Fire-environment analysis: an example of Army Garrison Camp Williams, Utah

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Supplementary material for Fire environment analysis: an example of Army Garrison Camp Williams, Utah.

Supplementary Tables

Table S1. Accuracy metrics for random forests vegetation classification map at Army Garrison Camp Williams

	Gambel oak	Juniper	Sagebrush	Grass	Bare earth	Row total	Users precision (%)
Gambel oak	124	8	63	1	19	215	57.7
Juniper	10	29	5	3	0	47	61.7
Sagebrush	17	3	77	85	1	183	42.1
Grass	21	0	30	376	14	441	85.3
Bare earth	3	0	7	70	34	114	29.8
Column total	175	40	182	535	68	1000	
Producers precision (%)	70.9	72.5	42.3	70.3	50.0		

Overall precision = 64.0%, Kappa = 47.3%

Table S2. Accuracy metrics for random forests method applied to the development of the fire behavior fuel model (FBFM) map at Army Garrison Camp Williams based on the Anderson [1] classification.

	FBFM 1	FBFM 2	FBFM 5	FBFM 8	Bare earth	Row total	Users precision (%)
FBFM 1	10	5	4	0	1	20	50.0
FBFM 2	2	23	9	0	1	35	65.7
FBFM 5	2	6	34	2	2	46	73.9
FBFM 8	0	0	3	17	0	20	85.0
Bare earth	0	0	2	0	18	20	90.0
Column total	14	34	52	19	22	141	
Producers precision (%)	71.4	67.7	65.4	89.5	81.8		

Overall precision = 72.3%, Kappa = 57.2%

Supplementary Figures

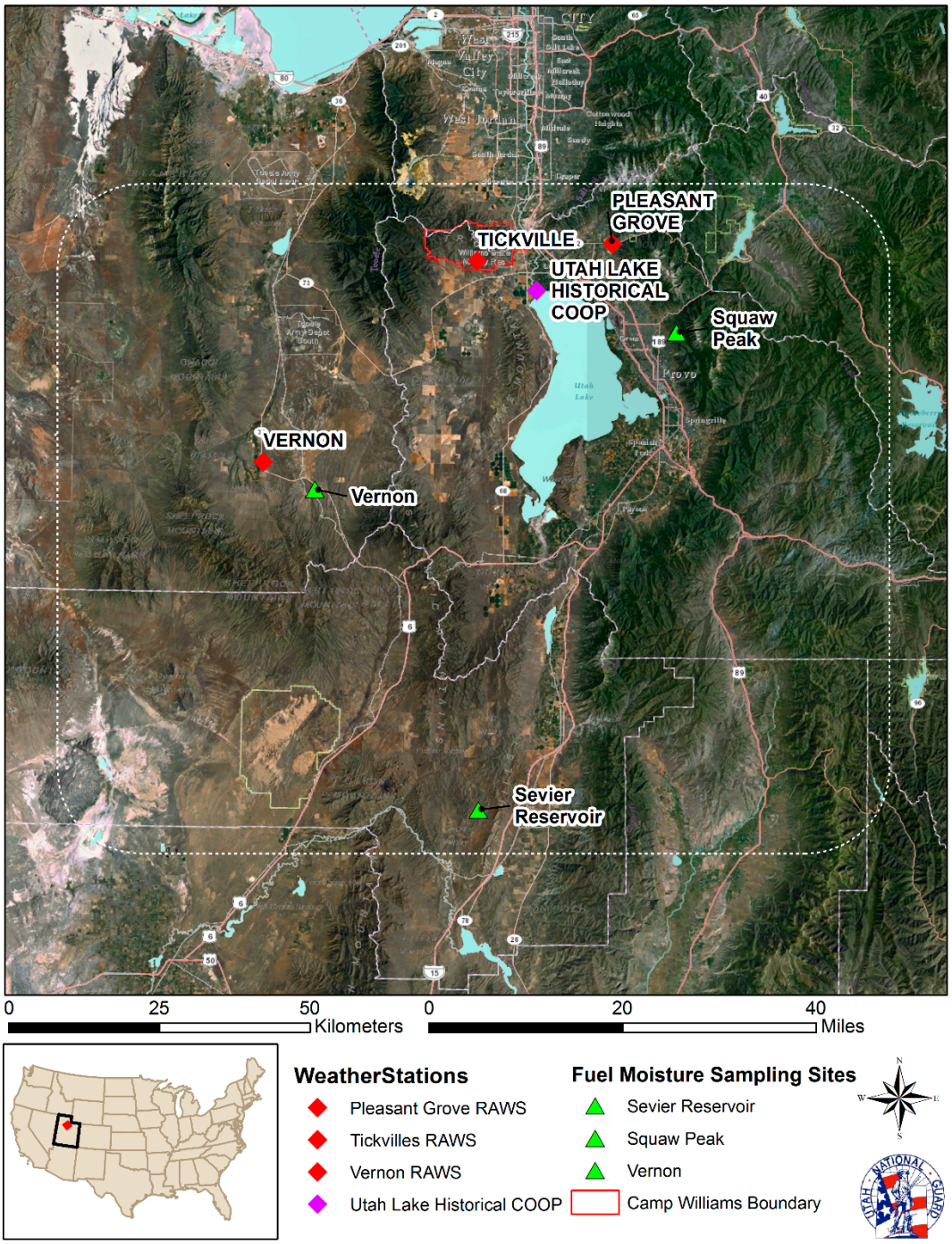

Figure S1. Location of remote automated weather stations, long-term climatological weather station (1904–2013), and fuel sampling sites used in the fire weather component analysis for Army Garrison Camp Williams, north-central Utah.

