

KANSAS COUNTIES - REPUBLICAN RIVER

2003 CROP POTENTIAL CONSUMPTIVE USE AND CONSUMPTIVE USE OF IRRIGATION WATER (CIR) CALCULATIONS

CIR = POTENTIAL CONSUMPTIVE USE - EFFECTIVE PRECIPITATION

CHEYENNE COUNTY, KANSAS

POTENTIAL CONSUMPTIVE USE, INCHES

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.47
4	2.35	0.15	0.00	0.00	0.00	5.56
5	5.53	1.71	0.83	0.56	0.00	7.29
6	6.85	6.79	5.09	2.85	1.59	6.77
7	8.92	10.79	10.65	9.91	9.98	0.37
8	9.30	7.27	6.08	7.98	7.47	0.00
9	4.87	0.59	0.50	0.72	1.31	0.59
10	4.67	0.00	0.00	0.00	0.36	2.35
11	0.00	0.00	0.00	0.00	0.00	0.03
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	42.49	27.30	23.16	22.03	20.70	23.42

CHEYENNE COUNTY, KANSAS

CONSUMPTIVE USE OF IRRIGATION WATER, INCHES

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.26
4	0.62	0.00	0.00	0.00	0.00	2.95
5	3.87	0.37	0.05	0.00	0.00	5.46
6	3.60	3.58	2.18	0.56	0.29	3.61
7	7.94	9.79	9.84	8.91	8.98	0.20
8	7.91	6.03	4.92	6.69	6.22	0.00
9	4.64	0.51	0.45	0.66	1.11	0.50
10	4.56	0.00	0.00	0.00	0.35	2.23
11	0.00	0.00	0.00	0.00	0.00	0.03
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	33.15	20.28	17.25	16.82	16.95	15.24

DECATUR COUNTY, KANSAS

POTENTIAL CONSUMPTIVE USE, INCHES

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.20
4	2.22	0.15	0.00	0.00	0.00	3.76
5	5.62	1.57	0.63	0.53	0.00	6.87
6	6.47	6.24	4.39	2.63	1.41	7.31
7	8.01	9.67	9.54	8.89	8.63	0.88
8	8.17	6.76	5.64	7.27	7.82	0.00
9	4.48	0.36	0.24	0.48	1.12	0.91
10	4.62	0.00	0.00	0.00	0.00	1.81
11	0.00	0.00	0.00	0.00	0.00	0.01
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	39.59	24.75	20.44	19.81	18.98	21.75

DECATUR COUNTY, KANSAS

CONSUMPTIVE USE OF IRRIGATION WATER, INCHES

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.05
4	0.05	0.00	0.00	0.00	0.00	0.79
5	3.67	0.02	0.00	0.00	0.00	4.78
6	2.24	2.06	0.62	0.00	0.00	2.87
7	7.50	9.11	8.99	8.36	8.11	0.68
8	5.53	4.31	3.34	4.75	5.22	0.00
9	4.06	0.21	0.18	0.34	0.92	0.69
10	4.62	0.00	0.00	0.00	0.00	1.79
11	0.00	0.00	0.00	0.00	0.00	0.01
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	27.67	15.72	13.13	13.45	14.25	11.66

**NORTON COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.16
4	0.50	0.00	0.00	0.00	0.00	1.90
5	4.13	0.67	0.03	0.00	0.00	5.69
6	3.59	3.32	1.71	0.00	0.01	3.41
7	8.20	10.19	10.09	9.52	9.23	0.57
8	8.14	5.60	4.70	6.58	7.09	0.00
9	4.68	0.23	0.21	0.27	1.18	0.73
10	4.33	0.00	0.00	0.00	0.34	1.49
11	0.00	0.00	0.00	0.00	0.00	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	33.57	20.01	16.73	16.37	17.85	13.99

