



# Temporal dynamics of soil water under corn, soybean, and kura clover

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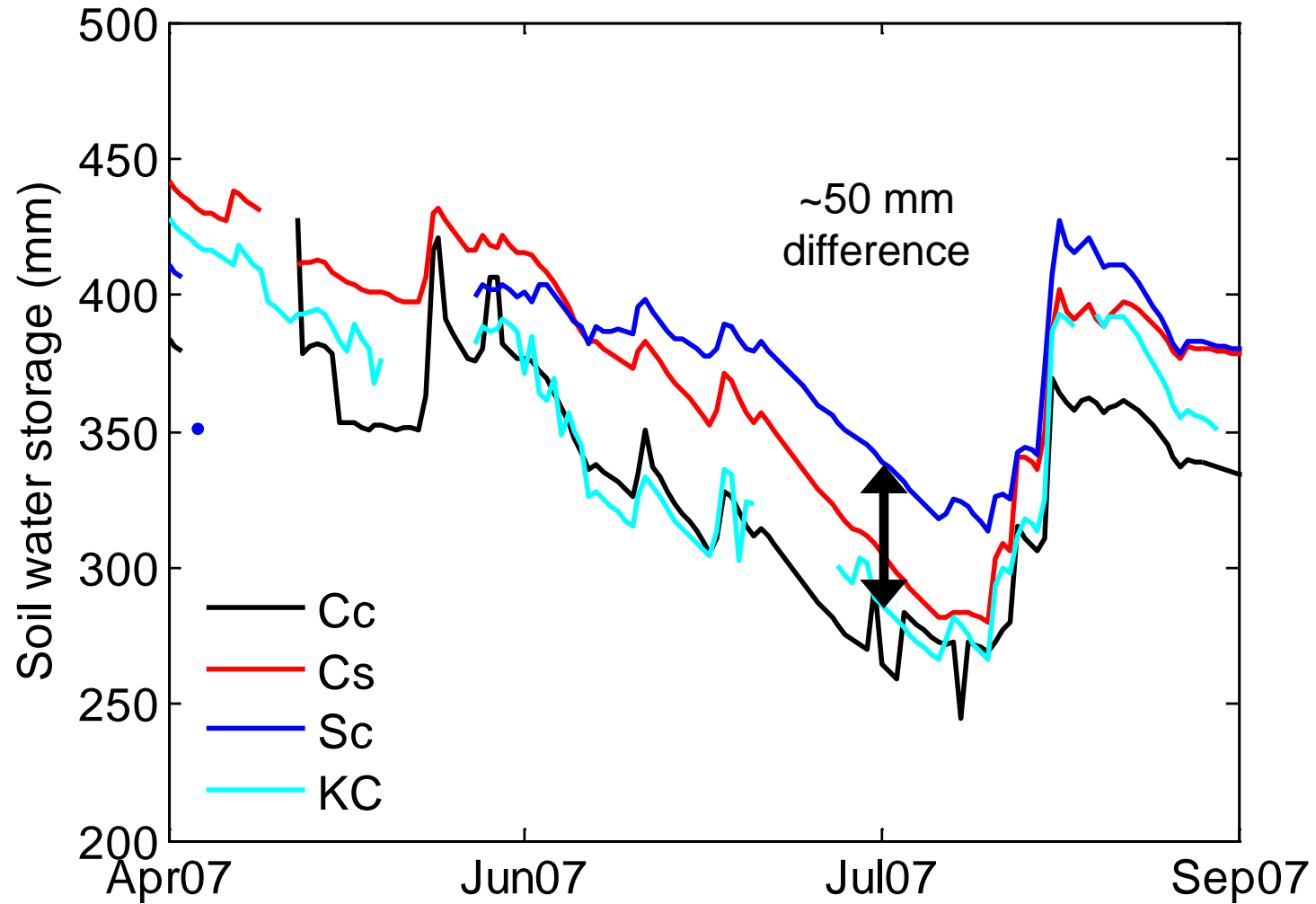
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# Key questions

