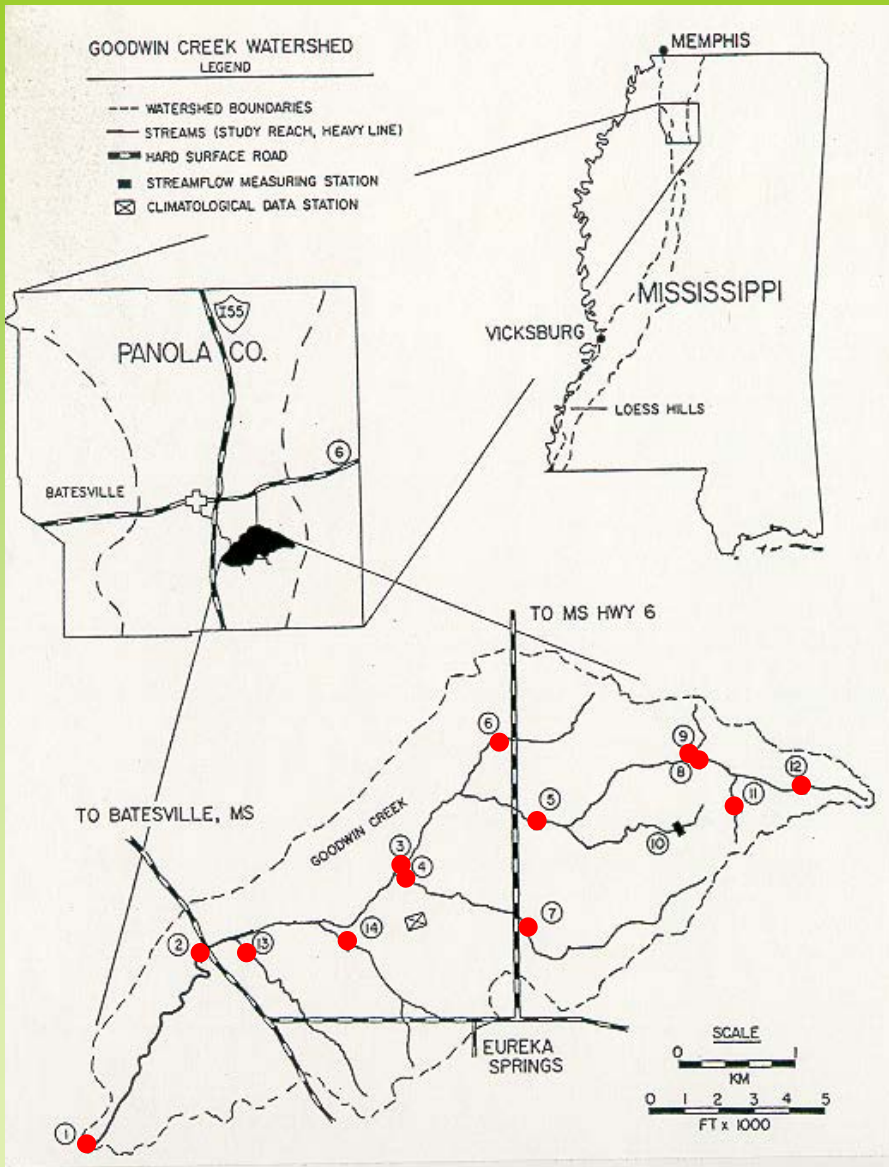
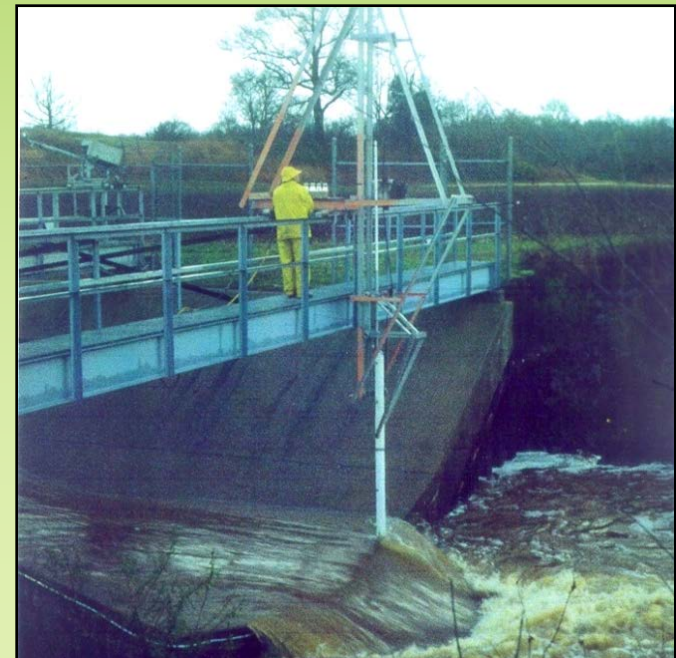


