



National Science Foundation
WHERE DISCOVERIES BEGIN

Metabolism in the Santa Fe River Basin

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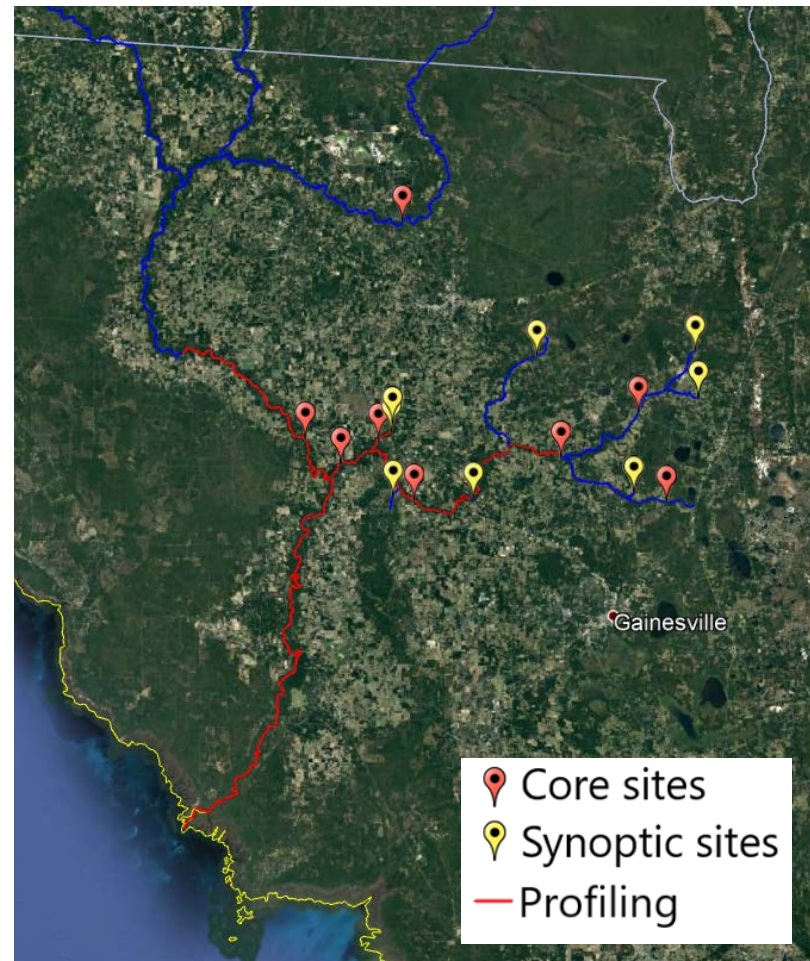
Sensor Network

- Core sites (8)

Santa Fe near Graham (CR 225)	02320700
New River near Lake Butler (SR 100)	02321000
Santa Fe at Worthington (SR 121)	02321500
Santa Fe near Ft White (US41)	02322500
Ichetucknee near Hildreth (US27)	02322700
Santa Fe near Hildreth (US129)	02322800
Suwannee at White Springs (US41)	02315500
Suwannee at Branford (US27)	02320500

- Synoptic sites (8)

Santa Fe Drain near Brooker (CR231)	
New River near Raiford (CR125)	
Water Oak Creek near Raiford (CR225)	02320950
Olustee Creek near Lulu (SR100)	02321600
Hornsby Spring (Camp Kulaqua)	02321970
Cow Creek near Ft White (CR 138)	02322590
Cedar Head Spring (Ichetucknee)	02322687
Mill Pond Spring (Ichetucknee)	02322695



- Longitudinal profiles (264 km)

What are we measuring?

- 15-min sensor data

Parameter	Sensor
Insolation	Onset HOBO Pendant
Stage	Onset HOBO U20-001
Temperature	Campbell CS547
Conductivity	Campbell CS547
DO	Onset HOBO U26-001
pH*	Campbell CS526
CDOM*	Turner 2100-U
Turbidity*	Turner 2100-T
CO ₂ *	Eosense eosGP
NO ₃ ⁻ #	Satlantic SUNA