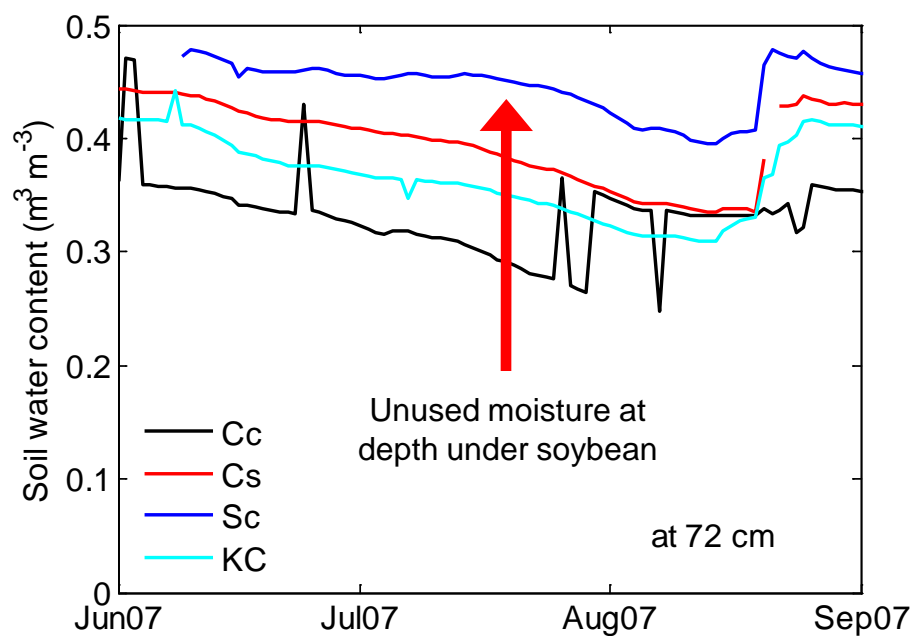
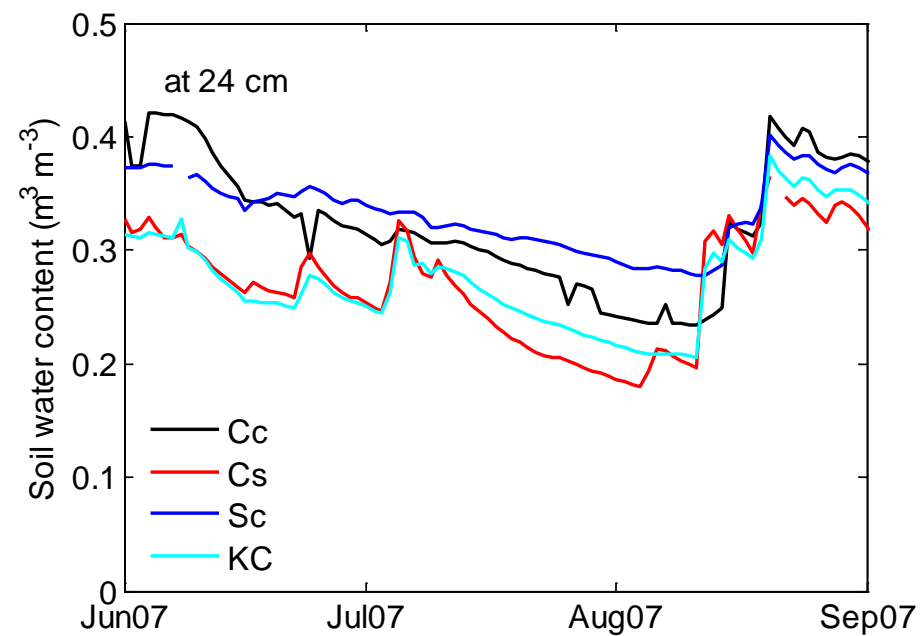
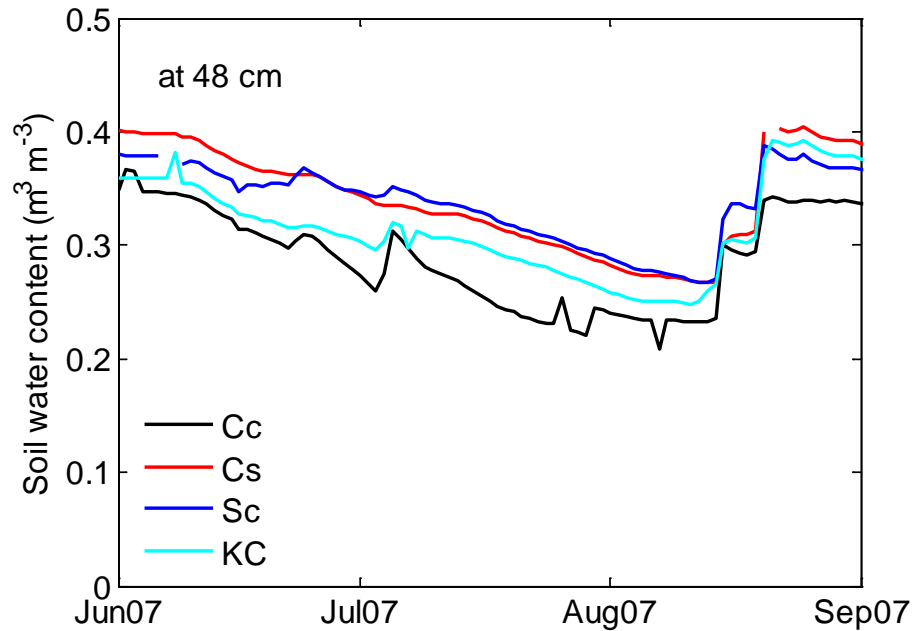
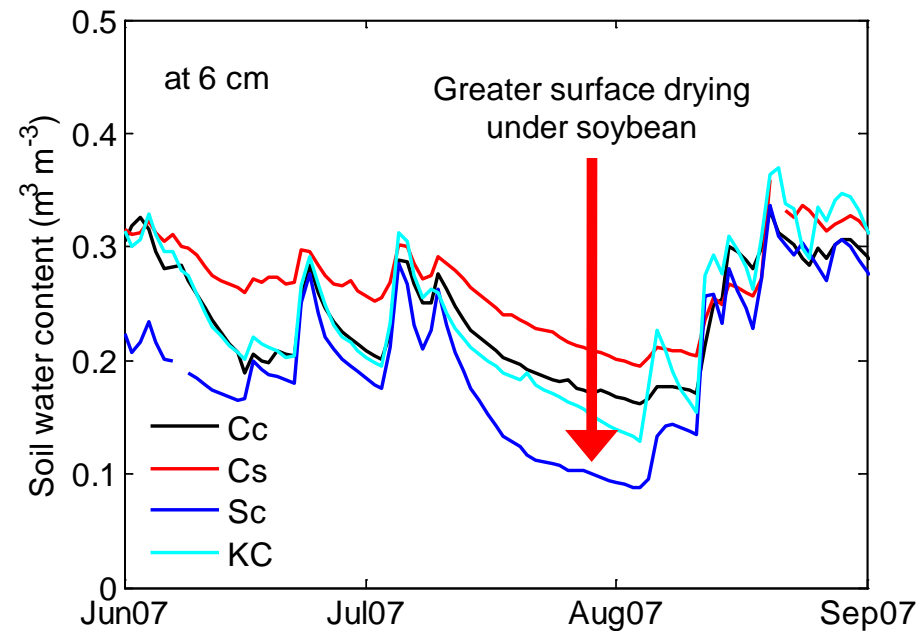
- How does the seasonal progression of soil water depletion vary across cropping systems with widely differing vegetation types?
- How are the environmental impacts of cropping systems linked with differing temporal dynamics of soil water use?



