From: Bhartia, Pawan K. (GSFC-6100)
To: Platnick, Steven E. (GSFC-6100)
Cc: Newman, Paul A. (GSFC-6100); Torres, Omar (GSFC-6140)
Subject: Re: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance
Date: Tuesday, July 23, 2019 1:48:26 PM

It seems we are starting 30 min early. Ken needs to be at HQ by noon.
PK

On: 23 July 2019 11:55, "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov> wrote:

> Thanks PK and Omar.
>
> I'll stop by G133 tomorrow morning.
>
> ---
>
> **From:** "Bhartia, Pawan K. (GSFC-6100)" <pawan.k.bhartia@nasa.gov>
> **Date:** Tuesday, July 23, 2019 at 11:47 AM
> **To:** "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>
> **Cc:** "Newman, Paul A. (GSFC-6100)" <paul.a.newman@nasa.gov>, "Torres, Omar (GSFC-6140)" <omar.o.torres@nasa.gov>
> **Subject:** Re: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance
>
> Hi Steve,
> I am copying this message to Omar Torres. He will take the lead in responding to what you need, but I will of course work with him. Please include Omar in future correspondence on this topic.
>
> I have also asked Omar to give a presentation on the OMPS LP aerosol product to Ken Jucks from NASA HQ who will be visiting us tomorrow morning. This meeting was arranged some time ago to discuss the status of OMPS limb data products. Since NASA is building three more instruments we would like to discuss with him some improvements to the future instruments to fix problems with the present instrument that we have uncovered.
>
> If you have time please join us. We will be meeting in G133 between 10 and 12. Omar's presentation will around 10:30.
> PK
>
> ---
>
> On: 23 July 2019 10:32, "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov> wrote:

Hi PK, Thanks very much.

1. Can you start working on some slides that provide an overview of OMPS-LP/SAGE products, their expected accuracies, coverage (vertical/global), and key references. Any example results for eye candy also helpful.
2. I was asked to send in draft responses to the 6 questions (see thread below) by next Monday. I can answer the first question from your draft slides if you can get them to me by early next Monday. But please take a look at the other questions and provide input as you can.

-steve

From: "Bhartia, Pawan K. (GSFC-6100)" <pawan.k.bhartia@nasa.gov>
Date: Friday, July 19, 2019 at 4:00 PM
To: "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>
Cc: Jim Irons <james.r.irons@nasa.gov>, "Newman, Paul A. (GSFC-6100)" <paul.a.newman@nasa.gov>, Kenneth Jucks <kenneth.w.jucks@nasa.gov>, Hal Maring <hal.maring@nasa.gov>, "Lefer, Barry L. (HQ-DK000)" <barry.lefer@nasa.gov>, "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
Subject: Re: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance

Hi Steve,
I would be glad to help. The OMPS limb instrument has very high sensitivity to stratosphere aerosols; it can easily detect changes in aerosol vertical extinction of less than 1E-4/km. SAGE has roughly the same sensitivity. But the sensitivity is not the only issue. One also needs to consider horizontal resolution, spatial sampling, background aerosol loading, aerosol type etc. There are future sensors in development at NASA and elsewhere that can be flown on cubesat to improve spatial sampling.
PK

P. K. Bhartia
Mail Code 614
NASA GSFC

(b) (6) [redacted]

From: Steven Platnick <steven.e.platnick@nasa.gov>
Date: Thursday, July 18, 2019 at 5:26 PM
To: Pawan Bhartia <pawan.k.bhartia@nasa.gov>, "Newman, Paul A. (GSFC-6100)" <paul.a.newman@nasa.gov>, Kenneth Jucks <kenneth.w.jucks@nasa.gov>, "Maring, Hal (HQ-DK000)" <hal.maring@nasa.gov>, "Lefer, Barry L. (HQ-DK000)" <barry.lefer@nasa.gov>, "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
Cc: "Irons, James R. (GSFC-6100)" <james.r.irons@nasa.gov>
Subject: FW: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance

All:

I was invited to attend the August 7-8 Boulder meeting of the NASEM committee on geoengineering (nas-sites.org/dels/studies/reflecting-sunlight-to-cool-earth/). Specifically, I was asked by committee member Lynn Russell to represent relevant satellite observations as part of "SESSION 2: Observation-Based Studies to Understand Effects of Engineered Changes in Aerosol on the Climate System". I expect you're aware of this; if not, AGU Eos had an article on the committee (eos.org/articles/study-will-examine-risks-and-benefits-of-climate-interventions).

Because there would've been no NASA participation at the meeting otherwise, and time was tight for making a decision, I decided to accept the invitation – despite my misgivings about the subject.

As you'll see below (and in attached agenda), I'm being asked to give a short presentation and participate in discussions. Haven't heard anything beyond that.

PK: I can handle observations related to aerosol modification of low marine clouds, but need your help with stratospheric aerosol. I'd appreciate it if you could: (1) provide some summary slides on the capabilities of

current stratospheric aerosol radiative observations (OMPS-LP, SAGE III, …) and any relevant future sensors in development, and (2) answer as best you can questions in Katie Thomas' email below. And let me know if you have any favorites wrt: ".. the committee welcomes any additional written input (e.g., white papers, published articles, etc.) you would like them to consider as they deliberate and write their report."

Paul: This is the meeting I mentioned to you at IUGG. I'd appreciate if you'd also take a look at the questions and provide your thoughts. Especially bullet 2 about "unintended consequences" (e.g., stratospheric chemistry/dynamics). Don't know that stratospheric chemistry modeling is well-represented.

Ken, Hal, Barry, Jack: Concerns, suggestions, input on questions, etc. are most welcome.

Thanks,
-steve

———————

Steven Platnick
Deputy Director for Atmospheres
Earth Science Division (Code 610)
EOS Sr. Project Scientist
NASA Goddard Space Flight Center
Greenbelt, MD USA

From: "Thomas, Katherine C" (b) (6)

Date: Thursday, July 11, 2019 at 7:54 PM

To: (b) (6) (b) (6) "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>

Cc: Caltech (b) (6) "Markovich, Erin" (b) (6)

Subject: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance

Dear David, Allison, Rob, and Steve,

Thank you so much or agreeing to speak and participate at our upcoming workshop on research related to solar climate intervention (current agenda attached). This email contains specific information to help you prepare your remarks.

You are speaking as part of Session 2: *Observation-based studies to understand effects of engineered changes in aerosol on the climate system,* which will be moderated by committee member, Paul Wennberg (copied here). This session will explore what observational research could be done to improve our understanding of both how various interventions would alter the radiation field locally (e.g. process studies to quantify how aerosol additions brighten status cloud) and further what observation approaches might be used to improve our understanding of how such interventions would interact with the global climate system (changes in long wave forcing, changes in surface T, changes in precipitation).

You will each have ~10 minutes for your prepared remarks, in addition to an hour for moderated discussion for the session. Please plan to send us your presentation slides no later than August 5. Paul and the other committee members have prepared some questions (below) that they would like you to address in your remarks. If possible, please send Paul and me brief, bulleted responses to the questions by July 29. This input is optional, but would be helpful in the preparation for moderating the session.

- What are the key uncertainties? What specific research and time for observations would be needed to reduce those uncertainties? (e.g. some climate impacts may require 20 years of

observations to reduce uncertainty from 20% to 10%.) What uncertainties are not possible to reduce or eliminate?

- What unintended consequences may occur? What are the uncertainties in those best estimates and how can they be addressed?
- What research capabilities and infrastructure would be needed to address the uncertainties and identify other potential problems/impacts/etc.?
- How should modeling and observation-based studies be sequenced in order to make progress?
- What are some approaches for detecting, monitoring and quantifying potential direct impacts of solar climate interventions (both outdoor research and deployment)?
- How closely do the studies of the impacts of changes in aerosol need to be coupled to the engineering approaches proposed (e.g. how would research to understand the impact of stratospheric aerosol change depend on the approach used to produce such change?).

You should have already received a poll from Erin to schedule a conference call with the panelists and Paul. This is an opportunity to briefly discuss the context and goals for the workshop, answer any questions you might have, and, in general, to talk and coordinate with your fellow panelists.

Finally, the committee welcomes any additional written input (e.g., white papers, published articles, etc.) you would like them to consider as they deliberate and write their report. Please note that anything submitted to the committee (including your presentation slides) is required to go into our Public Access File.

We look forward to what should be an interesting and lively workshop!

Many thanks,
Katie

Katie Thomas
Senior Program Officer
Board on Atmospheric Sciences and Climate
The National Academies of Sciences, Engineering, and Medicine
500 Fifth Street NW
Washington, DC 20001
(b) (6)

From: Platnick, Steven E. (GSFC-6100)
To: Hudson, Michael
Subject: Re: [EXTERNAL] RE: Invitation to U.S. National Academies Workshop: Aug. 7-8, Boulder, CO
Date: Wednesday, July 24, 2019 10:58:18 AM
Attachments: image001.png

Hi Michael,

Because I've decided to piggyback the meeting with visiting colleagues in Boulder for a couple of extra days, I'll go ahead and pay for my own travel. Thanks.

-steve

———————
Steven Platnick
Deputy Director for Atmospheres
Earth Science Division (Code 610)
EOS Sr. Project Scientist
NASA Goddard Space Flight Center
Greenbelt, MD USA

From: "Hudson, Michael [redacted]
Date: Tuesday, July 23, 2019 at 4:26 PM
Subject: [EXTERNAL] RE: Invitation to U.S. National Academies Workshop: Aug. 7-8, Boulder, CO

Good Afternoon,

Thank you for your interest in participating in the meeting of our Committee on Developing a Research Agenda and Research Governance Approaches for Climate Intervention Strategies that Reflect Sunlight to Cool Earth. My colleague, Erin Markovich, has been in touch with travel logistics, which I would like to follow up with at this time. I have attached our travel memo to this message. If you have any questions regarding how to go about booking your travel reservations please do not hesitate to reach out.

If you could please send your preferred check-in/out dates by COB Thursday it would be greatly appreciated.

Thank you,

Michael
--
Michael Hudson
Senior Program Assistant/Research Assistant
National Academy of Sciences, Engineering, and Medicine

(b) (6)

The National Academies of
SCIENCES · ENGINEERING · MEDICINE

From: Platnick, Steven E. (GSFC-6100)
To: Thomas, Katherine C
Cc: "Caltech"
Subject: Platnick written input
Date: Thursday, August 8, 2019 11:43:21 AM
Attachments: image001.png
Some input on emailed questions Platnick.docx

Katie, Paul:

Since the topic of "written input" came up yesterday afternoon, I wanted to remind you of the attachment that was sent along in the email below (re-attached here). This contains input from me and some Goddard colleagues.

Let me know if you have any questions.

-steve

From: "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>
Date: Wednesday, July 31, 2019 at 3:57 PM
To: "Thomas, Katherine C" (b) (6)
(b) (6)
Cc: 'Caltech' (b) (6) "Markovich, Erin (b) (6)
'Lynn Russell
Subject: Re: [ation

Hi all,

Per yesterday's telecon:

(1) here's a link to my draft slides on satellite observations:
https://www.dropbox.com (b) (6)
(b) (6) While it only lightly covers the observations, there's still far more there than what 10 min allows. But perhaps some slides will be useful to Rob or others.

(2) Also, attaching some responses to the email questions that were sent out.

-steve

———————

Steven Platnick
Deputy Director for Atmospheres
Earth Science Division (Code 610)
EOS Sr. Project Scientist
NASA Goddard Space Flight Center
Greenbelt, MD USA

Deletion Page

Requester: Aaron Siri
Request #: 25-00306-F-HQ

2 page(s) containing duplicate information is/are held in the file.

Some input on emailed "Questions" from S. Platnick et al. at GSFC (Luke Oman, Pete Colarco, Paul Newman)

A. What are the key uncertainties? What specific research and time for observations would be needed to reduce those uncertainties? (e.g. some climate impacts may require 20 years of observations to reduce uncertainty from 20% to 10%.) What uncertainties are not possible to reduce or eliminate?

(b) (5)

B. What unintended consequences may occur? What are the uncertainties in those best estimates and how can they be addressed?

(b) (5)

(b) (5)

C. What research capabilities and infrastructure would be needed to address the uncertainties and identify other potential problems/impacts/etc.?

(b) (5)

D. How should modeling and observation-based studies be sequenced in order to make progress?

E. What are some approaches for detecting, monitoring and quantifying potential direct impacts of solar climate interventions (both outdoor research and deployment)?

F. How closely do the studies of the impacts of changes in aerosol need to be coupled to the engineering approaches proposed (e.g. how would research to understand the impact of stratospheric aerosol change depend on the approach used to produce such change?).

Stratospheric References

Aquila, V., C. I. Garfinkel, P. A. Newman, L. D. Oman, and D. W. Waugh, 2014: Modifications of the quasi-biennial oscillation by a geoengineering perturbation of the stratospheric aerosol layer, *Geophys. Res. Lett*., 41, 1738–1744, doi 10.1002/2013GL058818.

Heckendorn, P., et al. (2009), The impact of geoengineering aerosols on stratospheric temperature and ozone, Environ. Res. Lett., 4, 045108, doi:10.1088/1748-9326/4/4/045108.

Niemeier, U. and Schmidt, H.: Changing transport processes in the stratosphere by radiative heating of sulfate aerosols, Atmos. Chem. Phys., 17, 14871-14886, https://doi.org/10.5194/acp-17-14871-2017, 2017.

Pitari, G., V. Aquila, B. Kravitz, A. Robock, S. Watanabe, I. Cionni, N. De Luca, G. Di Genova, E. Mancini, and S. Tilmes (2014), Stratospheric ozone response to sulfate geoengineering: Results from the Geoengineering Model Intercomparison Project (GeoMIP), J. Geophys. Res. Atmos., 119, 2629–2653, doi:10.1002/2013JD020566.

Tilmes, S., R. Muller, and R. Salawitch (2008), The sensitivity of polar ozone depletion to proposed geoengineering schemes, *Science*, **320**, 1201– 1204, doi:10.1126/science.1153966.

Tilmes, S., Richter, J. H., Mills, M. J., Kravitz, B., Macmartin, D. G., Garcia, R. R., et al. (2018). Effects of different stratospheric SO2 injection altitudes on stratospheric chemistry and dynamics. Journal of Geophysical Research: Atmospheres, 123. https://doi.org/10.1002/2017JD028146

Aquila, V., L. D. Oman, R. S. Stolarski, P. R. Colarco, and P. A. Newman (2012), Dispersion of the volcanic sulfate cloud from a Mount Pinatubo-like eruption, J. Geophys. Res.,117, D06216, doi:10.1029/2011JD016968.

Aquila, V., L. D. Oman, R. Stolarski, A. R. Douglass, and P. A. Newman (2013), The response of ozone and nitrogen dioxide to the eruption of Mt. Pinatubo at southern and northern midlatitudes, J. Atmos. Sci.,70(3), 894–900, doi:10.1175/JAS-D-12-0143.1.