**NORTON COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.43
4	2.40	0.26	0.00	0.00	0.00	4.30
5	5.66	1.91	0.73	0.56	0.00	7.38
6	7.32	6.99	4.98	2.89	1.57	7.10
7	8.67	10.69	10.59	10.01	9.72	0.74
8	9.40	6.68	5.73	7.74	8.28	0.00
9	5.05	0.30	0.27	0.38	1.48	0.90
10	4.83	0.00	0.00	0.00	0.51	2.01
11	0.00	0.00	0.00	0.00	0.00	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	43.34	26.83	22.29	21.58	21.57	22.89

**PHILLIPS COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.14
4	0.46	0.00	0.00	0.00	0.00	1.54
5	3.98	0.37	0.01	0.00	0.00	5.28
6	3.43	3.11	1.59	0.00	0.05	3.71
7	7.72	9.50	9.38	8.80	8.57	0.59
8	7.54	5.41	4.37	6.10	6.69	0.00
9	4.23	0.12	0.11	0.13	0.89	0.59
10	4.44	0.00	0.00	0.00	0.32	1.37
11	0.00	0.00	0.00	0.00	0.00	0.03
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	31.79	18.51	15.47	15.03	16.52	13.24

**PHILLIPS COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN- FLOWER	WHEAT TOTAL
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.28
4	2.28	0.20	0.00	0.00	0.00	3.93
5	5.61	1.68	0.68	0.55	0.00	7.04
6	7.02	6.62	4.75	2.80	1.58	7.37
7	8.46	10.29	10.18	9.59	9.35	0.90
8	9.02	6.72	5.60	7.46	8.11	0.00
9	4.95	0.35	0.26	0.38	1.48	0.97
10	4.98	0.00	0.00	0.00	0.51	1.92
11	0.00	0.00	0.00	0.00	0.00	0.03
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	42.32	25.87	21.47	20.78	21.02	22.43

**RAWLINS COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES**

Month	SUN-					WHEAT TOTAL
	ALFALFA	CORN	SOYBEANS	SORGHUM	FLOWER	
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.29
4	2.35	0.14	0.00	0.00	0.00	5.62
5	5.77	1.62	0.87	0.56	0.00	7.24
6	6.91	6.73	4.90	2.82	1.61	6.66
7	8.71	10.59	10.42	9.55	9.75	0.19
8	9.38	8.40	7.96	8.87	7.80	0.00
9	5.09	0.72	0.66	0.98	1.05	0.38
10	5.59	0.00	0.00	0.00	0.00	2.51
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	43.80	28.19	24.81	22.78	20.20	22.89

**RAWLINS COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES**

Month	SUN-					WHEAT TOTAL
	ALFALFA	CORN	SOYBEANS	SORGHUM	FLOWER	
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.12
4	0.19	0.00	0.00	0.00	0.00	2.36
5	3.96	0.19	0.00	0.00	0.00	5.27
6	2.61	2.48	1.06	0.00	0.00	2.43
7	8.11	9.96	9.79	8.92	9.12	0.19
8	7.26	6.40	6.01	6.81	5.86	0.00
9	5.09	0.72	0.66	0.98	1.05	0.38
10	5.44	0.00	0.00	0.00	0.00	2.34
11	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	32.67	19.73	17.52	16.71	16.02	13.10

**SHERIDAN COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES**

Month	SUN-					WHEAT TOTAL
	ALFALFA	CORN	SOYBEANS	SORGHUM	FLOWER	
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.53
4	2.76	0.30	0.00	0.00	0.00	5.38
5	5.61	2.11	0.88	0.57	0.00	7.37
6	7.40	7.16	5.18	2.97	1.69	6.05
7	8.68	10.62	10.52	10.01	9.95	0.36
8	9.19	6.33	6.06	7.46	7.06	0.00
9	5.20	0.29	0.39	0.44	1.45	0.59
10	4.83	0.00	0.00	0.00	0.50	2.16
11	0.00	0.00	0.00	0.00	0.00	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	43.67	26.80	23.03	21.45	20.65	22.47

