



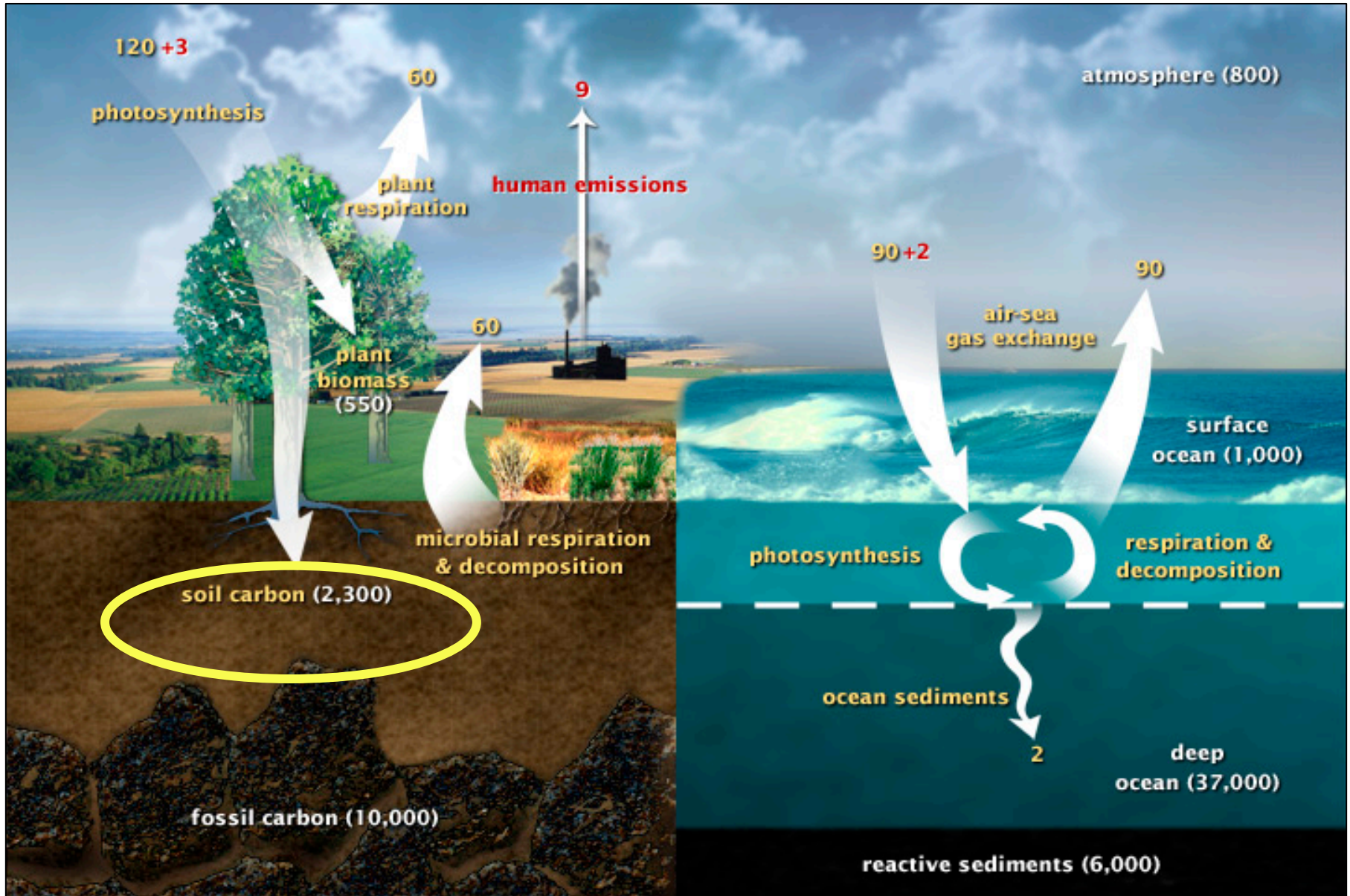
# Building Biocarbon in PNW Agriculture Systems

