHG) emissions under section 202(a) of the Clean Air Act. It does not convey any judgment or conclusion regarding the question of whether GHGs may be reasonably anticipated to endanger public health or welfare, as this decision is ultimately left to the judgment of the Administrator.

Assessing the dangers created by GHG emissions from US road vehicles involves a long chain of inference.

1. How will emission of GHGs (principally CO₂) influence the future climate?
2. How will the climate change under those growing influences?
3. How will those changes affect ecosystems and society?

The current certainties and uncertainties in each of these questions are considered in the following three chapters. The presentation is based on official UN and US government assessment reports, the peer reviewed literature and, in some cases, straightforward analyses of official data. Attribution of climate change to anthropogenic influences is discussed along with uncertainties regarding natural sources of climate change, which remain poorly understood. In addition to climate changes due to changes in the global energy balance between absorbed sunlight and emitted heat radiation at the top of the atmosphere, climate can also change from unforced, chaotic variations within the climate system itself, such as atmospheric circulation-induced changes in cloud cover or changes in the rate of overturning of the global oceans. This “known unknown” should be kept in mind in discussions of anthropogenic climate change.

1. Human influences on the climate

1.1. Radiative forcing

A changing climate has been the norm throughout the Earth’s 4.6-billion-year history. The Earth’s temperature and weather patterns change naturally over timescales ranging from decades to millions of years. Natural variations in the surface climate originate in two ways. Internal climate fluctuations associated with circulations in the atmosphere and ocean produce exchanges of energy, water, and carbon between the atmosphere, oceans, land, and ice. External influences on the climate system include variations in the energy received from the sun and the effects of volcanic eruptions. Human activities influence climate through changing land use and land cover. Humans are also changing atmospheric composition by increasing the emissions of CO₂ and other greenhouse gases and by altering the concentrations of aerosol particles in the atmosphere.

The earth is warmed by the sunlight it absorbs and cooled by the radiative heat it emits to outer space. Averaged over Earth, each of these processes involve power flows of about 240 W/m².

When they are in balance, there are no net external causes of warming or cooling. Human (and some natural) influences on the climate alter this balance and so cause the climate to change.

Influences on the climate are quantified by “radiative forcing”, the extent to which they disturb the warming/cooling balance; a positive forcing warms while a negative forcing cools. The IPCC’s estimated history of major components of radiative forcing since 1750 is shown in the following two figures from IPCC AR6:

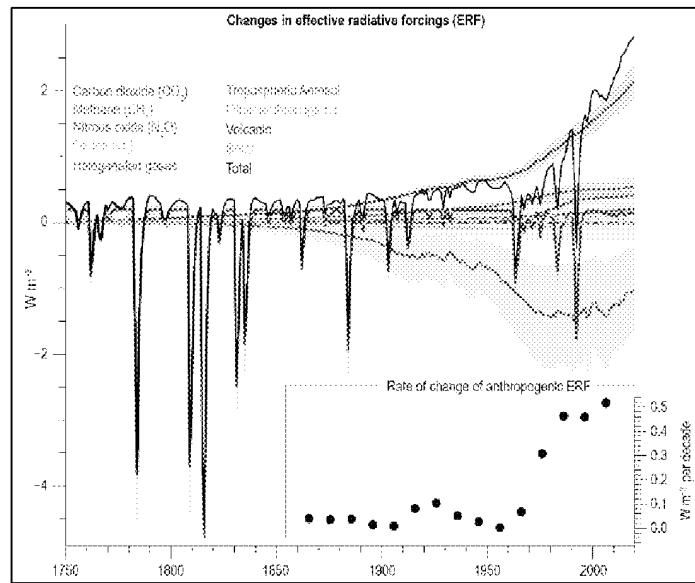


Figure 1.1.1

<https://www.ipcc.ch/report/ar6/wg1/figures/chapter-2/figure-2-10/>

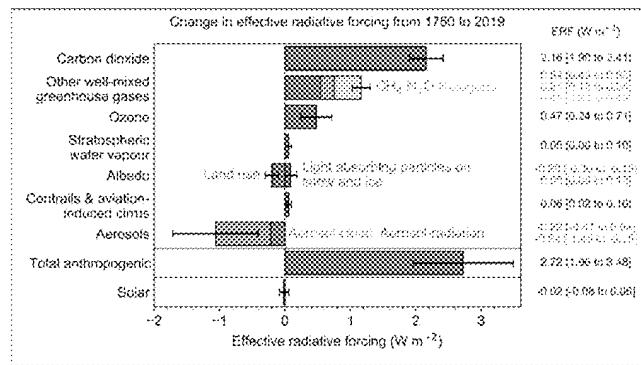


Figure 1.1.2

<https://www.ipcc.ch/report/ar6/wg1/figures/chapter-7/figure-7-6/>

These graphs show that the total radiative forcing is comprised of natural and anthropogenic components. The natural component is largely volcanic aerosols, which exert an episodic cooling effect; the IPCC deems solar variations to have had negligible influence. The anthropogenic

component was negligible before about 1900 and has increased steadily since, rising to almost 3 W/m² today. However, this is still only about 1 percent of the unperturbed radiation flows, making it a challenge to isolate the effects of anthropogenic forcing since state-of-the-art satellite estimates of global radiative energy flows are only accurate to a few Watts per sq. meter. Natural sources of global energy imbalance other than volcanoes are not included in these graphs because they remain largely unknown.

Carbon dioxide is the largest human influence on the climate and the one most relevant to the effects of motor vehicles; its emissions are accumulating in the atmosphere, as described in the following section. It exerts a warming influence by decreasing the cooling power of the atmosphere. Other greenhouse gases (methane, nitrous oxide, halogens, and ozone), which act similarly, currently add another 75% to CO₂'s warming. Aerosols exert a cooling effect, although with large uncertainties in the way they catalyze the formation of reflective clouds. As a result, understanding of the causes of recent warming requires not just identifying the warming effects of CO₂, but also the more uncertain cooling effects of sulfate aerosols.

