

CHAPTER IV. WASHITA'92 SITE CHARACTERIZATION

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A. INTRODUCTION

The majority of the test sites used in Washita'92 were selected to provide representative spatially distributed soil moisture information (Chapter XIII). In addition to soil moisture, four sites were specifically selected as meteorological data collection sites (Chapter V). Several sites were used solely for transect soil moisture studies (Chapter XV) and a few other sites were sampled occasionally by investigators involved in radar studies (Chapters IX and XII). The purpose of this section is to summarize results presented in these other chapters, describe the site name codes, and to present site locations and soil characteristics. The summary is presented in Table IV-1 and the entries are described in the following sections.

B. SITE CODING

Each site is described by a five character code. The first two characters refer to the general land cover category or a specific type of study (or study group). The codes used are as follows:

AG	Agriculture (cultivated fields)
MS	Met station located in the field
PR	Sites occasionally sampled by Princeton Univ.
RG	Raingage location
RL	Rangeland or pasture
TR	Transect sampling site
WS	Small gaged watersheds
WW	Senescent winter wheat

The letter codes are followed by three digits i.e. MS002). A "0" in the leftmost digit position indicates that large grid soil moisture sampling was used (see Chapter XIII). For all large grid sites the rightmost digit position is the field number, an arbitrary number for this investigation. A "1" indicates small grid sampling. Small grid sampling was used at all raingages sites and, therefore, the site number is the same as the raingage numbers (see Chapter III). At three of the four met sites, both large and small sampling was performed with the small grid being nearby the actual instrumentation, i.e. MS002 = large grid at met site 2 and MS102 = small grid at met site 2). For the agricultural sites, some of the fields had more than one segment. In these situations,

the second digit position is used to designate a segment (see Chapter XII). The meaning of the coding used to describe the transect sites and their locations is presented in Chapter XV. The locations of all the other sites are shown schematically in Figure IV-1.

C. LAND COVER

The land cover listed in Table IV-1 is based primarily on information in Chapter VIII which contains additional details on species where applicable. Further details on the agricultural sites can be found in Chapter XII.

D. UTM COORDINATES

The UTM coordinates presented in Table IV-1 are preliminary. These were derived by digitizing locations from a 1:100,000 topographic map and, therefore, have limited accuracy. As part of the investigation, all test sites will be located using a ground based global positioning system that will provide highly detailed coordinates.

E. SOIL TEXTURE

The soil texture data presented in Table IV-1 is for the surface 5 cm layer. It is based on laboratory particle size analysis conducted at the USDA Hydrology Lab as part of the current study. The samples used were selected from gravimetric soil samples on one date. The sample locations are recorded in the field notebooks. These texture results are good representations of the small grid sites but should be used in conjunction with soil survey information (Chapter II) for the large grid sites.

F. BULK DENSITY

The bulk density data presented in Table IV-1 is extracted from Chapter X.

G. VEGETATION WATER CONTENT

Vegetation water content is a commonly used variable in remote sensing data interpretation algorithms. The data presented in Table IV-1 was computed by subtracting the dry biomass from the wet biomass data presented in Chapter VIII.

H. OTHER DATA COLLECTED

These entries indicate whether or not the particular data were collected; LAI (leaf area index) see Chapter VIII, surface roughness see Chapter IX, and profile moisture see Chapter XIV.

Table IV-1. Washita'92 experimental site characteristics.