Aquila, V., W. H. Swartz, D. W. Waugh, P. R. Colarco, S. Pawson, L. M. Polvani, and R. S. Stolarski (2016), Isolating the roles of different forcing agents in global stratospheric temperature changes using model integrations with incrementally added single forcings, J. Geophys. Res. Atmos.,121, 8067–8082,doi:10.1002/2015JD023841.

Marine Cloud Brightening References

Radiative susceptibility concept

Twomey, S. (1991), Aerosols, clouds and radiation, *Atmospheric Environment, 25*(11), 2435–2442, doi:10.1016/0960-1686(91)90159-5.

Platnick, S., and S. twomey (1994), Determining the Susceptibility of Cloud Albedo to Changes in Droplet Concentration with the Advanced Very High Resolution Radiometer, *J. Appl. Meteor.*, *33*, 334–347.

Platnick, S., and L. Oreopoulos (2008), Radiative susceptibility of cloudy atmospheres to droplet number perturbations: 1. Theoretical analysis and examples from MODIS,, *113*(D14), 17, doi:10.1029/2007JD009654.

Radiative susceptibility global observations

Oreopoulos, L., and S. Platnick (2008), Radiative susceptibility of cloudy atmospheres to droplet number perturbations: 2. Global analysis from MODIS,, *113*(D14), 14, doi:10.1029/2007JD009655.

Radiative/precip. susceptibility studies with LES models

A. Ackerman et al. [JAS, 2000; Nature, 2004; Monthly Weather Rev., 2009]

G. Feingold et al. [JGR, 1997; PNAS, 2016]

H. Xue, Feingold, Stevens [JAS, 2008] – emphasis on cloud fraction

Ship Track studies with aircraft and/or satellites

Coakley, J., Jr, P. Durkee, K. Nielsen, J. Taylor, S. Platnick, B. Albrecht, D. Babb, F. Chang, W. Tahnk, and C. Bretherton (2000), The appearance and disappearance of ship tracks on large spatial scales, *J Atmos Sci*, *57*(16), 2765–2778.

Platnick, S., P. Durkee, K. Nielsen, J. Taylor, S. Tsay, M. King, R. Ferek, P. Hobbs, and J. Rottman (2000), The role of background cloud microphysics in the radiative formation of ship tracks, *J Atmos Sci*, *57*(16), 2607–2624.

Chen, Y. C., M. W. Christensen, L. Xue, A. Sorooshian, G. L. Stephens, R. M. Rasmussen, and J. H. Seinfeld (2012), Occurrence of lower cloud albedo in ship tracks, *Atmos Chem Phys*, *12*(17), 8223–8235, doi:10.5194/acp-12-8223-2012.

From: Lynn Russell
To: Paul Wennberg; Platnick, Steven E. (GSFC-6100); Thomas, Katherine C
Subject: [EXTERNAL] Re: Platnick written input
Date: Friday, August 9, 2019 10:01:00 AM

Yes, many thanks -- and if there are any recent papers you can provide that would be great.

On 8/9/19 7:54 AM, Paul Wennberg wrote:

> Dear Steve,
>
> Thank you for your input to the committee. We appreciate your written comments -- very helpful.
>
> Paul
>
> On 8/8/19 9:43 AM, Platnick, Steven E. (GSFC-6100) wrote:
>
> > Katie, Paul:
>
> Duplicate Email Already Processed
>
> > Let me know if you have any questions.
> >
> > -steve
> >
> > ---
> >
> > **From:** "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>
> > **Date:** Wednesday, July 31, 2019 at 3:57 PM
> > **To:** "Thomas, Katherine C" (b) (6)
> > (b) (6)
> > **Cc:** 'Caltech (b) (6) "Markovich, Erin"
> > (b) (6) 'Lynn Russell (b) (6)
> > **Subject:** Re: [EXTERNAL] Feingold's presentation
> >
> > Hi all,

Duplicate Email Already Processed

> > ———————
> > Steven Platnick
> > Deputy Director for Atmospheres
> > Earth Science Division (Code 610)

Deletion Page

Requester: Aaron Siri
Request #: 25-00306-F-HQ

2 page(s) containing duplicate information is/are held in the file.

From: Markovich, Erin
To: Platnick, Steven E. (GSFC-6100)
Cc: Thomas, Katherine C
Subject: [EXTERNAL] Boulder Workshop Thank You
Date: Friday, August 16, 2019 2:42:17 PM

Dear Steve,

On behalf of the *Committee on Developing a Research Agenda and Research Governance Approaches for Climate Intervention Strategies that Reflect Sunlight to Cool Earth* I would like to thank you again for taking the time to present to us on your work in this field at our workshop last week in Boulder. The committee found the workshop to be tremendously helpful, and we are so glad you were able to join us in person.

If you are willing, the committee is still open to receiving additional input from you. They are particularly interested in getting a sense of your "wish list" for a research agenda. If you have additional input you would like to share with the committee, please feel free to email it to me and I will distribute it accordingly.

Also, staff will be posting the recordings of the presentations on our webpage once we have had the opportunity to edit them. We encourage interested parties to visit this page for more information on the study and our meetings.

Again, thank you for presenting at our workshop and we hope you will remain engaged in our process through the release of the committee's publication.

Have a great weekend!
Erin

--

Erin M. Markovich
Research Associate
BASC/PRB
KECK Center | WS614
500 5th Street, NW
Washington, DC 20001
(b) (6)

The National Academies of
SCIENCES · ENGINEERING · MEDICINE

From:	Platnick, Steven E. (GSFC-6100)
To:	Maring, Hal (HQ-DK000); Jucks, Kenneth W. (HQ-DK000); Lefer, Barry L. (HQ-DK000); Kaye, Jack (HQ-DK000); Eckman, Richard S. (LARC-E303); Considine, David B. (HQ-DK000)
Cc:	Irons, James R. (GSFC-6100); Bhartia, Pawan K. (GSFC-6100); Newman, Paul A. (GSFC-6100); Torres, Omar (GSFC-6140); Gleason, James F. (GSFC-6140); Oreopoulos, Lazaros (GSFC-6130)
Subject:	Re: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance
Date:	Thursday, September 19, 2019 1:31:15 PM
Attachments:	image001.png basc-rs-aug-2019-public.pdf

All,

I want to give you a brief update on the workshop. Since the academy site hasn't yet posted the presentations, here's a link to the one I presented with Omar's help (https://opendrive.gsfc.nasa.go(b) (6) . Since I'm including Richard and David this time, I'm attaching the agenda again.

From the agenda you'll see social/policy talks in addition to science. So quite a range of disciplines. Some apparent NGA advocates were present (self-invited).

While most of the invited modelers had experience in geo engineering questions, I didn't see (b) (5)
(b) (5) – though some of you may have a better sense. More clear to me, (b) (5)
(b) (5)

There were several invited scientists advocating for geo engineering experiments. (b) (5)
(b) (5)

I'll send a notice when the slides get posted so you can dig in if you wish. I don't know what will come out of the committee report, but I'd guess one recommendation might address (b) (5)
When the committee releases a draft report, we should make sure it's distributed to those who can offer input.

Let me know if you have any specific questions.

-steve

———————

Steven Platnick

Deputy Director for Atmospheres
Earth Science Division (Code 610)
EOS Sr. Project Scientist
NASA Goddard Space Flight Center
Greenbelt, MD USA

From: Hal Maring <hal.maring@nasa.gov>
Date: Thursday, July 18, 2019 at 6:37 PM
To: "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>, "Bhartia, Pawan K. (GSFC-6100)" <pawan.k.bhartia@nasa.gov>, "Newman, Paul A. (GSFC-6100)" <paul.a.newman@nasa.gov>, Kenneth Jucks <kenneth.w.jucks@nasa.gov>, "Lefer, Barry L. (HQ-DK000)" <barry.lefer@nasa.gov>, "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
Cc: Jim Irons <james.r.irons@nasa.gov>
Subject: Re: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance

Hi Steve,

NASA ESD has interest in this topic. At Jack's direction, (b) (5) (b) (5) However, we are taking (b) (5) (b) (5) With that in mind, your participation in the workshop is appropriate, even good. I know I don't need to tell you to be evenhanded. However, in this case, I suggest (b) (5) For example, in the process of describing (b) (5) (b) (5)

Hope this helps.

Hal Maring, Ph.D.
Program Manager: Radiation Sciences Program
Focus Area Lead: Atmospheric Composition
Program Scientist: MISR, A-Train, MAIA, PREFIRE, EVS-2, ACCP, ACTIVATE, MODAPS/LAADS
Earth Science Division
Science Mission Directorate
Mail Suite 3V75
NASA Headquarters
Washington, DC 20546-0001
hal.maring@nasa.gov
202.358.1679 (voice)

(b) (6) cell)
202.358.3098 (fax)

From: Steve Platnick <steven.e.platnick@nasa.gov>
Date: Thursday, July 18, 2019 at 17:26
To: "Bhartia, Pawan K. (GSFC-6100)" <pawan.k.bhartia@nasa.gov>, Paul Newman <paul.a.newman@nasa.gov>, Ken Jucks <kenneth.w.jucks@nasa.gov>, Hal Maring <hal.maring@nasa.gov>, Barry Lefer <barry.lefer@nasa.gov>, "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
Cc: "Irons, James R. (GSFC-6100)" <james.r.irons@nasa.gov>
Subject: FW: [EXTERNAL] NAS workshop - Session 2 Speaker Guidance

All:

Duplicate Email Already Processed

Deletion Page

Requester: Aaron Siri
Request #: 25-00306-F-HQ

2 page(s) containing duplicate information is/are held in the file.

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Developing a Research Agenda and Research Governance Approaches for Climate Intervention Strategies that Reflect Sunlight to Cool Earth

Workshop: August 7-8, 2019

University of Colorado Boulder
Sustainability, Energy and Environment Community Building
4001 Discovery Dr., Boulder, CO 80303
Room S228

The goal of this workshop is gather a broad array of information and perspectives from the scientific community regarding the current status of, and future research directions for, research on solar climate intervention strategies (specifically, stratospheric aerosol injection, marine cloud brightening, and cirrus cloud thinning).

Wednesday, August 7, 2019

7:45 A.M. *Meet in hotel lobby to carpool to meeting location*

8:00 A.M. *Breakfast*

8:30 A.M. **Introductions and Goals of the Workshop** — Chris Field, Stanford University, Committee Chair

9:00 A.M. **Reflections on Decision-Maker Webinar Outcomes** — Andrew Light, [*remote*] George Mason University & World Resources Institute

9:30 A.M. **SESSION 1: Modeling Studies to Understand Effects of Engineered Changes in Aerosol on the Climate System**

Moderator: Lynn Russell, Scripps Institution of Oceanography*

Panelists:
- Phil Rasch, PNNL
- Ulrike Lohmann, ETH Zurich [*remote*]
- Isla Simpson, NCAR
- Brian Soden, University of Miami [*remote*]

10:30 A.M. *Break*

11:00 A.M. **Discussion about Session 1**

12:00 P.M. *Lunch*

* committee member

1:15 P.M. **SESSION 2: Observation-Based Studies to Understand Effects of Engineered Changes in Aerosol on the Climate System**

Moderator: Paul Wennberg, California Institute of Technology*

Panelists:
- David Fahey, NOAA ESRL
- Allison McComiskey, Brookhaven National Laboratory
- Rob Wood, University of Washington
- Steve Platnick, NASA/GSFC

2:00 P.M. **Discussion about Session 2**

3:00 P.M. *Break*

3:30 P.M. **SESSION 3: Research to Estimate Impacts and Risks, Positive and Negative, of Solar Climate Interventions on Human and Environmental Systems**

Moderator: Lisa Dilling, University of Colorado, Boulder*

Panelists:
- Alan Robock, Rutgers University
- Waleed Abdalati, University of Colorado, Boulder
- Cheryl Harrison, University of Texas, Rio Grande Valley
- Colin Carlson, Georgetown University

4:15 P.M. **Discussion about Session 3**

5:15 P.M. *Adjourn*

5:45 P.M. *Reception for all guests and committee members*

Thursday, August 8, 2019

7:45 A.M. *Meet in hotel lobby to carpool*

8:00 A.M. *Breakfast*

8:30 A.M. **Goals for Today's Sessions** Chris Field, Stanford University, Committee Chair

8:45 A.M. **SESSION 4: Research Questions for Solar Climate Intervention: Engineering and Implementation Challenges**

Moderator: Rob McHenry, PARC*

Panelists:
- Frank Keutsch, Harvard University
- Simone Tilmes, NCAR
- Gernot Wagner, New York University
- Sean Garner, PARC

9:30 A.M. **Discussion about Session 4**

10:30 A.M. *Break*

11:00 A.M. **SESSION 5: Social Science Perspectives on Solar Climate Intervention Research, Including Public Perception, Public Engagement, and Approaches to Risk and Uncertainty**

Moderator: Marion Hourdequin, Colorado College

Panelists:
- Jane Flegal, Arizona State University
- Karen Parkhill, University of York
- Jack Stilgoe, University College London [*remote*]
- Rob Bellamy, University of Manchester

12:00 P.M. *Lunch*

1:15 P.M. **Discussion about Session 5**

2:15 P.M. **Roundtable Discussion with all Session Panelists** Chris Field
- Identify/discuss any critical issues that cut across the previous panels – i.e., research that involves intersections among atmospheric/climate modeling, observational studies, environmental impacts research, engineering/implementation issues, and social sciences

3:00 P.M. *Workshop adjourns*

NOTE FOR PUBLIC MEETINGS: This meeting is being held to gather information to help the committee conduct its study. This committee will examine the information and material obtained during this, and other public meetings, in an effort to inform its work. Although opinions may be stated and lively discussion may ensue, no conclusions are being drawn at this time; no recommendations will be made. In fact, the committee will deliberate thoroughly before writing its draft report. Moreover, once the draft report is written, it must go through a rigorous review by experts who are anonymous to the committee, and the committee then must respond to this review with appropriate revisions that adequately satisfy the Academies' Report Review Committee and the NAS president before it is considered an official Academies report. Therefore, observers who draw conclusions about the committee's work based on today's discussions will be doing so prematurely.
Furthermore, individual committee members often engage in discussion and questioning for the specific purpose of probing an issue and sharpening an argument. The comments of any given committee member may not necessarily reflect the position he or she may actually hold on the subject under discussion, to say nothing of that person's future position as it may evolve in the course of the project Any inference about an individual's position regarding findings or recommendations in the final report is therefore also premature.