1.2. Future radiative forcing

Carbon dioxide's warming influence depends upon how much "extra" CO₂ accumulates in the atmosphere- i.e., it's concentration. The CO₂ level as recorded at the Mauna Loa observatory in Hawaii is generally used as the representative global average concentration. The data are available online at <https://gml.noaa.gov/ccgg/trends/index.html>. The concentration was about 316 ppm at the start of the record in 1959 and is now about 425 ppm, a 34 percent increase.

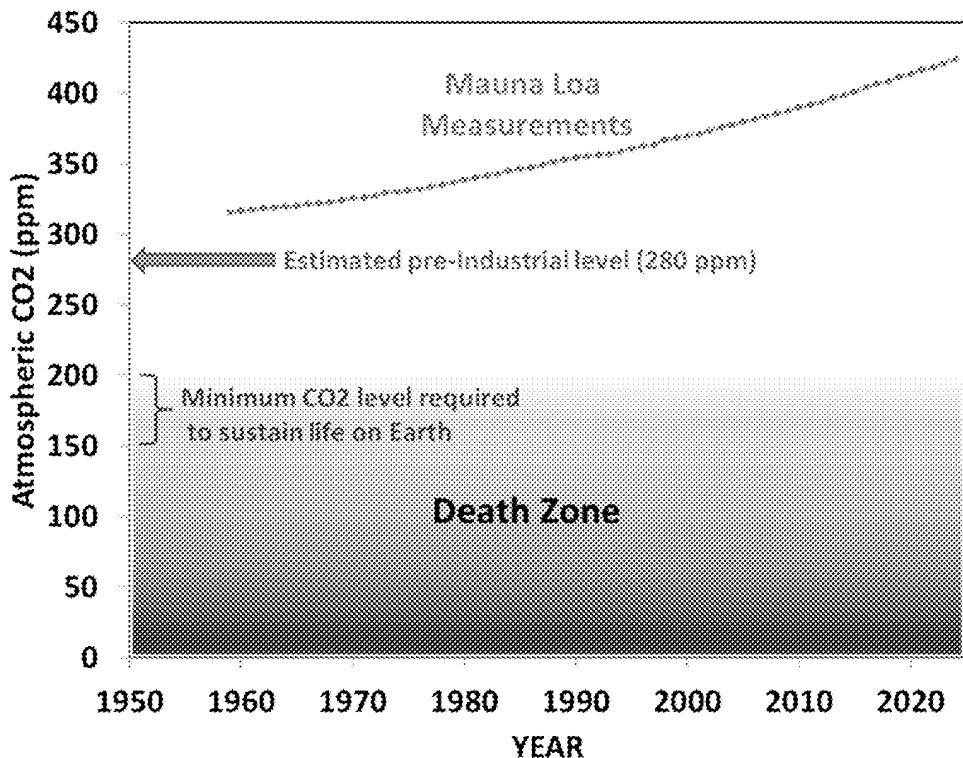


Fig. 1.2.1 Yearly average atmospheric CO₂ concentrations (1959-2024) measured at Mauna Loa, HI (green) compared to the estimated pre-Industrial CO₂ concentration of 280 ppm, and the estimated minimum levels required to sustain life on Earth (150 to 200 ppm).

The annual increase in concentration is only about half of the CO₂ emitted because land and ocean processes absorb “excess” CO₂ at a rate approximately 50% of human emissions. Thus, future concentrations, and hence future human influences on the climate, depend upon two components: (1) future rates of global human CO₂ emissions, and (2) how fast the land and ocean remove extra CO₂ from the atmosphere. We discuss each of these in turn.

1.2.1. Emissions scenarios

Assessing the future dangers of GHG emissions requires assumptions about what those emissions will be. Future emissions, and hence human influences on the climate, will depend upon future demographics, economic progress, regulation, and the energy and agricultural technologies in use. Various assumptions about each of those lead to projections of greenhouse gas emissions and concentrations, aerosol concentrations, and changes in land use, which ultimately can be combined into assumptions about anthropogenic radiative forcing.

Because of the great uncertainties about the decades to come, instead of making precise predictions of future concentrations, the IPCC has created various sets of scenarios meant to span a plausible range of possibilities for population, economy, technology, and so on. Recent versions of the scenarios are labeled by a number indicating the anthropogenic radiative forcing expected in 2100 under that scenario. Thus, a scenario labeled with a “6” corresponds to 6 W/m² of human-induced radiative forcing (warming) at the end of the century. (Recall current anthropogenic radiative forcing is about 2.7 W/m².)

Although the IPCC does not put its emission scenarios forward as forecasts they are often treated as such. Comparisons of past scenario groups against observations shows a tendency for IPCC emission projections to overstate actual subsequent emissions. For the IPCC 3rd and Fourth Assessment Reports a set of emission projections from the *Special Report on Emission Scenarios* were used, and hence were referred to as the SREP scenarios. McKittrick et al. (2012) showed that, when converted to per capita terms, the SREP scenario distribution was skewed upwards and incompatible with observed trends. McKittrick and Wood (2013) further showed that global energy market dynamics constrained global per capita CO₂ emissions to an extent not reflected in IPCC scenarios. The bias of the SRES scenarios was confirmed by the later analysis in Hausfather et al. (2019) who showed that observed atmospheric CO₂ levels tracked the low end of the SRES range.

For the Fifth Assessment Report the IPCC developed a new set of scenarios called the Representative Concentration Pathways (RCP). These were identified by a number representing the increase in forcing and were thus called RCP2.6, RCP4.5, RCP6.0 and RCP8.5. RCP2.6 (implying a gain of 2.6 Watts per square meter) projects a GHG concentration pathway which implies warming remains well below 2°C. At the other end of the scale RCP8.5 is an extreme outcome implying nearly 5°C warming just in this century.

