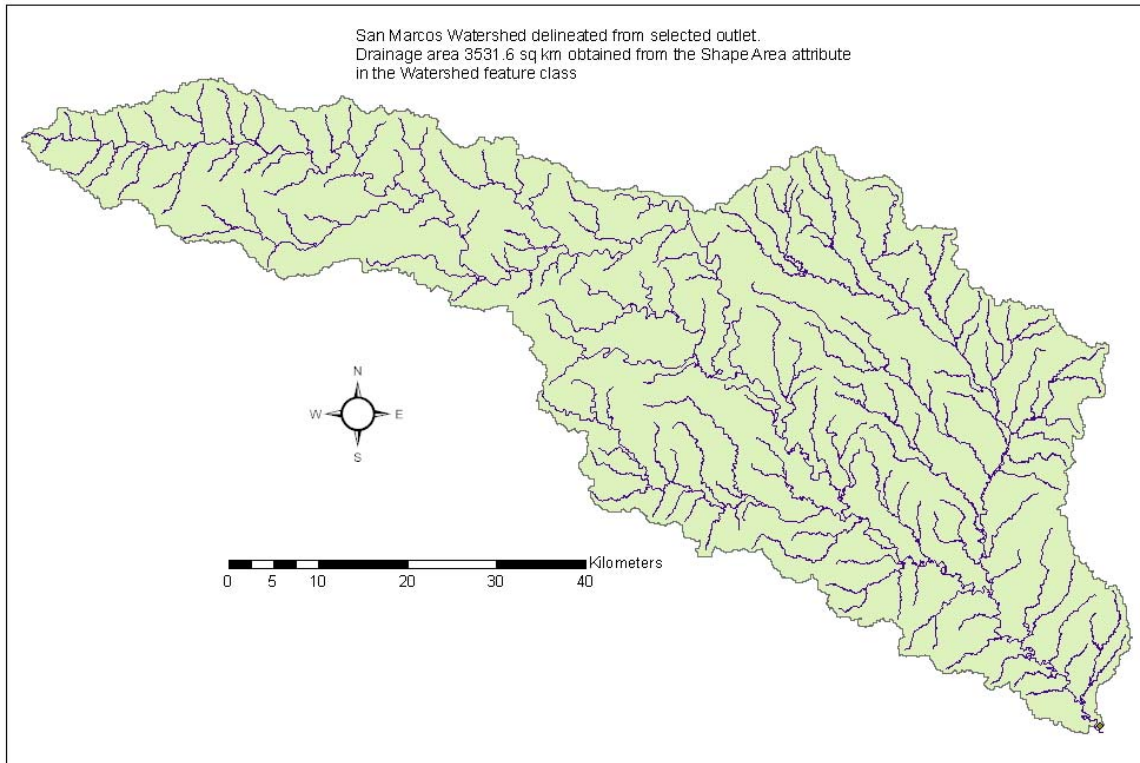
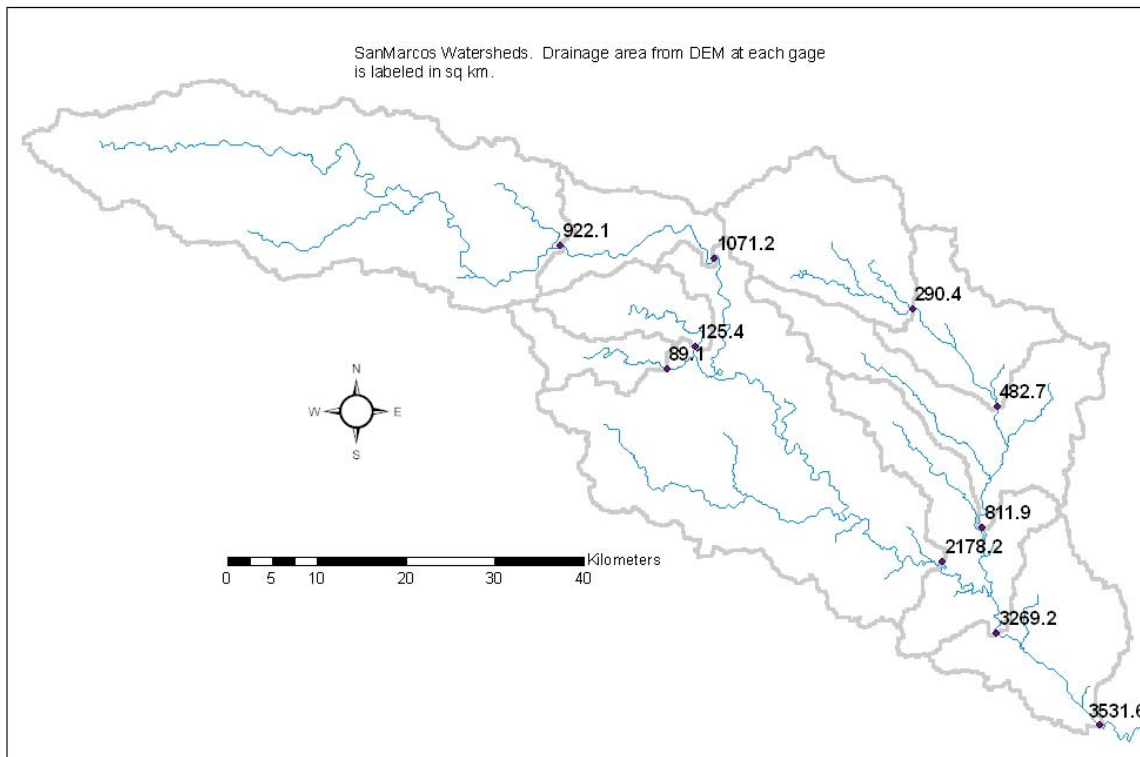