From: United Nations
To: Platnick, Steven E. (GSFC-6100)
Subject: [EXTERNAL] CORONAVIRUS Biological Warfare Event 201
Date: Thursday, January 30, 2020 8:55:18 AM
Attachments: powerphplist.png

IMPORTANT UPDATED INFORMATION : STUDY everything herein URGENTLY : FORWARD to everyone URGENTLY

Coronavirus Incorporated: Patented, Produced, Propagated & Propagandised
Bill Gates, Allianz, Blackrock, Vanguard & the World Economic Forum have committed **Criminal Bioterrorism** with conspired **Criminal Extortion** through artificially constructed **Coronavirus and Carbon Capture Crises** on behalf of the **Vatican Societas Iesu** and **Secular Illuminati** controlled **City of London, People's Republic of China, United Nations & Obama led US "Senior Executive Service"** Satanic Occultist SOCIALIST objectives of **electronic enslavery & eugenics extermination**.
link : link : link : link : link

There is no "Anthropogenic Carbon Dioxide Emission Climate Emergency", as you will learn after studying all the information provided herein.

The agenda of the "Anthropogenic Carbon Dioxide Emission Climate Emergency" propaganda is to divert remediary attention from the plethora of pollution, perversion and political ploys that are problematic to the planet whilst pressuring the population into a pre-planned paradigm of electronic enslavery & eugenics extermination with tactical technologies that endanger the electromagnetic integrity of the entire planetary biosphere; all in the name of ecology albeit being the antithesis of ecology.

Concerning Greta Thunberg's Great-Grandfather, Svante Arrhenius, the name sake of her theatrical father:
*"Svante Arrhenius was one of several leading Swedish scientists actively engaged in the process leading to the creation in 1922 of **The State Institute for Racial Biology** in Uppsala, Sweden, which had originally been proposed as a Nobel Institute. Arrhenius was a member of the institute's board, as he had been in **The Swedish Society for Racial Hygiene (Eugenics)**, founded in 1909."*
link

"ACHTUNG ! Stop breathing ! How dare you exhale CO2 ! I said stop breathing ! Exterminate ! Exterminate ! Exterminate ! I am not a Dalek ! Exterminate !"
link : link : link : link : link : link

What is most evident amidst all the misleading information promulgated by the UN IPCC in it's Socialist "political" climate change agenda is that previously ignored Solar and Extra-Solar charged particle, electromagnetic wave and field interactions with the magnetosphere as factors of the actual Solar & Extra-Solar Forcing beyond the limited data set of only Ultraviolet electromagnetic wave interaction are the most potent modulating factor in global climate variation and meteorology; with the modulations wihtin Solar Minimums and Maximums of Solar Cycles being the most direct influencers of global temperatures with respect to modulation of Solar & Extra-Solar "Cosmic Ray" interaction with the magnetosphere.

link : link : link : link

P(eoples)R(epublic of)ince C(hina)harles Demands Global Genocide Tax
link : link : link : link

Heil Harry Hitlery Haitian Hussy House Pay to Play Pizza Express
link : link : link : link : link : link : link : link : link : link : link : link

AU Fires: UN Declaration of War
link

How to Extinguish Class A, B & C Fire
link

alpha Male, omega Females
link

Everyone needs to be urgently notified that the Vatican Societas Iesu and Secular Illuminati controlled City of London, People's Republic of China, United Nations & Obama led US "Senior Executive Service" Satanic Occultist SOCIALISTS have initiated WAR AGAINST the population and land of AUSTRALIA and the entire WORLD, with the complicit corruption of private sector, public service and student union "Socialist" activist fronts of foreign interference, through deliberately engineered economic and ecological disaster systemic sabotage amidst SOCIOLOGICAL, ECONOMIC & POLITICAL "CLIMATE CHANGE" takeover attempts.
link

UNCED Preconspired MASS MURDER Agenda
link : link : link

Do you know what time it is?
link : link

Drought was engineered through criminally unconstitutional "water harvesting" privatisation of natural water resources.
link : link

Fire fuel was engineered through criminally irresponsible neglect of "controlled burn" forestry management and geoengineering stratospheric aerosol injection of aluminum and barium fire accelerants.

Dry heat over Australia caused by weakening of the stratospheric Antarctic polar vortex was amplified by ionospheric microwave heater array weather modification weapons of mass destruction and geoengineering stratospheric aerosol injection of aluminum and barium microwave radiation reactants.

The enormous fire disaster in Australia had nothing to do with anthropogenic carbon dioxide emissions "climate change", let alone Australia's anthropogenic carbon dioxide emissions, irrespective of whatever global democide by design POLITICAL "climate change" celebrity prostitutes, corrupt scientists, controlled politicians, complicit industries and Socialist activists

delusionally insist in fervent mass murder intent criminal culpability.

The dry heat extremes were caused by a strong positive phase of the Indian Ocean Dipole and weakening of the stratospheric Antarctic polar vortex amidst cyclic weakening and re-orientation of the magnetosphere:
link : link : link : link : link : link

Amplified by Ionospheric Microwave Heater Array weaponry:

Actual "Anthropogenic" Climate Change = Ionospheric Microwave Radiation
link : link : link : link : link : link : link : link : link : link

Accelerated by Aluminum and Barium stratospheric aerosol injection:
link : link

Fueled by a conscientious lack of seasonal controlled burning and lit by the deliberate arson of the most radical extremist Socialist POLITICAL "climate change" activists on behalf of foreign interests of corporate and political takeover.

Extensive fires were deliberately lit by "Socialist" activist fronts of foreign interference by the Vatican Societas Iesu and Secular Illuminati controlled City of London, People's Republic of China, United Nations & Obama led US "Senior Executive Service" whilst their military industrial mass media machines and "Social Justice Warriors" (Societas Iesu Jesuit War Mongers) have blasted international audiences with scientifically flawed and politically motivated "climate change" propaganda designed to erroneously blame the fires on Australia's CO2 emissions in favour of total conversion to SolarCity and SpaceX/StarLink/NeuroLink/OpenAI "Smart Grid" Neural Implant Integrated "Internet of boDies"/"Internet Of ThingS" (IDIOTS) electronic enslavery & eugenics extermination 5G ACTIVE DENIAL Microwave Radiation Weapons of Mass Destruction.

Nazi "National SOCIALIST German Workers Party" / Marxist "SOCIALIST Revolutionary Party" = SOCIALIST "Divide and Conquer" Strategy of Tension
Fascist Anti-Fascist Vatican Societas Iesu and Secular Illuminati controlled City of London, People's Republic of China, United Nations & Obama led US "Senior Executive Service" Satanic Occultist National International SOCIALIST "Democrat" GLOBAL WAR MONGERING CONTROLLED CHAOS HUMAN EXTERMINATION "Global Warming Climate Change" Activist "Generalfeldmarschall" admits to a) criminal intent to commit ARSON to achieve political goals b) organised violence & riots ("terrorism") c) fascist indoctrination d) state slavery
link : link : link : link

Vaccination & Fluoridation Induced "Diseases by Design"
link : link : link : link : link : link

MASSIVE MICROWAVE OVEN WEAPON OF MASS EXTERMINATION VIA CARCINOGENIC CIRCUITS & CYBERNETICS
link : link : link : link : link

"No more insects, no more pollination, no more biological organisms."
link : link

UN Agenda 2030 "666" eXtRa hurts "Lake of Fire"
eXtinction lying'Rabble "id=I.o.T. Grid" 5G Ghz Prelude to 6G Thz Plague
link : link : link : link : link : link

"Researchers from the Korea Advanced Institute of Science and Technology (KAIST) announced findings from a research project that ***exposure to terahertz radiation on an animal showed signs of infections on skin tissue****. Previously, terahertz radiation was thought to be harmless to humans, because of its low energy and wider applications than x-radiation.*

To test the effects of terahertz radiation, the team developed a high-power terahertz generator and a high resolution 3D laser scanning microscope. A genetically-engineered mouse was exposed to high-terahertz radiation for 30 minutes, and the skin of the mouse was monitored with the microscope. The team found that the number of ***infected cells increased more than six times after six hours of exposure****."*

The 666G "IDIOTS Grid" Plethora of Solar Panel and Semi-Conductor Production Pollution measures 32,600 on a "Climate Justice" Severity Scale of 1 to 10:
link : link

The majority of Ionospheric Microwave Heater Array "power" is spent in surface to ionosphere transfer, with each facility having a limited scope of ionosphere to surface coverage.

What extent of ionospheric microwave manipulation might be done with a global grid of 42,000 solar-powered 5G Ghz microwave radiation satellites relaying at multiple layers of the ionosphere surrounding the entire planet?

And what extent of ionospheric microwave manipulation might be done with an even larger global grid of solar-powered 6G Thz microwave radiation satellites relaying at multiple layers of the ionosphere surrounding the entire planet?

Plus devastating pollinating insect populations and controlling the total behavioural & biological integration of the microwave oven "IDIOTS Grid" blockchain?

IDIOTS Grid EMPTY Vacuum
link : link

The real "global warming" gases of concern "were" chlorofluorocarbons, hydrochlorofluorocarbons and other molecules such as SF6 & NF3 (semi-conductor production pollutant emitted in solar panel manufacturing) with their heat trapping capacities and their damage to the ozone layer influencing stratospheric and subsequently terrestrial temperatures; NOT CARBON DIOXIDE.

At the end of the Little Ice Age before the beginning of the Industrial Revolution, atmospheric carbon dioxide densities where at near "starvation" levels for flora whereas the current atmospheric carbon dioxide density is still only 40% of the optimal level for planetary flora.

A typical horticultural "greenhouse" optimises plant growth with "contained climate" carbon dioxide densities of over 3 times the current atmospheric carbon dioxide density.

For ~75% of the last 550 million years, CO2 was 2 to 15 times higher than now. Evolution flourished, with CO2 enabling plant photosynthesis, the basis of all life.

Carbon dioxide levels were the same lately as in the mid-Pliocene Age when global average ocean temperature was 5 degrees Celsius hotter, the global average surface temperature was 3 degrees Celsius hotter and global sea level was 25 m higher than lately.

Geological studies of oceanic carbonate layer samples versus ice core samples of carbon dioxide bubbles in frozen solution have found that atmospheric carbon dioxide variation is a result of ocean temperature variation rather than a cause of atmospheric temperature variation, wherein decreased ocean temperatures increase the rate of carbon dioxide absorption from the atmosphere and transformation into deep water carbonates through carbonic acid and bicarbonate intermediary reactions and increased ocean temperatures increase the rate of carbonate transformation through carbonic acid and bicarbonate intermediary reactions into shallow water carbon dioxide release into the atmosphere.
link

The often popularised graphs of ice core samples comparing sea surface temperature estimates based on ice layer thickness with densities of carbon dioxide bubbles in frozen solution within those ice layers confirm that atmospheric carbon dioxide variation is a result of ocean temperature variation rather than a cause of atmospheric temperature variation.

Correlated temperature variations precede carbon dioxide variations:
link : link : link

Cause:
Temperature Variation

Effect:
Carbon Dioxide Variation

Amidst efforts to decrease the plethora of industrial pollutants that are too often ignored by the deliberate distraction of erroneous emphasis on anthropogenic carbon dioxide emissions, most definitely, there is enhanced need for global reforestation efforts to increase the integration of atmospheric carbon dioxide into terrestrial flora forms is highlighted amidst the industrial increases in anthropogenic carbon dioxide emissions and deforestation as the most appropriate, necessary and effective method of modulating life nurturing atmospheric gases and ecological processes of the planet.

Whilst global average land and sea surface temperatures have generally risen by about 1.5% degrees Celsius between approximately 1930 and 2020, it ought be noted that this period correlates exactly with the past eight 11 year solar cycles of the currently ending Grand Solar Maximum.
link : link

Meanwhile, as we enter Solar Minimum towards Grand Solar Minimum, Arctic & Antarctic Sea Ice has begun generally expanding.
link : link : link

International implementation of Carbon Capture & Storage technologies and Anthropogenic

Carbon Dioxide Emission Reductions in prelude to and during reductions in atmospheric carbon dioxide densities due to "global cooling" risk the return of near "starvation" levels for flora.
link

In that atmospheric carbon dioxide densities are still only 40% of the optimal density for plant growth and that a deacrease in global temperatures due to an approaching Grand Solar Minimum will result in increasing the rate of carbon dioxide absorption from the atmosphere and transformation into deep water carbonates through carbonic acid and bicarbonate intermediary reactions, Anthropogenic Carbon Dioxide Emissions provide a great opportunity to increase global reforestation in order to minimise atmospheric carbon dioxide starvation and flora reduction during the approaching Grand Solar Minimum.

Furthermore, all the data sets and models used by the IPCC in it's political agenda to create the myth of anthropogenic carbon dioxide emission induced global warming climate change are based in a major statistical "error" in failing to acknowledge the vast majority of electromagnetic radiation and charged particle penetration of the magnetosphere known as "Solar Forcing" aside from ignoring the modulation of 11 year solar cyles and the 2400 year "Bray" cycle.
link : link : link

The ozone layer has significantly repaired since global reductions of CFC/HCFC emissions and the renowned "hole in the ozone layer" is the smallest it has even been in it's observed history.
link

In fact, during the past dozen years of steady atmospheric carbon dioxide rises, global average land and sea surface temperatures have fallen since global reductions of CFC/HCFC emissions whilst a near exact correlation of atmospheric ozone and stratospheric temperature has occurred.
link

CFCs, HFCs, and other molecules such as SF6 & NF3 (semi-conductor production pollutant emitted in solar panel manufacturing) have up to 10,000 or more times, per molecule, the greenhouse effect of CO2 which is one of the weakest greenhouse gases in terms of a single molecule. They increase their effect linearly since their abundance is so low, CO2 increases logarithmically and thus a large change of CO2 has a much smaller change in the CO2 greenhouse effect.And they are extremely durable. Once in the atmosphere, they continue to function as greenhouse molecules for a long time, whereas CO2 is absorbed out of the atmosphere by the ocean and vegetation. Currently, atmospheric carbon dioxide levels are only 40% of the optimal density for plant growth and reducing atmospheric carbon dioxide density by reducing anthropogenic carbon dioxide emissions and/or internationally implementing Carbon Capture and Storage technologies would, in fact, reduce atmospheric carbon dioxide density towards starvation levels and reduce the rate of natural revegetation.

With the global reductions of CFC/HCFC emissions, there have been massive increases in semi-conductor production pollutants like SF6 and NF3, especially with the push for an international Solar Panel powered Smart Grid 5G Internet of Things and the ionospheric disrupting influences of microwave radiation 5G satellite networks and ionospheric microwave heater array weaponry.

What is most evident amidst all the misleading information promulgated by the UN IPCC in it's Socialist "political" climate change agenda is that previously ignored Solar and Extra-Solar charged particle, electromagnetic wave and field interactions with the magnetosphere as factors of the actual Solar & Extra-Solar Forcing beyond the limited data set of only Ultraviolet electromagnetic wave interaction are the most potent modulating factor in global climate variation and meteorology; with the modulations wihtin Solar Minimums and Maximums of Solar Cycles being the most direct influencers of global temperatures with respect to modulation of Solar & Extra-Solar "Cosmic Ray" interaction with the magnetosphere.
link : link : link : link

To that effect, long overdue for the ending of the current inter-glacial warm period and especially with cyclic weakening and re-orientation of the magnetosphere, the Grand Solar Minimum expected some time within the current century has a high probability of inducing an extreme cold period, perhaps to the extent of a Miniature Ice Age.
link : link : link : link

Australia contributes a mere 1% to total atmospheric carbon dioxide, whereas the PRC contributes 29% and is currently building more generators to increase the PRC contribution with the addition of the total contribution of the European Union.

