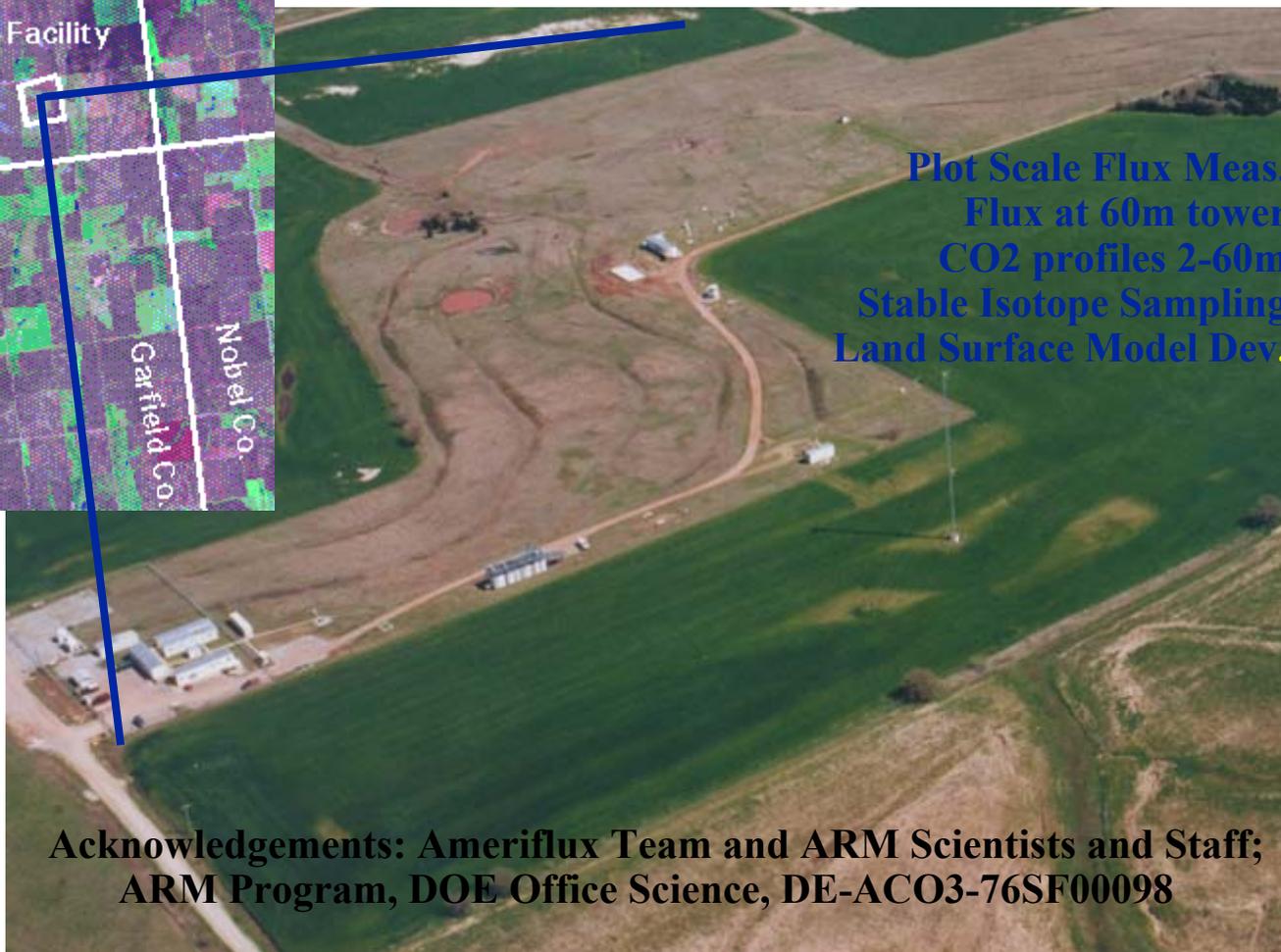


Carbon Cycle Measurements at DOE-ARM Southern Great Plains Site



10/31/01

Marc Fischer, Joe Berry, David Billesbach, Bill Riley, Margaret Torn

