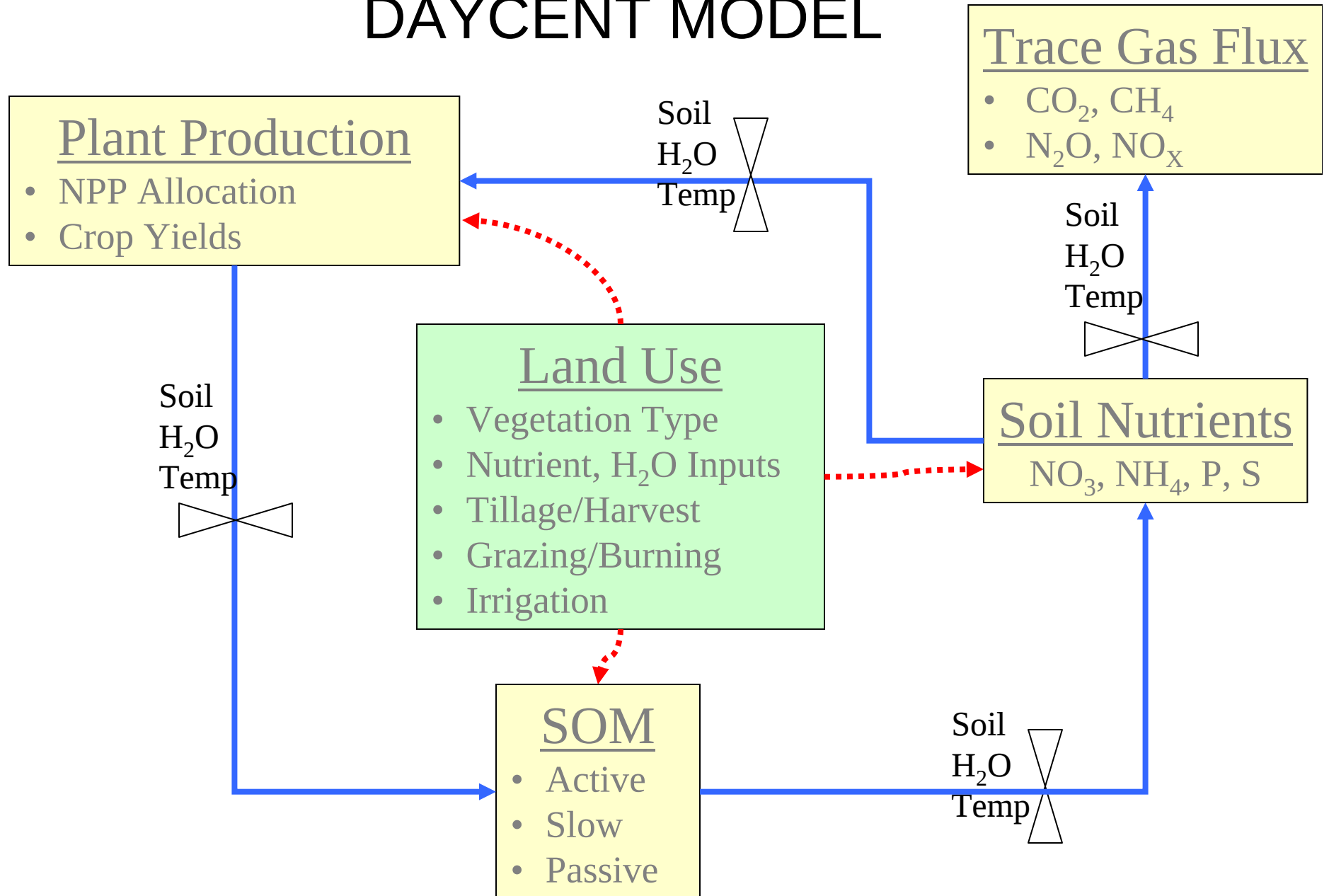


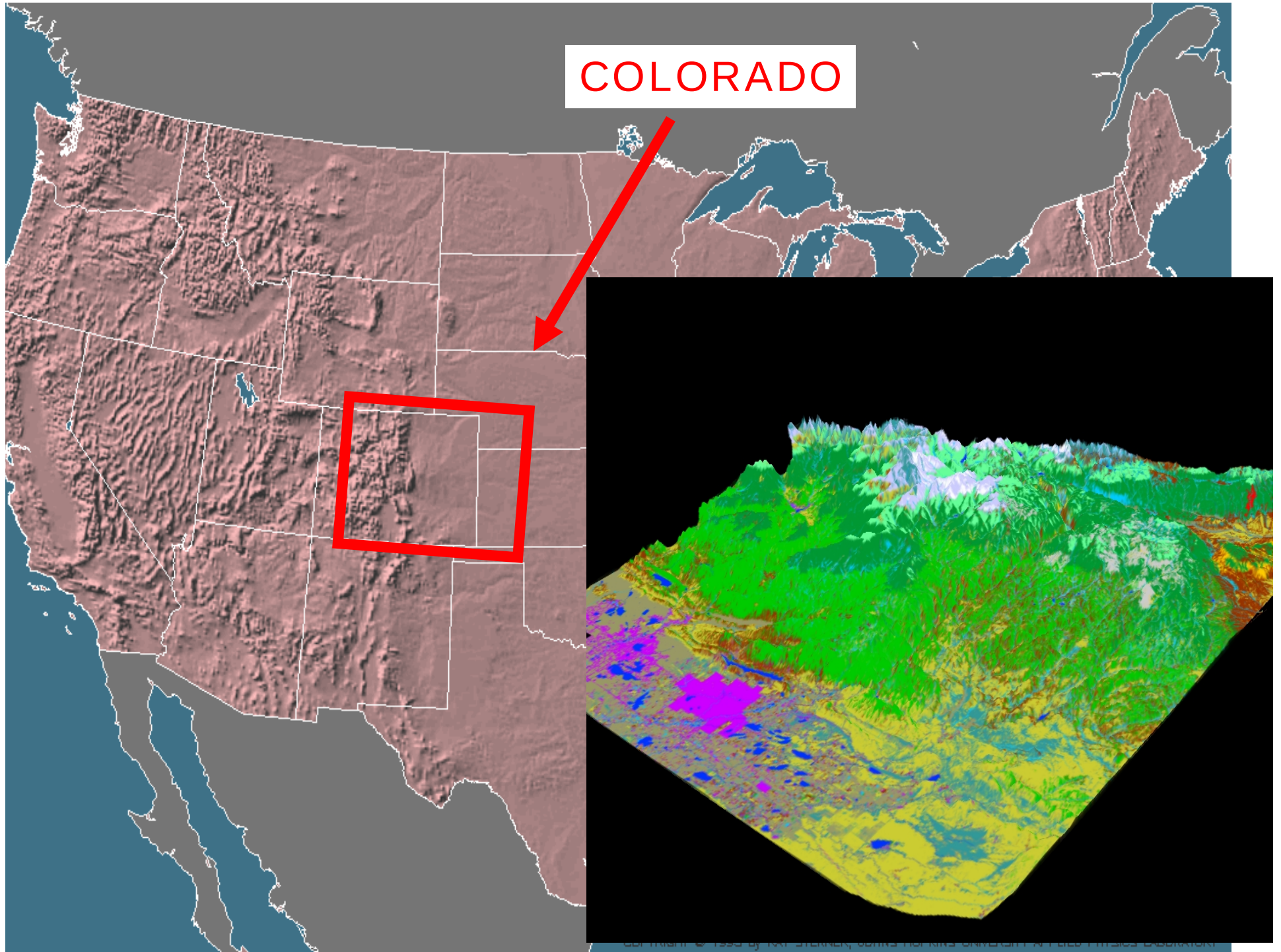
Model Overview, Testing and Application to Agroecosystems