Goodwin Creek Experimental Watershed



- Area - 21.3 sq. km
- Operation 1981-pres.
- Instrumentation:
 - 30 rain gauges
 - 13 supercritical flumes
 - 5 pump sampler sites
 - 5 turbidity gauges
 - 1 acoustic sed gauge



Historical Data Record

- Hydrometeorological data (rainfall, runoff, temp, wind) 1981+
- Sediment – 1981-1993, 2004+
- Land use – annual ground surveys 1981+
- Bed and Bank – cross sections and material properties
- Nutrients – 1985-2007, 2010+
- Ecological response to stream restoration
- SURFRAD (NOAA) 1995+
- SCAN (NRCS) sites (2) 1999+
- Data available NSL Website or from CEAP-STEWARDS



Goodwin Creek Experimental Watershed Data

<http://www.ars.usda.gov/Business/docs.htm?docid=5120>

The table below contains self-extracting archives. Click on a link to save the self-extracting archive to the local hard disk. Double-click on the archive and follow the directions to extract the data. Please view the [readme.pdf](#) file for information about the data contained in the self-extracting archives below. Documentation describing Goodwin Creek Watershed is contained in a report with appendices available at the following locations [GoodwinCreek](#) and [Appendix A-G](#)

Year	Precipitation	Runoff/Sediment	Cross Sections	Landuse
1978			xsect78.exe	
1980			xsect80.exe	landus80.exe
1981	precip81.exe	rosed81.exe		
1982	precip82.exe	rosed82.exe	xsect82.exe	landus82.exe
1983	precip83.exe	rosed83.exe	xsect83.exe	landus83.exe
1984	precip84.exe	rosed84.exe	xsect84.exe	landus84.exe
1985	precip85.exe	rosed85.exe	xsect85.exe	landus85.exe
1986	precip86.exe	rosed86.exe	xsect86.exe	landus86.exe
1987	precip87.exe	rosed87.exe	xsect87.exe	landus87.exe
1988	precip88.exe	rosed88.exe	xsect88.exe	landus88.exe
1989	precip89.exe	rosed89.exe		landus89.exe
1990	precip90.exe	rosed90.exe		landus90.exe
1991	precip91.exe	rosed91.exe		landus91.exe
1992	precip92.exe	rosed92.exe		landus92.exe
1993	precip93.exe	rosed93.exe		landus93.exe
1994	precip94.exe	rosed94.exe		landus94.exe
1995	precip95.exe	rosed95.exe		landus95.exe