Exercise 4 Solution

1. Delineated Watershed

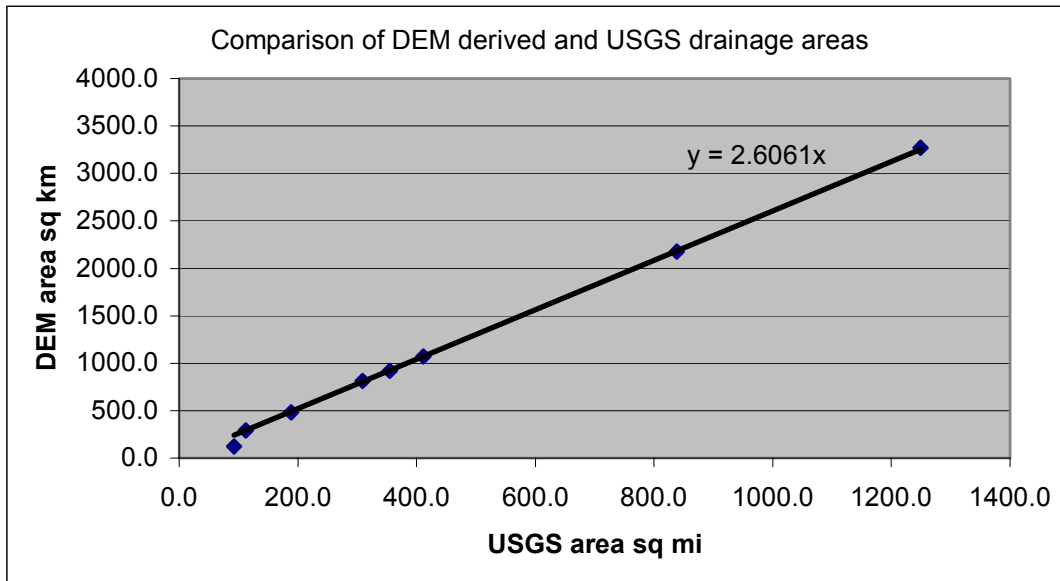


2. Delineated watersheds for each USGS gage



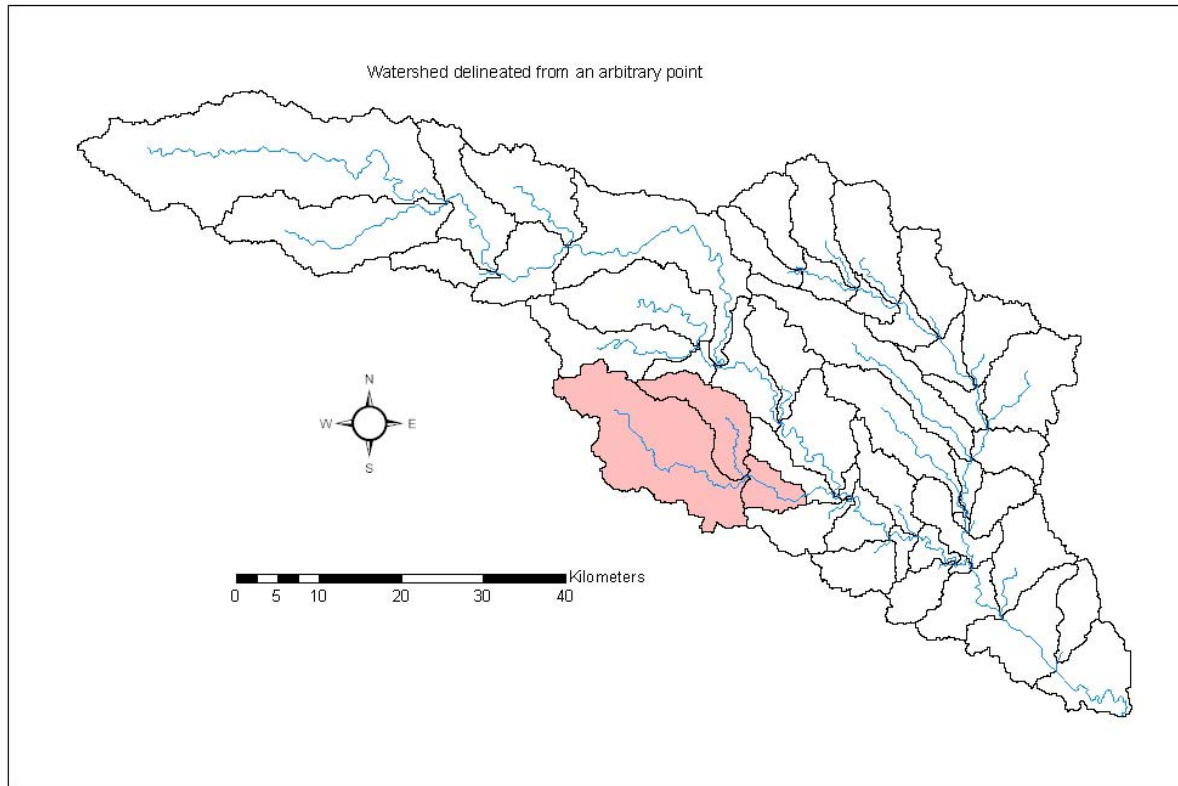
Drainage area table

STATION_NO	SNAME	DA_MI2	Watershed HydroID	Watershed Point HydroID	Drainage area from DEM (km ²)
08171000	Blanco River At Wimberley Tx	355.0	1071	1072	922.1
08171300	Blanco River Nr Kyle Tx	412.0	1073	1074	1071.2
08172400	Plum Creek At Lockhart Tx	112.0	1075	1076	290.4
08170500	San Marcos R At San Marcos Tx	93.0	1077	1078	125.4
08172500	Plum Creek Near Lockhart Tx	188.7	1079	1080	482.7
08173000	Plum Creek Nr Luling Tx	309.0	1081	1082	811.9
08172000	San Marcos River At Luling Tx	838.0	1083	1084	2178.2
	San Marcos Outlet		1069	1070	3531.6
08173500	San Marcos R At Ottine Tex.(Disc)	1249.0	1085	1086	3269.2
tx112	San Marcos		1087	1088	89.1