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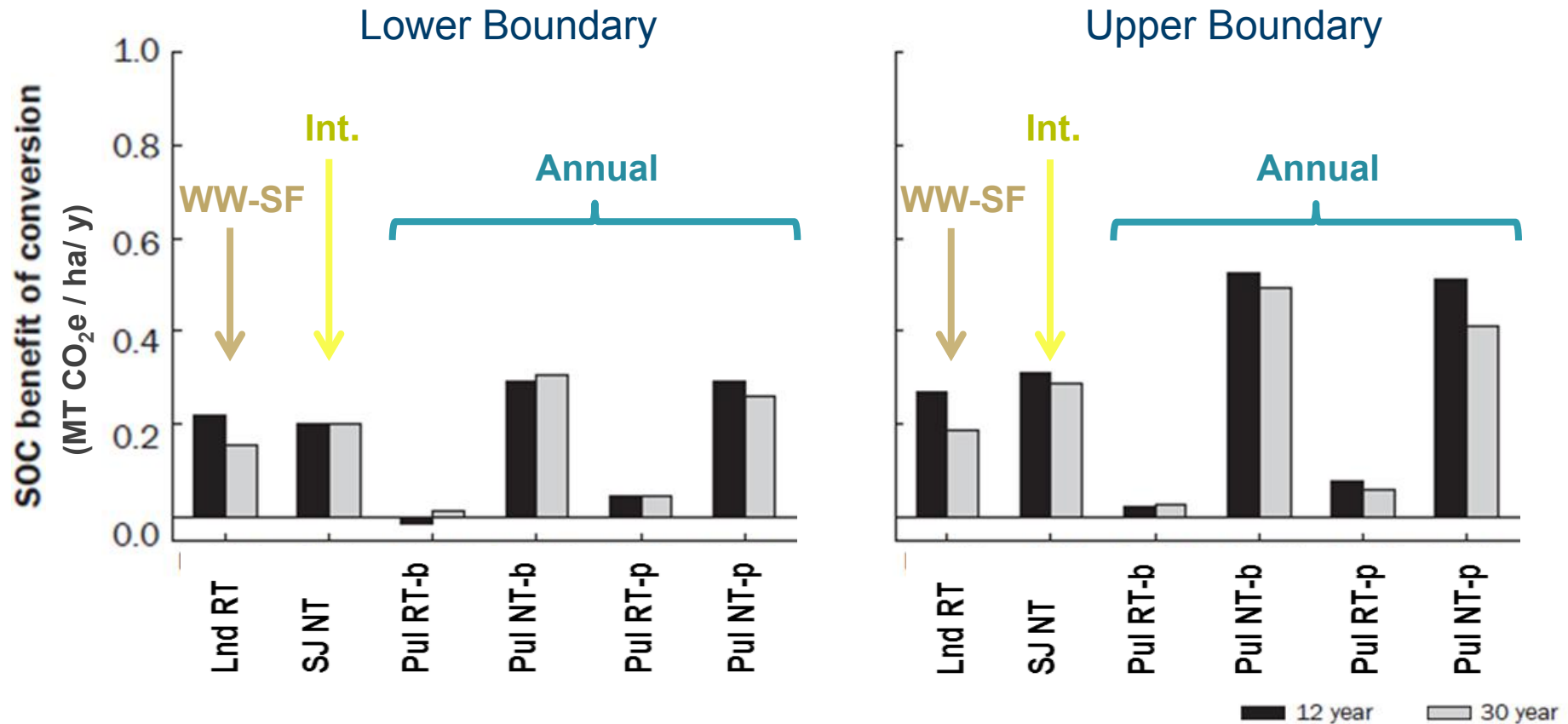
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# Global Carbon Pools