In both the academic literature and popular media RCP8.5 came to be referred to as the no-policy baseline, or “business-as-usual” scenario. It was used in this way to generate the reference outcome supposedly representing the 21st century world in the absence of emission reduction policies. But RCP8.5 was intended as a low-probability high emissions scenario and its usage as a business-as-usual baseline has been criticized as grossly misleading. Hausfather and Peters (2020) writing in a commentary in *Nature* magazine, pointed out that RCP8.5 was developed as an extreme worst-case, and its misuse as a “business as usual” baseline has resulted in a large number of misleading studies and media reporting:

RCP8.5 was intended to explore an unlikely high-risk future. But it has been widely used by some experts, policymakers and the media as something else entirely: as a likely ‘business as usual’ outcome. A sizeable portion of the literature on climate impacts refers to RCP8.5 as business as usual, implying that it is probable in the absence of stringent

climate mitigation. The media then often amplifies this message, sometimes without communicating the nuances. This results in further confusion regarding probable emissions outcomes, because many climate researchers are not familiar with the details of these scenarios in the energy-modelling literature.

(Hausfather and Peters 2020)

The implausibility of the RCP8.5 scenario was examined by Burgess et al. (2021). They noted that RCP8.5 has already diverged from observed energy use trends, and the near future trends diverge sharply from those of the International Energy Agency (IEA) which provides market-based projections of energy use for coming decades. IEA trends are based on plausible extrapolations of current economic and demographic trends, and the results run below the entire envelope of RCP projections, implying not only that RCP8.5 is dubious, but even lower emission scenarios are looking unlikely. Burgess et al. comment (p. 8):

Beyond 2040, if the trends anticipated by energy agency forecasts continue, carbon intensity will continue diverging from AR5 and SSP baselines—especially from higher-emission scenarios such as RCP8.5, due to the assumptions about fossil-fuel expansion in these scenarios that are increasingly implausible.

Widespread use of RCP8.5 has caused a bias towards alarmism in the climate impacts literature. The extent of this problem was confirmed in a literature analysis by Pielke Jr. and Ritchie (2020). They found (p. 32) that between 2010 and 2020 some 16,800 scientific papers had been published using the RCP8.5 scenario, and (p. 16) that about 4,500 of the articles linked RCP8.5 with the concept of “business-as-usual”. They provided analyses of how RCP8.5 was misused not only by individual researchers, but by influential science agencies like the IPCC and the US National Climate Assessment (USNCA), which has directly led to misleading coverage in prominent media outlets. They provide the following example (p. 30):

The USNCA employed RCP8.5 as a baseline scenario, despite warning against such use, and compared it to RCP4.5 throughout its report to generate quantitative economic estimates of the benefits of mitigation. In a front-page story, the *New York Times* promoted the report’s misuse of RCP8.5 as a baseline scenario:

“A major scientific report issued by 13 federal agencies on Friday presents the starker warnings to date of the consequences of climate change for the United States, predicting that if significant steps are not taken to rein in global warming, the damage will knock as much as 10 percent off the size of the American economy by century’s end.”

Pielke and Ritchie (2020) reported new studies using RCP8.5 were appearing in the literature at a rate of about 20 per day, with about two per day specifically linking RCP8.5 and “business as usual.” They conclude (p. 34) that the climate research community has spent a decade “committing scientific resources to science fiction” (emphasis added):

“Derived estimates from RCP8.5 as “business as usual” such as future climate impacts, the impacts avoided from mitigation and the cost effectiveness and benefits of mitigation have no real-world meaning... **The scientific literature has become imbalanced in an apocalyptic direction.**

(Pielke Jr. and Ritchie p. 34)

The IPCC later converted the RCP scenarios to the “Shared Socioeconomic Pathway” or SSP scenarios, but these have continued the pattern of bias shown with the RCP and SRES scenarios. Figure 1.4.3.2, generated using the Resources for the Future Global Energy Outlook tool (RFF 2025). The black line shows total global observed CO₂ emissions from the International Energy Agency (IEA). The solid green line is the emission trajectory developed by BP energy taking account of current emission control policies and global energy use outlooks. current policy proposals. It overlaps a solid black line which represents the emission projection from the IEA also taking account of energy use projections and current policies. The dashed lines show the range of IPCC SSP policies. As of 2023 global CO₂ emissions have been tracking well below the SSP scenarios especially the two highest ones (SSP5-8.5 and SSP3-7.0).

Carbon dioxide emissions (Million metric tons), by Outlooks & Scenarios. Filtered by Region: World; Fuel: All; Outlook: 2023 Shell (Sky 2050).

Source: RFF Global Energy Outlook at www.rff.org/geo

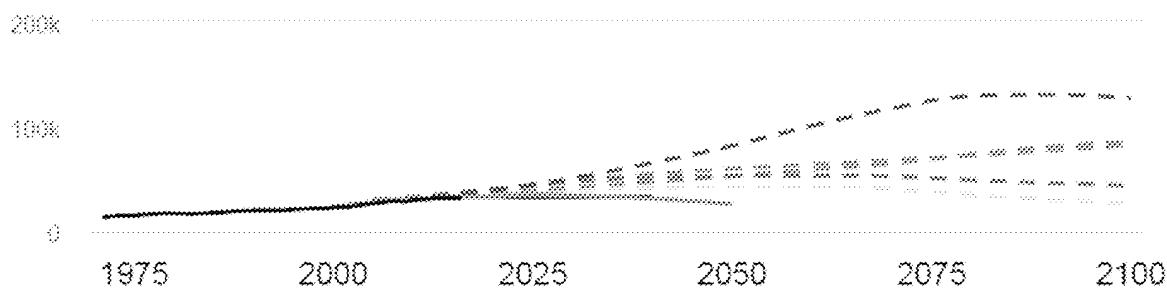


Figure 1.2.2. Observed and projected CO₂ emissions. Source: RFF (2025).