Meanwhile, 99% of all oceanic rubbish is contributed by China and India; whilst Australia, the United States of America, Canada and much of Europe have the lowest levels of general air pollution in the world.
link : link

And yet the rabid, deluded and democidal POLITICAL "climate change" drones refuse to ever direct their efforts against the PRC.

In actuality, global average temperatures were 9 degrees Celsius higher than today during the the Medieval Warm Period when flora thrived as a result of increased atmospheric carbon dioxide densities before the Little Ice Age when atmospheric carbon dioxide density was at near "starvation" levels for flora before the Industrial Revolution.

More so, atmospheric carbon dioxide has been increasing rates of natural revegetation worldwide, despite industrial deforestation, and the current natural and anthropogenic atmospheric carbon dioxide density is only 40% of the optimum for flora to flourish.
link

The "Global Warming Climate Change" agenda created and controlled by the same City of London that created and controlled Nazism, Marxism, Zionism, Wahhabism, Modern Satanism and the United Nations is GLOBAL WAR MONGERING CONTROLLED CHAOS HUMAN EXTERMINATION.

M.I. SpaceX "VG ON" Destructor Fleet Launch narrated by David Attenborough
link

þú ert helvíti
link : link

The Big LHC Big Chill Big Kill

UN Agenda 2030 is preparation for the onset of the "global cooling" that will probably ensue between 20 to 30 years after the currently commenced culmination of the Grand Solar Maximum when Grand Solar Minimum is approximated to begin; **the "Big Chill"**.

Neither 5G Gigahertz Digital Signal Codified EM Radiation nor the Coronavirus Crisis are planned to be **the "Big Kill"**.

They are both prominent pre-conditioning preludes to 6G Terahertz Digital Signal Codified EM Radiation "Internet of boDies"/"Internet Of ThingS" (IDIOTS) and more lethally infectious engineered epidemics.

Thus 6G Digital Signal Codified EM Radiation and Engineered Epidemics are intended to maximise lethal infectivity amidst cold climate conditions.

Furthermore, cooling oceans will result in increasing oceanic absorption of atmospheric carbon dioxide into carbonates trhough carbonic acid and bicarbonate intermediaries, potentially reducing atmospheric carbon dioxide to similar or worse flora "starvation" levels as the Little Ice Age and thereby potentiating fauna "starvation".

Thus Carbon Capture & Storage technologies are intended to maximise the potential of flora "starvation" levels.

Likewise the Bilderberg Group's CERN LHC is a prelude to the planned **the "Big LHC"** Super Particle Colliders.

The CERN LHC has been proven to weaken and disrupt the magnetosphere during particle beam operation and especially during collisions.

Magnetospheric disruption is only further potentiated through the planned Super Particle Colliders.

To be located within multiple layers of the ionosphere, the global 5G Satellite Network will also induce magnetospheric disruption even if only limited to Gigahertz Digital Signal Codified EM Radiation aside from the possibility of intentional ionospheric imbalance induction "weather manipulation".

Magnetospheric disruption and the possibility of intentional ionospheric imbalance induction "weather manipulation" is only further potentiated through the planned global 6G Satellite Network's Terahertz Digital Signal Codified EM Radiation.

Aside from the possibility of intentional ionospheric imbalance induction being implemented as "weather manipulation" weaponry, microscopic through to macroscopic openings of carcinogenic/mutagenic Ultra-Violet EM Radiation penetration are potentiated by the 5G/6G Satellite Network's Gigahertz/Terahertz Digital Signal Codified EM Radiation to further potentiate flora and fauna extermination in addition to the carcinogenic, mutagenic and infectivity biohazard potentials of 5G & 6G Ground Relays with the "Internet of boDies"/"Internet Of ThingS" (IDIOTS) Gigahertz/Terahertz EM Radiation.

The Particle Colliders and 5G/6G Satellite Networks are intended to maximise magnetospheric disruption amidst temporary weakening of the magnetosphere during the magnetic re-orientation of an accelerating terrestrial polar shift; perhaps in an attempt to extinguish the magnetosphere and thereby atmosphere and biosphere before it is able to re-orient.

It appears that much of modern society & technology has been systemically steared towards colonisation of Mars and the extinction of life on Earth, or elsewise, eugenics engineered depopulation and repopulation of the planet.

As extraordinary as that all might seem to some, the greater astrophysical environment of the motion of the Solar System within the process of the merger of the Milky Way Galaxy with the disintegrating Sagittarius Dwarf Spheroidial Galaxy from whence the Solar System originated ought to be considered.
link

The full array of fluctuating magnetospheric radiance is influenced by the full array of fluctuating cosmic radiances with the full array of fluctuating heliospheric radiance as the intermediary.

More so, the full array of fluctuating cosmic radiances are influenced by the full array of each of every fluctuating cosmic radiance and are thereby accelerating symmetrical momentum communally.

The observed weakening of the outer phases of the magnetosphere and movement of the planetary magnetic poles towards each other is only a "near death" temporary contraction of the magnetosphere into a "fetal position" period of regeneration, "fetal rotation" re-orientation and "rebirthing" into a prolonged expansion.

Motion of the Magnetopause
link

.

From: American Geophysical Union
To: Platnick, Steven E. (GSFC-6100)
Subject: [EXTERNAL] AGU Member Community Digest for Thursday July 2, 2020
Date: Friday, July 3, 2020 2:01:32 AM

AGU Member Community

Post New Message

Jul 2, 2020

Discussions

started yesterday, Robert Burman (2 replies)

Announcements - July 2020

1. Tracking Environmental Changes Due to COVID-19... Deborah Glickson
2. Hello, apologies for the cross-postings, and I... Erika Roesler

started 3 days ago, Robert Stern (3 replies)

2.5 minute video about how to foster diversity and inclusion in the geosciences

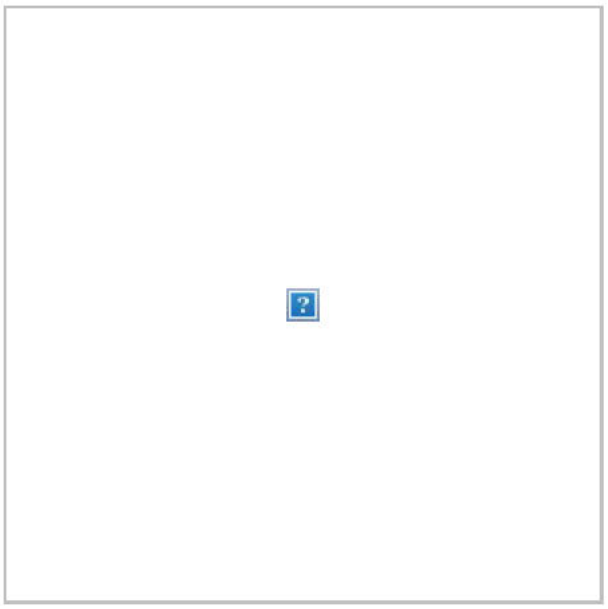
3. I would like to make two points that may not be... Gabor Toth
4. I wanted to echo the observation by Gabor Toth. ... James McFadden

top next

1. Re: Announcements - July 2020

Reply to Group | Reply to Sender

Jul 2, 2020 9:31 AM
Deborah Glickson



Tracking Environmental Changes Due to COVID-19 Through Remote Sensing
Tuesday, July 14, 2020 | 11:00am-12:30pm EDT

The **Committee on Solid Earth Geophysics** invites you to attend a webinar with scientists documenting global changes to the environment due to the novel coronavirus (COVID-19) pandemic. Please join us for the following presentations:

- **Global Noise Reduction due to Lockdown: One Planet, One Community** – Dr. Thomas Lecocq, Royal Observatory of Belgium
- **Inconsistent Effects of Covid-19 Lockdowns on NO2 Pollution in Cities Globally: Evidence from Satellite Remote Sensing and Chemical Transport Modeling** – Dr. Susan Anenberg, George Washington University
- **City-scale Dark Fiber DAS Measurements of Infrastructure Use During the COVID-19 Pandemic** – Dr. Nate Lindsey, Stanford University

Register at: www.eventbrite.com/e/...

Deborah Glickson
National Academies of Sciences, Engineering, and Medicine
(b) (6)

Original Message:
Sent: 07-01-2020 14:02
From: Robert Burman
Subject: Announcements - July 2020

Hi All,

Please use this thread for promoting your upcoming conferences, workshops, etc. While AGU Connect has a strict policy prohibiting commercial postings, we recognize that notifications about upcoming events and activities or research and funding opportunities could be of use to the community. Because we know such announcements are important, we have created this thread as a dedicated forum where they can be posted. This way, members of the community are not overwhelmed with individual posts that aren't really intended to spark discussion as much as they are intended to create awareness. Each time an announcement is posted to this thread, it will still go into the daily/weekly digest emails. Any such announcements that are posted outside of this thread will be moved here for consistency.

Robert Burman
American Geophysical Union
Senior Specialist for Membership
(b) (6)

2. Re: Announcements - July 2020

Reply to Group | Reply to Sender

Jul 2, 2020 1:06 PM
Erika Roesler

Hello, apologies for the cross-postings, and I hope I interpreted this thread's intention appropriately.

We invite you to submit to our AGU session on **"**Approaches in Measurements and Modeling for Geoengineering**"**. Our motivation for this session is to seek multi-disciplinary approaches to a global issue. For the first time, we hope to foster dialogue between these disciplines to accelerate ideas for innovation and

knowledge. The deadline for abstract submission is Wednesday July 29th, 2020.

Please share with this information those you think might also be interested.

All the best,
The Session Co-Conveners
(Erika L. Roesler, Patrick V. Brady, Lyndsay Shand, and Lauren B. Wheeler)

Session Title:
Approaches in Measurements and Modeling for Geoengineering
Session Description:
Geoengineering, or the intentional modification of an aspect of the Earth's system to mitigate impacts of climate change, has historically been researched with numerical models and simulations to understand implications and effects. Recent events have catalyzed research from solely-model based to field work. This session solicits contributions from participants who have interest and expertise in measurements and modeling of the Earth System that can be applied to Carbon Dioxide Removal and Solar Radiation Management. Through linking these fields in this session, current technologies and ideas will be shared in both realms, promoting further scientific understanding of geoengineering implications.

More info:
Session ID: 100902
Session Title: . Approaches in Measurements and Modeling for Geoengineering
Section: Global Environmental Change
View Session Details: https://agu.confex.com/agu/fm20/gateway.cgi

---
Erika Roesler

Reply to Group Online **View Thread** **Recommend** **Forward**

Original Message:
Sent: 07-01-2020 14:02
From: Robert Burman
Subject: Announcements - July 2020

Hi All,

Please use this thread for promoting your upcoming conferences, workshops, etc. While AGU Connect has a strict policy prohibiting commercial postings, we recognize that notifications about upcoming events and activities or research and funding opportunities could be of use to the community. Because we know such announcements are important, we have created this thread as a dedicated forum where they can be posted. This way, members of the community are not

overwhelmed with individual posts that aren't really intended to spark discussion as much as they are intended to create awareness. Each time an announcement is posted to this thread, it will still go into the daily/weekly digest emails. Any such announcements that are posted outside of this thread will be moved here for consistency.

Robert Burman
American Geophysical Union
Senior Specialist for Membership
(b) (6)

3. Re: 2.5 minute video about how to foster diversity and inclusion in the geosciences

Reply to Group | Reply to Sender

Jul 2, 2020 9:31 AM
Gabor Toth

I would like to make two points that may not be popular but true.

While I appreciate the intent and effort made into making the video, I found it surprising that the only Black person was from a park. Not a single Black student or professor among the dozens of faces shown in the video about diversity.

162M people without reliable internet is shocking if true. Maybe it is much less if we exclude people who have 4G data access, which is sufficient for viewing short videos. It is certainly partially due to the poverty level in this country. Many of those who have no broadband may have more important issues than watching videos about geosciences. Like food. Or health. Or employment. Or communicating via the internet in general.

Gábor

Original Message:
Sent: 7/1/2020 10:07:00 AM
From: Jeri Wachter
Subject: RE: 2.5 minute video about how to foster diversity and inclusion in the geosciences

Thanks for sharing, Robert. I love this idea. Student driven initiatives are often less inhibited or restricted by the expectations of earlier generations; and film is a powerful and accessible medium to convey societal messages. This is a great project and I hope to see it expand to include close captioning for more languages and representation of POC. Also, it is unfortunate that the 2020 estimates for Americans without broadband which allows for viewing of these materials ranges from 42 million (FCC) to 162 million (Microsoft) (The number of Americans without reliable internet access may be way higher than the government's estimate - and that could cause major problems in 2020).

Best to you,
Jeri

Jeri Wachter
---

top previous

4. Re: 2.5 minute video about how to foster diversity and inclusion in the geosciences

Reply to Group Reply to Sender

Jul 2, 2020 2:46 PM
James McFadden

I wanted to echo the observation by Gabor Toth.
I hope this can be received as a teaching moment, not a shaming moment -- we all have biases and blind spots.
Like Gabor, the first thing I noticed was only a single Black person in the video.
The second thing was that the vast majority of images have males as central characters, although the narrator sounds to be female.
I appreciate the sentiment, but the video demonstrates the blindness to white patriarchy -- where white males are depicted as the norm. This is not a good way to

"foster diversity and inclusion". Depicting the "white male case" as the "general case" is racist and sexist -- implicit bias on display. I am sure the students who made it are unaware of this bias - but it is there. And I suspect if it was shown to most older scientists, this bias would go unnoticed.
I have experienced and identified such blind spots even in the most activist and caring people - a byproduct of our white supremacist society.
As part of the work we must all do to change this, I will recommend some books that have helped me.
White Fragility can be particularly useful in helping white folk self-identify their biases.
The New Jim Crow by Michelle Alexamder

Racing to Justice by John A. Powell
Carceral Capitalism by Jackie Wang
White Fragility by Robin DiAngelo

James McFadden

Reply to Group Online View Thread Recommend Forward

Original Message:
Sent: 07-02-2020 08:33
From: Gabor Toth
Subject: 2.5 minute video about how to foster diversity and inclusion in the geosciences

I would like to make two points that may not be popular but true.

While I appreciate the intent and effort made into making the video, I found it surprising that the only Black person was from a park. Not a single Black student or professor among the dozens of faces shown in the video about diversity.

162M people without reliable internet is shocking if true. Maybe it is much less if we exclude people who have 4G data access, which is sufficient for viewing short videos. It is certainly partially due to the poverty level in this country. Many of those who have no broadband may have more important issues than watching videos about geosciences. Like food. Or health. Or employment. Or communicating via the internet in general.

