Michael Falkowski

Reporting Research Results

NASA 2019 TE STM

Reporting Research Results to HQ

Be sure to acknowledge the program in the final publication:

To be useful for reporting at NASA HQ, the TE program should be recognized in the Acknowledgements (or similar) section of the published manuscript (i.e., add in NN#/Rtop#/mention TE)

If there is no reference to NASA and the TE program we CANNOT use the publication for our reporting purposes

Almost nothing is more heart breaking to a PM than someone publishing a high profile paper without acknowledgment of the program

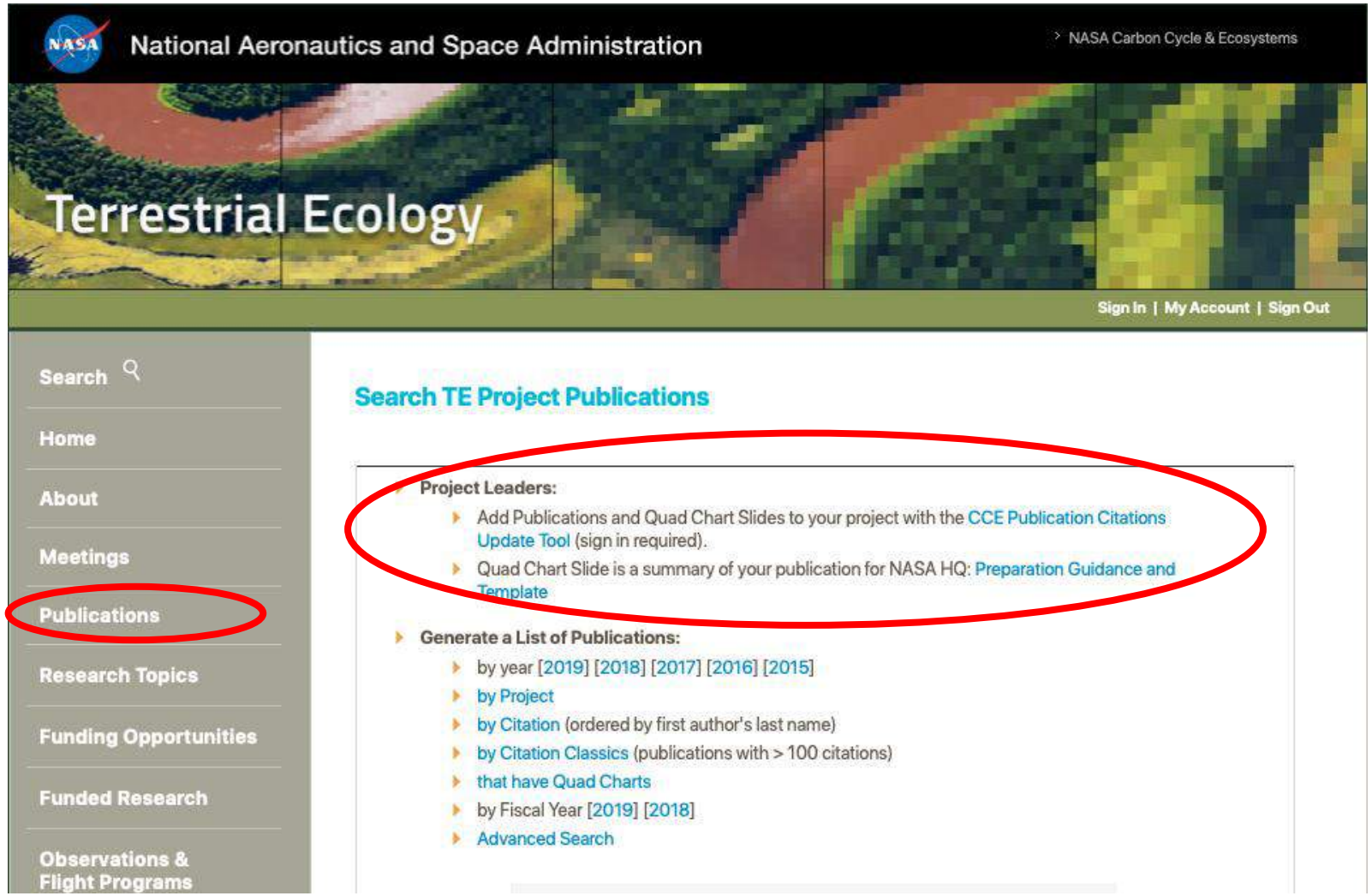
We need you to provide:

1. A PDF of the publication
2. A Powerpoint slide in “Quad Chart” format for NASA HQ for Monthly Status Reviews (MSR)
3. Annual reports should also include publication citations

Provide this info to HQ by doing these three things:

1. E-mailing the publication PDF and MSR slide directly to Hank (feel free to cc me as long as I’m in this position)
2. Uploading the publication PDF and MSR slide to the TE webpage (or ABoVE or CMS) that’s maintained by the CCEO (https://cce.nasa.gov/terrestrial_ecology/index.html)
3. E-mailing annual and final reports directly to Hank (feel free to cc me as long as I’m in this position)

https://cce.nasa.gov/terrestrial_ecology/index.html



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Publication Citations for Falkowski (TE 2011)

Add a Publication Citation

- Quad Chart Slide (Summary of your publication for NASA HQ):
  - Quad Chart Slide Preparation and Guidance with template >>
  - Upload your Quad Chart Slide after your publication has been added.