1.2.2. The carbon cycle relating emissions and concentrations

Global carbon cycle models relate concentrations to emissions using estimates of various land and ocean processes that remove CO₂ from, and emit CO₂ into, the atmosphere. Our understanding of these processes was reviewed by Crisp et al. (2021). The natural fluxes of CO₂ in and out of the Earth's surface are very large, many times anthropogenic emissions, but those CO₂ sources and sinks were assumed to be in approximate balance in pre-Industrial times, as evidenced by relatively constant levels of atmospheric CO₂ in centuries past derived from air bubbles in ice cores. This is one of several reasons why increasing atmospheric CO₂ levels are believed to be dominated by anthropogenic sources.

Specifically, fossil fuel burning (and to a lesser extent land use [biomass burning] and cement production) has led to steadily increasing CO₂ levels in the atmosphere, as shown in Fig. 1.2.1. CO₂ emissions from fossil fuel burning is a small fraction of the natural carbon cycle components. About 44,000 Gigatonnes of carbon-equivalent (GtC) are stored in the atmosphere and oceans, mostly in the form of CO₂. (Ciais et al. 2013). Between 150 and 200 GtC are released naturally each year through oceanic outgassing and land-based processes like plant decay and animal respiration. A variable but roughly equivalent amount is absorbed each year by the land and oceans, with a small net loss from the atmosphere because the formation of deep ocean sediment sequesters some carbon permanently. Global fossil fuel consumption and cement manufacture released about 10.3 GtC in 2023, up from 6.2 GtC in 1990 (Ritchie et al. 2024). Of this, about half is naturally sequestered through plant growth and oceanic uptake while the remainder, about half, adds to the atmospheric stock (Ciais et al. 2013).

As noted, each year natural processes remove a net amount of CO₂ equivalent to about 50% of global emissions. Thus, anthropogenic CO₂ emissions average twice what is required to explain the atmospheric rise in CO₂ concentration. The near-constancy of that 50% fraction (the “airborne fraction”) also means that the more CO₂ humanity produces, the faster Nature removes it from the atmosphere. That 50% fraction changes somewhat from year to year due to natural carbon cycle imbalances from El Nino, La Nina, and varying weather patterns. There was also a substantial additional reduction in atmospheric CO₂ after the 1991 eruption of Mt. Pinatubo, a curious result that has yet to be explained (Angert et al., 2004).

The main processes which remove excess CO₂ from the atmosphere are increased production of land vegetation (especially at high latitudes), some increase in the sequestering of carbon

in soils, and uptake of CO₂ by the ocean due to the increasing partial pressure of atmospheric CO₂ over that of CO₂ dissolved in the ocean. All twenty land carbon cycle models tracked by the Global Carbon Project (Friedlingstein et al., 2024) show land processes have been removing excess CO₂ at an increasing rate since 1959. This is consistent with a “global greening” phenomenon observed by satellites since monitoring of global greenness began in the 1982. This greening has been traced to CO₂ fertilization and greater drought tolerance of plants exposed to elevated CO₂ levels. While there had been some uncertainty whether a greening trend continued beyond 2000, the most recent research (Chen et al., 2023) has shown continued greening, with even some slight acceleration since 2000. Global greening is discussed further in Section 3.1.

While land vegetation has been responding positively to more atmospheric CO₂, uptake of extra CO₂ by ocean biological processes remains too uncertain to be reliably measured. Our current understanding of these and many more carbon cycle processes was reviewed by Crisp et al. (2021).

1.3. CO₂ as a “pollutant”

Whether CO₂ falls in the legal category of pollutant is ultimately a legal question. But the answer should be informed by the scientific similarities and differences between CO₂ and other generally acknowledged pollutants.

CO₂ is fundamentally different from criterion air contaminants like SO₂ and NO_x for two reasons. First, the damage from criterion air contaminants stems from their local ground-level concentration, since that is what affects human welfare. But local variations in CO₂ levels do not affect human health. Ambient outdoor air averages about 0.04% CO₂ although the level varies in response to nearby vegetation, traffic and other influences. Commercial greenhouses raise the CO₂ level to about 0.1% to boost plant growth. Humans exhale breath containing 4% CO₂ so the air inside cars and buildings can easily reach concentrations five times the ambient outdoor level, without health effects. The potential channel of influence is through variations in the global climate which operates through the global average atmospheric CO₂ concentration. (Another influence is the positive local effect on crop productivity which will be discussed in Section 3.2).

The second reason is that policy can only change the rate of emissions, not the concentration in the atmosphere. For criterion air contaminants the rate and concentration are closely connected because the lifetime is short and the concentration is small. When emissions are reduced the local pollution concentration drops rapidly, usually on a time scale of a few days. Not so with the global average CO₂ concentration since global carbon cycle is vast and slow. A change in local emissions today will only have a very small global effect, and only after a long time lag. After a pulse (release) of CO₂ emissions to the atmosphere only about 40 percent ($\pm 15\%$) of the extra CO₂ will have been sequestered after twenty years. After a

thousand years about 75 percent ($\pm 10\%$) will have been sequestered, and the remainder will gradually be removed over the ensuing tens of thousands of years (Ciais et al. 2013, pp. 472-473). Consequently US CO₂ emission reductions will take decades or centuries to lead to a reduction in the global CO₂ concentration.