D.S. OJIMA , S.J. DEL GROSSO, W.J. PARTON,, A.R.
MOSIER and C. KEOUGH

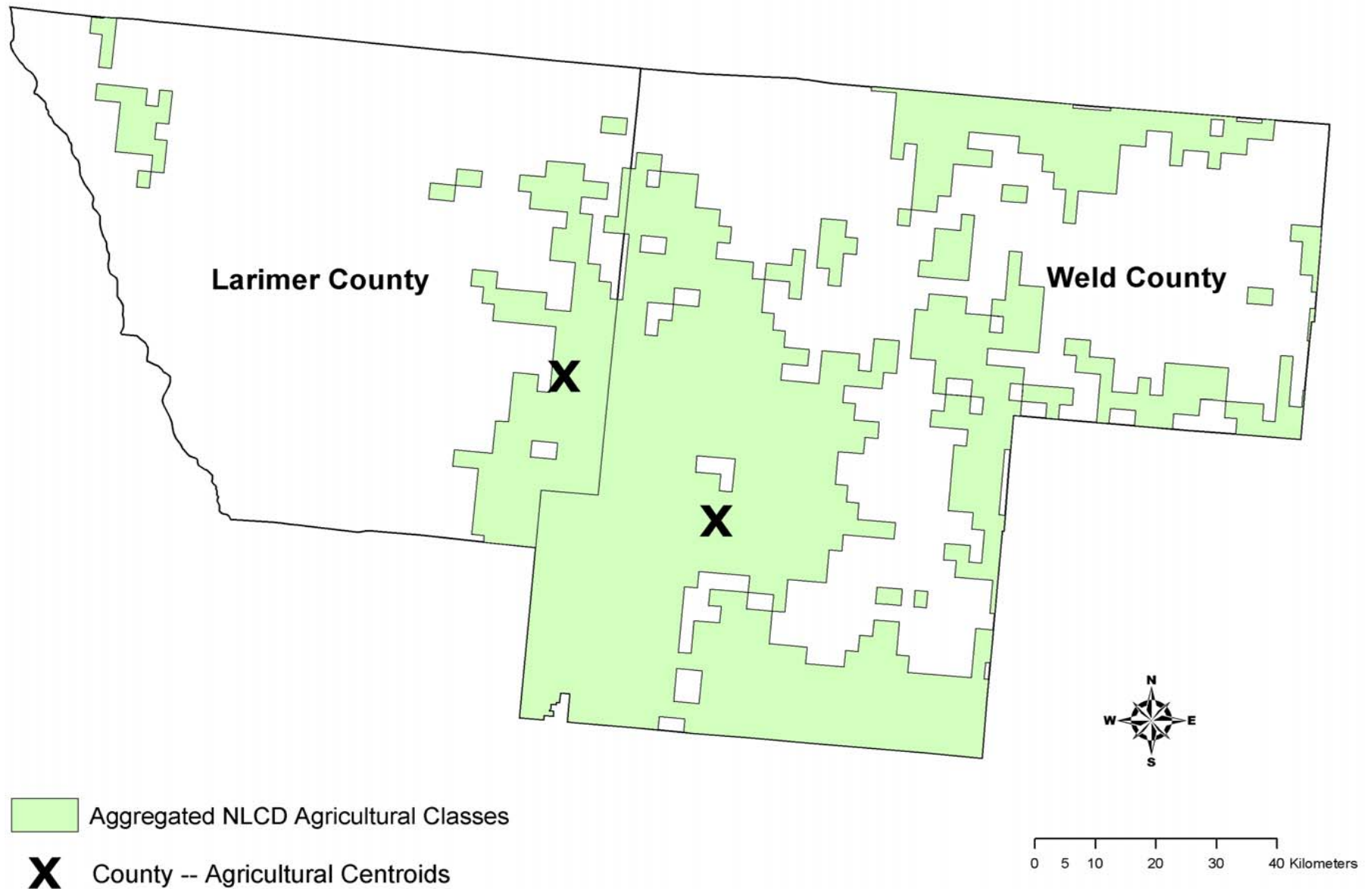
DAYCENT MODEL