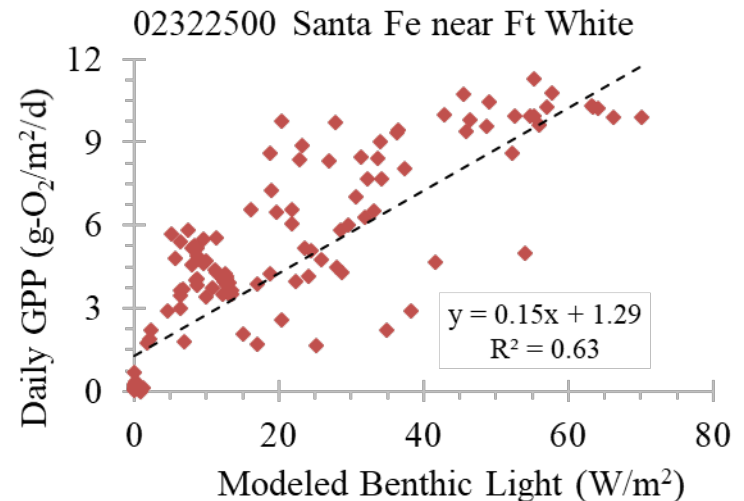
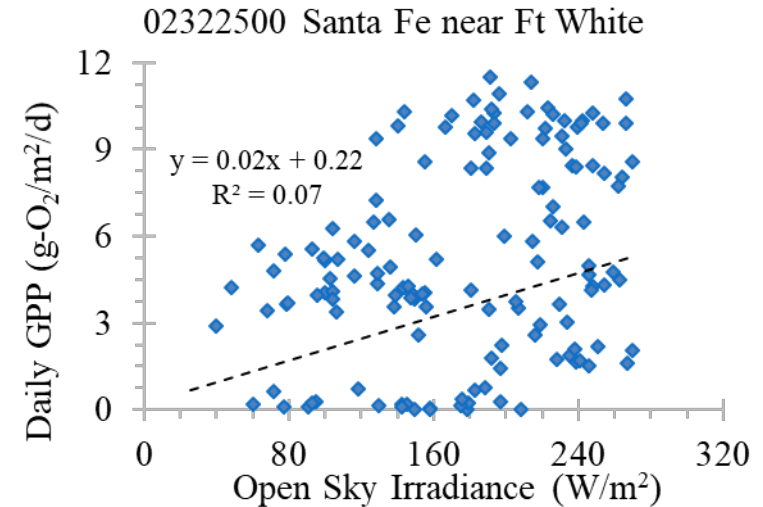
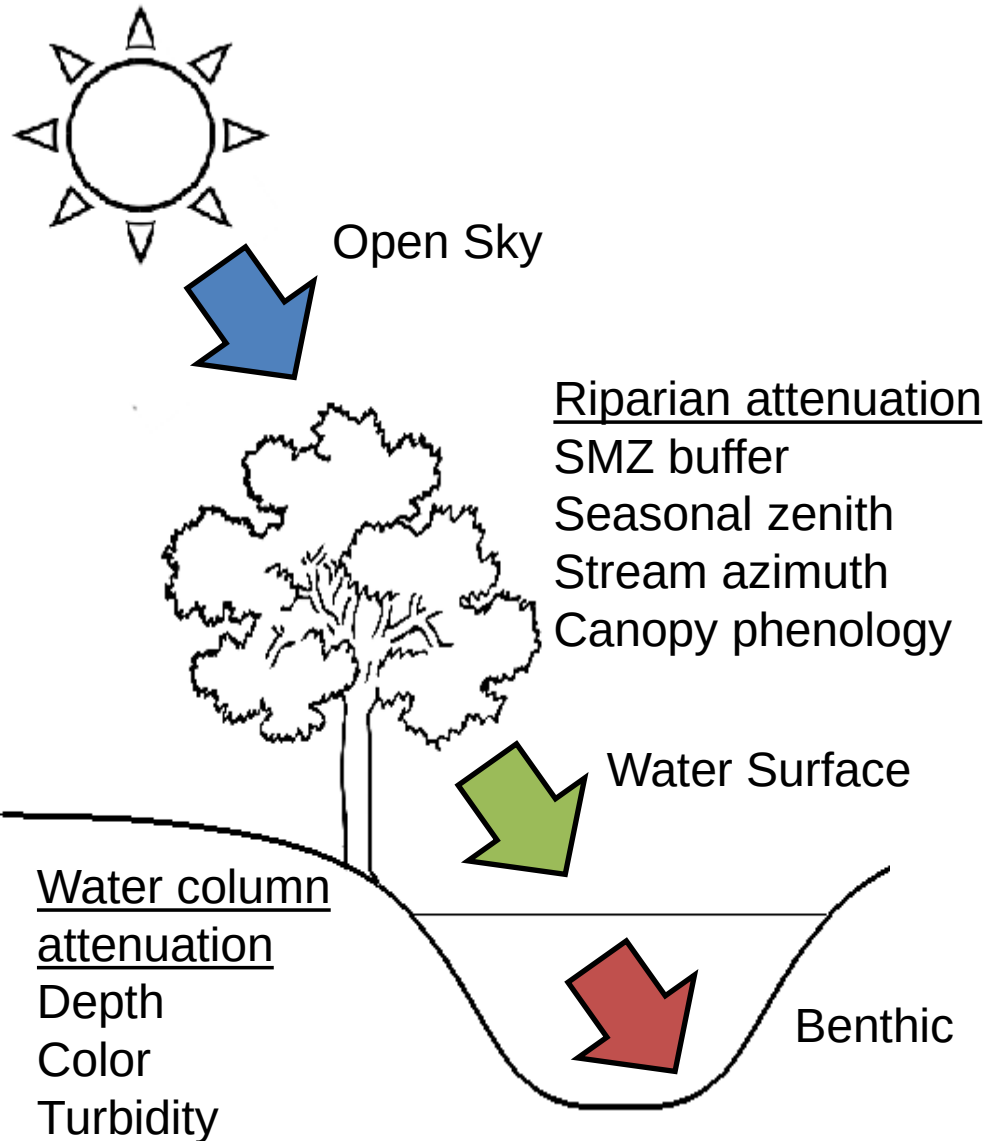
*core sites only, #SF 02322500 site only