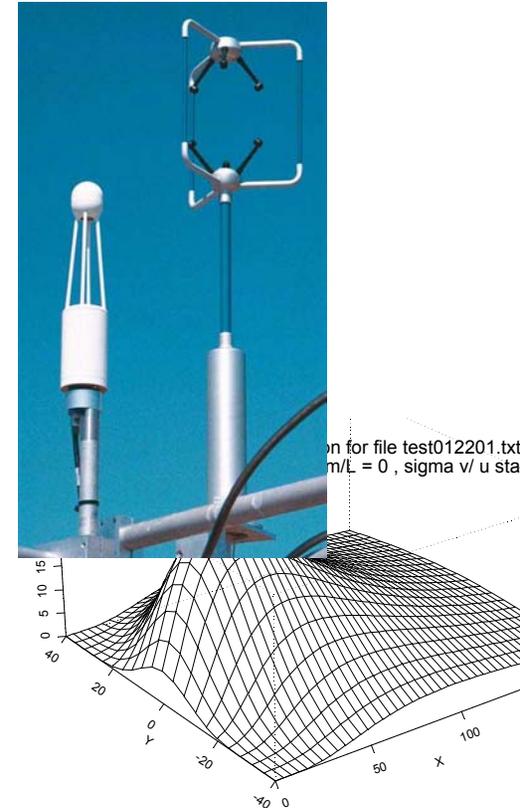
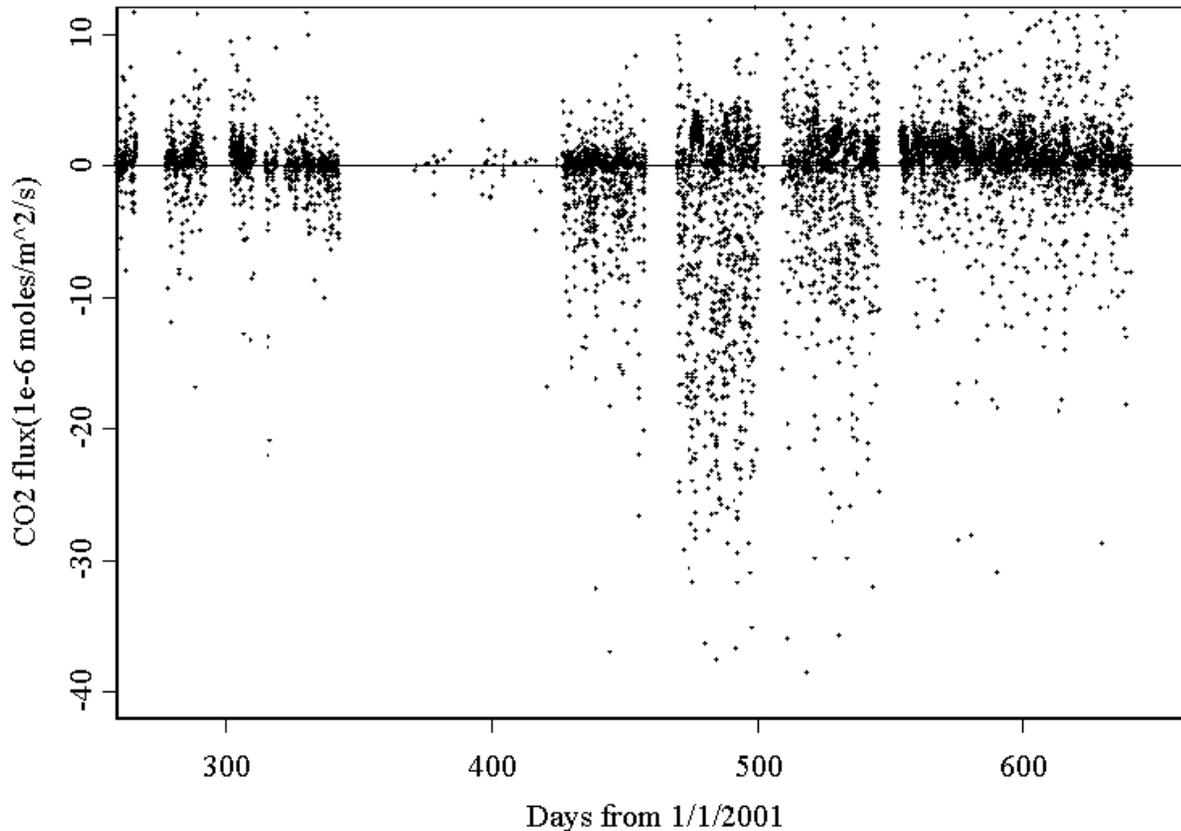


Plot Scale Flux Meas.
Flux at 60m tower
CO₂ profiles 2-60m
Stable Isotope Sampling
Land Surface Model Dev.