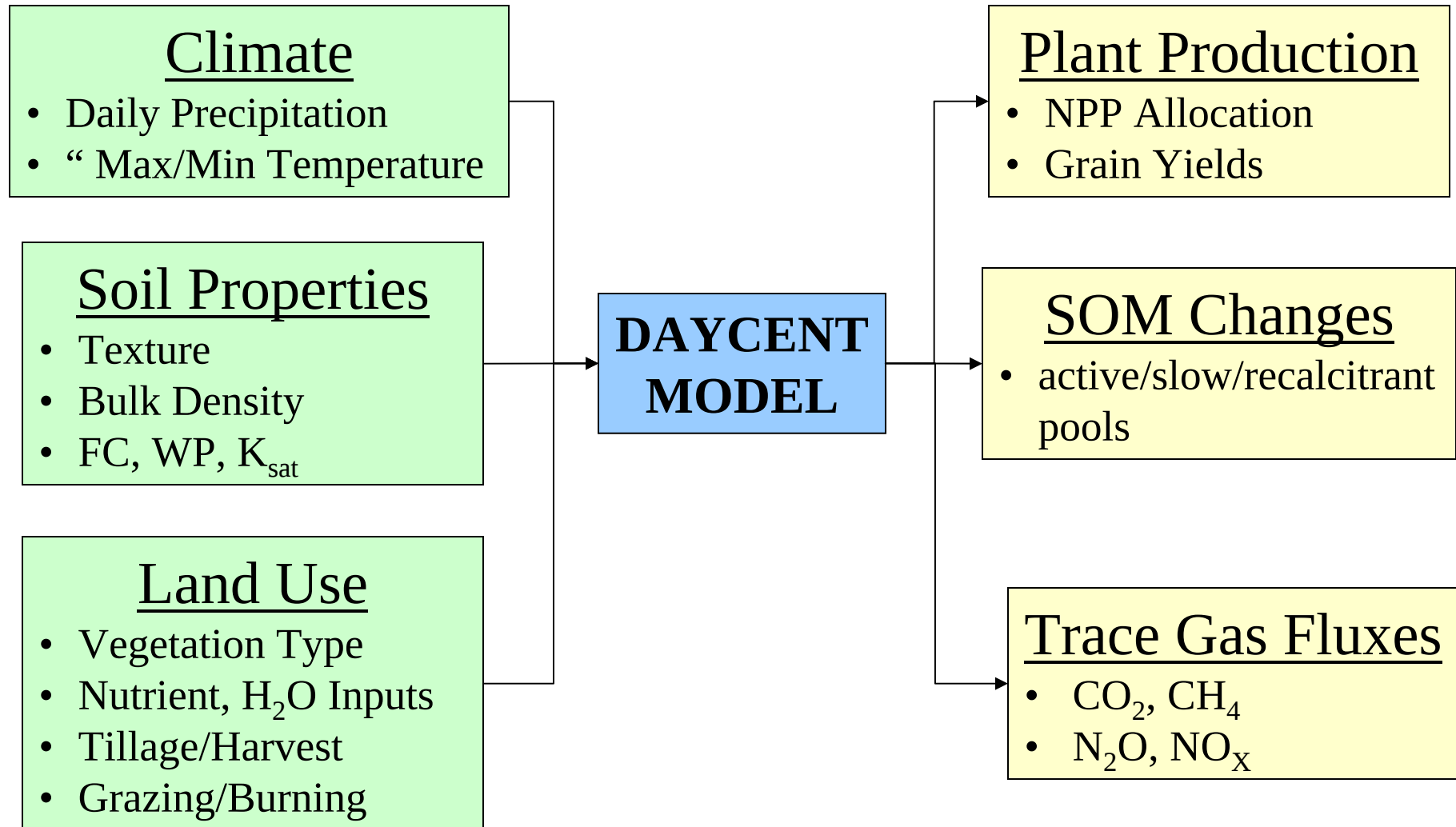
COLORADO



Aggregated Agricultural Classes Used to Select DAYMET Weather Files

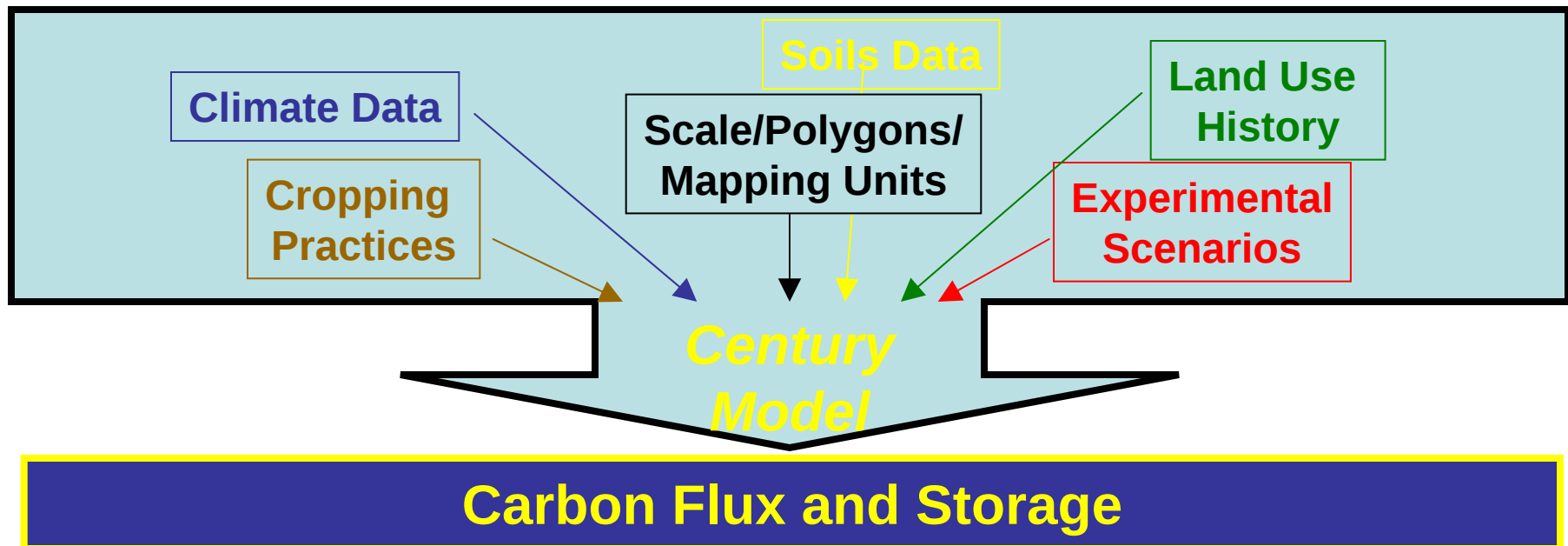


