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ON AGRICULTURAL GREENHOUSE GASES

Country report : United States of America



Presentation to IRG Annual Meeting
Cali, 5 February 2019

Projects, initiatives and contributions to IRG's topics

Inventory-related activities:

- **USDA ARS– GRACEnet and MAGGnet (Mark Liebig)**
- **National Inventory updates: methods and activity data, biennial update cycle for AFOLU**
- **Entity-scale GHG methods– specialty crops added, updating N2O and manure methods**
- **COMET-Farm online tool**
- **AgCROS- USDA database encompassing GRACEnet, NUOnet, and others**

<https://agcros-usdaars.opendata.arcgis.com/>

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Soil Carbon Sequestration Flagship:

Soil carbon networks with outreach and education:

Pacific region, coordinated through Hawaii

Database and assessment—USGS, USDA, with Max Planck Institute in Jena, Germany

- USDA-NIFA—working to coordinate soil microbiome aspects (most of funding held up due to shutdown December-January)

Second State of the Carbon Cycle Report released in November 2018

<https://carbon2018.globalchange.gov/>

Projects, initiatives and contributions to IRG's topics

Farm to Regional Scale Integration Network

- Working with Petr Havlik (IIASA) on literature synthesis and characterization of economics of mitigation through soil carbon sequestration

Other GHG mitigation-related activities

- Updating EPA (2005) estimates of US national GHG mitigation potential from agriculture and forestry and conducting cross-model comparison
- Updating EPA (2013) global non-CO2 marginal abatement cost curves for livestock management, agricultural soils, and rice cultivation
- Ongoing initiatives to characterize net change in emissions from use of bioenergy (both transportation and bioelectricity)
- USDA Climate Hubs (focus on impacts, resilience, risk management, but also provide information on mitigation, bioenergy, etc. for US regions)

<https://www.climatehubs.oce.usda.gov>

Opportunities, future actions and funding

Validate DayCent model with recent and international field trial results for fertilizers and “4R” practices– USDA interest

USDA-NIFA—anticipated new funding for:

- *Food and Agriculture Cyberinfrastructure and Tools* related to soil carbon, and for
- *Signals in the Soil*-interagency and international program (sensors, infrastructure, modelling-USDA, NSF, UKRI (shutdown delays))

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