- Bi-weekly grab samples

Parameter	Analysis method
NO ₃ ⁻	EPA 353.2 (UF ARL)
NH ₄ ⁺	EPA 350.1 (UF ARL)
SRP	EPA 365.1 (UF ARL)
DOC	SM 5310B (UF Whitney Lab)
UV absorbance	EPA 415.3 (UF Ecohydr Lab)
Major anions	EPA 300.1 (UF Geol Lab)

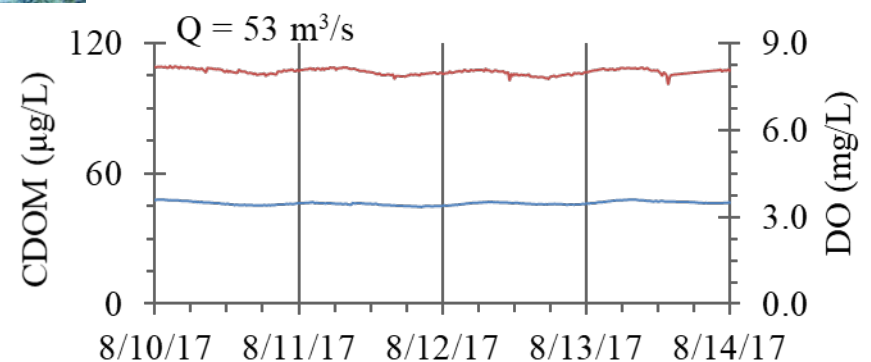
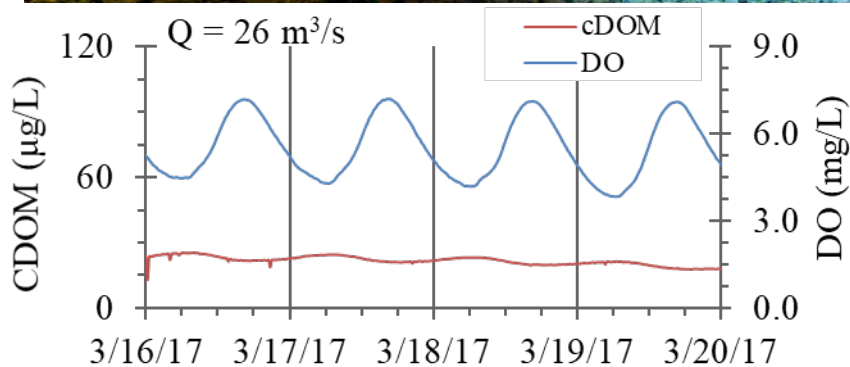
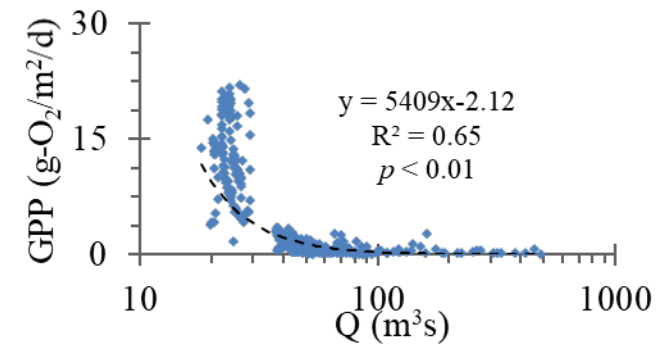
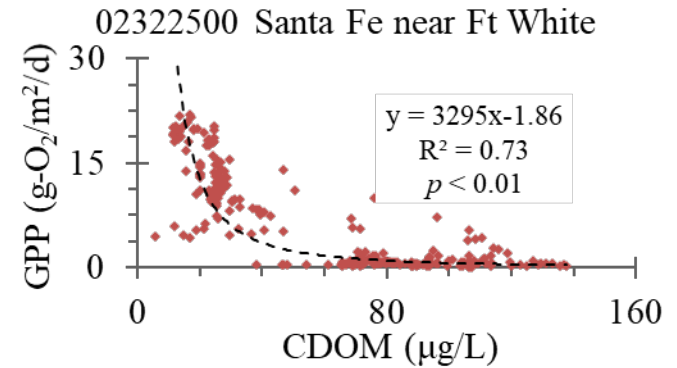


Light controls primary production



Governing role of flow

- Clear groundwater dominates low Q, tannic surface water dominates high Q.



Temporal inequality

- Solutes sourced from upper catchment Q-enriched, solutes sourced from UFA Q-diluted.