DAYCENT: Primary Inputs/Outputs



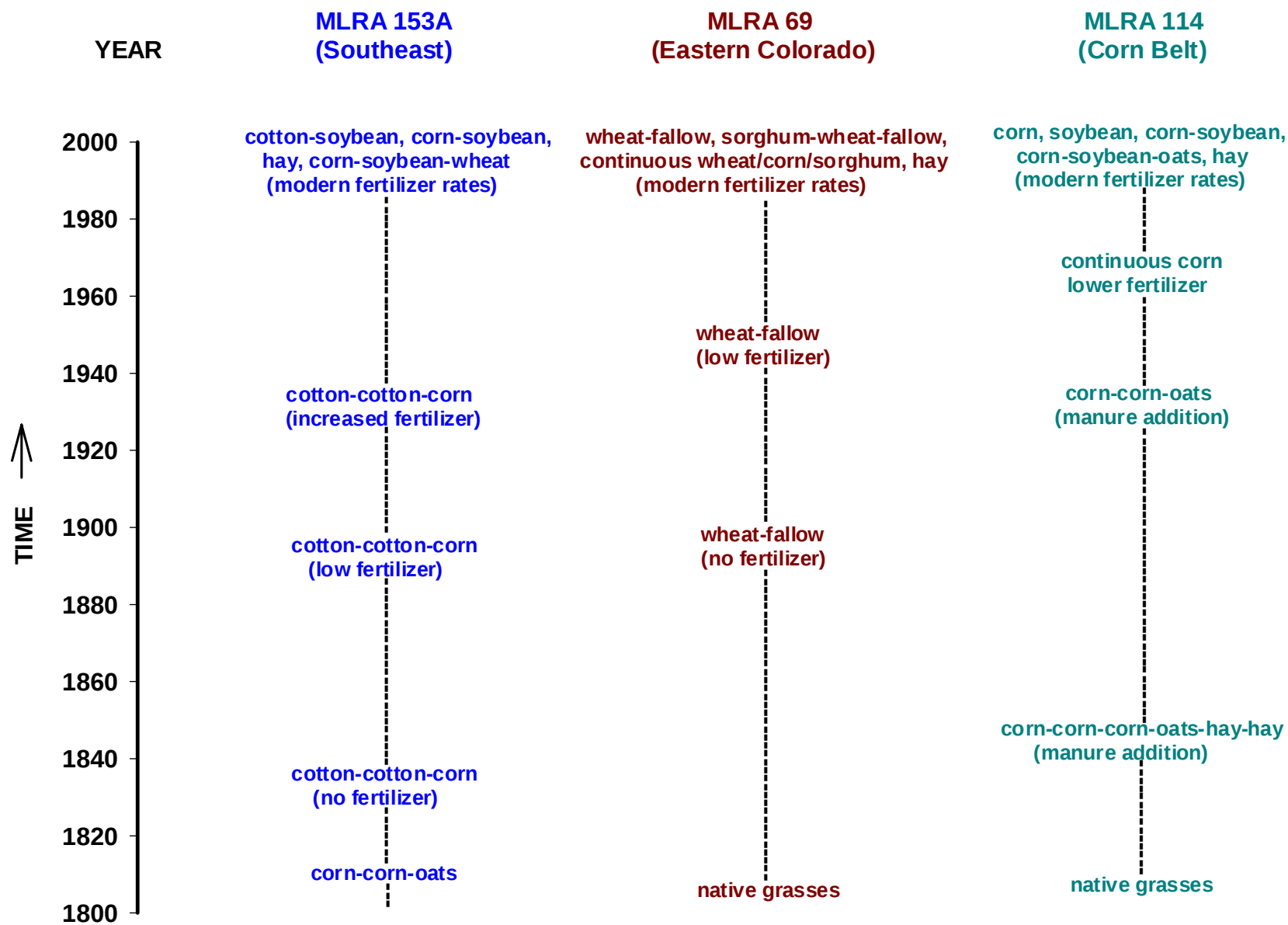
Data Integration for Modeling C Cycling of Managed Lands in the US