To reduce the atmospheric stock of CO₂, assuming the entire increase is anthropogenic, would require emissions to fall below the natural sequestration rate. Since that rate has been averaging about 50% of emissions, a reduction of global emissions by 50% would (at least temporarily) halt the rise in atmospheric CO₂. The 1997 Kyoto Protocol proposed to cap industrial nations' CO₂ emissions at a modest five percent below 1990 levels by the year 2012. Even though this policy ended up too costly for most nations to implement, full compliance would not have substantially reduced atmospheric CO₂ levels. It would only have slightly slowed CO₂ growth, reaching the projected 2100 level in 2105 instead (Wigley 1998). Similarly, Lomborg (2016) used the widely-used MAGICC climate model and showed that full compliance with the Paris Accord would not stop warming, it would only prevent about 0.1C warming and delay hitting the baseline year 2100 temperature levels by about a decade.

Thus, in contrast with conventional air pollution control, local actions yield extremely small local effects, and only after a long time lag. The practice of referring to unilateral US reductions as "combatting climate change" or "taking action on climate" reflects a profound misunderstanding of the scale of the issue. The scale problem is compounded by recognizing that US motor vehicles account only for about 4 percent of global CO₂ emissions so even a fifty percent reduction in those emissions would have a vanishingly small effect on the global climate.

1.4. Summary

- The global climate is naturally variable. Anthropogenic CO₂ emissions add to that variability by changing the total radiative balance in the atmosphere.
- When the two components required to estimate future atmospheric CO₂ concentrations are combined (anthropogenic emissions estimates along with carbon cycle model estimates of atmospheric CO₂ removal), we get estimates of future CO₂ concentrations and hence the radiative forcings required by climate models to estimate future rates of warming.
- IPCC emission scenario envelopes have tended to exceed observed trends.
- The vast majority of academic climate "impacts" studies in recent years are based on the RCP8.5 scenario that is considered implausible, and its usage as a business-as-usual scenario is misleading.
- Despite ample evidence that scenario envelopes are exaggerated, and despite criticism of this practice in the peer-reviewed literature, the IPCC's most recent scenario set called SSP carries on with this pattern.

- Unlike criterion air contaminants, local emissions and local levels of CO₂ have no human health implications. The only potential effects are CO₂ fertilization of plants (a benefit) and modifications of the global climate.
- The global carbon cycle heavily dampens the effect of changes in local (e.g. U.S.) CO₂ emissions. Even global-scale emission reductions will have only small effects, long in the future.

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Tuesday, April 29, 2025 1:03 PM
To: Judith Curry
Cc: Steven Koonin; Ross McKittrick; John Christy; Roy Spencer
Subject: Re: Process question?

If the current plan holds, we will receive more comments than we can possibly handle through the comment process associated to the proposed rule at EPA. If you all are interested, we will likely need help in addressing those comments.

I could also imagine a more thorough and longer-term approach to something like the next version of the National Climate Assessment. In that case, I would support a transparent, bipartisan process.

On Tue, Apr 29, 2025 at 12:52 PM Judith Curry <curry.judith@gmail.com> wrote:

On the issue of review, attempting to get a review in late May seems rather pointless, especially if it is an informal pal review. I would rather use the last week of May to keep improving the document

I agree that subjecting this to a rigorous review AFTER we have a well-crafted final document (later in the summer) is very important. NASEM would be ok (but i suspect that would be biased towards the IPCC and "consensus"), or we could ask the House Science Committee to recommend reviewers (half from the dems, half from the Rs), with DOE selecting a balanced group from that list

On Tue, Apr 29, 2025 at 8:39 AM Steven Koonin <steven.koonin@gmail.com> wrote:

I'd think one of our goals should be as broad a science engagement with the alleged Consensus.

To that end, I'd hope we can engage the NASEM review body (NRC) to review the draft when it's released to the public. That in addition to a broad solicitation of public comments.

That would

- 1) demonstrate we're willing to consider other views
- 2) allow us to respond to coherent criticisms in a coherent and public way
- 3) add credibility to the final for having been through the process.

Steven E. Koonin



Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

From: Judith Curry <curry.judith@gmail.com>
Sent: Thursday, May 1, 2025 2:16 PM
To: Steven Koonin
Cc: Ross McKittrick; John Christy; Roy W. Spencer; Travis Fisher
Subject: Re: my edits of section 1

This looks fine to me.

On Thu, May 1, 2025 at 10:49 AM Steven Koonin <steven.koonin@gmail.com> wrote:

See attached. An important comment indicated is that we stick to scientific issues, not legal ones.

SEK

From: Judith Curry <curry.judith@gmail.com>
Sent: Thursday, May 1, 2025 12:48 PM
To: Steven Koonin <steven.koonin@gmail.com>
Cc: Ross McKittrick <ross.mckittrick@gmail.com>; John Christy <climateman60@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Subject: Re: Intro blurb

Text looks good, but i would call this a Foreword (not Introduction)

On Thu, May 1, 2025 at 9:29 AM Steven Koonin <steven.koonin@gmail.com> wrote:

Since this was at the top of my inbox, I took a crack at some edits (attached). Generally tightening the language.

From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Thursday, May 1, 2025 12:07 PM
To: Judith Curry <curry.judith@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; John Christy <climateman60@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>
Subject: Intro blurb

I took a stab at an intro - see attached (also in the 00.draft folder).

--

Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

--

Judith Curry, President
CFAN - Climate Forecast Applications Network
Reno, NV USA
curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Friday, May 2, 2025 11:47 AM
To: Ross McKitrick; Judith Curry
Cc: Travis Fisher; John Christy; Steven Koonin
Subject: Re: Chapter 14: U.S. Vehicle-Based CO2 Emissions and the Global Climate

Yup. My bad.

-Roy

From: Ross McKitrick <ross.mckitrick@gmail.com>
Sent: Friday, May 2, 2025 10:38 AM
To: Judith Curry <curry.judith@gmail.com>
Cc: Roy Spencer <roywspencer@hotmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@googlemail.com>
Subject: Re: Chapter 14: U.S. Vehicle-Based CO2 Emissions and the Global Climate

The very shortness emphasises the message: the underlying premise is so irrational we needn't detain ourselves long on the topic.

