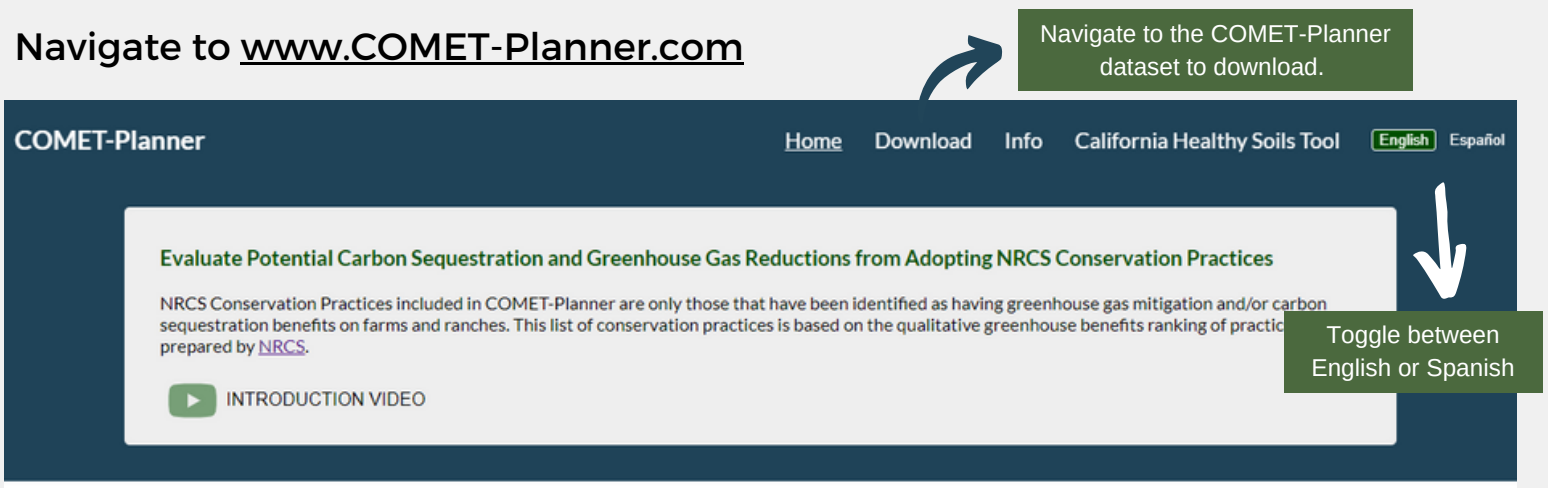
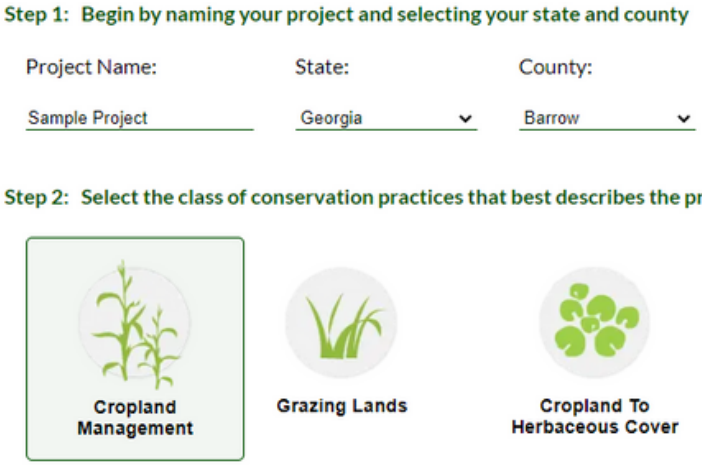
Start Using COMET-Planner