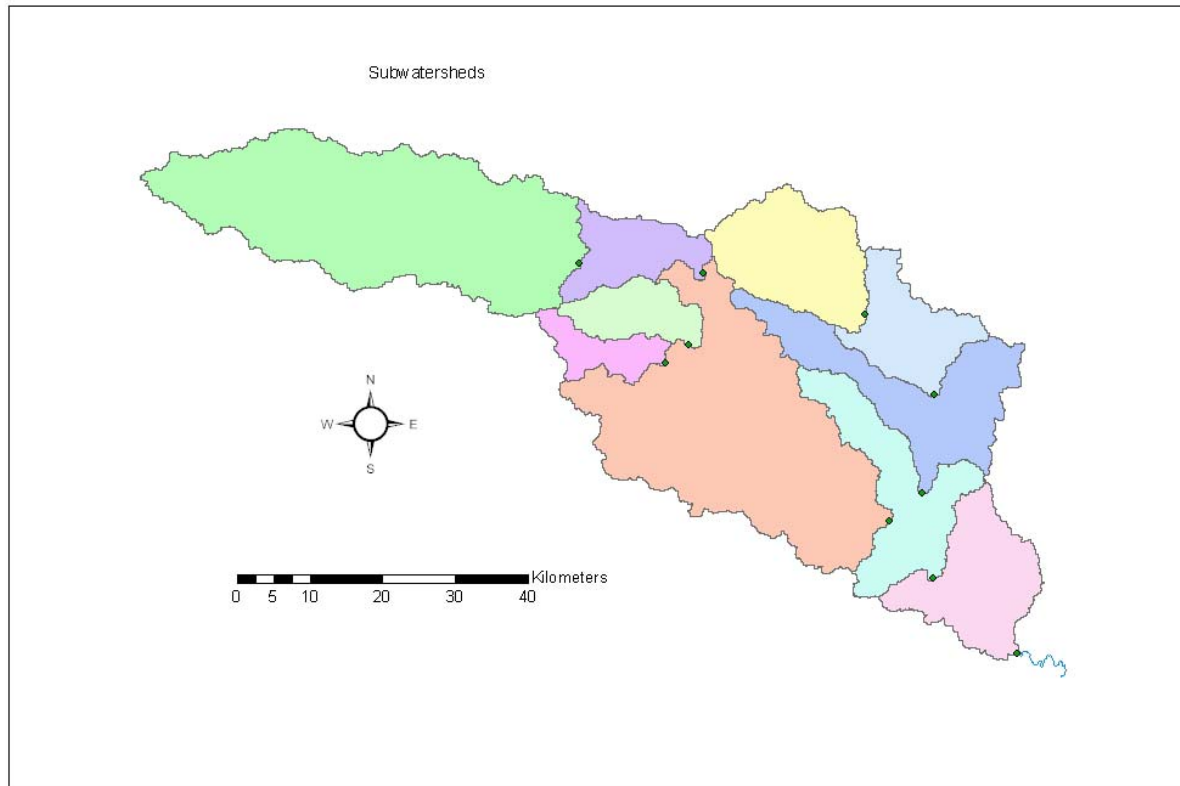


The comparison above shows a good correspondence between the area delineated from the DEM and the USGS areas. The slope of 2.6 is consistent with the conversion factor of 2.56 to convert from square miles to square km.