Gábor

Original Message:
Sent: 7/1/2020 10:07:00 AM
From: Jeri Wachter
Subject: RE: 2.5 minute video about how to foster diversity and inclusion in the geosciences

Thanks for sharing, Robert. I love this idea. Student driven initiatives are often less inhibited or restricted by the expectations of earlier generations; and film is a powerful and accessible medium to convey societal messages. This is a great project and I hope to see it expand to include close captioning for more languages and representation of POC. Also, it is unfortunate that the 2020 estimates for Americans without broadband which allows for viewing of these materials ranges from 42 million (FCC) to 162 million (Microsoft) (The number of Americans without reliable internet access may be way higher than the government's estimate - and that could cause major problems in 2020).

Best to you,
Jeri

Jeri Wachter

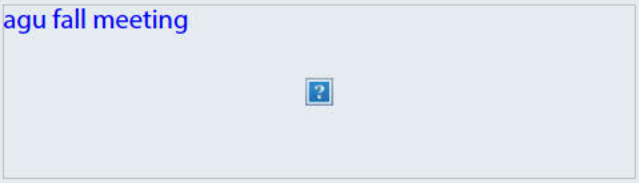
From: AGU
To: Platnick, Steven E. (GSFC-6100)
Subject: [EXTERNAL] AGUniverse: #AGU20 scientific program is live
Date: Thursday, October 8, 2020 4:24:36 PM

Click here to access the web version of this message.

AGU

Join AGU | Donate | Eos.org | AGU.org | AGU Connect

8 October 2020



#AGU20 Fall Meeting scientific program is live

The AGU Fall Meeting scientific program is now available so you can create an #AGU20 attendee schedule that works for you. Don't forget to register before 30 October for the early bird discount!

View

News

Congratulations to the 2020 section award/lecture honorees

AGU congratulates the 85 award/lecture recipients who were recognized by 22 sections for their contributions to the Earth and space sciences community.

2020 Honorees

News

Read the Eos October issue: Critical Zone Science

This issue features an overview of what critical zone science is, several articles from Critical Zone Observatory researchers and an opinion from a CZ research network aiming to diversify the field.

Read

News

Submit your machine learning research for an AGU special collection

JGR Solid Earth, G-Cubed, Tectonics and Earth and Space Science invite you to submit a paper to the newly opened special collection?"Machine learning for Solid Earth observation, modeling and understanding."

Submissions are open until **August 2021.**

Call for papers

UPCOMING EVENTS & DEADLINES

9 Oct 2020

AGU/AGI webinar: Tools and strategies for finding programmatic strengths and weaknesses

1:00 PM EDT

13 Oct 2020

Scientific advocacy and Congressional powers: a conversation with Climate Science Legal Defense Fund

2:00 - 3:00 PM EDT

21 Oct

Two approaches for mitigating global climate change: Solar radiation management and greenhouse gas emissions reduction

2020

12:00 PM EDT

22 Oct 2020

Sagan Lecture Seminar Series: Biodiversity and Planetary Sustainability

4:00 PM EDT

5 Nov 2020

Webinar: Mastering the virtual presentation

2:00 - 3:00 PM EDT

2020 AGU Election

"This year marks a turning point for AGU, with probably the most diverse slate of candidates ever presented for the Board of Directors and AGU officers."

Eric Davidson
Past President, AGU

Learn more about the candidates and vote today. Eligible AGU members have received an email with their ballot.

Read

PUBLICATIONS

BLOGOSPHERE

Saint-Martin-Vesubie: Planet Labs images of the aftermath of the extraordinary flooding from Storm Alex

The Field, 6 October

Remote student collaboration via Google Jamboard

The Field, 1 October

AGU IN THE NEWS

Refugees in their own country as wildfire destroys California towns

Reuters, 2 October

What wobbling rocks can tell us about nuclear safety

BBC News, 1 October

Calling on amateur astronomers: Observe Venus!

Sky & Telescope, 1 October

Study links high-intensity fire and accelerating snowmelt in Cascades

The Columbian, 30 September

Unicorns Of The Sea Share Their Secrets

St. Louis Post-Dispatch, 29 September

2000 Florida Avenue, NW, Washington, DC 20009-1277

From: Graham, Steve (GSFC-610.0)[GLOBAL SCIENCE & TECHNOLOGY INC]
To: Platnick, Steven E. (GSFC-6100)
Subject: Re: [EXTERNAL] Re: Heads up on climate intervention research plan
Date: Monday, August 22, 2022 8:48:01 AM

No problem.

Sent via Outlook for iOS

From: Platnick, Steven E. (GSFC-6100) <steven.e.platnick@nasa.gov>
Sent: Monday, August 22, 2022 9:46:51 AM
To: Graham, Steve (GSFC-610.0)[GLOBAL SCIENCE & TECHNOLOGY INC] <steven.m.graham-1@nasa.gov>
Subject: Re: [EXTERNAL] Re: Heads up on climate intervention research plan

Thanks Steve. I just recalled that you're on vacation this week. Sorry to have bothered you. Enjoy your time off!

> **From:** "Graham, Steve (GSFC-610.0)[GLOBAL SCIENCE & TECHNOLOGY INC]" <steven.m.graham-1@nasa.gov>
> **Date:** Monday, August 22, 2022 at 9:43 AM
> **To:** "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>
> **Subject:** Re: [EXTERNAL] Re: Heads up on climate intervention research plan
>
> Yes, still the curator. No problem to have folks contact me.
>
> Sent via Outlook for iOS
>
> ---
>
> **From:** Platnick, Steven E. (GSFC-6100) <steven.e.platnick@nasa.gov>
> **Sent:** Monday, August 22, 2022 8:43:51 AM
> **To:** Graham, Steve (GSFC-610.0)[GLOBAL SCIENCE & TECHNOLOGY INC] <steven.m.graham-1@nasa.gov>
> **Subject:** FW: [EXTERNAL] Re: Heads up on climate intervention research plan
>
> Steve, are you still the POC for the IWG list? If so, I'll let folks in this email list know to contact you to add their names if they're not already on it.

> **From:** "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
> **Date:** Saturday, August 20, 2022 at 3:40 AM
> **To:** "Kirschbaum, Dalia B. (GSFC-6100)" <dalia.b.kirschbaum@nasa.gov>, "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>, "Rodell, Matthew (GSFC-6100)" <matthew.rodell@nasa.gov>, "Pawson, Steven (GSFC-6101)" <steven.pawson-1@nasa.gov>, "Schmidt, Gavin A. (GISS-6110)" <gavin.a.schmidt@nasa.gov>, "Dyal, Trina Marsh (LARC-E3)" <trina.marsh.dyal@nasa.gov>, "Speth, Paul William (LARC-E3)"

<paul.w.speth@nasa.gov>, "Jedlovec, Gary J. (MSFC-ST11)" <gary.jedlovec@nasa.gov>, "Schwandner, Florian M. (ARC-SG)" <florian.m.schwandner@nasa.gov>, "Ly, Diana C. (ARC-SG)" <diana.c.ly@nasa.gov>, DUANE WALISER <duane.e.waliser@jpl.nasa.gov>, "Neu, Jessica L (JPL-329I)[JPL Employee]" <jessica.l.neu@jpl.nasa.gov>
Subject: FW: [EXTERNAL] Re: Heads up on climate intervention research plan

Sharing this with you – since I'm not sure who from center leadership is on the EOS-IWG-everybody list (it's a good list to be on!). - Jack

---

From: "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
Date: Saturday, August 20, 2022 at 6:31 AM
To: R&A HQ (b) (6) "St Germain, Karen M. (HQ-DK000)" <karen.m.stgermain@nasa.gov>, "Robinson, Julie A. (JSC-OA111)" <julie.a.robinson@nasa.gov>, LAWRENCE FRIEDL <lfriedl@nasa.gov>, "Sylak-Glassman, Emily (HQ-DK000)" <eglassman@nasa.gov>, Kevin Murphy <kevin.j.murphy@nasa.gov>, "Baynes, Katie (HQ-DK000)" <kathleen.baynes@nasa.gov>, "Albers, Cerese M. (MSFC-DK000)" <cerese.m.albers@nasa.gov>, Pamela Millar <pamela.s.millar@nasa.gov>, MICHAEL SEABLOM <michael.s.seablom@nasa.gov>, "Henry, Michael S. (HQ-DA040)" <michael.s.henry@nasa.gov>, "Calvin, Katherine (HQ-AE000) [Intergovernmental Personnel Act]" <katherine.calvin@nasa.gov>, "Feeley, Jens (HQ-DA040)" <jens.feeley@nasa.gov>
Subject: FW: [EXTERNAL] Re: Heads up on climate intervention research plan

FYI

I'll post this to EOS-IWG everybody list as well!

From: (b) (6) Kuperberg" (b) (6)
Date: Friday, August 19, 2022 at 4:53 PM
To: SGCR Principals and Plus Ones (b) (6)
(b) (6)
Cc: NCOinternal (b) (6)
Subject: [EXTERNAL] Re: Heads up on climate intervention research plan

All,

The notice is now live at: https://www.whitehouse.gov/ostp/legal/

Feel free to distribute this request to interested parties. We will notify the USGCRP distribution list.

Have a great weekend,

Mike

On Fri, Aug 19, 2022 at 4:09 PM Michael Kuperberg (b) (6) wrote:

> As Phil Duffy noted in Wednesday's SGCR meeting, USGCRP is assisting OSTP in gathering public input on the five-year climate intervention research plan.
>
> Because of the tight timeline, OSTP is not issuing a Federal Register Notice for this activity. This will be an informal, three-week open comment period that USGCRP will host on our Contribute site (contribute.globalchange.gov).
>
> Interested members of the public can provide up to 1000 words, without graphics or attachments, on the four areas called out in the legislation: "(1) the definition of goals in relevant areas of scientific research; (2) capabilities required to model, analyze, observe, and monitor atmospheric composition; (3) climate impacts and the Earth's radiation budget; and (4) the coordination of Federal research and investments to deliver this assessment to manage near-term climate risk and research in climate intervention." The draft document will not be made available for this review.
>
> OSTP will post this announcement to their website shortly, and USGCRP will follow with our own announcements to our newsletter list and on social media.
>
> Please feel free to contact me if you have questions or concerns about this process.
>
> Mike

--

From: Platnick, Steven E. (GSFC-6100)
To: Kaye, Jack (HQ-DK000); Kirschbaum, Dalia B. (GSFC-6100); Rodell, Matthew (GSFC-6100); Pawson, Steven (GSFC-6101); Schmidt, Gavin A. (GISS-6110); Dyal, Trina Marsh (LARC-E3); Speth, Paul William (LARC-E3); Jedlovec, Gary J. (MSFC-ST11); Schwandner, Florian M. (ARC-SG); Ly, Diana C. (ARC-SG); DUANE WALISER; Neu, Jessica L (JPL-329I)[JPL Employee]
Subject: Re: [EXTERNAL] Re: Heads up on climate intervention research plan
Date: Monday, August 22, 2022 8:54:14 AM

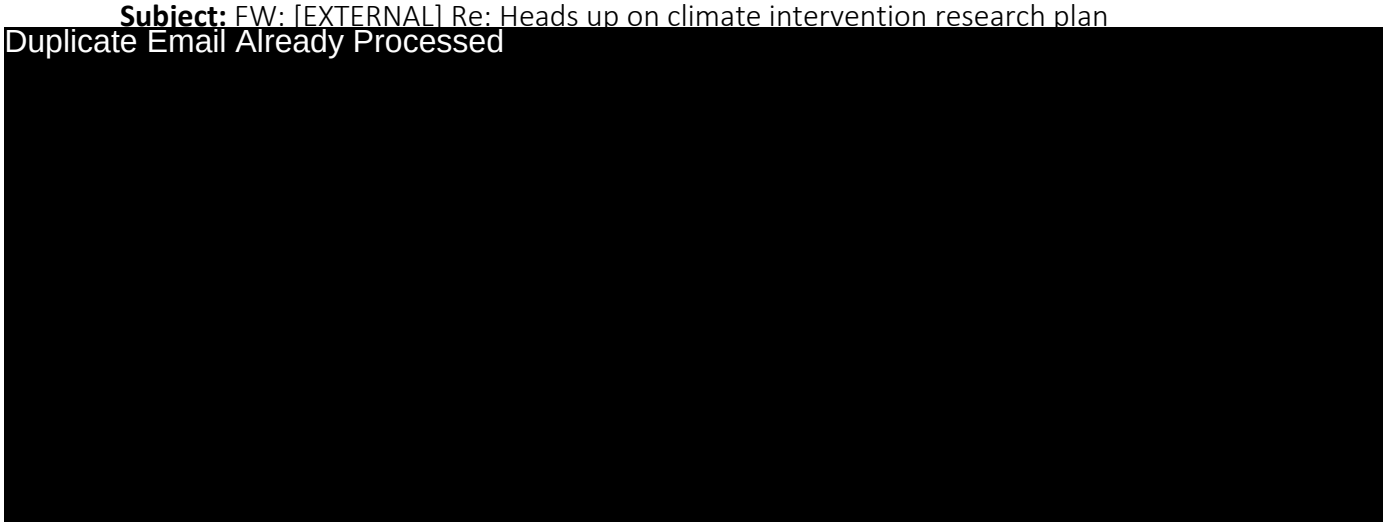
FYI, anyone not on the IWG list but who wishes to be added, can contact Steve Graham (steven.m.graham-1@nasa.gov, EOS Project Science Office/Science Support Office) who is curator for the list.

-steve

———————

Steven Platnick
Deputy Director for Atmospheres
Earth Science Division (Code 610)
EOS Sr. Project Scientist
NASA Goddard Space Flight Center
Greenbelt, MD USA

From: "Kaye, Jack (HQ-DK000)" <jack.kaye@nasa.gov>
Date: Saturday, August 20, 2022 at 6:40 AM
To: "Kirschbaum, Dalia B. (GSFC-6100)" <dalia.b.kirschbaum@nasa.gov>, "Platnick, Steven E. (GSFC-6100)" <steven.e.platnick@nasa.gov>, "Rodell, Matthew (GSFC-6100)" <matthew.rodell@nasa.gov>, "Pawson, Steven (GSFC-6101)" <steven.pawson-1@nasa.gov>, "Schmidt, Gavin A. (GISS-6110)" <gavin.a.schmidt@nasa.gov>, "Dyal, Trina Marsh (LARC-E3)" <trina.marsh.dyal@nasa.gov>, "Speth, Paul William (LARC-E3)" <paul.w.speth@nasa.gov>, "Jedlovec, Gary J. (MSFC-ST11)" <gary.jedlovec@nasa.gov>, "Schwandner, Florian M. (ARC-SG)" <florian.m.schwandner@nasa.gov>, "Ly, Diana C. (ARC-SG)" <diana.c.ly@nasa.gov>, DUANE WALISER <duane.e.waliser@jpl.nasa.gov>, "Neu, Jessica L (JPL-329I)[JPL Employee]" <jessica.l.neu@jpl.nasa.gov>
Subject: FW: [EXTERNAL] Re: Heads up on climate intervention research plan



Deletion Page

Requester: Aaron Siri
Request #: 25-00306-F-HQ

2 page(s) containing duplicate information is/are held in the file.