-- 5 Publications for Falkowski (TE 2011)

Banskota, A., Falkowski, M. J., Smith, A. M. S., Kane, E. S., Meingast, K. M., Bourgeau-Chavez, L. L., Miller, M. E., French, N. H. **2017**. Continuous Wavelet Analysis for Spectroscopic Determination of Subsurface Moisture and Water-Table Height in Northern Peatland Ecosystems. IEEE Transactions on Geoscience and Remote Sensing. 55(3), 1526-1536. DOI: 10.1109/TGRS.2016.2626460	**Citation:** Delete | Edit **Quad Chart:** Add
Bourgeau-Chavez, L. L., Endres, S., Powell, R., Battaglia, M. J., Benscoter, B., Turetsky, M., Kasischke, E. S., Banda, E. **2017**. Mapping boreal peatland ecosystem types from multitemporal radar and optical satellite imagery. Canadian Journal of Forest Research. 47(4), 545-559. DOI: 10.1139/cjfr-2016-0192	**Citation:** Delete | Edit **Quad Chart:** View | Delete
McPartland, M. Y., Kane, E. S., Falkowski, M. J., Kolka, R., Turetsky, M. R., Palik, B., Montgomery, R. A. **2018**. The response of boreal peatland community composition and NDVI to hydrologic change, warming, and elevated carbon dioxide. Global Change Biology. 25(1), 93-107. DOI: 10.1111/gcb.14465	**Citation:** Delete | Edit **Quad Chart:** Add

Add a Publication Citation for Falkowski (TE 2011)

Return to Publication Citations for Falkowski (TE 2011)

- Include citations directly resulting from Falkowski (TE 2011).
- If this is a data citation for a published data product, please contact support for assistance.

Option 1: Enter a DOI (preferred)

- Enter only DOI, not full URL; Example 10.1002/2013JC009301
- If you are adding a book chapter you will need to edit the citation to include author names and chapter title unless the chapter was assigned a unique DOI.

Add

Option 2: Enter a citation if no DOI is available

- Include supporting identifiers (ex. ISBN, ISSN, arXiv, etc.) and urls if available.
- Add only ONE citation at a time.

Save

Quad Charts for NASA HQ for Monthly Status Reviews (MSR)

Quad Charts are an important communications tool at NASA HQ for Monthly Status Reviews (MSR). These overview slides, representing important science results, are also used for presentations to other agencies and at scientific meetings. They also serve as a source for other internal and external NASA communications efforts.

Every month quad charts with science results are coalesced into one large presentation package that is shared with all NASA SMD as well as NASA center leads.

Highly relevant or impactful results are occasionally selected for presentation at the SMD MSR meeting. These are worked up into short (5-10) minute presentations given in person to all SMD leadership by either the ESD director, the PM, or the PI.

All the publications and MSR we receive are also leveraged in our annual Congressional reporting requirements and often highlighted in various outlets with the Federal Government (e.g., OSTP, Topical Reports, etc.).

Accounting for aboveground carbon storage in shrubland and woodland ecosystems in the Great Basin

Fusco, et al. *Ecosphere* https://doi.org/10.1002/ecs2.2821

Background:

Improving the accuracy of carbon accounting in terrestrial ecosystems is critical for understanding carbon fluxes associated with land cover change, with significant implications for global carbon cycling and climate change. Semi-arid ecosystems account for an estimated 45% of global terrestrial ecosystem area and are in many locations experiencing high degrees of degradation. However, aboveground carbon accounting has largely focused on tropical and forested ecosystems, while the amount of carbon stored in drylands has been relatively under reported.

Analysis:

We used a combination of field estimates, remotely sensed data (canopy cover estimates from high resolution aerial images), and existing land cover maps (Landsat derived) to create a spatially explicit estimate of aboveground carbon storage within the Great Basin, a semi-arid region of the western US.