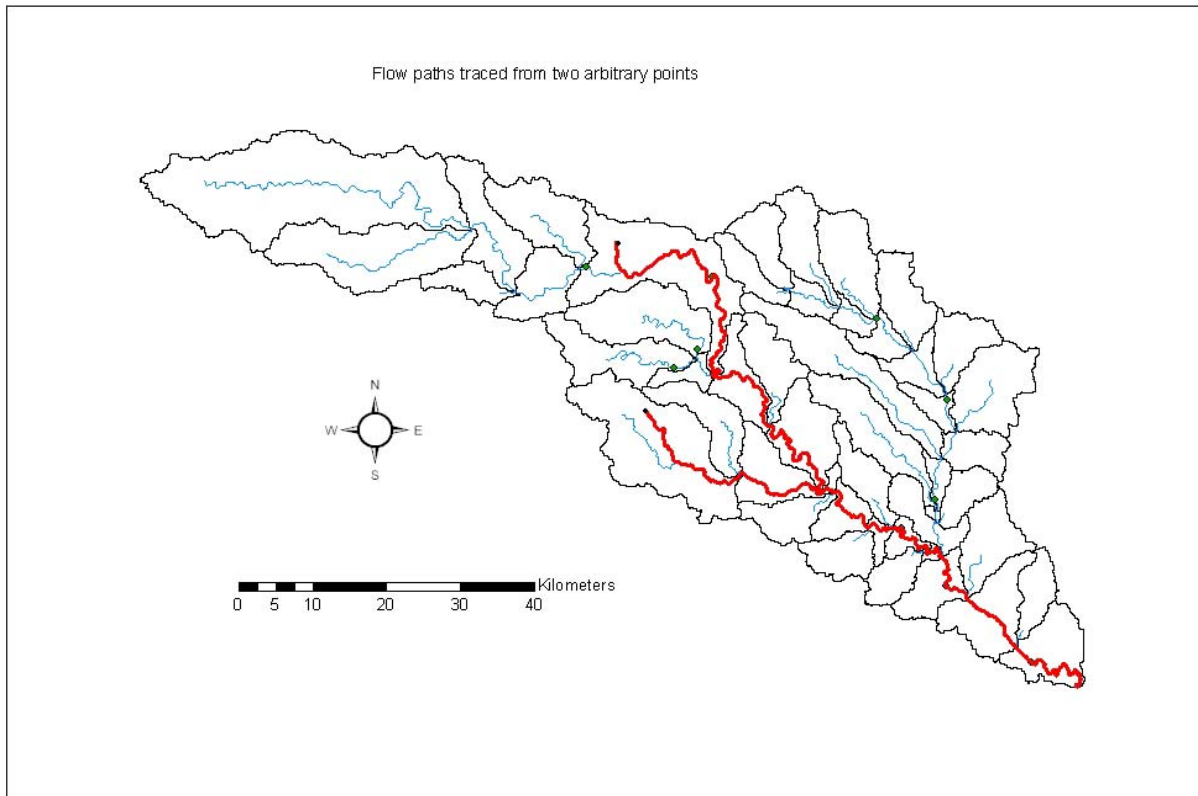
3. Delineated watersheds from arbitrary point