# 2007 growing season

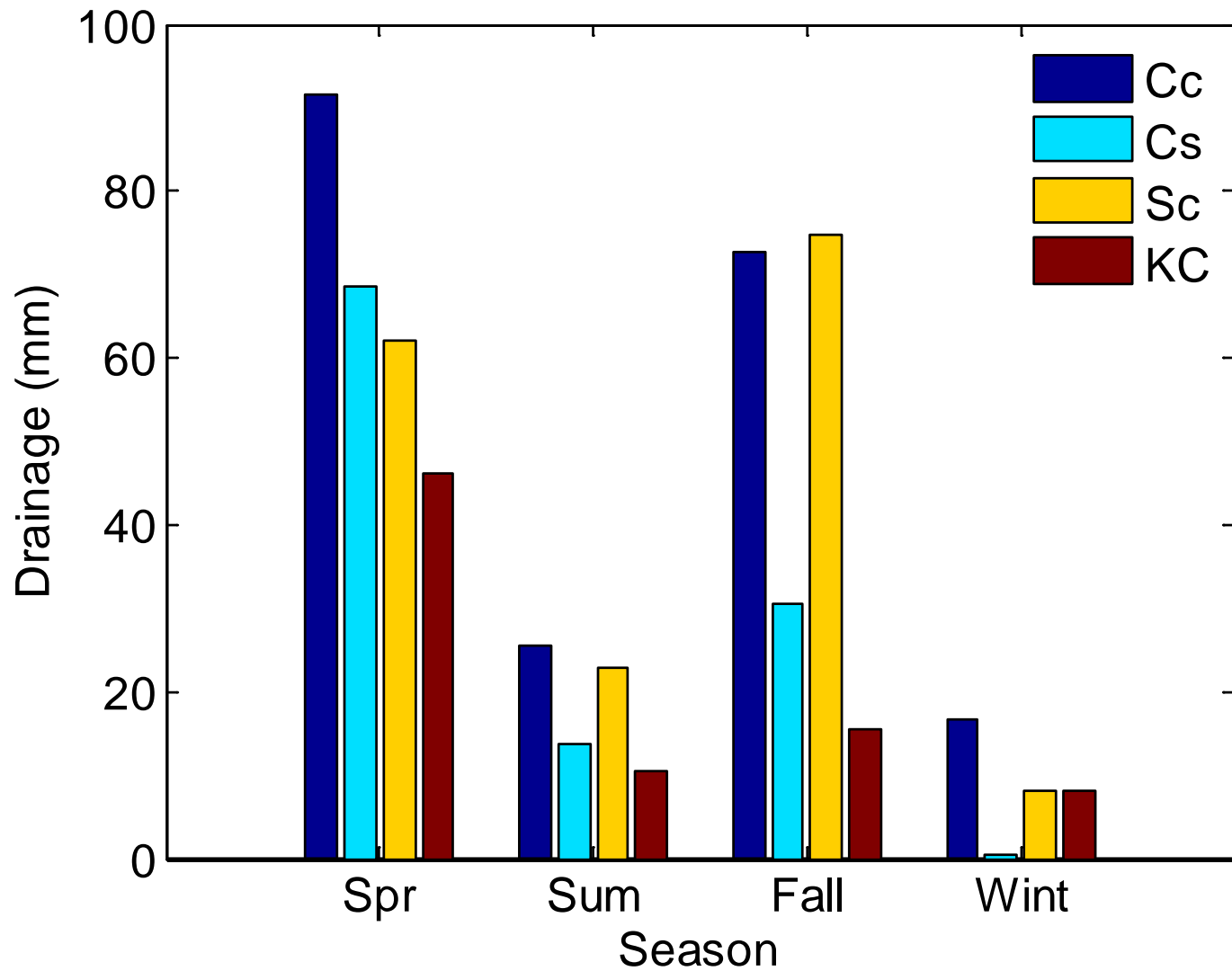


Low precipitation, soybean used less of the available soil moisture.