- Heterogeneity of soils within mapping units
- Complex crop and tillage history
- Strict Input format requirements

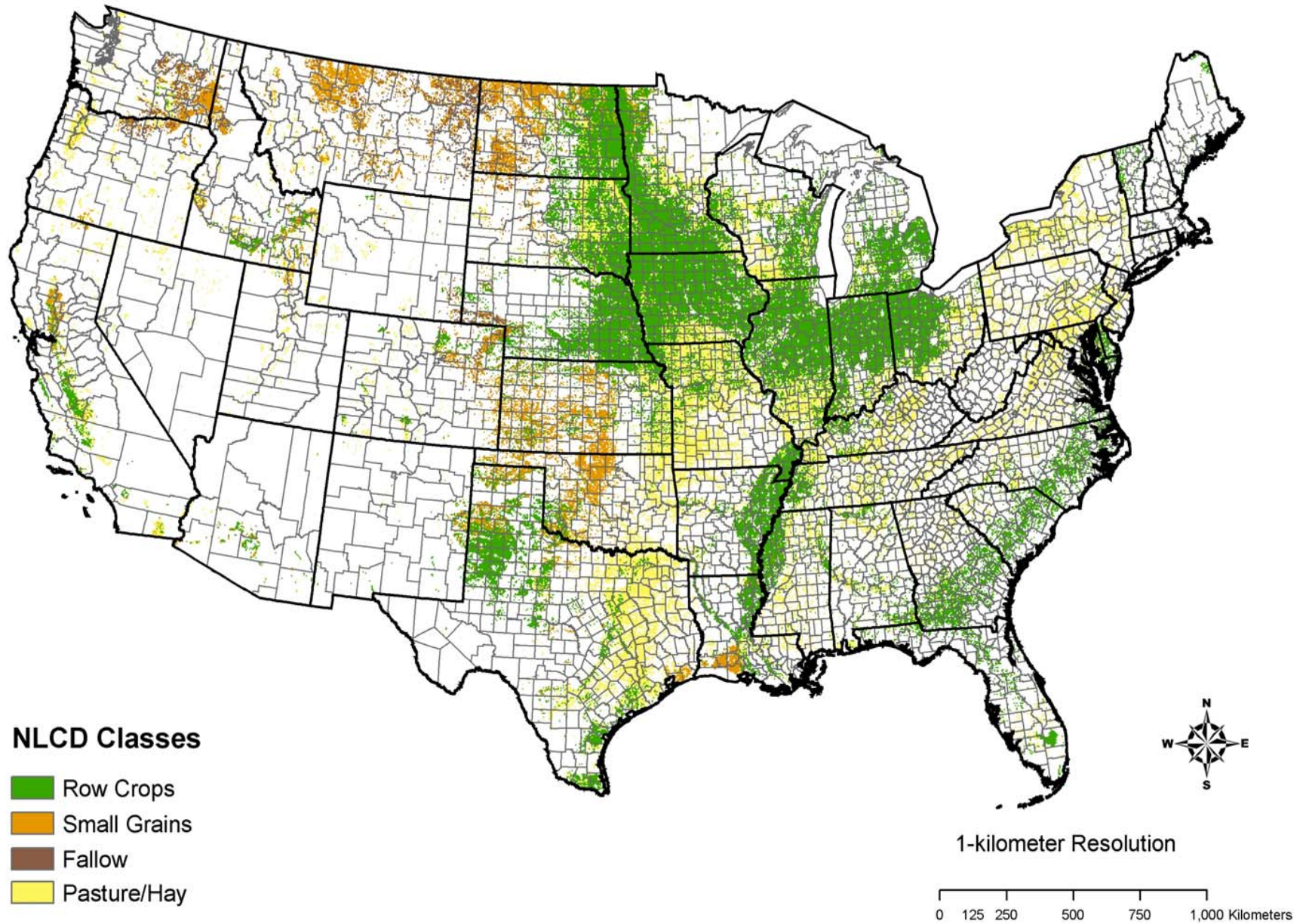


Land Use Scenarios Simulated by DAYCENT

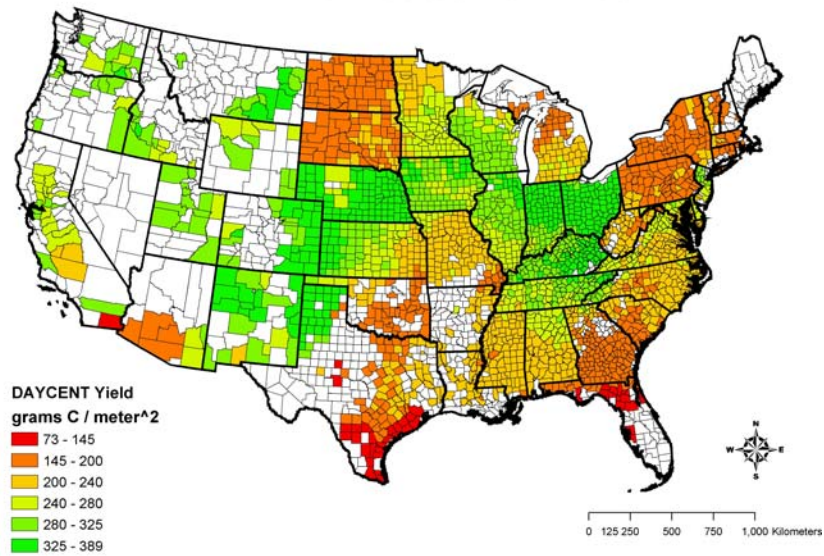
Dryland Systems			
Land Use	N addition gN m ⁻² yr ⁻¹	Tillage	GHG Mitigation Potential
winter wheat/fallow	2.5	Conventional	-
winter wheat/fallow	2.5	no till	-
annual summer cropping	2-12	no till	+
native pasture	0	no till	+
Mesic/Irrigated Systems			
annual corn cropping	15	conventional	-
annual corn cropping	15	no till	+
corn/soybean rotations	7.5	conventional	-
corn/soybean rotations	7.5	no till	+
annual silage	6	conventional	+