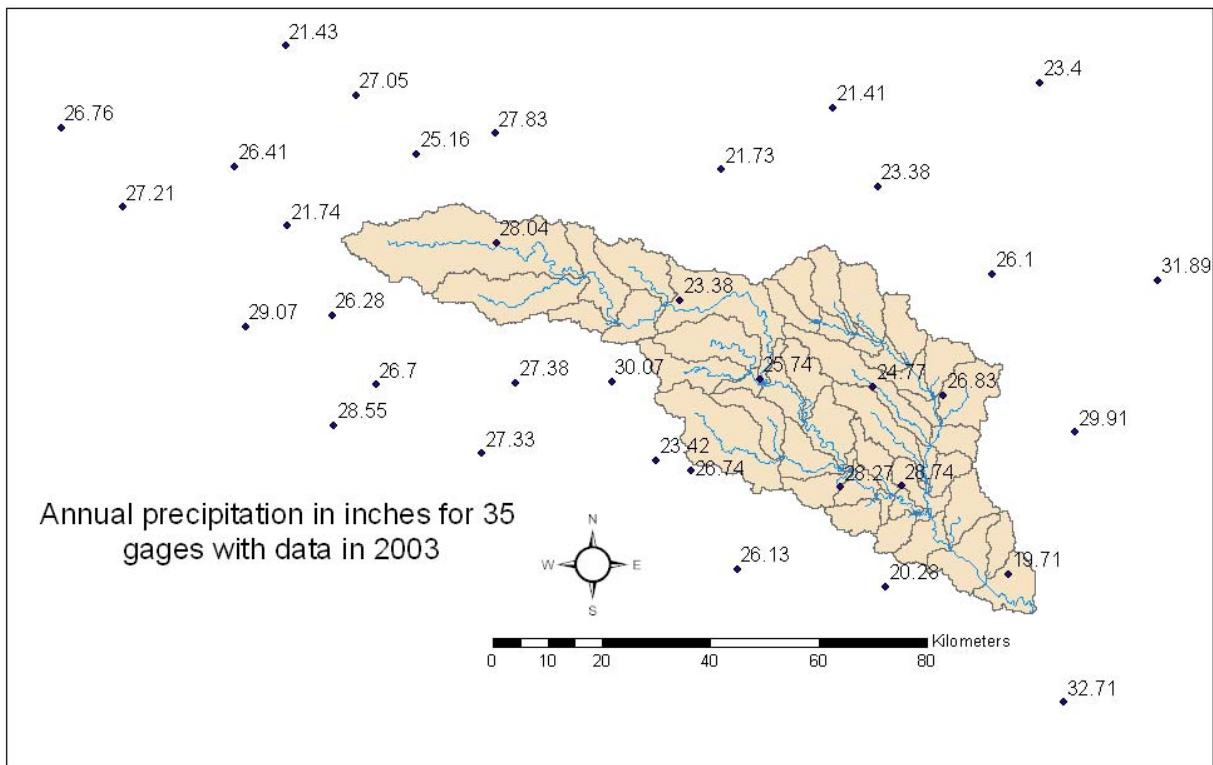
4. Subwatersheds



5. Flow paths

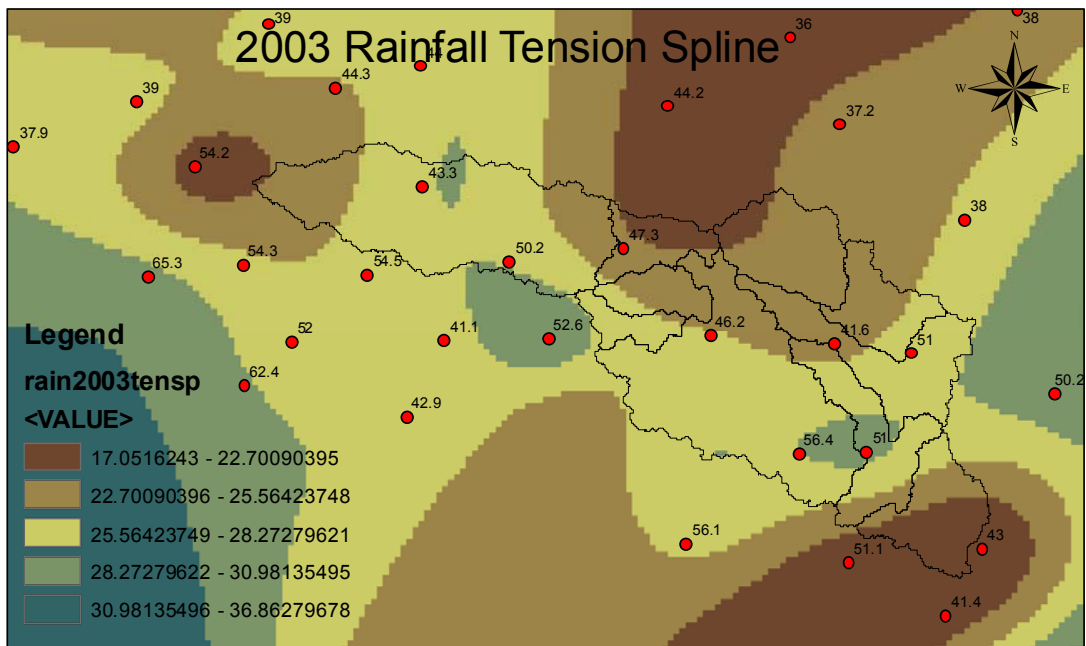
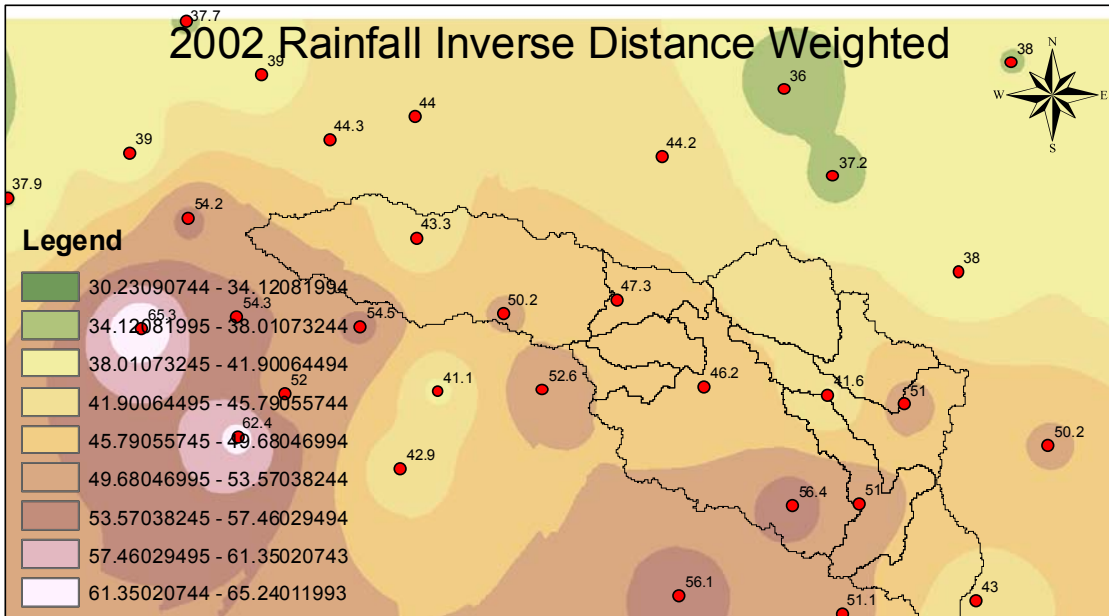


6. Annual rainfall in 2003



7. Layout showing the annual rainfall field for two years using different interpolation methods for each.

Annual Rainfall for 2002 (Inverse Distance Weighted) and 2003 (Regular Spline) near the San Marcos Drainage Area



8. Watershed Mean annual rainfall table. IDW interpolation was used.

Station Name	Station Number	Drainage Area (mi ²)	Drainage Area (km ²)	2000 MEAN (IDW)	2001 MEAN (IDW)	2002 MEAN (IDW)	2003 MEAN (IDW)
San Marcos	tx112	-	-	41.1	41.5	48.5	26.2
San Marcos R At San Marcos Tx	08170500	93	241	41.2	41.6	47.4	25.3
Plum Creek At Lockhart Tx	08172400	112	290	41.2	43.2	44.5	25.1
Plum Creek Near Lockhart Tx	08172500	189	489	41.2	42.8	45.2	25.5
Plum Creek Nr Luling Tx	08173000	309	800	40.9	41.9	46.1	25.8
Blanco River At Wimberley Tx	08171000	355	919	39.2	41.0	48.0	26.7
Blanco River Nr Kyle Tx	08171300	412	1067	39.5	41.1	47.8	26.3
San Marcos River At Luling Tx	08172000	838	2170	40.0	41.3	48.6	26.3
San Marcos R At Ottine Tex.(Disc)	08173500	1249	3235	40.3	41.5	48.0	26.1
Outlet	-	1364	3533	40.3	41.1	47.9	26.0