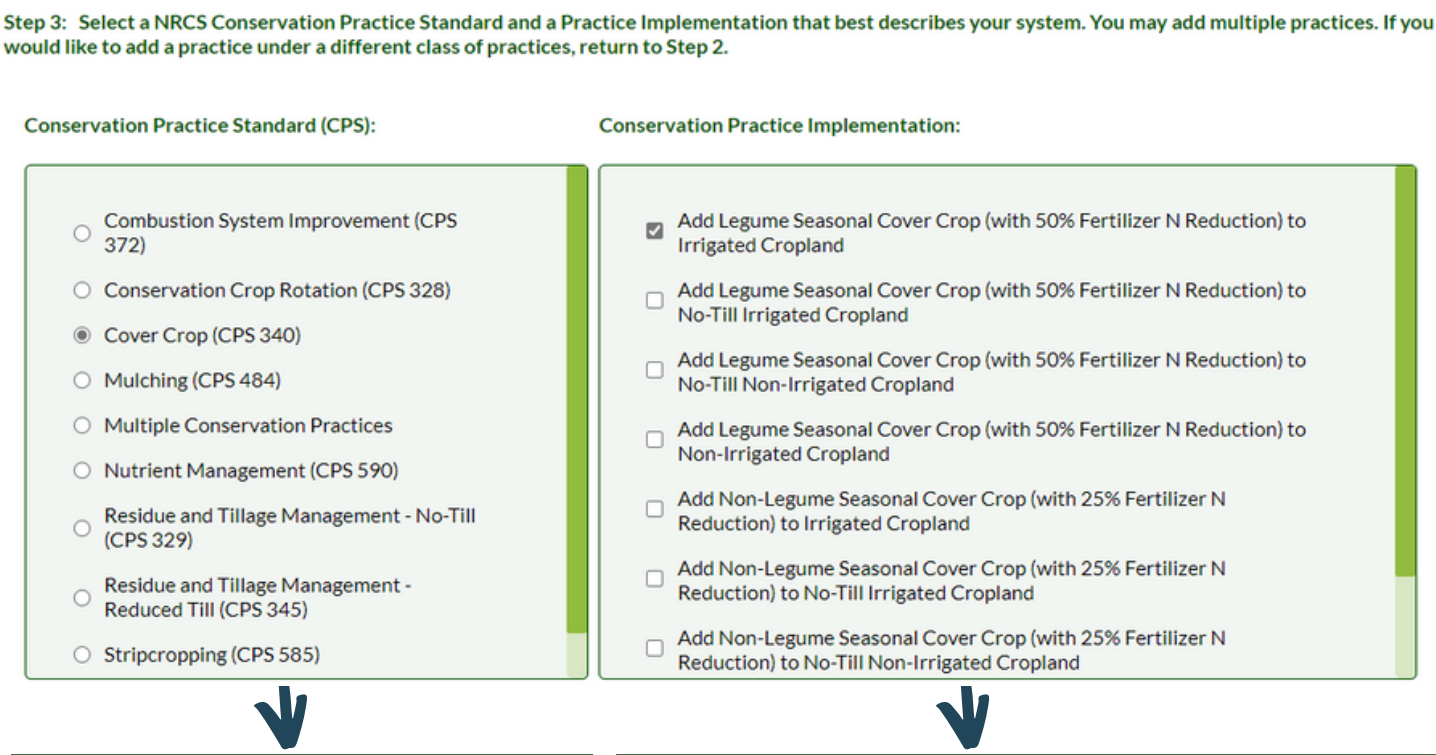
What is COMET-Planner?	COMET-Planner is a web-based greenhouse gas inventory tool for land based systems and is designed for conservation scenario analysis based on conservation practice adoption. COMET-Planner was created as a simpler tool for regional assessments (by county) to visualize general greenhouse gas benefits for initial planning purposes.
Where is COMET-Planner available?	COMET-Planner is currently available in the contiguous United States. There is also a California Healthy Soils Program COMET-Planner. For more information on COMET-Planner, please visit the program information page and/or contact cdfa.HSP_Tech@cdfa.ca.gov.