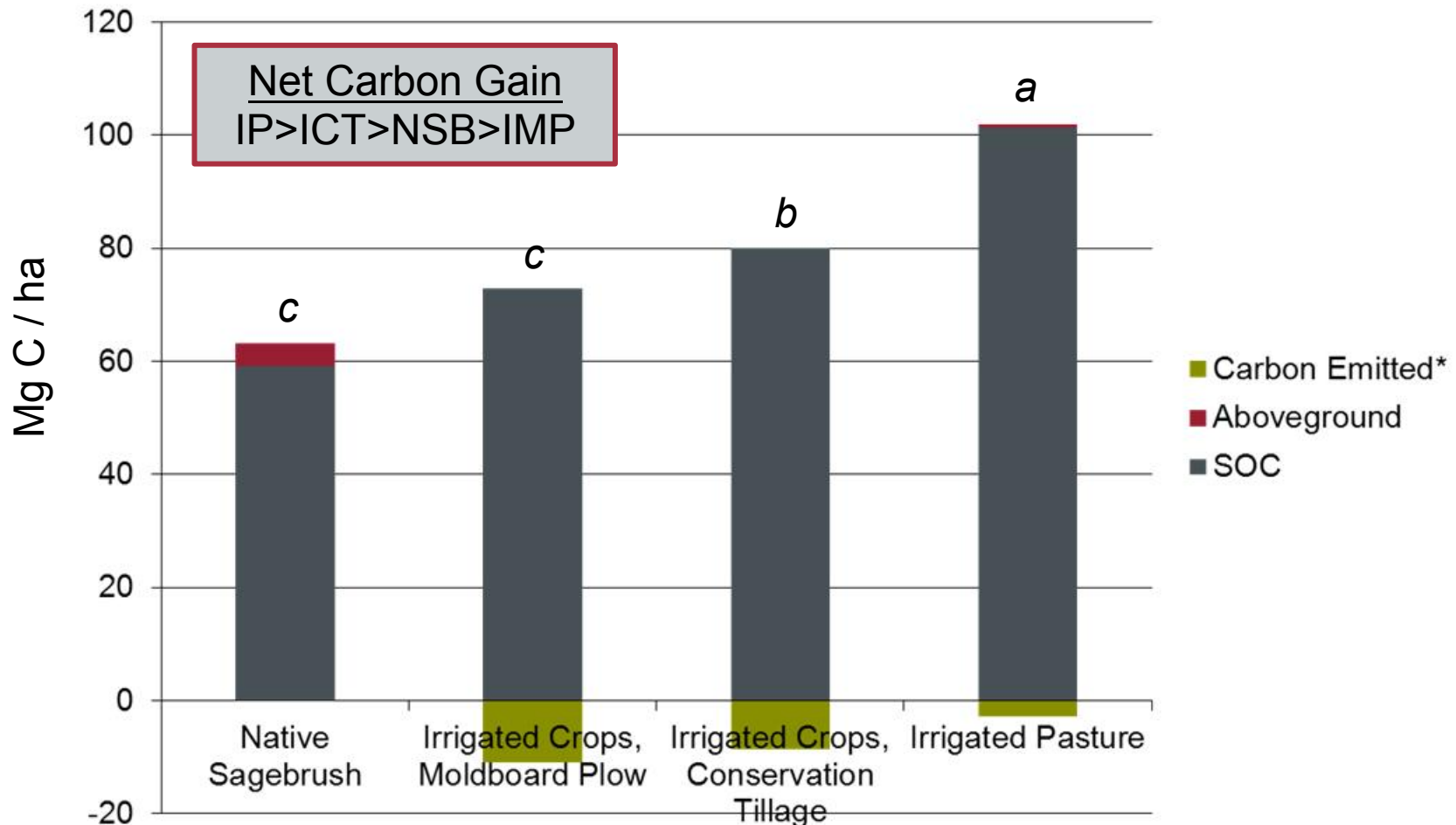
NASA, adapted from U.S. Department of Energy Biological and Environmental Research Information System. Accessed via Wikimedia.

## SOC Change after Conversion to Reduced- or No-Tillage



Simulated annual change in SOC (top 30 cm) obtained by converting from conventional tillage (CT) to either reduced tillage (RT) or no tillage (NT) for 12- and 30-year intervals. Changes in carbon were simulated with a low SOC oxidation rate (lower boundary) and a high SOC oxidation rate (upper boundary). Lnd= Lind, SJ= St. John, Pul=Pullman, and Pat=Patterson. B=barley, p=pea in rotation.

## Net Carbon Gains, Irrigated Agriculture



\*Carbon emitted includes estimations of carbon emitted in fertilizer production, fuel consumption in farm operations, and via irrigation water over a 30 year period.