**Acknowledgements: Ameriflux Team and ARM Scientists and Staff;
ARM Program, DOE Office Science, DE-ACO3-76SF00098**

Flux measurement from 60 m tower

- ~ One year data (much w/ $u^* < 0.2$)
- Working on gap filling for annual sum
- Footprint analysis to link w/ plot scale measurements



- **Sorghum**

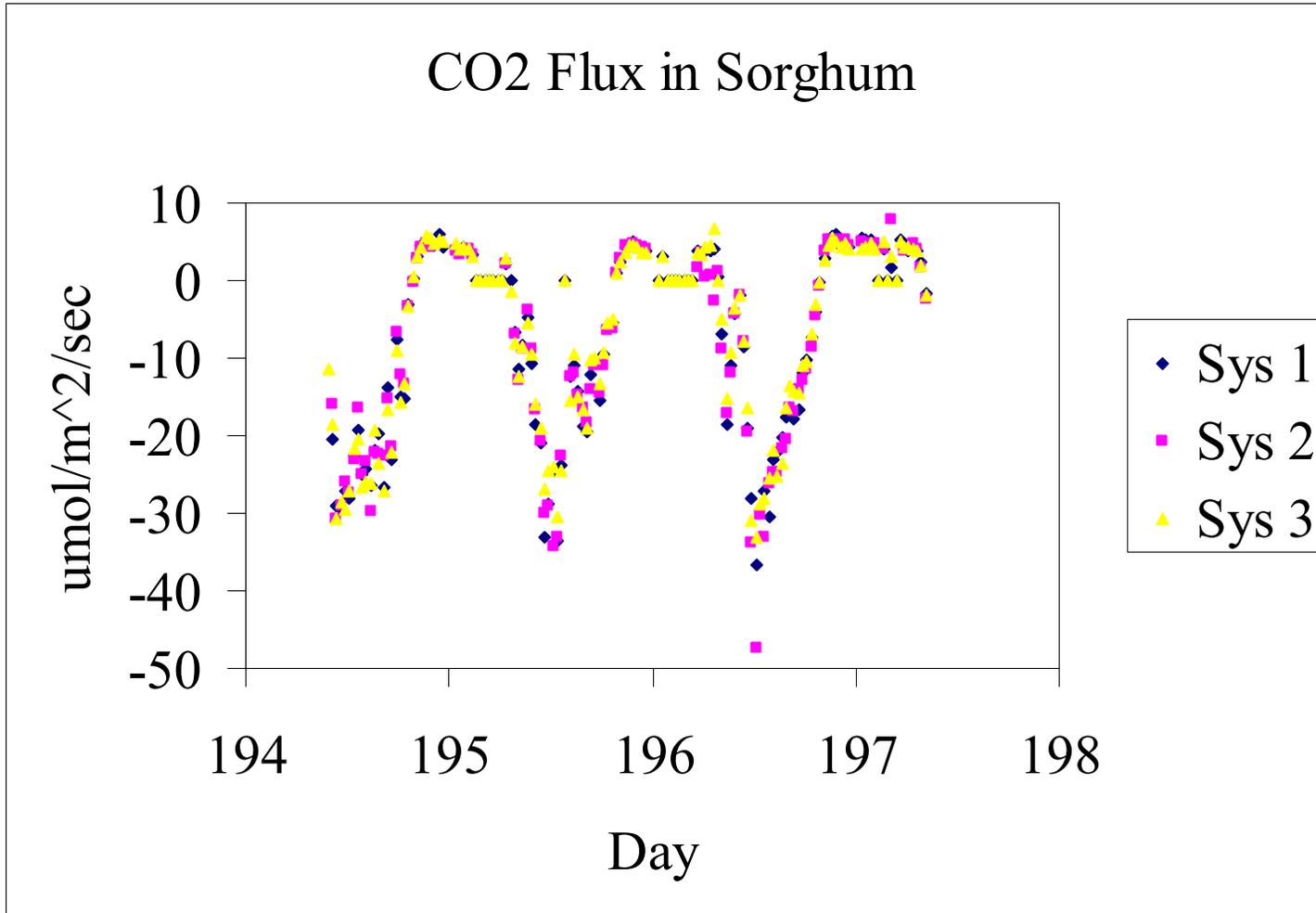


- **Thanks to Xiaozhong Liu and Yiqi Luo for biomass meas.**

Plot scale flux measurements, July, 2001



- **Good agreement for fluxes obtained in comparison of 3 systems**



Plot scale flux measurements, July, 2001



- Soybean



Plot scale flux measurements, July, 2001

- Pasture



Plot scale flux measurements, July, 2001