From: Guild, Liane S. (ARC-SGE)

To: NORTHON, KAREN M. (HQ-NA020); Uz, Stephanie Schollaert (GSFC-6100); Su, Wenying (LARC-E302); Taylor, Patrick C. (LARC-E302); Macdonald, Alexander (HQ-AA000); Ramirez, Therese (JSC-CM511)[CBF PARTNERS JV, LLC]; Ryba, Bruce W. (KSC-KIAC-4100)[ASRC Federal Data Solutions, LLC]; Antoine, Alexandra M. (HQ-JA010)[KBRwyle Technology Solutions, LLC.]; Irwin, Daniel E. (MSFC-ST11); Amos, Helen M. (GSFC-610.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]; LOFLIN, SYMANTHA C. (MSFC-CS10)[SME Task Order]; Ciarlariello, Daniel B. (KSC-NEL70); Jucks, Kenneth W. (HQ-DK000); Ali, Abdiazizz (MSFC-ST24)[Consolidated Program Support Services (CPSS PP&C)]; Barnard, Patrick; 8:teamsvisitor:927ad5b967104352afc88903275c8754; Cohan, Robyn R. (KSC-DASS-PX)[CBF PARTNERS JV, LLC]; Halverson, Gregory H (US 329G); Lonsford, Jonathan E. (KSC-NEXP0); Turner, Garrett Michael (ARC-JQ); Firak-Matthews, Cassandra (GRC-NB00)[BQMI]; Belt, Joann V. (MSFC-XP01)[ESSCA]; Norlin, Ken A. (AFRC-320); 8:teamsvisitor:8319db96bfe54e54a16262c5217127b6; Budesa, Matty S. (KSC-OP000)[GSE INC]; 8:teamsvisitor:46d0682fa16347a58d5564ced2d43be2; Baggett, Deborah M. (LARC-A020)[Guardians of Honor]; Meyering, Gary F. (LARC-E5); Elsworth, Genevieve W. (GSFC-610.0)[MORGAN STATE UNIV.]; Bradshaw, John F. (MSFC-HP26)[MQ&I]; 8:teamsvisitor:bb14a70a8aae487594a550460dc4cdce; Schoeller, William H. (GSFC-586.0)[VANTAGE SYSTEMS INC]; 8:teamsvisitor:0e90e14f606b40c88bd8b9bf3aad7cd0; 8:teamsvisitor:3912703173aa44299e1ce31e25a4dd36; Wininger, Lisa A. (AFRC-112)[Guardians of Honor]; Carpentier, Rosalie (JSC-BH111); 8:orgid:4046bcd0-fbdd-43b9-8b57-e3837b814e26; Longenecker, John K. (GSFC-470.0)[NOAA-JPSS]; Peterson, Kelli J. (GRC-QER0)[Bastion]; Smith, Shannon (GSFC-400.0)[ASRC FEDERAL SYSTEM SOLUTIONS]; Croteau, Michael J. (GSFC-61A0); Hopkins, William D. (JSC-XB111); Limaye, Ashutosh S. (MSFC-ST11); Noorani, Naina M. (JSC-EP311); Subbarao, Mark U. (GSFC-6064); Feaster, Barbara W. (MSFC-AS21); Cochran, Samantha R. (KSC-CC000); Chotai, Sunita N. (JSC-LG111); Luck, Odilyn Santamaria (LARC-A1); AKERMAN, SHEA A. (KSC-TOSC-6410)[Test and Operations Support Contract]; Psiropoulos, Dean G. (MSFC-QD22)[BASTION TECHNOLOGIES]; Gawdiak, Yuri O. (HQ-EL000); Rogers, Michael M. (ARC-TNA); Allain, Marie C. (MAF-SF01)[Consolidated Program Support Services]; Posner, Arik (HQ-DJ000); Everett, Shonn F. (JSC-XM)[BOOZ ALLEN HAMILTON]; Valenti, Sandra H. (GRC-CO00)[Leidos]; Daniels, Courtney D. (HQ-WBH10); 8:teamsvisitor:d47c5eedac7941d18c4ae896fd46c448; Rodgers, Erica (HQ-AJ000); Birkett, Charon M. (GSFC-61A0); Leidy, Andrew N. (LARC-D303); Meek, Chris (LARC-D201); Siman-tov, Eli (LARC-E302)[Science Systems & Applications, Inc.]; Chevray, Keiko {Kay} (JSC-XM111); Lucas, Victor F. (LARC-A1); Leno, Jeffrey J. (MSFC-ES31)[ESSCA]; Blackwood, Carmen (US 3290); Bruns, Dacia (KSC-CC000); Margolies, Aliza (HQ-IM050); Hartwig, Jason W. (GRC-LTF0); Crawford, Sekou S. (JSC-EC3/JETS)[Jacobs Technology, Inc.]; Murdock, Nicholas A. (KSC-SIE30); Cosgrove, Delaney L. (HQ-DJ000)[BOOZ ALLEN HAMILTON]; Webb, Charles E. (HQ-DN000); Zlotnicki, Victor (US 3290); Williams, Craig H. (GRC-LTR0); Stewart, Eric A. (GRC-LTI0)[NAVAIR Pax River]; 8:teamsvisitor:2e937a10e3ad4f1d9ff500d82654b166; Shelts, Kelly M. (LARC-D314); Manning, Kelly M. (MSFC-QD22)[BASTION TECHNOLOGIES]; 8:teamsvisitor:c1ef2e63e3f2491db82dad56517deeb0; Conrad, Esther D. (LARC-D320); Saunders, Natasha E. (GSFC-1592); Solorio, Angela M. (KSC-AWASS-OPAMO)[Seventh Sense Consulting, LLC]; Sorrelle, Luke (GRC-FTF0); Hogan, John A. (ARC-SCB); Eshow, Michelle M (ARC-AFS)[SimLabs III Contract Management & Technical Services]; Platnick, Steven E. (GSFC-6100); Tisdale, Matthew S. (LARC-E301); Keenan, Mary (GSFC-674.0)[ADNET SYSTEMS INC]; Lange, Kevin M. (GSFC-423.0)[RAYTHEON COMPANY]; Lee, Taeree (HQ-WBH10); Mundy, Sarah R. (HQ-LE000)[LOGISTICS MGMT INSTITUTE]; Martinez, Joshua M (JSC-IO)[MORI ASSOCIATES INC]; Ng, Wanyi W. (GSFC-5970); Thomas, Sarah C. (HQ-IM040)[PRICEWATERHOUSECOOPERS LLP]; Maring, Hal (HQ-DK000); Quiroga, Ricardo H (LARC-E303)[Science Systems & Applications, Inc.]; Caprace, Denis-Gabriel (ARC-TNP)[Oak Ridge Associated Universities]; Booth, Stephanie (HQ-OA000)[Bryce Space and Technology]; Witherspoon, Bear (GSFC-540.0)[Aerotek]; Nerone, Anthony L. (GRC-K000); Whitmire, Qianne L. (GSFC-7660); Cendana, Donna (KSC-SAE20); Makki, Sonia J. (LARC-B411)[UNIVERSITIES SPACE RESEARCH ASSOCIATION]; Cole, Jennifer H. (AFRC-310); Barth, Jonathan D. (GSFC-5610); Mcdonough, Ryan S. (GRC-LCA0); Blanco, Alberto E. {LARC} (LARC-D208); Jacobs, Peter H. (GSFC-1300); Nichols, Mary S. (KSC-OPOS0); Cramer, Alexander Krishnan. (GSFC-5440); STRAIGHT, CHRISTOPHER J. (LARC-D403)[Jacobs Technology, Inc.]; Malinovsky, Peter P. (GSFC-401.0)[Lentech, Inc]; Evans, Michael E. (JSC-XI411); MILLER, J E (JSC-XI5)[Jacobs Technology, Inc.]; Yeo, Li Hsia (GSFC-695.0)[NPP POST-DOC CONTRACT]; Hufft, Amber M. (GSFC-1400); Pinol, Natasha R. (HQ-DA000)[Lentech, Inc]; Wright, David J. (KSC-TOSC-3430)[Test and Operations Support Contract]; 8:teamsvisitor:fcf55ded5752472b8d0977f8800ea2bc; Horowitz, Steven J. (GSFC-4560); Urban, David L. (GRC-LTX0); Rush, Carol H. (LARC-B7)[EAST2]; Rodriguez, Erika L. (WSTF-RC111); Burke, Mary A. (WSTF-RA111); Anderson, Petal A. (GSFC-1512); Jankovsky, Amy L. (GRC-KM00); 8:teamsvisitor:7a4f9ea5e4794afb8d1bd42ebad4c074; Stovall, James E. (MSFC-IS65); Shavers, Mark R. (JSC-SD2)[KBR Wyle Services, LLC]; Infeld, Samantha Indre. (LARC-D208)[TEAMS3]; Scarboro, John H. (ARC-JQ)[BB&E, Inc.]; Wells, Lauren S. (JSC-CX411)[KBR Wyle Services, LLC]; 8:teamsvisitor:e9512f953a9e4586bfc85013b8d453fd; Tselioudis, George (GISS-6110); Phan, Emily L. (JSC-EC)[Jacobs Technology, Inc.]; Entin, Jared K. (HQ-DK000); HILDEBRAND, KEVIN T. (IVV-180.0)[SAIC]; Thomas, Natalie P. (GSFC-610.1)[UNIVERSITY OF MARYLAND BALTIMORE CO]; Tekeei, Nikki (GSFC-DK000)[BOOZ ALLEN HAMILTON]; McKay, Meredith (HQ-TA000); North, Michun N. (HQ-IN010); Fulenwider, Shannon B (MSFC-AS22); McGrath, Casey (GSFC-663.0)[UNIVERSITY OF MARYLAND BALTIMORE CO]; Morton, Ty A. (KSC-SIC30); 8:teamsvisitor:ede402090b7c4a3aa387a175ecf8727f; Pollard, Sue E. {Susie} (JSC-3830); Goggin, Debra A. (MSFC-IS02)[LAMPS 2]; Peters-Lidard, Christa D (GSFC-6000); Stoica, Maria (GSFC-613.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]; 8:orgid:fb8cd76c-92e3-4b9d-9341-848a1f8ac2ce; Davis, Adhana M. (HQ-WLC55); Bell, Seth (MSFC-ST20); Clapham, John S. (GRC-LCI0); Amato, Deborah A. (GSFC-1010); Melton, Forrest S. (ARC-SGE)[California State University - Monterey Bay]; Fischer-Femal, Brenden J. (GSFC-618.0)[EARTH RESOURCES TECHNOLOGY, INC.]; Bruegman, Otto W. (GSFC-470.0)[NOAA-JPSS]; Lee, Phillip (GSFC-560.0)[ASRC FEDERAL SYSTEM SOLUTIONS]; Corb, Brian K. (HQ-DH000)[ASRC FEDERAL SYSTEM SOLUTIONS]; Benoit, Kimberly F. (HQ-WBH10); Kim, Moon J. (HQ-IN020); Newsome, Carolyn (HQ-WRH10); Hodge, Angela M. (GSFC-4502); Chuchra, Alexander B. (GSFC-417.0)[Alcyon Technical Services (JV), LLC]; Chatfield, Robert B. (ARC-SGG)[Ames Associates]; Dietrich, Daniel L. (GRC-LTX0); 8:orgid:a4e95ced-9af9-4aa3-8e25-d1cbb8c925a0; Arnold, Clifton T. (HQ-GE000); Devito, Daniel S. (GSFC-4000); Kulawik, Susan S (ARC-SGG)[Bay Area Environmental Research Institute]; Guthrie, Travis K. (GRC-BFC0); Conner, Jessica L. (KSC-VAG20); Williams, Kaley A. (HQ-LM010)[BOOZ ALLEN HAMILTON]; Goodman, Steven J. (GSFC-618.0)[Thunderbolt Global

Analytics]; 8:teamsvisitor:aafc237831614992beea675b2d2d501c; Srinivasan, Margaret M (US 398P); Moss, Robert (GSFC-5960); Horn, Patty Casas (JSC-CO341); 8:teamsvisitor:f1db81fa0b1a459ba4531bbf91023553; Hoang, Ty (ARC-AFH)

Date: Friday, December 9, 2022 10:38:47 AM

Posner, Arik (HQ-DJ000)

Allison: The Mitigation chapter focuses solely on CDR. There is no mention of solar radiation management or solar geoengineering as a mitigation approach.

Arik: A great opportunity for you to review the chapter and provide feedback during the current public review period. I think it ends 23 Jan.