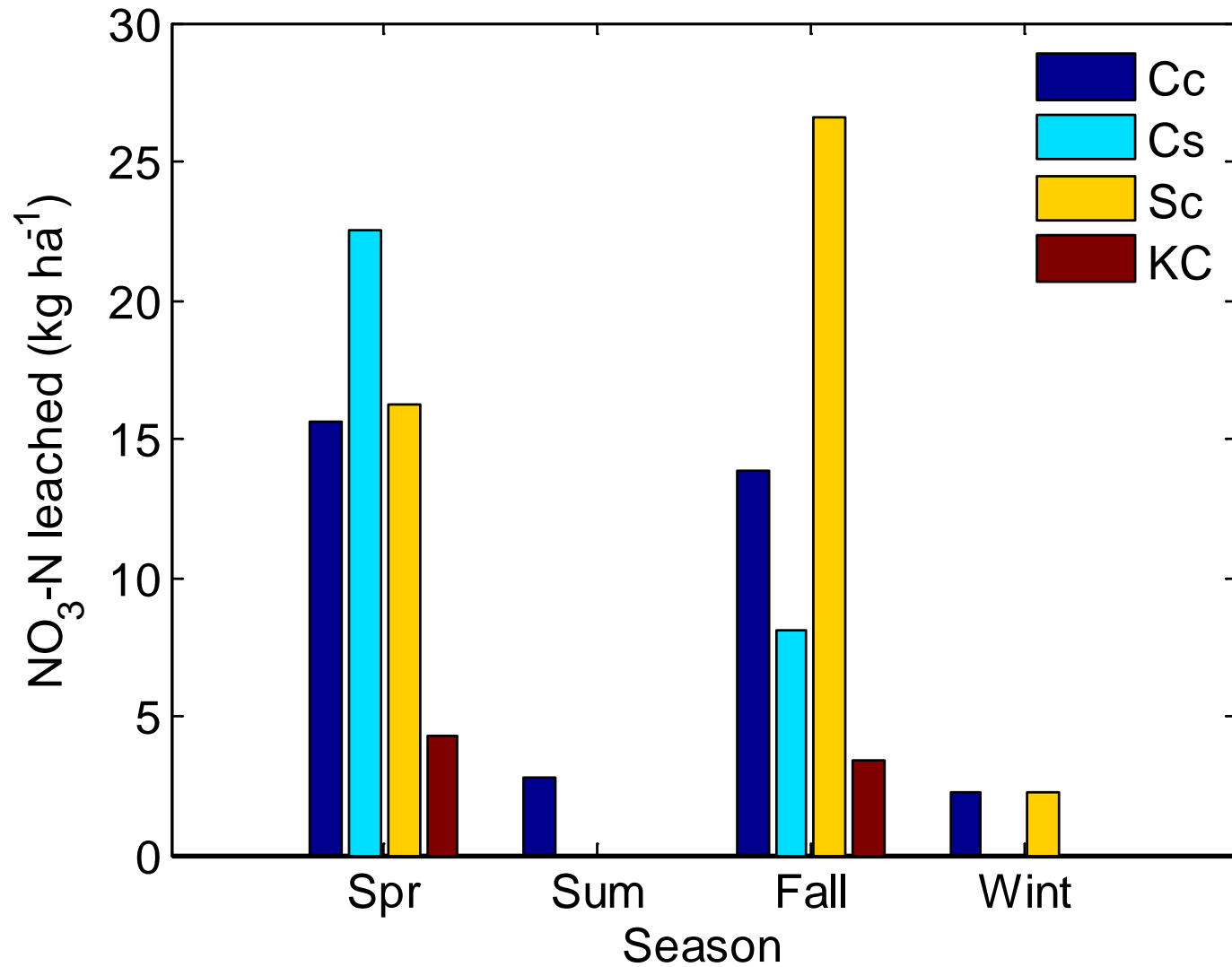


# Use it or lose it

- Unused soil moisture increases the potential for subsequent drainage.
- July through September 2007, drainage under soybean was 37 mm greater than under corn



Evidence for less soil water use by soybean during the summer leading to greater drainage in the fall.



Evidence for greater nitrate leaching in the fall under soybean and possible carryover effect on subsequent corn.



# Soil water dynamics and environmental impacts are linked

## Annual NO<sub>3</sub>-N leached

Vegetation	kg ha <sup>-1</sup>
Cc	34
Cs	31
Sc	45
KC	8

### Hypothesis:

Low soil water depletion under soybean is one factor preventing corn/soybean rotations from reducing NO<sub>3</sub>-N leaching relative to continuous corn.