



## Conservation Benefits of ACEP-ALE, FRPP and GRP Easements: Data Sources

Category	Type	Summary Metrics	Data Description	Year	Spatial Resolution	Data Source	Dataset	Link
<b>Carbon</b>								
	Estimate of current topsoil Soil Organic Carbon (SOC) 0-30cm depth	metric tons/acre CO2e	Soil Organic carbon stocks in t/ha for 0-30cm depth. Predictions were derived using a digital soil mapping approach based on Quantile Random Forest, drawing on a global compilation of soil profile data and environmental layers.	2019	250m	World Soil Information Service (WoSIS)	SOILGRIDS	<a href="#">SoilGrids250m 2.0</a>
	Projected Soil Organic Carbon sequestration topsoil (0-30cm) under a scenario of cropland management with high organic inputs	total and mean metric tons of CO2e	This scenario represents a shift from current management to cover crop, green manures or other higher residue return practices on all cropland areas. These data are a spatial implementation of the IPCC (2019) Tier I bookkeeping approach to soil organic carbon stock change for a series of scenarios.	2038	250m	SoilsRevealed	Soil Organic Carbon Futures	<a href="#">Soils Revealed</a>
	Projected Soil Organic Carbon sequestration in topsoil (0-30cm) under a scenario of cropland management with high organic inputs and minimum disturbance	total and mean tons of CO2e	This scenario represents the combined impact of a shift from current management to cover crop, green manures or other higher residue return practices and shifting to no-till on all cropland areas. These data are a spatial implementation of the IPCC (2019) Tier I bookkeeping approach to soil organic carbon stock change for a series of scenarios.	2038	250m	SoilsRevealed	Soil Organic Carbon Futures	<a href="#">Soils Revealed</a>
	Projected Soil Organic Carbon sequestration in topsoil (0-30cm) under a scenario of cropland management with minimum disturbance	total and mean metric tons of CO2e	This scenario represents a shift to no-till cropping on all cropland areas. These data are a spatial implementation of the IPCC (2019) Tier I bookkeeping approach to soil organic carbon stock change for a series of scenarios.	2038	250m	SoilsRevealed	Soil Organic Carbon Futures	<a href="#">Soils Revealed</a>
<b>Agricultural Land Quality</b>								
	Prime Farmland Soil	Acres	Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses.	2020	vector, converted to 30m	USDA NRCS	gSSURGO, Important Farmland Class	<a href="#">Gridded Soil Survey Geographic (gSSURGO) Database</a>
	Productivity, Versatility, and Resiliency (PVR)	Mean for agricultural lands and for all lands	The PVR analysis was designed to identify the agricultural lands best suited for intensive cultivation, with a focus on production of human-edible food crops. The PVR model combines detailed datasets representing soil productivity and capacity, land cover and use, food production for direct human consumption, production limitations, and length of growing season. The higher the PVR value, the more productive, versatile, and resilient the land is for long-term cultivation.	2016	30m	American Farmland Trust	Productivity, Versatility, and Resiliency (PVR)	<a href="#">Farms Under Threat: The State of the States</a>
	Nationally Significant Agricultural Land	Acres and percent	Nationally Significant agricultural land is the land best-suited to long-term, intensive crop production within the contiguous United States, a category derived from the Productivity, Versatility and Resiliency index.	2016	30m	American Farmland Trust	Nationally significant Agricultural Land	<a href="#">Farms Under Threat: The State of the States</a>



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<b>Wildlife</b>								
	Species Agnostic Current Flow (wildlife movement)	Mean species agnostic current flow	Index of how important a given land area is for wildlife movement	2021	250m	American Farmland Trust and Conservation Science Partners	Species Agnostic Current Flow	<a href="#">Analytics Lab   Microsoft Collaboration</a>
	Areas of Recognized Biodiversity value	Acres of lands with recognized biodiversity value	The Conserving Nature's Stage focus on abiotic drivers of biodiversity is meant to complement, not replace, biodiversity-based conservation priorities. This data represents information on places recognized for their biodiversity value (rare species, intact habitat, or exemplary natural communities) from other separate studies (i.e. ecoregional plans, state wildlife action plans).	2023	30m	The Nature Conservancy	Recognized Biodiversity Value	<a href="#">Resilient Land Mapping Tool</a>
<b>Development threat/distance to markets</b>								
	Agricultural land converted to development within 1 mile of easement	Acres within 1 mile	Development in this case refers to both Urban and Highly Developed (UHD) and Low Density Residential (LDR) lands. UHD lands include moderate-to-high-density residential development, commercial and industrial sites, and even solar fields and well pads. Much of LDR area is comprised of large-lot subdivisions that are not dense enough to be identified using remote sensing, from two acre lots on the edges of cities to 20, 30, or even 40 acre lots in the countryside, likely including farmettes and ranchettes. Some areas would be considered suburbs or exurbs. LDR also includes open agricultural land that is adjacent to or surrounded by existing development.	2001-2016	30m		Agricultural land converted to more developed land use	<a href="#">Farms Under Threat: The State of the States</a>
	Distance from U.S. census urban areas	Miles	Distance from U.S. census (2020) urban areas. Could be construed as a benefit (distance to markets) or a disservice (development impact or threat).	2020	500m	U.S. census, American Farmland Trust	U.S. Census Urban Areas	Created specifically for this analysis, not publicly available
<b>Proximity to protected lands</b>								
	Protected areas within 1 mile of easement	Acres of protected land within 1 mile	Protected areas compiled from the US protected areas database (PAD-US), the National Conservation Easement Database (NCED) and the Protected Agricultural Lands Database (PALD).	2021-2023	vector	USGS (PAD-US), American Farmland Trust (PALD), The Trust for Public Lands (NCED)	Combined protected lands database	Created specifically for this analysis, not publicly available