I would make only one change, replace "warming" with emissions in this sentence:

"Even if all CO 2 emissions were eliminated from U.S. cars and light duty trucks in 2022, the impact on global **emissions** would be less than 3%."

Ross

On Fri, May 2, 2025 at 9:42 AM Judith Curry <curry.judith@gmail.com> wrote:

I think this fits the bill. In any event, i think the greatest focus (and length) should be topics where we have particular expertise

On Fri, May 2, 2025 at 4:34 AM Roy Spencer <roywspencer@hotmail.com> wrote:

This is quite brief, but it gets to the crux of the issue as I understand it based upon my discussions with EPA attorneys from a previous administration.

Feel free to add/subtract/edit/suggest.

-Roy

From: Roy Spencer <roywspencer@hotmail.com>
Sent: Thursday, May 1, 2025 11:49 AM
To: Ross McKitrick <ross.mckitrick@gmail.com>; Travis Fisher <travis.scott.fisher@gmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@googlemail.com>; Judith Curry <curry.judith@gmail.com>
Subject: RE: May 1 status update

This kind of outline update is VERY helpful. I'll touch base with John and do something on U.S. vehicle emissions.

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKittrick <ross.mckittrick@gmail.com>
Date: 5/1/25 11:31 AM (GMT-06:00)
To: Travis Fisher <travis.scott.fisher@gmail.com>, "Roy W. Spencer" <roywspencer@hotmail.com>, John Christy <climateman60@gmail.com>, Steven Koonin <steven.koonin@googlemail.com>, Judith Curry <curry.judith@gmail.com>
Subject: May 1 status update

Here's the current Table of Contents as I have it and the status of each chapter

Secretary's Preface - **needed**

Introduction: Overview and purpose of document - **draft posted**

Part I: Direct human influence on ecosystems and the climate

- 1 Carbon dioxide as distinct from criteria air contaminants **draft posted**
- 2 Global greening and CO₂ fertilization **draft posted**
- 3 Increasing CO₂ and the alkaline oceans **draft posted**
- 4 Anthropogenic Radiative forcing
 - 4.1 Components of anthropogenic radiative forcing and their history to date **draft posted**
 - 4.2 The carbon cycle and future emission scenarios **draft posted**
 - 4.3 Aerosols and the uncertainties associated with them **draft posted**

Part II: Climate response to greenhouse gas emissions

- 5 Measuring climate sensitivity to CO₂ doubling **draft posted**
- 6 Models versus observations in recent past **draft posted**
- 7 Uncertainties in analysis of attribution **draft not posted**
- 8 Evidence on trends and attributable changes in extreme weather **draft posted**
- 9 Sea level rise **draft not posted**

Part III: Impacts on ecosystems and society

- 10 Climate change and US agriculture **draft posted**
- 11 Managing risks of extreme weather **draft not posted**
- 12 Mortality risk from extreme heat and cold **draft not posted**
- 13 Climate change and the Economy
 - 13.1 Climate change and economic growth **draft posted**
 - 13.2 The Social Cost of Carbon **draft posted**
- 14 US vehicle-based CO₂ emissions and the global climate **draft not posted**

Chapters without drafts posted:

Ch 7 - Judy I think you're working on that one?

Ch 9 - Judy do you have this draft? I lost track of who's working on this.

Ch11 - Should Ch 11 and 12 be merged?

- Judy has written an overview on the topic of managing risks and I have some material to add from the econ literature.

- John can you write a section about the hot/cold extremes data that you've tabulated and charted? It provides a very clear picture that the US climate is getting less extreme and the warming is mainly in the form of fewer cold events not more heat waves.

- John can you also write a section on US precipitation, drawing on our paper and your newest data collections. I've done the regressions for the data you sent me on the US SE humid zone and I'll get those tables and charts written up. I can't remember if you sent me a new batch of Pacific data, but if you did resend and I'll run those too.

- I plan to write a section summarizing critiques of extreme event attribution. That can make use of John's data on the Pacific NW heat wave, which is a perfect test case to focus on.

- I also have material on mortality risk from a comment I submitted on the Bressler mortality paper to nature a few years ago (which was not published).

Ch 14 - Roy did you have something written on US vehicle emissions? I guess we're just working out the fractional contribution.

Also the document would benefit from a glossary of technical terms, acronyms etc. Roy could you make a start on that?

Cheers,
Ross

--

Judith Curry, President
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curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Friday, May 23, 2025 7:09 PM
To: Roy Spencer
Cc: Ross McKitrick; Judith Curry; John Christy; Steven Koonin; Josh Loucks
Subject: Re: Report draft

The easy answer is to annex Canada.

On Fri, May 23, 2025 at 5:09 PM Roy Spencer <roywspencer@hotmail.com> wrote:

How fast can we get Ross dual citizenship?
-Roy

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKitrick <ross.mckitrick@gmail.com>
Date: 5/23/25 2:38 PM (GMT-06:00)
To: Judith Curry <curry.judith@gmail.com>
Cc: Roy Spencer <roywspencer@hotmail.com>, John Christy <climateman60@gmail.com>, Steven Koonin <steven.koonin@gmail.com>, Travis Fisher <travis.scott.fisher@gmail.com>, Josh Loucks <loucksj14@gmail.com>
Subject: Re: Report draft

I prefer an early release too, signalling that it is separate from the EPA process.
As a non-US citizen i am probably not eligible to run the NCA process. Drat.

On Fri, May 23, 2025 at 3:18 PM Judith Curry <curry.judith@gmail.com> wrote:

I am in total agreement that I prefer an earlier DOE sponsored release. Otherwise the document risks looking politicized.

On Fri, May 23, 2025 at 12:15 PM Roy Spencer <roywspencer@hotmail.com> wrote:

I agree with John that if this was released early as a DoE report, it might carry more scientific weight if the EPA relies upon it later.