**SHERIDAN COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES**

Month	SUN-					WHEAT TOTAL
	ALFALFA	CORN	SOYBEANS	SORGHUM	FLOWER	
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.26
4	1.24	0.00	0.00	0.00	0.00	3.41
5	3.90	0.70	0.01	0.00	0.00	5.48
6	3.61	3.42	1.83	0.04	0.11	2.54
7	8.39	10.31	10.21	9.71	9.65	0.30
8	6.83	4.34	4.07	5.33	5.00	0.00
9	5.01	0.27	0.36	0.39	1.29	0.54
10	4.58	0.00	0.00	0.00	0.44	1.89
11	0.00	0.00	0.00	0.00	0.00	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	33.57	19.03	16.48	15.47	16.48	14.46

**SHERMAN COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN-		WHEAT
					FLOWER	TOTAL	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.72	0.72
4	2.60	0.13	0.00	0.00	0.00	5.97	5.97
5	5.92	1.62	0.88	0.56	0.00	7.55	7.55
6	7.20	6.54	4.72	2.67	1.57	6.21	6.21
7	9.31	11.14	10.94	9.88	10.21	0.00	0.00
8	9.49	8.46	7.98	8.92	7.85	0.00	0.00
9	5.09	0.71	0.63	0.83	1.49	0.37	0.37
10	3.41	0.00	0.00	0.00	0.56	2.46	2.46
11	0.00	0.00	0.00	0.00	0.00	0.06	0.06
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	43.02	28.60	25.15	22.86	21.68	23.35	23.35

**SHERMAN COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN-		WHEAT
					FLOWER	TOTAL	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.47	0.47
4	1.68	0.00	0.00	0.00	0.00	4.59	4.59
5	4.09	0.18	0.00	0.00	0.00	5.55	5.55
6	3.42	2.90	1.43	0.00	0.00	2.74	2.74
7	8.19	10.02	9.82	8.76	9.09	0.00	0.00
8	8.98	7.98	7.51	8.43	7.39	0.00	0.00
9	4.84	0.62	0.55	0.80	1.29	0.35	0.35
10	3.41	0.00	0.00	0.00	0.56	2.46	2.46
11	0.00	0.00	0.00	0.00	0.00	0.06	0.06
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	34.61	21.70	19.31	17.99	18.32	16.22	16.22

**THOMAS COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN-		WHEAT
					FLOWER	TOTAL	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.29	0.29
4	2.36	0.14	0.00	0.00	0.00	5.68	5.68
5	5.83	1.63	0.89	0.58	0.00	7.44	7.44
6	7.08	6.80	4.99	2.87	1.67	6.85	6.85
7	8.90	10.76	10.60	9.82	10.03	0.19	0.19
8	9.46	8.12	7.54	8.58	7.42	0.00	0.00
9	5.20	0.44	0.55	0.61	1.53	0.41	0.41
10	5.63	0.00	0.00	0.00	0.53	2.48	2.48
11	0.00	0.00	0.00	0.00	0.00	0.04	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	44.47	27.89	24.57	22.46	21.18	23.39	23.39

**THOMAS COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES**

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN-		WHEAT
					FLOWER	TOTAL	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.13	0.13
4	1.23	0.00	0.00	0.00	0.00	3.95	3.95
5	4.02	0.20	0.00	0.00	0.00	5.46	5.46
6	3.60	3.37	1.89	0.12	0.19	3.41	3.41
7	8.52	10.34	10.18	9.41	9.62	0.19	0.19
8	6.92	5.76	5.26	6.16	5.15	0.00	0.00
9	5.20	0.44	0.55	0.61	1.53	0.41	0.41
10	5.54	0.00	0.00	0.00	0.53	2.37	2.37
11	0.00	0.00	0.00	0.00	0.00	0.04	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	35.03	20.11	17.88	16.31	17.02	15.96	15.96