From: Allison Crimmins

To: NORTHON, KAREN M. (HQ-NA020); Uz, Stephanie Schollaert (GSFC-6100); Su, Wenying (LARC-E302); Taylor, Patrick C. (LARC-E302); Macdonald, Alexander (HQ-AA000); Ramirez, Therese (JSC-CM511)[CBF PARTNERS JV, LLC]; Ryba, Bruce W. (KSC-KIAC-4100)[ASRC Federal Data Solutions, LLC]; Antoine, Alexandra M. (HQ-JA010)[KBRwyle Technology Solutions, LLC.]; Irwin, Daniel E. (MSFC-ST11); Amos, Helen M. (GSFC-610.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]; LOFLIN, SYMANTHA C. (MSFC-CS10)[SME Task Order]; Ciarlariello, Daniel B. (KSC-NEL70); Jucks, Kenneth W. (HQ-DK000); Ali, Abdiazizz (MSFC-ST24)[Consolidated Program Support Services (CPSS PP&C)]; Barnard, Patrick; 8:teamsvisitor:927ad5b967104352afc88903275c8754; Cohan, Robyn R. (KSC-DASS-PX)[CBF PARTNERS JV, LLC]; Halverson, Gregory H (US 329G); Lonsford, Jonathan E. (KSC-NEXP0); Turner, Garrett Michael (ARC-JQ); Firak-Matthews, Cassandra (GRC-NB00)[BQMI]; Belt, Joann V. (MSFC-XP01)[ESSCA]; Norlin, Ken A. (AFRC-320); 8:teamsvisitor:8319db96bfe54e54a16262c5217127b6; Budesa, Matty S. (KSC-OP000)[GSE INC]; 8:teamsvisitor:46d0682fa16347a58d5564ced2d43be2; Baggett, Deborah M. (LARC-A020)[Guardians of Honor]; Meyering, Gary F. (LARC-E5); Elsworth, Genevieve W. (GSFC-610.0)[MORGAN STATE UNIV.]; Bradshaw, John F. (MSFC-HP26)[MQ&I]; 8:teamsvisitor:bb14a70a8aae487594a550460dc4cdce; Schoeller, William H. (GSFC-586.0)[VANTAGE SYSTEMS INC]; 8:teamsvisitor:0e90e14f606b40c88bd8b9bf3aad7cd0; 8:teamsvisitor:3912703173aa44299e1ce31e25a4dd36; Wininger, Lisa A. (AFRC-112)[Guardians of Honor]; Carpentier, Rosalie (JSC-BH111); Longenecker, John K. (GSFC-470.0)[NOAA-JPSS]; Peterson, Kelli J. (GRC-QER0)[Bastion]; Smith, Shannon (GSFC-400.0)[ASRC FEDERAL SYSTEM SOLUTIONS]; Guild, Liane S. (ARC-SGE); Croteau, Michael J. (GSFC-61A0); Hopkins, William D. (JSC-XB111); Limaye, Ashutosh S. (MSFC-ST11); Noorani, Naina M. (JSC-EP311); Subbarao, Mark U. (GSFC-6064); Feaster, Barbara W. (MSFC-AS21); Cochran, Samantha R. (KSC-CC000); Chotai, Sunita N. (JSC-LG111); Luck, Odilyn Santamaria (LARC-A1); AKERMAN, SHEA A. (KSC-TOSC-6410)[Test and Operations Support Contract]; Psiropoulos, Dean G. (MSFC-QD22)[BASTION TECHNOLOGIES]; Gawdiak, Yuri O. (HQ-EL000); Rogers, Michael M. (ARC-TNA); Allain, Marie C. (MAF-SF01)[Consolidated Program Support Services]; Posner, Arik (HQ-DJ000); Everett, Shonn F. (JSC-XM)[BOOZ ALLEN HAMILTON]; Valenti, Sandra H. (GRC-CO00)[Leidos]; Daniels, Courtney D. (HQ-WBH10); 8:teamsvisitor:d47c5eedac7941d18c4ae896fd46c448; Rodgers, Erica (HQ-AJ000); Birkett, Charon M. (GSFC-61A0); Leidy, Andrew N. (LARC-D303); Meek, Chris (LARC-D201); Siman-tov, Eli (LARC-E302)[Science Systems & Applications, Inc.]; Chevray, Keiko {Kay} (JSC-XM111); Lucas, Victor F. (LARC-A1); Blackwood, Carmen (US 3290); Bruns, Dacia (KSC-CC000); Margolies, Aliza (HQ-IM050); Hartwig, Jason W. (GRC-LTF0); Crawford, Sekou S. (JSC-EC3/JETS)[Jacobs Technology, Inc.]; Murdock, Nicholas A. (KSC-SIE30); Cosgrove, Delaney L. (HQ-DJ000)[BOOZ ALLEN HAMILTON]; Webb, Charles E. (HQ-DN000); Zlotnicki, Victor (US 3290); Williams, Craig H. (GRC-LTR0); Stewart, Eric A. (GRC-LTI0)[NAVAIR Pax River]; 8:teamsvisitor:2e937a10e3ad4f1d9ff500d82654b166; Shelts, Kelly M. (LARC-D314); Manning, Kelly M. (MSFC-QD22)[BASTION TECHNOLOGIES]; 8:teamsvisitor:c1ef2e63e3f2491db82dad56517deeb0; Conrad, Esther D. (LARC-D320); Saunders, Natasha E. (GSFC-1592); Solorio, Angela M. (KSC-AWASS-OPAMO)[Seventh Sense Consulting, LLC]; Sorrelle, Luke (GRC-FTF0); Hogan, John A. (ARC-SCB); Eshow, Michelle M (ARC-AFS)[SimLabs III Contract Management & Technical Services]; Platnick, Steven E. (GSFC-6100); Tisdale, Matthew S. (LARC-E301); Keenan, Mary (GSFC-674.0)[ADNET SYSTEMS INC]; Lange, Kevin M. (GSFC-423.0)[RAYTHEON COMPANY]; Lee, Taeree (HQ-WBH10); Mundy, Sarah R. (HQ-LE000)[LOGISTICS MGMT INSTITUTE]; Martinez, Joshua M (JSC-IO)[MORI ASSOCIATES INC]; Ng, Wanyi W. (GSFC-5970); Thomas, Sarah C. (HQ-IM040)[PRICEWATERHOUSECOOPERS LLP]; Maring, Hal (HQ-DK000); Quiroga, Ricardo H (LARC-E303)[Science Systems & Applications, Inc.]; Caprace, Denis-Gabriel (ARC-TNP)[Oak Ridge Associated Universities]; Booth, Stephanie (HQ-OA000)[Bryce Space and Technology]; Witherspoon, Bear (GSFC-540.0)[Aerotek]; Nerone, Anthony L. (GRC-K000); Whitmire, Qianne L. (GSFC-7660); Cendana, Donna (KSC-SAE20); Cole, Jennifer H. (AFRC-310); Barth, Jonathan D. (GSFC-5610); Mcdonough, Ryan S. (GRC-LCA0); Blanco, Alberto E. {LARC} (LARC-D208); Jacobs, Peter H. (GSFC-1300); Nichols, Mary S. (KSC-OPOS0); Cramer, Alexander Krishnan. (GSFC-5440); STRAIGHT, CHRISTOPHER J. (LARC-D403)[Jacobs Technology, Inc.]; Malinovsky, Peter P. (GSFC-401.0)[Lentech, Inc]; Evans, Michael E. (JSC-XI411); MILLER, J E (JSC-XI5)[Jacobs Technology, Inc.]; Yeo, Li Hsia (GSFC-695.0)[NPP POST-DOC CONTRACT]; Hufft, Amber M. (GSFC-1400); Pinol, Natasha R. (HQ-DA000)[Lentech, Inc]; Wright, David J. (KSC-TOSC-3430)[Test and Operations Support Contract]; 8:teamsvisitor:fcf55ded5752472b8d0977f8800ea2bc; Horowitz, Steven J. (GSFC-4560); Urban, David L. (GRC-LTX0); Rush, Carol H. (LARC-B7)[EAST2]; Rodriguez, Erika L. (WSTF-RC111); Burke, Mary A. (WSTF-RA111); Anderson, Petal A. (GSFC-1512); Jankovsky, Amy L. (GRC-KM00); 8:teamsvisitor:7a4f9ea5e4794afb8d1bd42ebad4c074; Stovall, James E. (MSFC-IS65); Shavers, Mark R. (JSC-SD2)[KBR Wyle Services, LLC]; Infeld, Samantha Indre. (LARC-D208)[TEAMS3]; Scarboro, John H. (ARC-JQ)[BB&E, Inc.]; Wells, Lauren S. (JSC-CX411)[KBR Wyle Services, LLC]; 8:teamsvisitor:e9512f953a9e4586bfc85013b8d453fd; Tselioudis, George (GISS-6110); Phan, Emily L. (JSC-EC)[Jacobs Technology, Inc.]; Entin, Jared K. (HQ-DK000); HILDEBRAND, KEVIN T. (IVV-180.0)[SAIC]; Thomas, Natalie P. (GSFC-610.1)[UNIVERSITY OF MARYLAND BALTIMORE CO]; Tekeei, Nikki (GSFC-DK000)[BOOZ ALLEN HAMILTON]; McKay, Meredith (HQ-TA000); North, Michun N. (HQ-IN010); Fulenwider, Shannon B (MSFC-AS22); McGrath, Casey (GSFC-663.0)[UNIVERSITY OF MARYLAND BALTIMORE CO]; Morton, Ty A. (KSC-SIC30); 8:teamsvisitor:ede402090b7c4a3aa387a175ecf8727f; Pollard, Sue E. {Susie} (JSC-3830); Goggin, Debra A. (MSFC-IS02)[LAMPS 2]; Peters-Lidard, Christa D (GSFC-6000); Stoica, Maria (GSFC-613.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]; 8:orgid:fb8cd76c-92e3-4b9d-9341-848a1f8ac2ce; Davis, Adhana M. (HQ-WLC55); Bell, Seth (MSFC-ST20); Clapham, John S. (GRC-LCI0); Amato, Deborah A. (GSFC-1010); Melton, Forrest S. (ARC-SGE)[California State University - Monterey Bay]; Fischer-Femal, Brenden J. (GSFC-618.0)[EARTH RESOURCES TECHNOLOGY, INC.]; Bruegman, Otto W. (GSFC-470.0)[NOAA-JPSS]; Lee, Phillip (GSFC-560.0)[ASRC FEDERAL SYSTEM SOLUTIONS]; Corb, Brian K. (HQ-DH000)[ASRC FEDERAL SYSTEM SOLUTIONS]; Benoit, Kimberly F. (HQ-WBH10); Kim, Moon J. (HQ-IN020); Newsome, Carolyn (HQ-WRH10); Hodge, Angela M. (GSFC-4502); Chuchra, Alexander B. (GSFC-417.0)[Alcyon Technical Services (JV), LLC]; Chatfield, Robert B. (ARC-SGG)[Ames Associates]; Dietrich, Daniel L. (GRC-LTX0); 8:orgid:a4e95ced-9af9-4aa3-8e25-d1cbb8c925a0; Arnold, Clifton T. (HQ-GE000); Devito, Daniel S. (GSFC-4000); Kulawik, Susan S (ARC-SGG)[Bay Area Environmental Research Institute]; Guthrie, Travis K. (GRC-BFC0); Conner, Jessica L. (KSC-VAG20); Williams, Kaley A. (HQ-LM010)[BOOZ ALLEN HAMILTON]; Goodman, Steven J. (GSFC-618.0)[Thunderbolt Global Analytics]; 8:teamsvisitor:aafc237831614992beea675b2d2d501c; Srinivasan, Margaret M (US 398P); Moss,

Robert (GSFC-5960); Horn, Patty Casas (JSC-CO341); 8:teamsvisitor:f1db81fa0b1a459ba4531bbf91023553; Hoang, Ty (ARC-AFH); Brasil, Connie L. (ARC-TH)[San Jose State University Research Foundation Inc]; Gonzalez, Daisy (ARC-SGP)[Bay Area Environmental Research Institute]