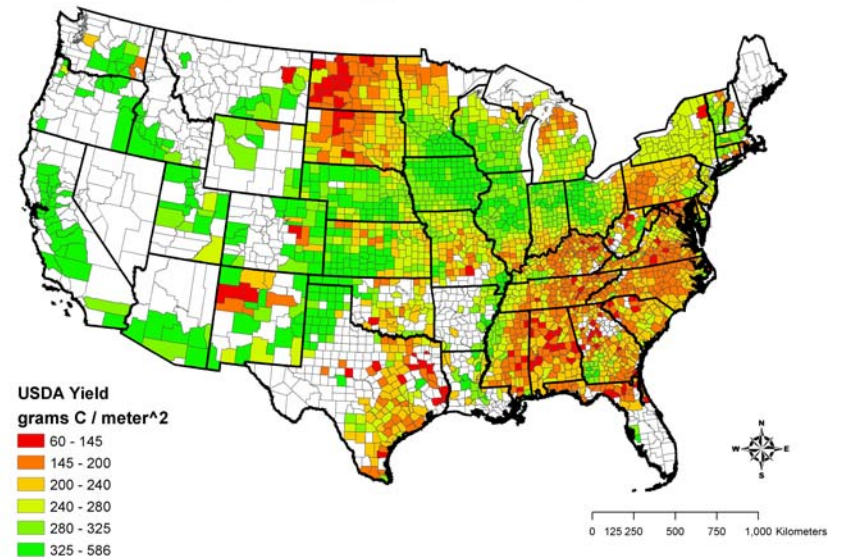
National Land Cover Data -- Agricultural Classes