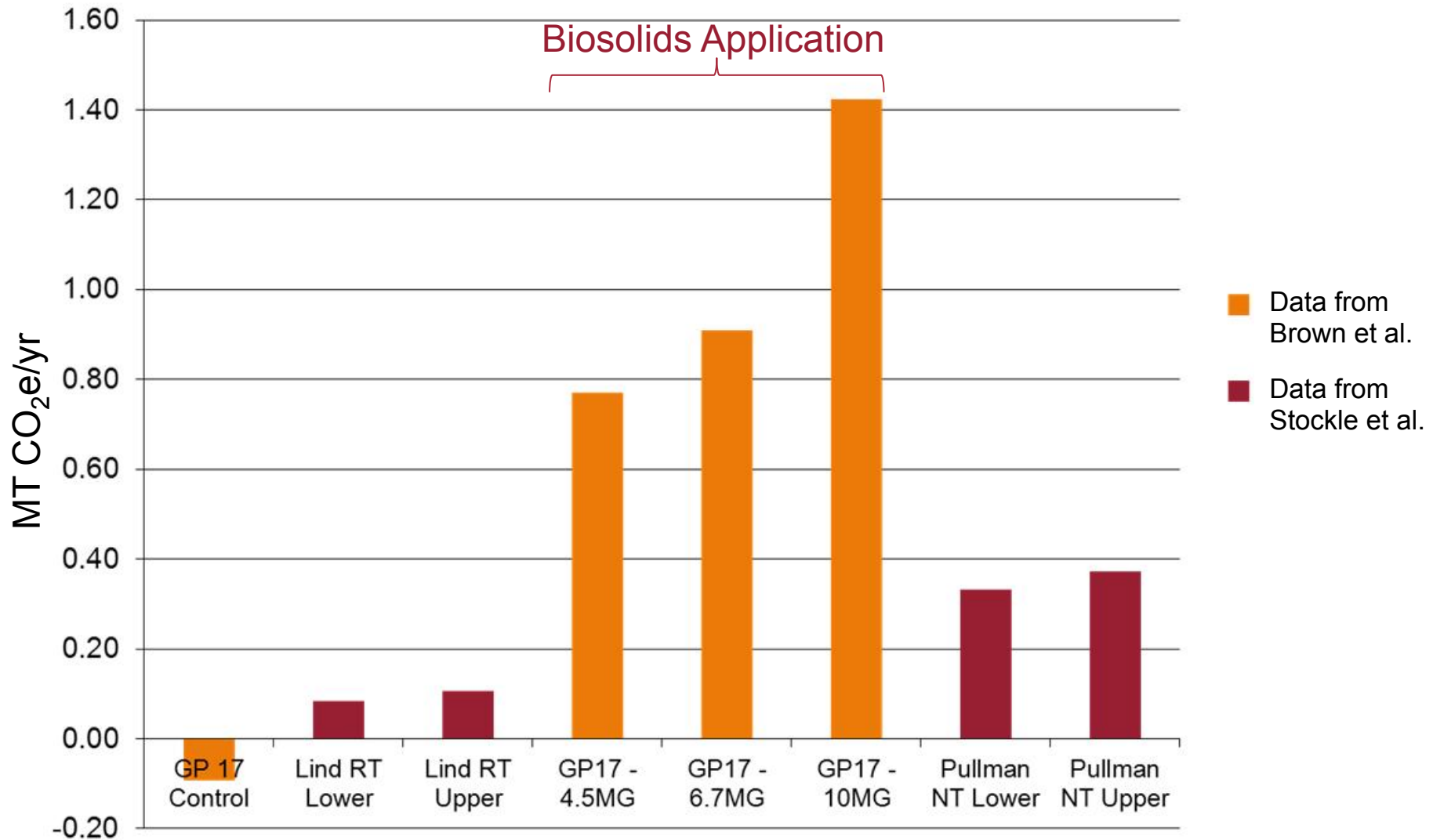
Bars that have the same letter have total net carbon gains that are not significantly different at  $P \leq 0.05$ .

# Pacific Northwest Regional Data



*Photo used courtesy of the Land Institute, Salinas, KS*

# SOC Change in Dryland Systems from Reductions in Tillage Compared to Biosolids Application





# Additional Slides

# Modeling Results Compared to Regional Experimental Data