Primary Research Objectives

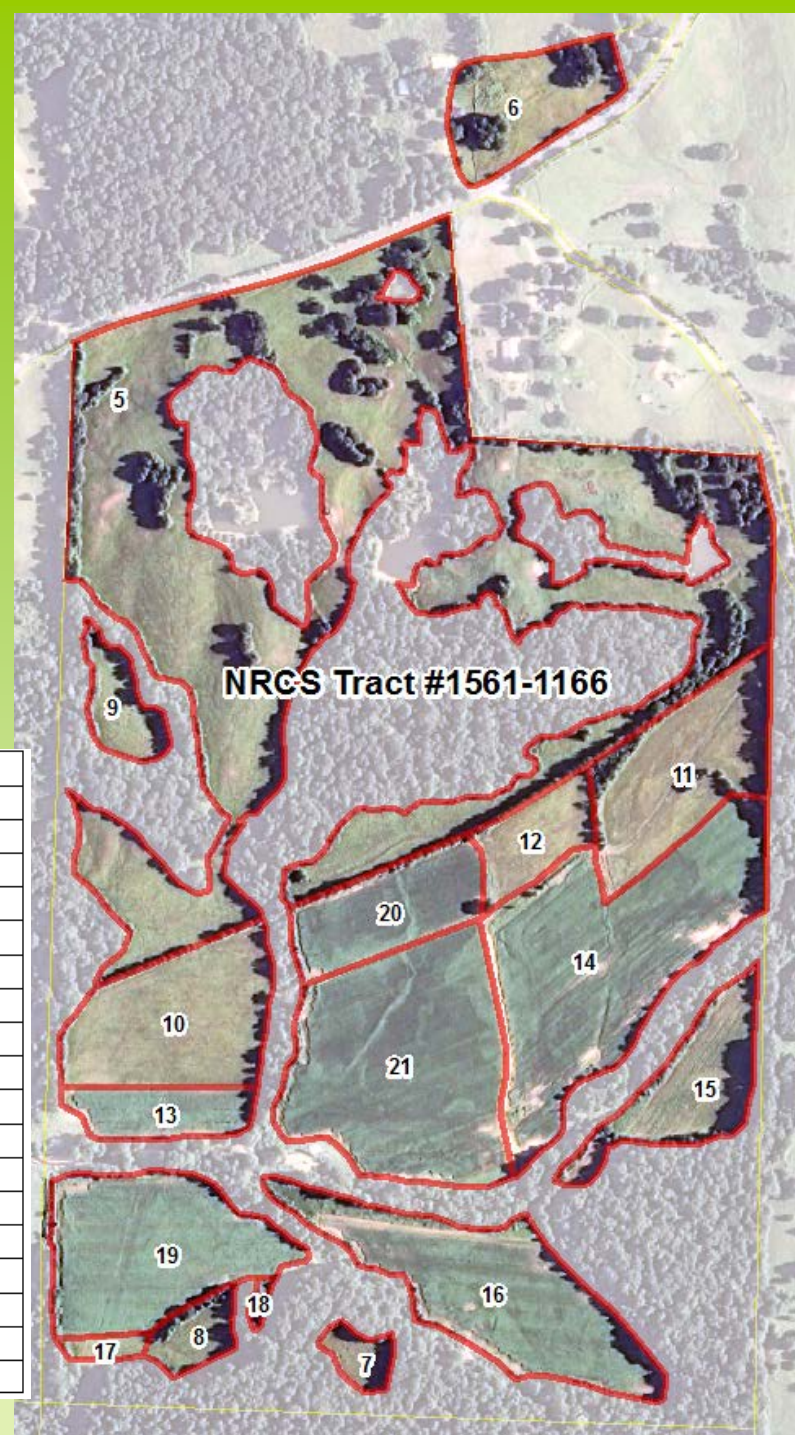
- **Assess hydrologic and water quality responses to changing watershed management and climatic conditions**
- **Identify sediment sources using radionuclides, surveying, modeling, other techniques**
- **Predict the location and magnitude of gully and channel bank contributions to sediment load**
- **Develop and evaluate acoustic sediment measurement devices**

Goodwin Creek Experimental Watershed

A turbidity gauge has been successfully deployed at station #2 and its readings will be calibrated against sequential fine sediment samples collected there.



SCA with the North Mississippi Resource Conservation and Development Council (NMRCDC) developed and administered a questionnaire of landowners to quantify the inputs of fertilizer and pesticides and the output of crop and animal yields



Tillage Practices:		Planting Practices:		Grazing Practices:	
T1	Chisel	P1	Broadcast	G1	Steer
T2	Heavy Disk	P2	Row Planter	G2	Heifer
T3	Light Disk	P3	Drill or air seeder	G3	Cow with Calf
T4	Cultivator			G4	Dairy
T5	Harrow			G5	Horse
T6	Moldboard Plow	Amendment Method:		G6	Goat
T7	Sub-soiler	M1	Ground	G7	Sheep
T8	Do-all	M2	Aerial		
				Forestry Practices:	
Harvest Practices:		Amendment Type:		F1	Timber planted
H1	Combine	A1	Fertilizer	F2	Timber thinned
H2	Cut and bale	A2	Herbicide	F3	Timber harvested
H6	Cotton Picker	A3	Insecticide	F4	Understory burned
		A4	Fungicide	F5	Unmanaged Forest
Residue Practice:		A5	Defoliate		
R1	Burn	A6	Lime		
R2	Bush Hog				
R3	Stalk Shredder				

Edge-of-field pasture monitoring revealed the importance of subsurface piping to hydrological response



1982-2005 Simulation of GCEW - Station 14 Using AnnAGNPS

- Validation
- Assess Water & Sediment Loads
- Evaluate Individual & Integrated Conservation Practices
 - ✓ Tillage
 - ✓ Gully Erosion Controls
 - ✓ Riparian Buffer Practices
 - ✓ Channel Erosion Controls