Let's Get Started:

Navigate to www.COMET-Planner.com







Use the trashcan icon to delete unwanted practices and the i-icon to learn more about each practice selected.

Approximate Carbon Sequestration and Greenhouse Gas Emission Reductions*

(tonnes CO_2 equivalent per year)

NRCS Conservation Practices	Acreage	Carbon Dioxide	Nitrous Oxide	Methane	Total CO_2 Equivalent
Add Legume Seasonal Cover Crop (with 50% Fertilizer N Reduction) to Irrigated Cropland	100 ac	124	-33	0	91
Totals	100	124	-33	0	91

*Negative values indicate a loss of carbon or increased emissions of greenhouse gases
**Values were not estimated due to limited data on reductions of greenhouse gas emissions from this practice

Download COMET-Planner Results

Enter the total acreage this conservation practice standard will be applied to on the land. The greenhouse gas estimates will generate on the fly as you adjust the acres. The values provided reflect the average annual tonnes of CO2 equivalent per year. There is an assumption that annual practices selected, such as cover cropping or tillage reductions, will be implemented yearly and perennial practices, such as buffer strips will be implemented in year one and maintained the following nine years.

Positive (blue) values indicate that there is a reduction of emissions or a sequestration may occur. Negative (red) values indicate a loss of carbon or increased emissions of greenhouse gases. You may also see “N.E. 2 ” in the table, which indicates that values were not estimated due to limited data on reduction of greenhouse gas emissions from this practice.

You may also download your COMET-Planner results by selecting the green button "*Download COMET-Planner Results".* The COMET-Team would recommend saving the results in this manner, as your location, conservation practices selected, and respective results will reset when you navigate away from the COMET-Planner page.

How are your carbon sequestration and greenhouse gas emission reduction estimates calculated?

Emission reduction coefficients were largely derived using a sample-based approach and model runs in COMET-Farm, which utilizes USDA entity-scale greenhouse gas inventory methods. Coefficients were generalized by multi-county regions defined by USDA Major Land Resource Areas. Emissions estimates represent field emissions only, including those associated with soils and woody biomass as appropriate, and do not include off-site emissions, such as those from transportation, manufacturing, processing, etc. More information on quantification methods can be found in the COMET-Planner Report

Each emission reduction is calculated using the following equation:

Emission reduction = Area (acres) * Emission Reduction Coefficient (ERC)

As you populate the table above by selecting conservation practices and entering the respective acreage, the table under *How are your carbon sequestration and greenhouse gas emission reduction estimates calculated?* will also populate. Each practice will be listed with its emission reduction coefficient (ERC).

Emission Reduction Coefficients (ERC)

(tonnes CO2 equivalent per acre per year)

NRCS Conservation Practices	Carbon Dioxide	Nitrous Oxide	Methane
Add Legume Seasonal Cover Crop (with 50% Fertilizer N Reduction) to Irrigated Cropland	1.24	-0.33	0.00

Click to Show Detailed Emission Reductions

Select the *Detailed Emission Reductions* button to view the subsource category emission reduction coefficients (ERC).

Recommended Use of COMET-Planner:

This evaluation tool is designed to provide generalized estimates of the greenhouse gas impacts of conservation practices and is intended for initial planning purposes Site-specific conditions (not evaluated in this tool) are required for more detailed assessments of greenhouse gas dynamics on your farm. Please visit COMET-Farm if you would like to conduct a more detailed analysis.

Contact Us

Please contact us via the help desk widget or send an email to appnrel@colostate.edu with any questions.

USDA United States Department of Agriculture Natural Resources Conservation Service | Colorado State University

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Carbon and greenhouse gas evaluation for NRCS conservation practice planning

A *Need Help?* widget will follow you on every step of COMET-Planner (and COMET-Farm). The widget is populated with several FAQ's and *contact us* option when you cannot find a solution or experience a problem with the program.

Need Help?