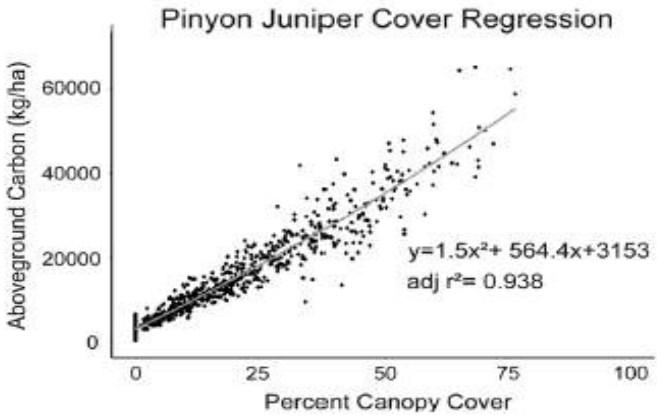
We stratified the region into distinct land cover types, and generated carbon estimates by applying a combination of allometric models (relating woodland canopy cover to aboveground carbon) and fixed carbon estimates in non-woodland cover types.

Findings:

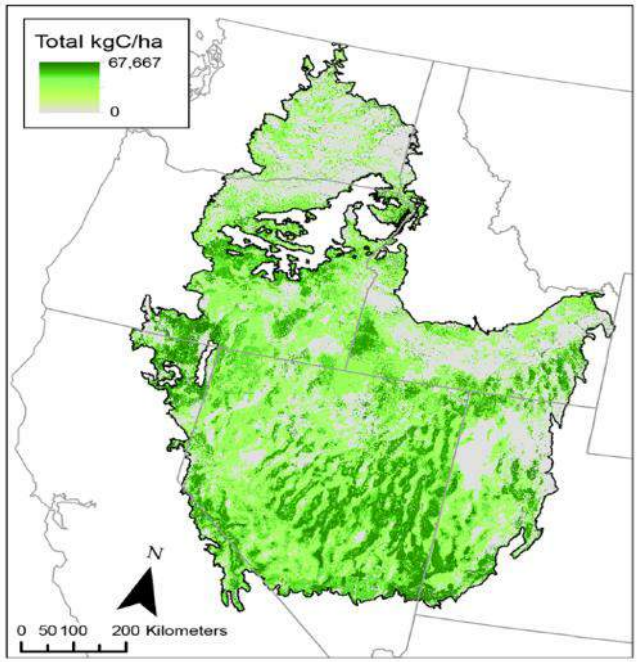
- The Great Basin contains an estimated 295.4 Tg in aboveground carbon, which is almost double previous estimates that only included forested ecosystems when performing carbon accounting across the same area.
- Aboveground carbon was disproportionately stored in pinyon-juniper woodlands (43.7% of the carbon, 16.9% of the land area), while the shrubland systems accounted for roughly half of the total land area (49.1%) and one-third of the total carbon.

Significance:

Our results emphasize the importance of distinguishing between and accounting for the distinctive contributions of shrubland and woodland ecosystems when creating carbon storage estimates for dryland regions.



Relationship between woodland canopy cover and aboveground carbon



Great Basin aboveground carbon map

Notes

Citation:

Full, formal citation:

Fusco, E.J.; Rau, B.M.; Falkowski, M.J.; Filippelli, S.; Bradley, B.A. Accounting for aboveground carbon storage in shrubland and woodland ecosystems in the Great Basin. Ecosphere. 2019, 10, 8. https://doi.org/10.1002/ecs2.2821.

Award Information:

This research was supported by the NASA Carbon Monitoring Systems Program under NASA Award number NNH15AZ06I (Hudak, PI)

Quad Charts for NASA HQ for Monthly Status Reviews (MSR)

Effective MSR Slides

1.Tell a complete self contained story: What are we learning about the Earth? What didn't we know before? What do we now know? What can we do with this knowledge?

2. Make sure the readers know: What is important? What should be drawn from the result? Focus on what has been accomplished and learned, not just what the investigators did.

3. Communicate the 1 to 3 most significant points: Tell the audience what they should know about the research and how the results contributed to Earth system science.

4. Use the following headings: Background or Science Question; Analysis; Results; and Significance.

5. Indicate what NASA resources were employed: (e.g., satellites, ground-based networks, datasets, models, etc.)

6. Use 1 to 2 figures that most clearly (or simply) represent the results. All figures should have axes labelled, units of measurement, and color bars included.

7. Have a title that grabs the reader's attention. The title does not have to be the full paper title. Include the full paper citation under the title heading, or elsewhere in the slide or in the notes section.

8. Include the title of the solicitation and/or the grant number in the notes section.

Quad Charts for NASA HQ for Monthly Status Reviews (MSR)

Common Pitfalls

1.The story is not understandable by reading the slide.

2. The figures are not completely linked to the slide text, or main point of the story.

3. Not enough explanatory text.

4.Too much jargon, or different terms used to refer to the same process or phenomena.

5. Include too many results or try to explain the entire paper