-Roy

From: John Christy <climateman60@gmail.com>
Sent: Friday, May 23, 2025 1:48 PM
To: Steven Koonin <steven.koonin@gmail.com>
Cc: Travis Fisher <travis.scott.fisher@gmail.com>; Ross McKitrick <ross.mckitrick@gmail.com>; Roy W. Spencer <roywspencer@hotmail.com>; Judith Curry <curry.judith@gmail.com>; Josh Loucks

<loucksj14@gmail.com>

Subject: Re: Report draft

Travis

School is over, so I'm free Tues-Friday. Monday afternoon is also possible.

I like the idea of the Secretary releasing the report first, describing it as a project he commissioned - if you can make that happen. This separates us somewhat from the political/legal framework.

The NCA has been corrupted as we know. The State Climatologists were given a briefing from Crimmins, the Lead Author of the USGCRP committee (M.S. in oceanography and public policy), at the outset of the NCA5 process. Her message was that the science was settled and that an overview would be dealt with in the first couple of chapters, but the main points were to be social concerns, policy concerns, native American concerns, minority concerns, gender concerns, etc. It was painful to be lectured in this way, especially as she assumed we all agreed with her comments. I wrote a long email to her after the presentation pointing out some obvious issues that were not settled - never got a response. I was approached about heading up NCA 6 earlier this week, but declined because that is a cat-herding job, but was happy to help with the scientific analysis aspects. The Lead person needs to have Ross's or Steve's patience and skills. I don't have the patience needed.

I've been thinking about a one or two syllable identifier for the report. I thought of DoECR, pronounced "dohker" for Department of Energy Climate Report. So, "What does the DoECR say?" kind of thing. Shorter would be "C-R", climate-report, but that would be confused with Continuing Resolution.

John C.

On Fri, May 23, 2025 at 1:25 PM Steven Koonin <steven.koonin@gmail.com> wrote:

Thanks, Travis.

I'm free all-day Tuesday the 27th except for 1300-1400 EDT.

Monday afternoon would also be possible, but I wouldn't be enthusiastic about it (and we'd need to have S1's comments back by then).

SEK

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Friday, May 23, 2025 1:50 PM
To: Ross McKittrick <ross.mckittrick@gmail.com>
Cc: Roy W. Spencer <roywspencer@hotmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>; Josh Loucks <loudsj14@gmail.com>
Subject: Re: Report draft

Hi Ross,

I'm happy to say the handoff to the Secretary went as planned. I think we should set up a meeting on Tuesday to go through the Secretary's comments and questions, assuming he has some. If it turns out he has **a lot** of comments and questions, I might recommend multiple meetings or another marathon session. I haven't heard anything yet.

If you all agree we should have another round or two of conferences, what time works best for everyone? I could do Tuesday morning, Tuesday afternoon, and just about any time on Monday (but want to be mindful of the Memorial Day holiday). We could also wait and see how substantive the comments are before making any plans to meet.

Regarding the references and more recent changes, Josh and I could certainly use some help, at least with making sure we have all the right material in the right place. Josh and I can handle the formatting. The attached file is the Word version of the report that we converted to PDF and sent to the Secretary, so I think we should pick up the editing from there.

If anyone is interested in the broader legal and policy efforts at play (outside of DOE), I'd be happy to give you all a briefing on where things stand. The short version is that I've defended your editorial control, and the *powers that be* have accepted that you all have full editorial control. One piece that we may have to compromise on is timing--it's my sense that publishing well ahead of any EPA rulemaking will be an uphill battle (but one that I'm willing to fight).

Finally, start thinking about whether you want to be involved in the next NCA. If I had to bet on it, I'd say each of you will be asked to help, if not join, the USGCRP and contribute to NCA 6.

Best,

Travis

On Fri, May 23, 2025 at 12:51 PM Ross McKitrick <ross.mckitrick@gmail.com> wrote:

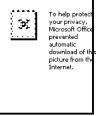
Hi Travis and Josh

Just wondering how the reference wrangling is going. I haven't worked on the draft since sending it out yesterday morning (11:30 AM edition). There will be some text additions and revisions from the team, so I need to know if there is a more updated version to look at.

Ross

--

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curry.judith@cfanclimate.com | +1.404.803.2012
<http://www.cfanclimate.net>



From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Friday, May 23, 2025 2:48 PM
To: Roy Spencer
Cc: Ross McKittrick; John Christy; Steven Koonin; Judith Curry; Josh Loucks
Subject: Re: Report draft

Be my guest! The NCA has to go through the 14-15 agency concurrence process (not sure of the number now that USAID no longer exists) and comply with things like the Information Quality Act, meaning peer review and review by OMB/OIRA.

If you all want to submit this report through that process, the product that comes out on the other end probably could be NCA 6. As it stands now, USGCRP doesn't even have an executive director, so I'm not sure who would steer the exercise.

On Fri, May 23, 2025 at 2:37 PM Roy Spencer <roywspencer@hotmail.com> wrote:

"If I had to bet on it, I'd say each of you will be asked to help, if not join, the USGCRP and contribute to NCA 6. "

I thought that's what we have been working on. -Roy ;-)

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Friday, May 23, 2025 12:49 PM

To: Ross McKittrick <ross.mckittrick@gmail.com>
Cc: Roy W. Spencer <roywspencer@hotmail.com>; John Christy <climateman60@gmail.com>; Steven Koonin <steven.koonin@gmail.com>; Judith Curry <curry.judith@gmail.com>; Josh Loucks <loucksj14@gmail.com>
Subject: Re: Report draft

Hi Ross,

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Finally, start thinking about whether you want to be involved in the next NCA. If I had to bet on it, I'd say each of you will be asked to help, if not join, the USGCRP and contribute to NCA 6.