Date: Friday, December 9, 2022 10:43:10 AM

SRM = Solar Radiation Management

From: Allison Crimmins

To: NORTHON, KAREN M. (HQ-NA020); Uz, Stephanie Schollaert (GSFC-6100); Su, Wenying (LARC-E302); Taylor, Patrick C. (LARC-E302); Macdonald, Alexander (HQ-AA000); Westfall, Lynette A. (HQ-WBO22); Ramirez, Therese (JSC-CM511)[CBF PARTNERS JV, LLC]; Ryba, Bruce W. (KSC-KIAC-4100)[ASRC Federal Data Solutions, LLC]; Antoine, Alexandra M. (HQ-JA010)[KBRwyle Technology Solutions, LLC.]; Irwin, Daniel E. (MSFC-ST11); Amos, Helen M. (GSFC-610.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]; LOFLIN, SYMANTHA C. (MSFC-CS10)[SME Task Order]; Ciarlariello, Daniel B. (KSC-NEL70); Jucks, Kenneth W. (HQ-DK000); Ali, Abdiazizz (MSFC-ST24) [Consolidated Program Support Services (CPSS PP&C)]; Barnard, Patrick; 8:teamsvisitor:927ad5b967104352afc88903275c8754; Cohan, Robyn R. (KSC-DASS-PX)[CBF PARTNERS JV, LLC]; Halverson, Gregory H (US 329G); Lonsford, Jonathan E. (KSC-NEXP0); Turner, Garrett Michael (ARC-JQ); Firak-Matthews, Cassandra (GRC-NB00)[BQMI]; Belt, Joann V. (MSFC-XP01)[ESSCA]; Norlin, Ken A. (AFRC-320); 8:teamsvisitor:8319db96bfe54e54a16262c5217127b6; Budesa, Matty S. (KSC-OP000)[GSE INC]; 8:teamsvisitor:46d0682fa16347a58d5564ced2d43be2; Baggett, Deborah M. (LARC-A020)[Guardians of Honor]; Meyering, Gary F. (LARC-E5); Elsworth, Genevieve W. (GSFC-610.0)[MORGAN STATE UNIV.]; Bradshaw, John F. (MSFC-HP26)[MO&I]; 8:teamsvisitor:bb14a70a8aae487594a550460dc4cdce; Schoeller, William H. (GSFC-586.0) [VANTAGE SYSTEMS INC]; 8:teamsvisitor:0e90e14f606b40c88bd8b9bf3aad7cd0; 8:teamsvisitor:3912703173aa44299e1ce31e25a4dd36; Wininger, Lisa A. (AFRC-112)[Guardians of Honor]; Carpentier, Rosalie (JSC-BH111); Longenecker, John K. (GSFC-470.0)[NOAA-JPSS]; Peterson, Kelli J. (GRC-QER0) [Bastion]; Smith, Shannon (GSFC-400.0)[ASRC FEDERAL SYSTEM SOLUTIONS]; Guild, Liane S. (ARC-SGE); McDaniel, David A "Mac" (LARC-D406A); Croteau, Michael J. (GSFC-61A0); Hopkins, William D. (JSC-XB111); Limaye, Ashutosh S. (MSFC-ST11); Noorani, Naina M. (JSC-EP311); Subbarao, Mark U. (GSFC-6064); Feaster, Barbara W. (MSFC-AS21); Cochran, Samantha R. (KSC-CC000); Chotai, Sunita N. (JSC-LG111); Luck, Odilyn Santamaria (LARC-A1); AKERMAN, SHEA A. (KSC-TOSC-6410)[Test and Operations Support Contract]; Psiropoulos, Dean G. (MSFC-QD22)[BASTION TECHNOLOGIES]; Gawdiak, Yuri O. (HQ-EL000); Rogers, Michael M. (ARC-TNA); Allain, Marie C. (MAF-SF01)[Consolidated Program Support Services]; Posner, Arik (HQ-DJ000); Everett, Shonn F. (JSC-XM)[BOOZ ALLEN HAMILTON]; Valenti, Sandra H. (GRC-CO00)[Leidos]; Daniels, Courtney D. (HQ-WBH10); 8:teamsvisitor:d47c5eedac7941d18c4ae896fd46c448; Rodgers, Erica (HQ-AJ000); Birkett, Charon M. (GSFC-61A0); 8:teamsvisitor:0cf0d7aaf2e4439f814b741686fc2344; Leidy, Andrew N. (LARC-D303); Meek, Chris (LARC-D201); Siman-tov, Eli (LARC-E302)[Science Systems & Applications, Inc.]; Chevray, Keiko {Kay} (JSC-XM111); Lucas, Victor F. (LARC-A1); Leno, Jeffrey J. (MSFC-ES31)[ESSCA]; Blackwood, Carmen (US 3290); Bruns, Dacia (KSC-CC000); Margolies, Aliza (HQ-IM050); Hartwig, Jason W. (GRC-LTF0); Crawford, Sekou S. (JSC-EC3/JETS)[Jacobs Technology, Inc.]; Murdock, Nicholas A. (KSC-SIE30); Cosgrove, Delaney L. (HQ-DJ000)[BOOZ ALLEN HAMILTON]; Webb, Charles E. (HQ-DN000); Zlotnicki, Victor (US 3290); Williams, Craig H. (GRC-LTR0); Stewart, Eric A. (GRC-LTI0)[NAVAIR Pax River]; 8:teamsvisitor:2e937a10e3ad4f1d9ff500d82654b166; Shelts, Kelly M. (LARC-D314); Manning, Kelly M. (MSFC-QD22)[BASTION TECHNOLOGIES]; 8:teamsvisitor:c1ef2e63e3f2491db82dad56517deeb0; Conrad, Esther D. (LARC-D320); Saunders, Natasha E. (GSFC-1592); 8:teamsvisitor:bd01f2a3129c4ad6afab2160f7f3bd22; Solorio, Angela M. (KSC-AWASS-OPAMO)[Seventh Sense Consulting, LLC]; Sorrelle, Luke (GRC-FTF0); Hogan, John A. (ARC-SCB); Eshow, Michelle M (ARC-AFS)[SimLabs III Contract Management & Technical Services]; Platnick, Steven E. (GSFC-6100); Tisdale, Matthew S. (LARC-E301); Keenan, Mary (GSFC-674.0)[ADNET SYSTEMS INC]; Lange, Kevin M. (GSFC-423.0)[RAYTHEON COMPANY]; Lee, Taeree (HQ-WBH10); Mundy, Sarah R. (HQ-LE000) [LOGISTICS MGMT INSTITUTE]; Martinez, Joshua M (JSC-IO)[MORI ASSOCIATES INC]; Ng, Wanyi W. (GSFC-5970); Thomas, Sarah C. (HQ-IM040)[PRICEWATERHOUSECOOPERS LLP]; Maring, Hal (HQ-DK000); Quiroga, Ricardo H (LARC-E303)[Science Systems & Applications, Inc.]; Caprace, Denis-Gabriel (ARC-TNP)[Oak Ridge Associated Universities]; Booth, Stephanie (HQ-OA000)[Bryce Space and Technology]; Witherspoon, Bear (GSFC-540.0)[Aerotek]; Nerone, Anthony L. (GRC-K000); Whitmire, Qianne L. (GSFC-7660); Cendana, Donna (KSC-SAE20); Makki, Sonia J. (LARC-B411)[UNIVERSITIES SPACE RESEARCH ASSOCIATION]; Cole, Jennifer H. (AFRC-310); Barth, Jonathan D. (GSFC-5610); Mcdonough, Ryan S. (GRC-LCA0); Blanco, Alberto E. {LARC} (LARC-D208); Jacobs, Peter H. (GSFC-1300); Nichols, Mary S. (KSC-OPOS0); Cramer, Alexander Krishnan. (GSFC-5440); STRAIGHT, CHRISTOPHER J. (LARC-D403)[Jacobs Technology, Inc.]; Malinovsky, Peter P. (GSFC-401.0) [Lentech, Inc]; Evans, Michael E. (JSC-XI411); MILLER, J E (JSC-XI5)[Jacobs Technology, Inc.]; Yeo, Li Hsia (GSFC-695.0)[NPP POST-DOC CONTRACT]; Hufft, Amber M. (GSFC-1400); Pinol, Natasha R. (HQ-DA000) [Lentech, Inc]; Wright, David J. (KSC-TOSC-3430)[Test and Operations Support Contract]; 8:teamsvisitor:fcf55ded5752472b8d0977f8800ea2bc; Horowitz, Steven J. (GSFC-4560); Urban, David L. (GRC-LTX0); Rush, Carol H. (LARC-B7)[EAST2]; Rodriguez, Erika L. (WSTF-RC111); Burke, Mary A. (WSTF-RA111); Anderson, Petal A. (GSFC-1512); Jankovsky, Amy L. (GRC-KM00); 8:teamsvisitor:7a4f9ea5e4794afb8d1bd42ebad4c074; Stovall, James E. (MSFC-IS65); Shavers, Mark R. (JSC-SD2)[KBR Wyle Services, LLC]; Infeld, Samantha Indre. (LARC-D208)[TEAMS3]; Scarboro, John H. (ARC-JQ) [BB&E, Inc.]; Wells, Lauren S. (JSC-CX411)[KBR Wyle Services, LLC]; 8:teamsvisitor:e9512f953a9e4586bfc85013b8d453fd; Tselioudis, George (GISS-6110); Phan, Emily L. (JSC-EC) [Jacobs Technology, Inc.]; Entin, Jared K. (HQ-DK000); HILDEBRAND, KEVIN T. (IVV-180.0)[SAIC]; Thomas, Natalie P. (GSFC-610.1)[UNIVERSITY OF MARYLAND BALTIMORE CO]; Tekeei, Nikki (GSFC-DK000)[BOOZ ALLEN HAMILTON]; McKay, Meredith (HQ-TA000); North, Michun N. (HQ-IN010); Fulenwider, Shannon B (MSFC-AS22); 8:teamsvisitor:4e7f26b7360d408f94093b5869791155; McGrath, Casey (GSFC-663.0)[UNIVERSITY OF MARYLAND BALTIMORE CO]; Morton, Ty A. (KSC-SIC30); 8:teamsvisitor:ede402090b7c4a3aa387a175ecf8727f; Pollard, Sue E. {Susie} (JSC-3830); Goggin, Debra A. (MSFC-IS02)[LAMPS 2]; Peters-Lidard, Christa D (GSFC-6000); Stoica, Maria (GSFC-613.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]; 8:orgid:fb8cd76c-92e3-4b9d-9341-848a1f8ac2ce; Davis, Adhana M. (HQ-WLC55); Bell, Seth (MSFC-ST20); Clapham, John S. (GRC-LCI0)

Date: Friday, December 9, 2022 10:20:13 AM

Posner, Arik (HQ-DJ000)

> Is Solar Radiation Management (SRM) covered in the report (e.g., under "Mitigation")?

There is more CDR info than SRM info, though yes in the Mitigation chapter. There is also mention of geoengineering in the International chapter in a table about climate risks to US interests (geopolitical "flashpoints"

From: AGU
To: Platnick, Steven E. (GSFC-6100)
Subject: [EXTERNAL] AGU Weekly: Check out highlights from AGU22 on AGU TV; Apply to the Congressional Science Fellowship!
Date: Thursday, December 15, 2022 10:31:43 AM

To view this email as a web page, click here

Watch AGU TV!

AGU TV has returned to the Fall Meeting 2022! AGU TV provides a unique platform to highlight the latest research and emerging trends within the fields of Earth and space science and engage people in these issues beyond the meeting. Watch all of the episodes here.

Apply for the 2023-2024 Congressional Science Fellowship, which places qualified scientists, engineers and other professionals with a U.S. congressional office or committee for a one-year assignment. Application deadline is 15 January.

APPLY

AGU members have elected Catherine Coleman Flowers to serve on the AGU Board of Directors. Read more about this special election on From the Prow.

READ

Interested in graduate school? Apply through AGU's Bridge Program, which offers one free application to be considered by 40+ geoscience departments. Learn more about the application process during the office hours scheduled for 19 December at 11 am ET. Students from historically excluded groups are encouraged to register.

Position statements—created, revised and approved by members—are what enable AGU to take adaptive stances on significant policy issues. Over the next 30 days, AGU members can comment on two statements that are up for review on climate intervention and ocean research and education. Ensure your voice is heard by providing comments on these statements by

Monday 9 January.

REGISTER

COMMENT

third pod distillations.png

Distillations: Bringing equity to community science in Chicago (& beyond)

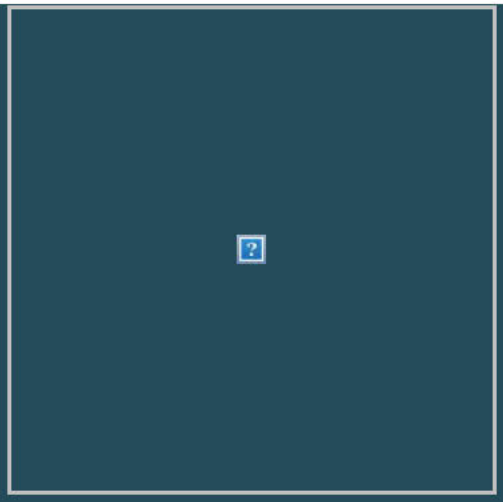
While climate change is a global issue, it affects people on a local, and sometimes personal level. And it disproportionately affects those from traditionally marginalized backgrounds. Luckily, there are people out there like Amaris Alanis Riberior, Center Director of the North Park Village Nature Center at the Chicago Park District, who are working to create an inclusive, intercultural, and interdisciplinary understanding of climate change from a diverse community-based perspective with our colleagues in the Thriving Earth Exchange.

LISTEN

first blog imageeee jpg

Stitch Your Climate Science 2022 is online and at #AGU22!

READ



AntarcticLog: Diversifying Antarctica

READ

Upcoming Deadline & Events

18 Dec: Deadline to take the AGU Policy Priorities Community survey

2 Jan: Deadline to apply for the Team-Based Organizing Initiative

9 Jan: Deadline for OSPA judges to submit student scores

9 Jan: Deadline to comment on *climate intervention* and *ocean research and education* position statements

15 Jan: Deadline to apply for the 2023-2024 Congressional Science Fellowship

1 Feb: Deadline to apply for the 2023-2024 Voices for Science cohort

---

AGU in the News

Tonga volcano eruption continues to astonish, BBC News, 13 December

The Arctic is becoming wetter and stormier, scientist warn, The New York Times, 13 December

Climate change remains a wild card for Great Lakes water levels, The Toronto Blade, 12 December

Retiring fossil fuel plants could free 68B gallons of water annually, WaterWorld, 12 December

Midwest farmers are using more cover crops. Why that's good news, The Washington Post, 12 December

AGU is a global community supporting more than half a million advocates and professionals in the Earth and space sciences.

From: AGU
To: Platnick, Steven E. (GSFC-6100)
Subject: [EXTERNAL] [BULK] AGU at COP28
Date: Tuesday, May 23, 2023 12:41:53 PM

Dear AGU Members,

In November 2022, a delegation of AGU leaders traveled to Sharm el-Sheikh, Egypt for the 27th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change or COP27.

With more than 200 countries in attendance, COP27 was center stage for climate debate and discussion. The COP process is slow and deliberative, leaving many of us frustrated by the gap between ambitions and commitments. That said, I found hope in the energy, ingenuity and commitments I witnessed outside of the formal proceedings.

AGU is now actively making plans to attend COP28 in Dubai, 30 November – 12 December. We are keen to hear from our members as to how AGU can be an effective voice for science and solutions at COP.

- **Are you, a colleague, a partner or a student attending COP28?**
- **Would you be interested in helping us develop events and content?**
- **What organizations do you see as working most effectively at COP? Do you have a formal or informal affiliation with those organizations?**

One of AGU's goals at COP is to engage the global community in the Ethical Framework for Climate Intervention Research, Testing and Potential Scaling. In addition, last year we highlighted the contributions of Earth system sciences by partnering on the first Ocean Pavilion at COP.

Working with 15 science organizations led by the Scripps Institution of Oceanography and the Woods Hole Oceanographic Institution, we hosted events, meetings and in-depth discussions that explored how to leverage the ocean sciences to address climate change. We plan to participate again in programming events and, while we consider what that involvement entails, we welcome your thoughts and ideas.

Click here to share your plans, ideas or questions related AGU's engagement at COP28.

AGU members have long been at the forefront of understanding the full impacts of climate change and delivering resources to mitigate and adapt to change. Global engagement is key to progress, and I look forward to working with you for a

productive COP28.

Lisa J. Graumlich
AGU President

AGU is a global community supporting more than half a million advocates and professionals in the Earth and space sciences.

2000 Florida Ave NW, Washington DC 20009
http://www.agu.org | Manage Preferences

From: Newman, Cathy L (GSFC-613.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]
To: Kahn, Ralph A. (GSFC-6130)
Cc: Oreopoulos, Lazaros (GSFC-6130); Platnick, Steven E. (GSFC-6100)
Subject: Re: AeroCenter Panel on GeoEngineering (or Climate Intervention)
Date: Wednesday, September 20, 2023 8:59:49 AM

Good morning: Sure, happy to help. If H114 is not available, Building 34, for example, has a nice room too.

--
Cathy Newman
Science Systems and Applications, Inc.
Administrative Analyst
NASA/Goddard Space Flight Center
Code 613/Climate & Radiation Laboratory
Greenbelt, MD 20771
Cell: (b) (6) during telework)
Office: 301-614-6183
Email: Cathy.L.Newman@nasa.gov

From: RALPH KAHN <ralph.a.kahn@nasa.gov>
Date: Wednesday, September 20, 2023 at 9:55 AM
To: "Newman, Cathy L (GSFC-613.0)[SCIENCE SYSTEMS AND APPLICATIONS INC]" <cathy.newman@nasa.gov>
Cc: LAZAROS ORAIOPOULOS <lazaros.oreopoulos@nasa.gov>, Steven Platnick <steven.e.platnick@nasa.gov>
Subject: Re: AeroCenter Panel on GeoEngineering (or Climate Intervention)

Cathy –

We have assembled a distinguished panel to lead a two-hour AeroCenter discussion on GeoEngineering. We are in the process of identifying a date on which we can hold the event with all panelists. I know this might be a long shot, but if possible, once we settle on a date, it would be great if we could use H114.

Here is a brief description of the event:

****
As recent weather disasters have created a great deal of public focus on climate change, and

some of the talk has included discussion about GeoEngineering, we are organizing a two-hour panel on this topic (also termed Climate Intervention). The AeroCenter represents a group with considerable expertise on aerosols and aerosol-cloud interactions. So, for the purposes of the panel, we will concentrate on the science/engineering related to ideas that are being discussed in the aera of Solar Radiation Management (SRM). The event is meant to be a discussion, after short introductory talks from the panel, to inform, and to initiate a dialog with the AeroCom community.

The format will be hybrid, with initial 10-to-15-minute notes from each panelist, followed by about an hour of discussion. The aim is for an evenhanded consideration of the scientific issues involved, covering the current state of our understanding, strengths and limitations, and the prospects for advancing that understanding in the relatively near term through modeling, measurement, and by combining the two. (In this particular forum, we will aim to avoid delving into political or social issues, such as governance, "moral hazards," and climate action.)

Our distinguished panelists: Luke Oman (NASA GSFC), Karen Rosenlof (NOAA Earth System Research Lab, Boulder), Tianle Yuan (NASA GSFC), Rob Wood (University of Washington, Seattle), and Ben Kravitz (Indiana University) have all agreed to participate in the panel. Ralph Kahn (NASA GSFC) will moderate the discussion.
****

With thanks. Ralph

Dr. Ralph Kahn
Senior Research Scientist
NASA Goddard Space Flight Center
Code 613 Greenbelt, MD 20771
Phone: 301-614-6193
FAX: 301-614-6307
e-mail: ralph.kahn@nasa.gov

** I represent my own opinions, which are not necessarily those of NASA. -- rk