CLIMATE CHANGE AND AGRICULTURE:

STATUS REPORT FOR THE USDA AGRICULTURE AIR QUALITY TASK FORCE (AAQTF)

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Issues to cover

- USDA Regional Climate Change Hubs
- Status of USDA Greenhouse Gas Inventory Methods for the Agriculture and Forest Sector
- Biomass feedstock greenhouse gas accounting
**Vision:** Agricultural production and natural resources maintained and strengthened under increasing climate variability and environmental change

**Mission:** To develop and deliver science-based, region-specific information and technologies to agricultural and natural resource managers that enable climate-smart decision-making and provide assistance to enable land managers to implement those decisions.
USDA Regional Climate Hubs will provide:

- Technical & Program Support
- Assessments and Forecasts
- Outreach and Education
Conceptual Framework for a USDA Regional Hub

Science and Technology providers:

Federal Partners:
- NOAA RISA
- USGS CSC
- DOE
- NASA
- etc.

USDA Intramural Research (ARS/FS/ERS/NRCS)
USDA Extramural funded Research (NIFA)

Non-Federal Partners:
- Agricultural Experiment Stations
- Many others

Technology Transfer providers:
- Others
- Agricultural Extension

Links with other Hubs & National Coordinator:

Information and tools:
- NOAA RISA
- USGS CSC
- DOE
- NASA
- etc.

Questions and feedback:

Stakeholders and Stakeholder group:
- Farmers / Ranchers / Forest Managers / Tribes / States / Feds / LCCs / Others
USDA Climate Hub Regions

USDA Climate Hubs for Risk Adaptation and Mitigation to Climate Change

Pacific Northwest
- Corvallis, OR

Northern Plains
- Fort Collins, CO
- Ames, Iowa
- El Reno, OK
- Las Cruces, NM

Southwest
- Davis, CA

Southeast
- Raleigh, NC

Northeast
- Durham, NH

Forest Service Lead:
- Rio Piedras, PR

ARS Lead:
- Houghton MI
USDA Climate Hub Regions

USDA Climate Hubs for Risk Adaptation and Mitigation to Climate Change

ARS / Forest Service Lead

Forest Service Lead

Sub - Hub Locations
February-December 2014

- Assess regional vulnerabilities to ID most pressing issues
- Establish work plans
- Work with partners and stakeholders to access needs and capabilities
- Establish web presence
Science-Based Methods and Technical Guidelines for Quantifying Greenhouse Gas Sources and Sinks in the Forest and Agriculture Sectors

In accordance with Section 2709 of the 2008 Farm Bill:

“The Secretary shall establish technical guidelines that outline science-based methods to measure the environmental services benefits from conservation and land management activities in order to facilitate the participation of farmers, ranchers, and forest landowners in emerging environmental services markets” with priority given to carbon (GHG) markets.
Goal: Create a standard set of GHG quantification methods and tools for landowners, USDA, and other stakeholders.

• Phase 1: Report outlining comprehensive science-based methods for entity-scale GHG estimation.

• Phase 2: Develop a user-friendly tool to provide landowners and managers with reliable and understandable estimates of GHG emissions and C sequestration.
KEY CONSIDERATIONS

1. Transparency
2. Consistency
3. Comparability
4. Completeness
5. Accuracy
6. Cost effectiveness
7. Ease of use

BALANCING ACT
✓ Maximize accuracy … but maintain ease of use
✓ Complete … but cost effective
✓ Stand alone … but consistent and comparable
✓ Transparent … but with scientific rigor … and user-friendly
The entity - combining a landowner’s crop, livestock and forestry activities into one seamless GHG estimate.
The Methods Report is designed to be:

• A scientifically vetted means for USDA to provide local-scale, standardized and transparent estimation of GHG fluxes

• Consistent with the USDA and EPA national GHG inventories

• Aligned with NRCS’s COMET Farm and other USDA GHG tools.

• Coordinated with water quality or other tools to assess environmental services benefits
WHAT IS NOT COVERED IN THE REPORT?

• Emissions related to on-farm energy use
• Indirect emissions due to the manufacture or transport of management inputs (ie fertilizer, pesticides, etc.)
• Policy-specific framework such as additionality and leakage
CURRENT STATUS

- Comments from the first inter-agency review have been addressed
- Expert review has been completed – over 900 technical comments from 30 reviewers
- Public comment has been received – about 400 comments from about 3 dozen submissions
- The final draft has been submitted to the USDA editor for clearance:
  - Final edits and formatting
  - Assigning of a USDA Technical Report number
  - Printing and release (June/July 2014)
- Integration of the methods into COMET-Farm is underway