Best,
Travis

On Fri, May 23, 2025 at 12:51 PM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

Hi Travis and Josh

Just wondering how the reference wrangling is going. I haven't worked on the draft since sending it out yesterday morning (11:30 AM edition). There will be some text additions and revisions from the team, so I need to know if there is a more updated version to look at.

Ross

From: Judith Curry [curry.judith@gmail.com]
Sent: 5/21/2025 1:13:44 PM
To: Roy Spencer [roywspencer@hotmail.com]
CC: Steven Koonin [steven.koonin@gmail.com]; Travis Fisher [travis.scott.fisher@gmail.com]; Ross McKittrick [ross.mckittrick@gmail.com]; John Christy [climateeman60@gmail.com]
Subject: Re: Title

works for me.

On Wed, May 21, 2025 at 4:07 AM Roy Spencer <roywspencer@hotmail.com> wrote:

Maybe start with Steve's minimalist suggestion.

-Roy

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Steven Koonin <steven.koonin@gmail.com>
Date: 5/21/25 5:21 AM (GMT-06:00)
To: 'Travis Fisher' <travis.scott.fisher@gmail.com>, 'Ross McKittrick' <ross.mckittrick@gmail.com>
Cc: 'Judith Curry' <curry.judith@gmail.com>, 'Roy Spencer' <roywspencer@hotmail.com>, 'John Christy' <climateeman60@gmail.com>
Subject: RE: Title

An even simpler title:

The Impacts of Carbon Dioxide Emissions on the United States

SEK

From: Travis Fisher <travis.scott.fisher@gmail.com>
Sent: Tuesday, May 20, 2025 9:57 PM
To: Ross McKittrick <ross.mckittrick@gmail.com>
Cc: Judith Curry <curry.judith@gmail.com>; Roy Spencer <roywspencer@hotmail.com>; John Christy <climateeman60@gmail.com>; Steven Koonin <steven.koonin@gmail.com>
Subject: Re: Title

First... holy cow, what a storm you guys got in Huntsville. Glad you're ok. Did your windshields survive? We got a crazy hail storm in Maryland a couple years ago that did some serious damage to our car :/

Second, for anyone AI-inclined, I wonder what title a LLM might generate based on the complete text. I might try that tomorrow once we get a full report in the same document.

Third, absent any help from robots, I'd suggest a title that's as generic and defensible as possible. Something like: "A Scientific Assessment of Carbon Dioxide Emissions and Climate Impacts for U.S. Policymakers"

You could also give a set of options to the Secretary and let him decide (prob only makes sense if you all have a top 3 or 4 ideas that you can't narrow down).

On Tue, May 20, 2025 at 9:15 PM Ross McKittrick <ross.mckittrick@gmail.com> wrote:

I am reluctant to tailor it too much to the EF since we start by saying we aren't involved in the process (b/c in fact we aren't, as far as we know). And we don't want to trigger a claim that this is a HISA. Given our time frame and the lack of external review I prefer if the title conveys something a bit more general, like "A Report on CO2 and Climate Stuff In Case Anyone Finds the Topic Interesting."

On Tue, May 20, 2025 at 8:52 PM Judith Curry <curry.judith@gmail.com> wrote:

We hardly talk about health or welfare in the report

On Tue, May 20, 2025 at 3:52 PM Roy Spencer <roywspencer@hotmail.com> wrote:

Updated Scientific Assessment of the Risks to Human Health and Welfare from U. S. Greenhouse Gas Emissions

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Ross McKittrick <ross.mckittrick@gmail.com>

Date: 5/20/25 5:33 PM (GMT-06:00)

To: Judith Curry <curry.judith@gmail.com>, "Roy W. Spencer" <roywspencer@hotmail.com>, John Christy <climateeman60@gmail.com>, Travis Fisher <travis.scott.fisher@gmail.com>, Steven Koonin <steven.koonin@gmail.com>

Subject: Title

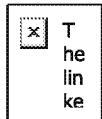
I have the following as a placeholder in the template document

- An Assessment of the Risks Posed by Carbon Dioxide Emissions on the United States of America

Travis suggested this might be improved upon. Any suggestions?

Judith Curry, President
CFAN - Climate Forecast Applications
Network
Reno, NV USA
curry_judith@cfanclimate.com |
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<http://www.cfanclimate.net>

Judith Curry, President
CFAN - Climate Forecast Applications
Network
Reno, NV USA
curry.judith@cfanclimate.com |
+1.404.803.2012
<http://www.cfanclimate.net>



From: Ross McKittrick <ross.mckittrick@gmail.com>
Sent: Wednesday, August 6, 2025 5:56 PM
To: Judith Curry; Roy W. Spencer; John Christy; Steven Koonin; Josh Loucks
Subject: nature query

This is the "question" from Jeff Tollefson at Nature magazine

I'm writing a story about the DOE climate report and wanted to get your responses to critiques/allegations from scientists that we cite in our article.

In particular, scientists we spoke to said that the report is designed to "suppress" science, not advance it; that it does not seem to have gone out for proper/standard peer review; that it cherry-picks evidence to fit the authors' and administration's views on climate, which run counter to science; that it ignores evidence that doesn't fit with the authors' and the administration's views; that it overemphasizes and misinterprets legitimate scientific debates without putting them in context; and that it mischaracterizes existing research even when that research is expressly cited in the report.

One scientist also says one of the report's main problems is self-contradictory logic: it criticizes scientists for studying high GHG emission scenarios saying they are unrealistic, even as the Trump administration proposes fossil fuel development policies that could make those high emission scenarios a reality.

I can give you until noon tomorrow to respond, and thank you for your time and consideration.

I figure it is best if we coordinate on a single response rather than each of us weighing in. Maybe Steve could be on point.

I think the usual responses apply here: This is the draft for public comments and expert review; it is being prepared following all standard procedures; we encourage critics to submit comments to the EPA docket; the comments and our responses will be on the public record.