TREGO COUNTY, KANSAS
CONSUMPTIVE USE OF IRRIGATION WATER, INCHES

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN-		WHEAT
					FLOWER	TOTAL	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.48
4	2.00	0.00	0.00	0.00	0.00	0.00	4.38
5	3.56	1.23	0.00	0.00	0.00	0.00	5.30
6	3.65	3.57	1.91	0.00	0.00	0.11	0.81
7	8.46	10.40	10.36	10.20	10.11	0.14	0.14
8	5.43	1.65	2.26	3.24	2.75	0.00	0.00
9	5.14	0.13	0.31	0.29	1.17	0.46	1.82
10	3.88	0.00	0.00	0.00	0.44	1.82	1.82
11	0.00	0.00	0.00	0.00	0.00	0.04	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	32.12	16.98	14.84	13.73	14.58	13.43	13.43

TREGO COUNTY, KANSAS
POTENTIAL CONSUMPTIVE USE, INCHES

Month	ALFALFA	CORN	SOYBEANS	SORGHUM	SUN-		WHEAT
					FLOWER	TOTAL	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.87	0.87
4	3.53	0.52	0.00	0.00	0.00	6.14	6.14
5	5.33	2.77	1.03	0.57	0.00	7.28	7.28
6	7.79	7.69	5.56	3.16	1.83	4.20	4.20
7	8.46	10.40	10.36	10.20	10.11	0.14	0.14
8	8.70	4.18	4.90	6.06	5.47	0.00	0.00
9	5.35	0.13	0.35	0.33	1.33	0.47	0.47
10	4.03	0.00	0.00	0.00	0.45	2.00	2.00
11	0.00	0.00	0.00	0.00	0.00	0.04	0.04
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	43.19	25.69	22.22	20.32	19.21	21.14	21.14

KANSAS NOAA STATIONS

ATWOOD 2 SW
COLBY 1 SW
GOODLAND WSO
NORTON 9 SSE
OBERLIN 1 E
WAKEENEY
HOXIE
SAINT FRANCIS

KANSAS HPRCC's AUTOMATED WEATHER DATA STATIONS

COLBY, KS

CLIMATE STATION DISTRIBUTION TO COUNTY

County	Atwood	Colby	Goodland	Norton	Oberlin	Wakeeny	NE - Harlan	NE - Benkelman	TOTAL
CHEYENNE	33%		33%					33%	100%
DECATUR					100%				100%
NORTON				100%					100%
PHILLIPS				50%			50%		100%
RAWLINS	100%								100%
SHERIDAN		33%		33%		33%			100%
SHERMAN			100%						100%
THOMAS		100%							100%
TREGO						100%			100%

Enter Year: 2003

STEPS

1 Erase previous data using Macro

Ctrl E Run macro EraseData
erases input data and station data

2 Year in cell b2

3 INPUT DATA input_EI

col A-C ente Year, Month, and Day of data
col D-K ente REF ET Hargraeves ET_o
input CLIMATE
col D-F ente Thigh, Tlow, and Precip data ATWOOD
col K-M ente Thigh, Tlow, and Precip data COLBY
col R-T ente Thigh, Tlow, and Precip data GOODLAND
col Y-AA ente Thigh, Tlow, and Precip data NORTON
col AF-AH ente Thigh, Tlow, and Precip data OBERLIN
col AM-AO ente Thigh, Tlow, and Precip data WAKEENY
col AT-AV ente Thigh, Tlow, and Precip data HARLAN, NE
col BA-BC ente Thigh, Tlow, and Precip data BENKELMAN, NE

4 RUN MACROS Ctrl W

Run macro Paste INPUTDATA
copies data data, climate data and Etr for each station and pastes into station sheet

Ctrl Z

Run macro Calc, AllCropET
copies station crop coeff. Into calcs and calcs crop et for individual crops, pastes values in sheet

OR

Ctrl Q Run macro Calc, Crop ET in each station page (ATWOOD - NE_BENKEL)
copies station crop coeff. Into calcs and calcs crop et for individual crops, pastes values in sheet