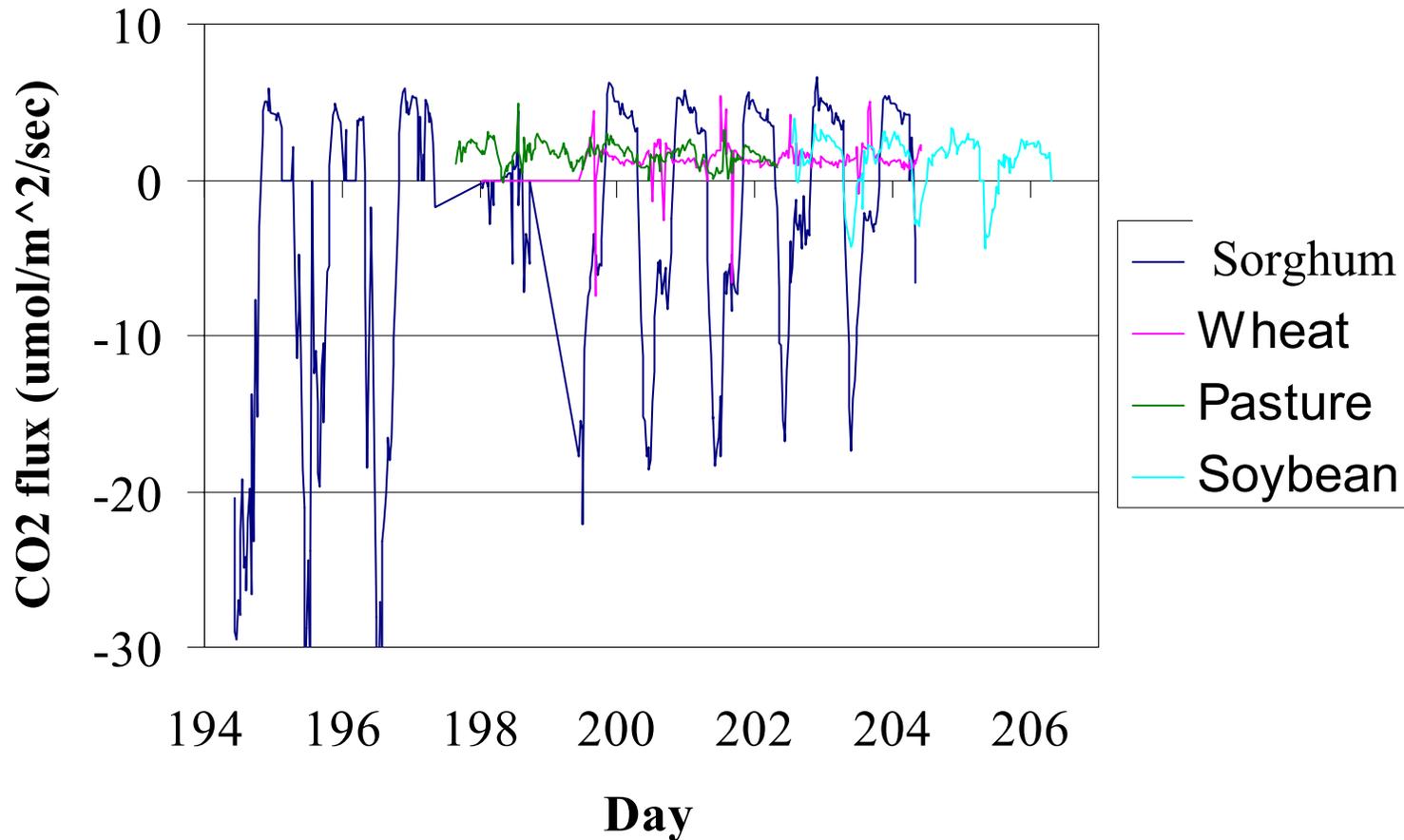
- Wheat stubble



Plot scale flux measurements, July, 2001



- Initial results from July, 2001, plot measurements
- Sorghum >> Soy > Cut Pasture ~ Tilled Soil



New instruments coming on line



- CO₂ Profiles from 60m tower
 - Data collection begun July, 2001
- Semi-permanent flux measurements in plot near 60 m tower
 - Installation of portable system in wheat field Dec., 2001
- Weekly stable isotope CO₂ (C¹³, O¹⁸) profiles from 2-60 m
 - Initial sample collection begun Sept., 2001
- Weekly flask samples small aircraft and 60m tower for NOAA-CMDL Network
 - Measurements begin ~ Dec., 2001