Site	Sampling Type	Land Cover	UTM			Soil Text.(%) Silt	Density Clay	Bulk Content (g/cm3)	Vegetation Water		Data Collected Profile		Comments
			Easting	Northing	Sand				(kg/m2)	Surface LAI	Soil Rough	Moisture	
AG001	Large	Corn	604427	3874503	31.6	52.5	15.9	1.33			Yes		Area south of access road
AG011	Large	Corn	604443	3874944	60.5	28.5	11.0	1.33					Area north of access road
AG002	Large	Bare soil	604027	3873866	45.5	41.1	13.4	1.33			Yes		Western plowed section
AG012	Large	Bare soil	604508	3873880	32.5	53.2	14.3	1.33					Eastern grassy section
AG003	Large	Alfalfa	605321	3875900	29.7	48.6	21.7						
MS001	Large	Tilled w/ weeds	568678	3862272	37.7	44.2	18.1	1.48	0.36		Yes	Yes ¹	No small grid at met station
MS002	Large	Pasture	592768	3868889	44.9	44.6	10.5	1.40	0.52	Yes	Yes		
MS003	Large	Weedy pasture	584675	3856667	88.3	8.6	3.1	1.32	0.37	Yes			
MS004	Large	Rangeland	584204	3868545	83.5	12.3	4.2	1.17	0.24		Yes		Love grass in eastern part
MS102	Small	Pasture			23.0	65.1	12.0	1.40				Yes ¹	Met station location of MS002
MS103	Small	Weedy pasture			85.9	11.4	2.7	1.32				Yes ¹	Met station location of MS003
MS104	Small	Rangeland			77.9	19.0	3.1	1.17				Yes ¹	Met station location of MS004
RG122	Small	Bermuda grass pasture		595494	3870420	45.7	37.9	16.4	1.33	0.10	Yes		Yes
RG123	Small	Weedy grass pasture		590379	3870461	45.0	45.3	9.7	1.18	0.28	Yes		Yes
RG130	Small		565422	3868144	59.8	28.4	11.8	1.30				Yes ¹	
RG131	Small	Weedy rangeland	570126	3867341	27.0	62.2	10.8	1.31	0.19	Yes			
RG132	Small		575068	3866586	72.6	24.2	3.2	1.40				Yes ¹	
RG133	Small		580454	3866835	59.9	33.4	6.7	1.42					
RG134	Small	Post oak rangeland	584328	3866121	87.5	10.9	1.6	1.30	0.34	Yes		Yes	
RG136	Small	Pasture	594428	3865192	59.2	32.9	7.9	1.32	0.14	Yes		Yes	
RG137	Small	Rangeland	599026	3864624	56.7	31.8	11.5	1.57	0.18	Yes	Yes		
RG145	Small	Pasture	593398	3860506	31.6	57.8	10.6		0.17	Yes			
RG146	Small	Pasture	589257	3860552	73.2	22.2	4.6		0.15	Yes		Yes	
RG148	Small	Pasture	579844	3862019	45.1	43.7	11.2	1.25	0.08	Yes		Yes	
RG150	Small	Rangeland	568560	3862629	26.0	57.3	16.7	1.46	0.73				
RG152	Small	Bermuda grass pasture		568599	3857915	70.6	21.9	7.5	1.21	0.18	Yes		Yes ¹
RG154	Small	Weedy grass pasture		579395	3857168	76.5	16.8	6.7	1.29	0.36	Yes		Yes ¹
RG182	Small		584741	3856060									
RL001	Large	Rangeland	568686	3867056				1.33	0.23				
RL002	Large	Rangeland	583717	3868907	77.8	18.4	3.8	1.30	0.12	Yes			
WS001	Large	Rangeland	600741	3870718	52.3	31.9	15.8	0.96	0.20				
WS002	Large	Rangeland	600611	3871100	61.1	26.6	12.3	1.16					
WW001	Large	Winter Wheat	568683	3864533				1.31					Check notes for harvest dates
WW002	Large	Winter Wheat	568633	3865340	24.7	54.2	21.1	1.47					Check notes for harvest dates
WW003	Large	Winter Wheat	568691	3867985	37.1	49.2	13.7						Check notes for harvest dates

1/ Data collection was started after the beginning of the experiment.

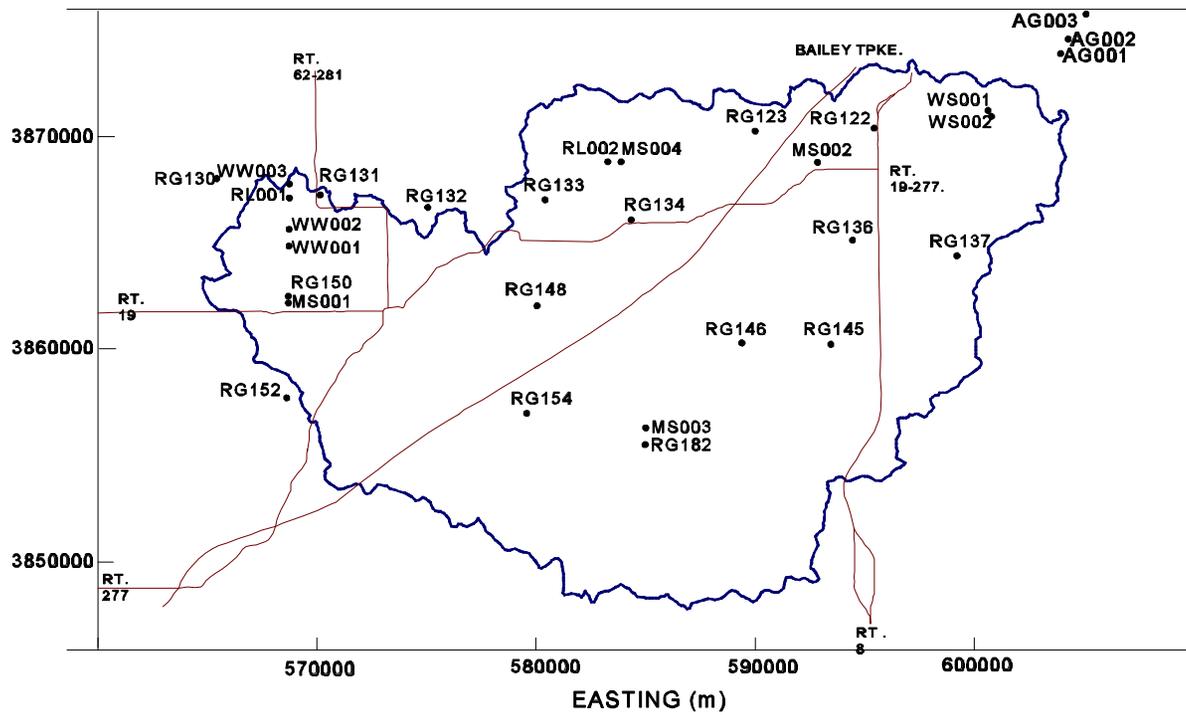


Figure IV.1. Washita'92 Surface Soil Moisture Sampling Sites