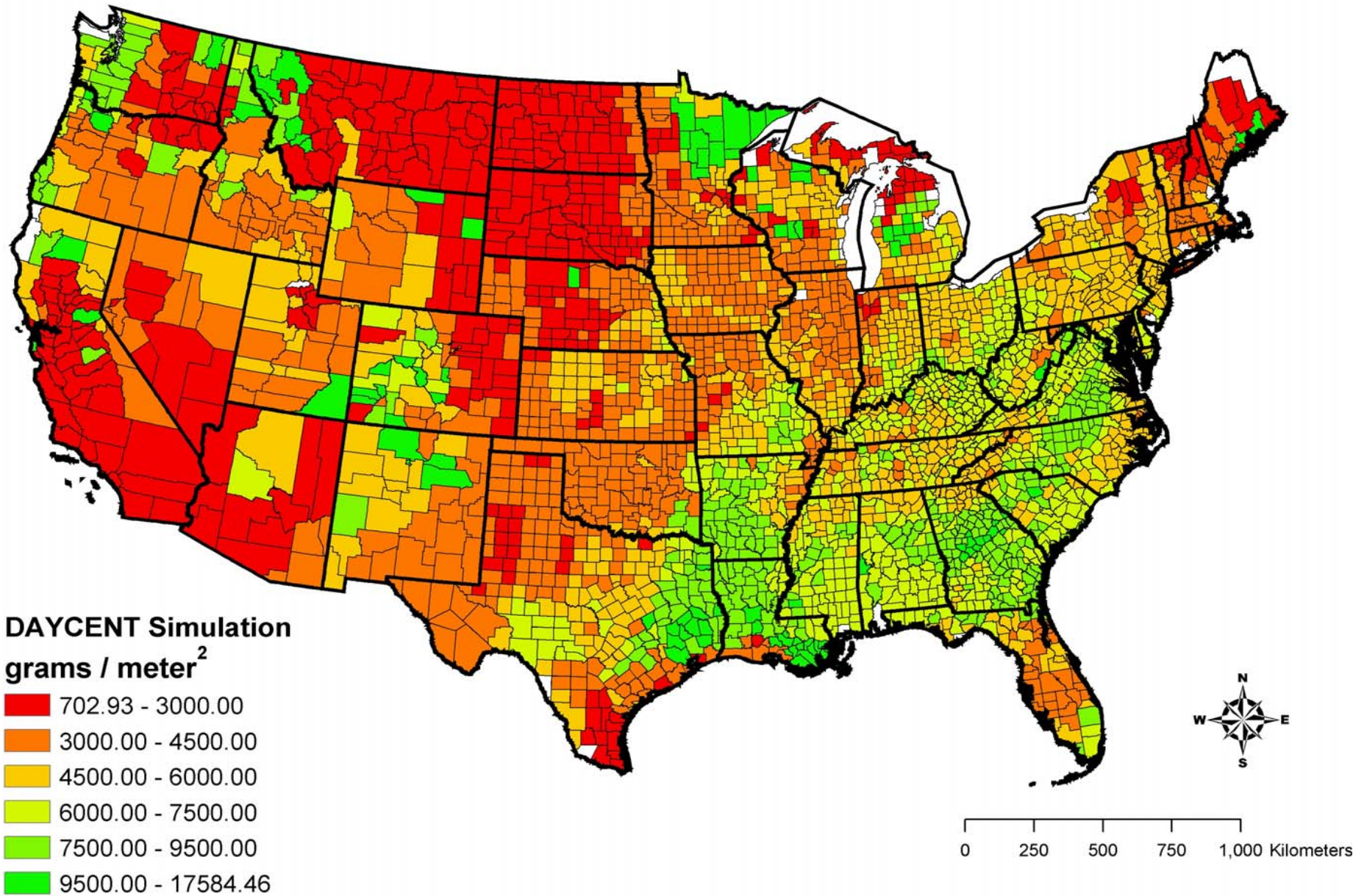
DAYCENT Simulated Corn Yield



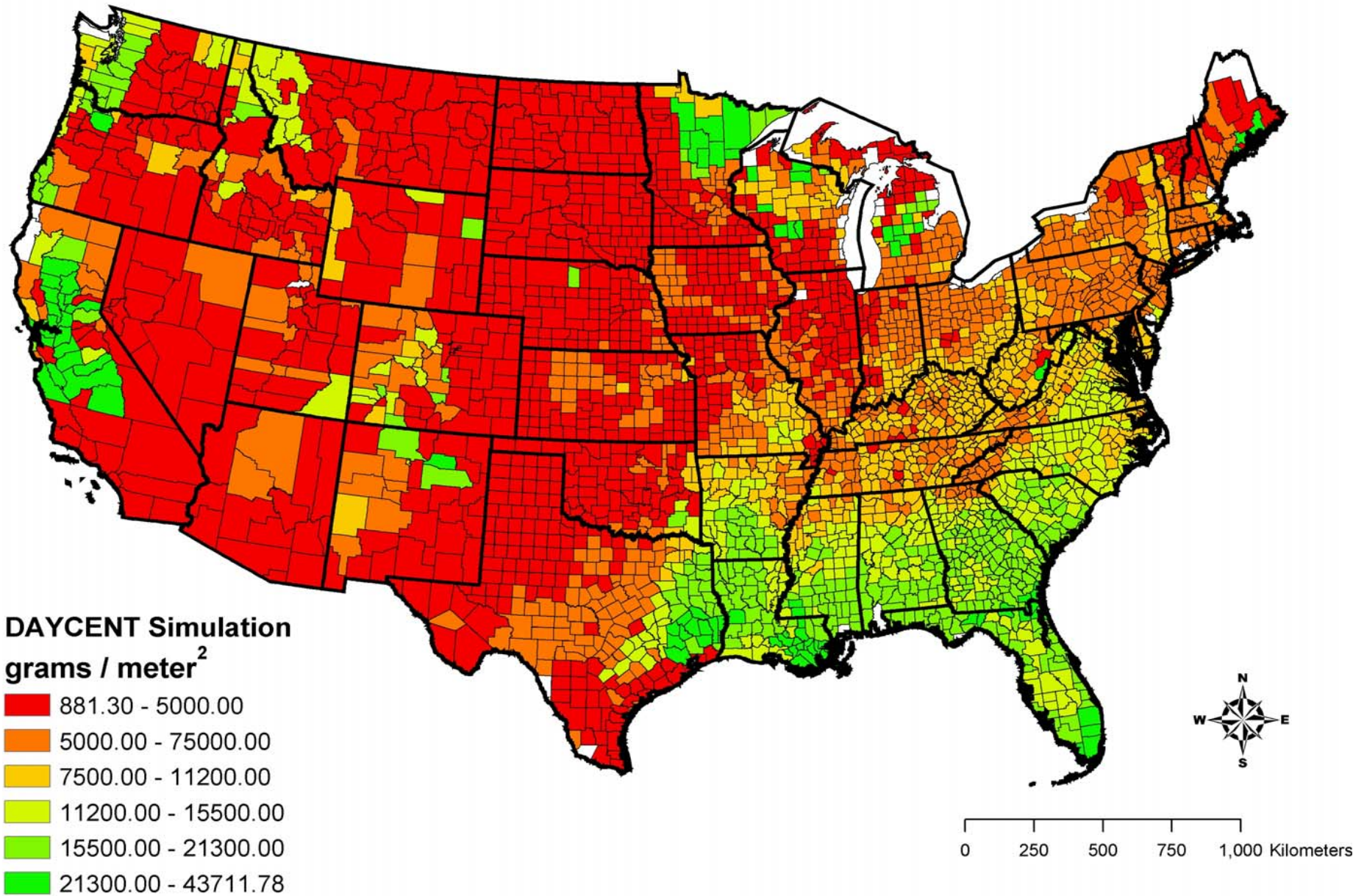
USDA Actual Corn Yield



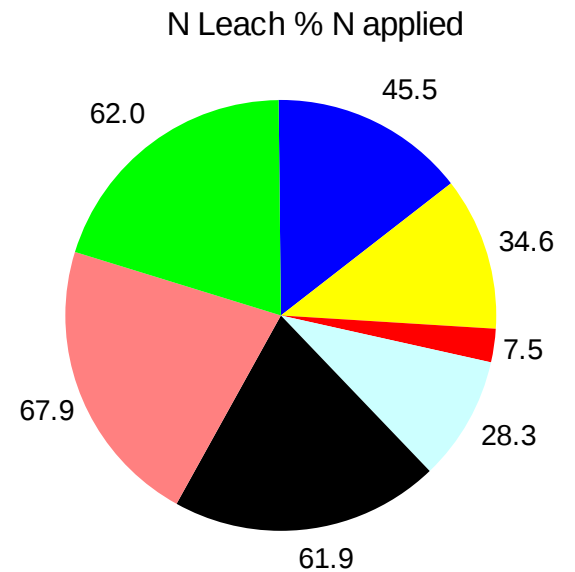
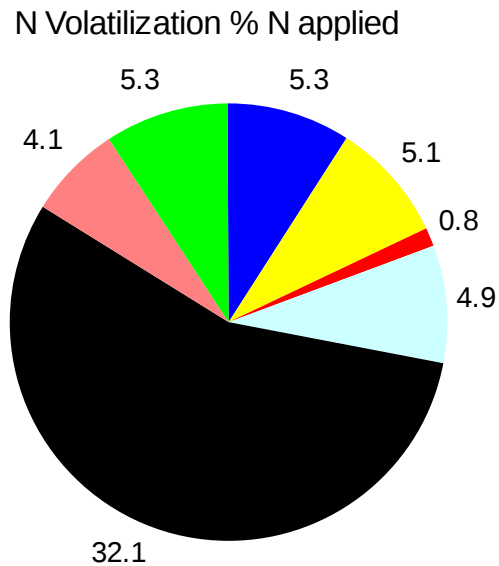
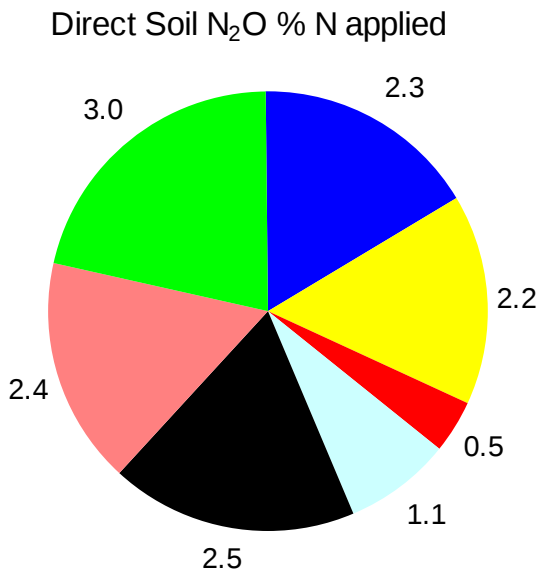
