Developing Science-Based Methods and Technical Guidelines for Quantifying Greenhouse Gas Sources and Sinks in the Forest and Agriculture Sectors

Climate Change Program Office
USDA Office of the Chief Economist

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PROJECT GOAL

Goal: To 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 that follows the methods report to provide land owners and managers with reliable and understandable estimates of GHG emissions and C sequestration.

This presentation will focus on current status of the project and the project timeline.
Intended Uses for the USDA GHG Quantifier

- Farm, ranch and forest land owners will use the TOOL to better understand the GHG impact of their management decisions.
- The TOOL will provide land owners and managers with knowledge and understanding to facilitate their entry into state or private registries or markets.
- USDA will use the TOOL to assess local (GHG) performance of conservation programs, practices and initiatives.

The USDA GHG Quantifier will likely be useful for or adaptable to the needs of other stakeholders such as NGOs, state or local registries, etc.
METHODS REVIEW PROCESS

Science-Based Methods

CCPO
Inter-Agency Tech. Rev. May 2012

Scientific Experts Dec 2012/Jan 2013

Public Comment, Final Inter-Agency and USDA Review March - April 2013

Final Report Release June 2013
CURRENT STATUS

• Comments from the inter-agency review have been addressed
• Final work on the N2O method
• 45 scientists have been identified to invite to provide expert review
• Uncertainty assessment methodology is being written up
• Quantifier tool framework is being built
TRACCR - TRee and Agriculture Carbon CalculatoR
USDA Greenhouse Gas Estimation Tool

Overview

Users
Farmers/ Ranchers/ Forest Landowners or other stakeholders

Inputs
• Acres
• Cattle Count
• IPCC Equations
• Other Equations
• Lookup Tables
• Emission Factors
• Etc.

Online Estimation Tool
Croplands
Wetlands
Animal Agriculture
Forestry

Outputs
Report of estimated GHG Emissions and sequestration CO₂, N₂O, CH₄

Offline Models
• DAYCENT/ CENTURY
• DNDC
• COMET-VR 2.0
• DAYCENT/ CENTURY
• DNDC
• FVS
• Holos*
• DairyGEM*
• FVS
• iTree, MRLC
• FOFEM

* Algorithms Only
COMET and GHG Quantifier each develop according to their own methods. The COMET method is used directly in the GHG Quantifier.

Scientific Report method developed by GHG Quantifier, available for use in both tools.

Scientific Report method developed by / available in GHG Quantifier only.

Scientific Report includes method, but not integrated into tools at this time.
PROJECT TIMELINE AND KEY DATES

- **2011**
  - Selected Lead Authors
  - Formed Inter-Agency Tech Advisory Group (Jan 2011)
  - Published FR Notice for public technical input (Feb 2011)
  - Invited key experts to join author teams (Jan 2011)
  - First draft completed (Sept 2011)
  - USDA initial review and contractor initial editorial review (Oct 2011)
  - Tool Development Commences (Feb 2012)
  - Inter-Agency Tech. Adv Group review of second draft of methods (May 2012)
  - **Experts Peer Review of third draft of methods (Dec 2012-Jan 2013)**
  - **Full USDA and Inter-Agency review and public comment (Mar-Apr 2013)**
  - **Ver. 1.0 of TRACCR tool available for initial testing (Apr 2013)**
  - **Release of Final Methods Report (June 2013)**
  - **Review and testing of the tool (Ver2.0) and 1st DRAFT users manual (Jun 2013)**
  - **Ver 3.0 TRACCR tool and users manual published (Sept 2013)**

- **2012**

- **2013**
Contact Information

Thank you!

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