



Natural Resources Conservation Service and Climate Change



The Natural Resources Conservation Service is a mission-oriented agency that provides technical and financial assistance to improve air, soil, water, and related natural resources on private lands. Its conservation programs and incentives help mitigate or reduce greenhouse gas emissions. Climate change is an Agency strategic initiative and an important cross-cutting activity.

Conservation Programs, Benefits and Incentives

Greenhouse gas (GHG) emissions reductions and carbon sequestration are achieved as ancillary benefits of the NRCS' current portfolio of beneficial conservation programs. Among these are the Conservation Stewardship Program (CSP), Wetlands Reserve Program (WRP), Wildlife Habitat Incentives Program (WHIP), Environmental Quality Incentives Program (EQIP), Grassland Reserve Program (GRP), and a developmental grants program, Conservation Innovation Grants (CIG). New or revised standards and targets for specific incentives encourage carbon sequestration, reduce direct and indirect use of petroleum-based inputs and GHG emissions reductions <http://www.nrcs.usda.gov>.

Climate Change Literacy and Improving Awareness

NRCS has a curriculum devoted to air quality, energy, and climate change to train employees to meet new challenges. NRCS recognizes the inherent links among these three areas and has designed a basic course integrating these three topics that new employees take. The basic course and 5 new discipline-specific courses in the curriculum are online at <http://www.extension.org/pages/26362/nrcs-online-air-quality-energy-and-climate-change-courses>. Additional advanced discipline-specific courses within each area are being developed and will be available in the coming months.

NRCS Climate Change Reference Materials

The NRCS climate change website <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/climatechange> describes the relationship among the NRCS mission, its conservation programs and climate change issues. The website also provides downloadable conservation briefs, reports and other published resources related to conservation and climate change.

Carbon Sequestration Studies and Decision Support Tools

A comprehensive nationwide carbon assessment program is underway to provide quantitative estimates of soil carbon stocks for validation of model estimates and improved model accuracy. The objectives are 1) to evaluate differences in soil carbon associated with differing soil properties, agricultural management systems, ecosystems, and land uses and 2) to develop a scientifically-based and statistically valid baseline inventory of soil carbon stocks for the U.S.

COMET-VR 2.0 is an online carbon management evaluation tool that helps farmers and ranchers understand and assess impacts of changes in land management. It allows producers and land managers to document carbon changes and enables them to take advantage of additional agricultural management scenarios and a broad variety of nitrogen management options. The on-line tool estimates greenhouse gas (GHG) emission changes in soil carbon sequestration, fuel-use and fertilizer use. It also generates data on soil nitrous oxide (N₂O) emissions, and gauges changes in biomass carbon stock for agroforestry practices and perennial woody crops that include orchards and vineyards. The tool can be accessed at <http://www.comet2.colostate.edu/>.