

2020 NASA-CMS Science Team Meeting Summary November 2020

From Nov. 2-19, 2020 the NASA Carbon Monitoring System (CMS) Science Team Meeting took place virtually and via WebEx. The meeting consisted of three major parts: iPoster Gallery (Nov. 2-16), Applications Workshop (Nov. 17), and Science Meeting (Nov. 18 & 19). The goals of the meeting included: update on NASA programmatic goals, stakeholder engagement, presentation of CMS Results (2016 and 2018 projects), advance and share progress of working groups & synthesis efforts, and discussion of science team activities for 2020-2021. Invitees included: all members of projects from the 2016 and 2018 solicitations, stakeholders identified to be working with the projects, DAAC representatives, and CMS management and support. The live portion of the meeting (Nov. 17-19) had 108 unique attendees, including 22 stakeholders and 49 Science Team Members and 33 project participants.

The CMS Applications Workshop took place on Day 1 and had 91 unique attendees. The event featured presentations by and panel discussions with 12 active stakeholders on topics of biomass, flux, and “wet carbon”. Stakeholders noted the very high importance of CMS products across a range of applications including: the role of forests in climate mitigation planning, wetland and mangroves carbon monitoring, and aquatic and marine primary productivity. Stakeholders also noted remaining data needs and gaps, obstacles or barriers to use, and things CMS could do better. It was noted that numerous important applications remain, that the needs for carbon information are likely to grow in the future in the context of national/international greenhouse gas reporting needs, that new stakeholders should be identified and engaged with the program, and that capacity building is needed to help both existing and newly identified stakeholders better understand and use CMS products. CMS activities in terms of the policy speaker series, webinars, engagement with other federal agencies such as USFS, and stakeholder synthesis papers in preparation were viewed as important next steps.

The remainder of the Science Team Meeting took place on Days 2-3 and had 83 and 80 attendees, respectively. This portion of the meeting focused on: update on NASA programmatic goals, Presentation of CMS Results (2016 and 2018 projects), advance and share progress of working groups & synthesis efforts, and discussion of science team activities for 2020-2021. It was clear that CMS continues to be innovative, productive and impactful. To date, CMS has funded 101 projects, and engaged >466 participants, and >150 stakeholders. CMS has produced 491 publications including 34 in top tier journals (Science, Nature, PNAS), 36 with citations >100, and more than 120 archived products and 54,000 downloads. Products are also generally advancing in ARL with multiple examples reaching highest level. Progress on CMS projects (2016, 2018) has been impressive across range of activities and scales, with particular progress in areas of land biomass and atmospheric flux, and new progress in the area of wet carbon commensurate with program emphasis in those areas. The Phase 2 synthesis report is timely and is making good progress; it was presented at AGU2019 and is currently in preparation as an Invited Review for the journal *Environmental Research Letters*. Meanwhile there are now 5 additional synthesis papers in preparation focused on the underlying thematic areas (Stakeholder, Uncertainty, Wet Carbon, MRV, Biomass).

Given the breadth of progress and capabilities, multiple stakeholders and other participants noted the need/opportunity for CMS to be more widely known and plans were discussed to increase communication efforts internally and externally. Overall, it was clear that the context and approach for CMS continues to be important and unique, with emphasis on advancing both state of the art science based on NASA's emerging capabilities together with concrete stakeholder engagement and application.

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Photo Below