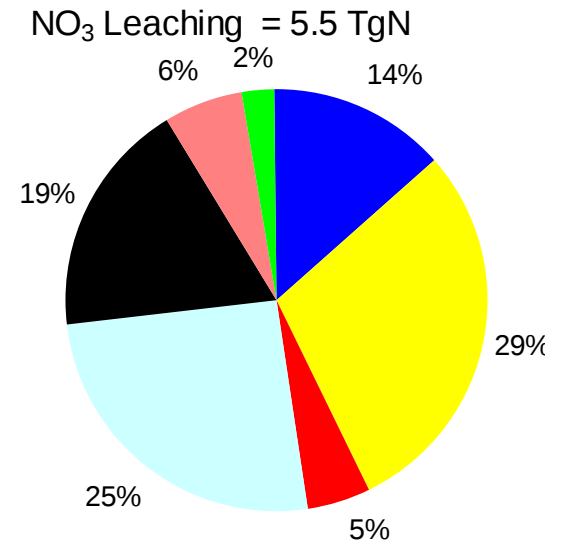
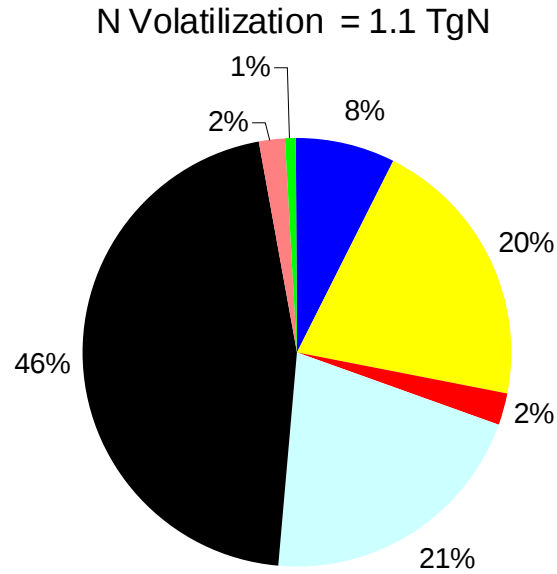
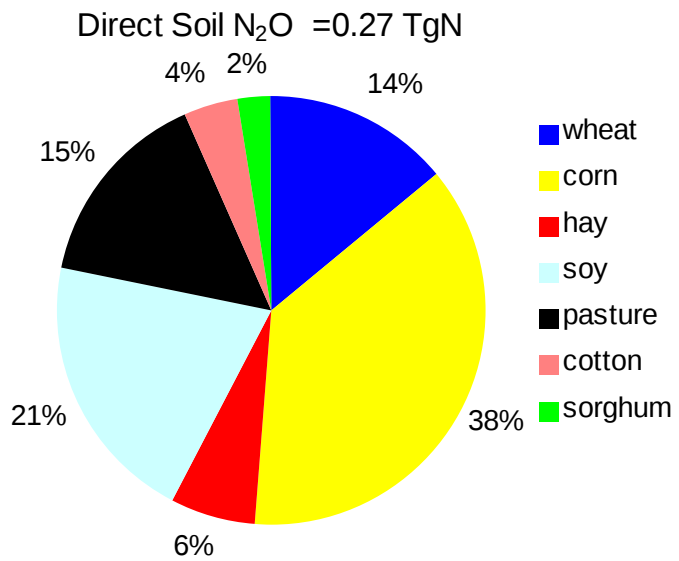
Soil Organic Matter Carbon



Total System Carbon



DAYCENT US Simulations – N Losses



Simulated N₂O Emissions -- Cropped System