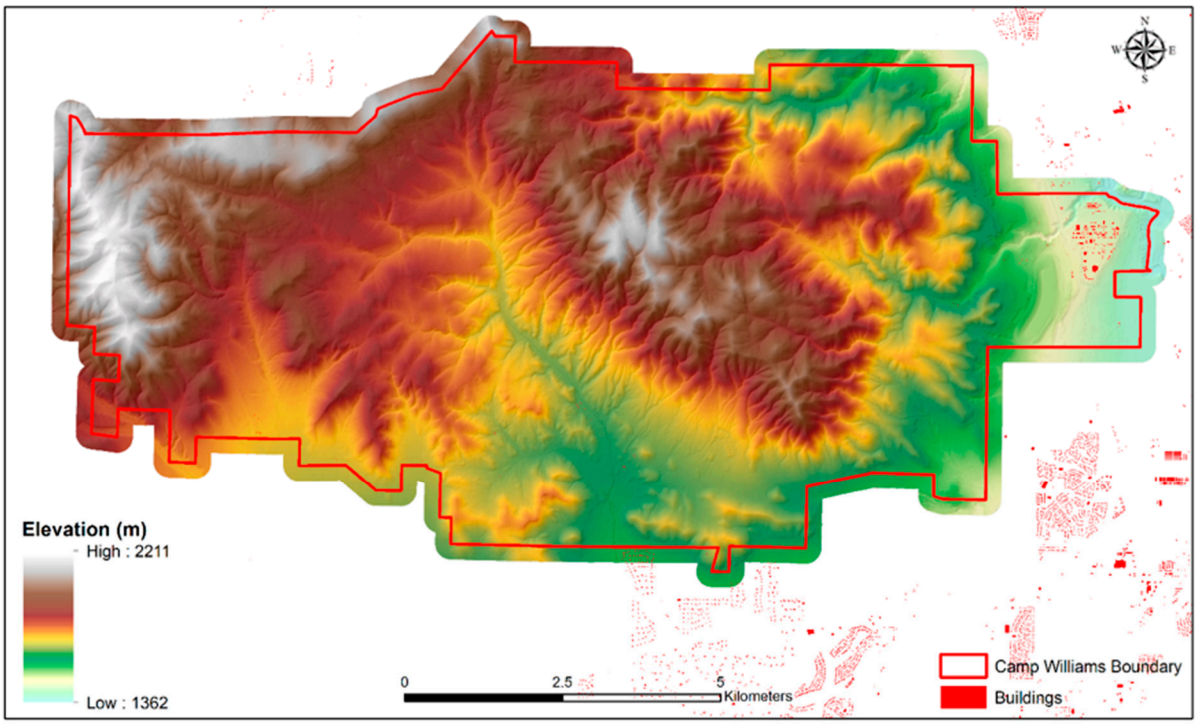

Figure S2. Digital elevation model (DEM) applied to Army Garrison Camp Williams illustrating the general landscape features of the area.

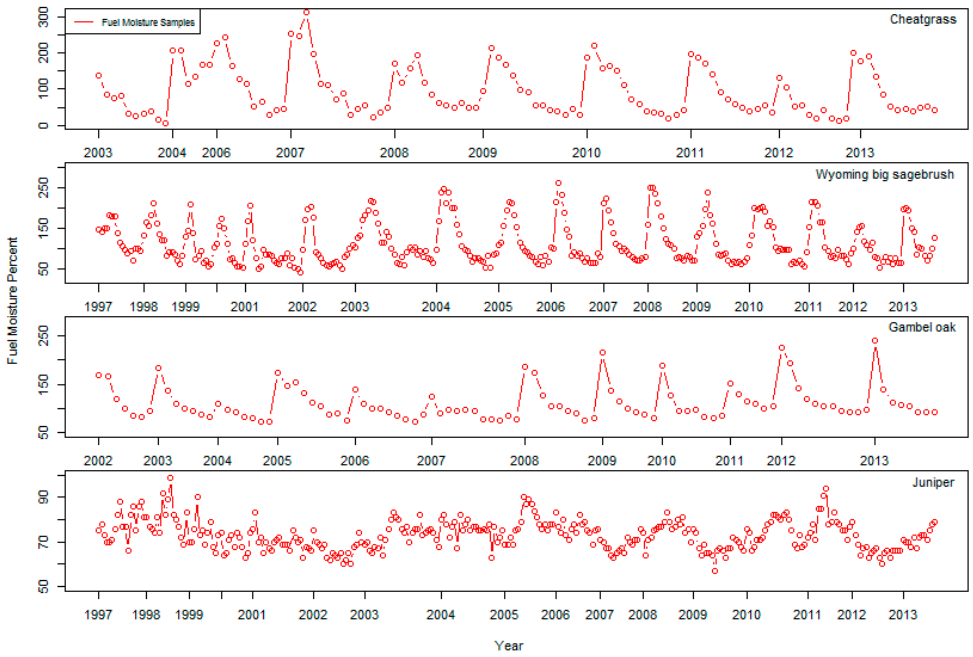

Figure S3. The seasonal variation in live fuel moisture content percentages extracted from the National Fuel Moisture Database for vegetation types applicable to Army Garrison Camp Williams.

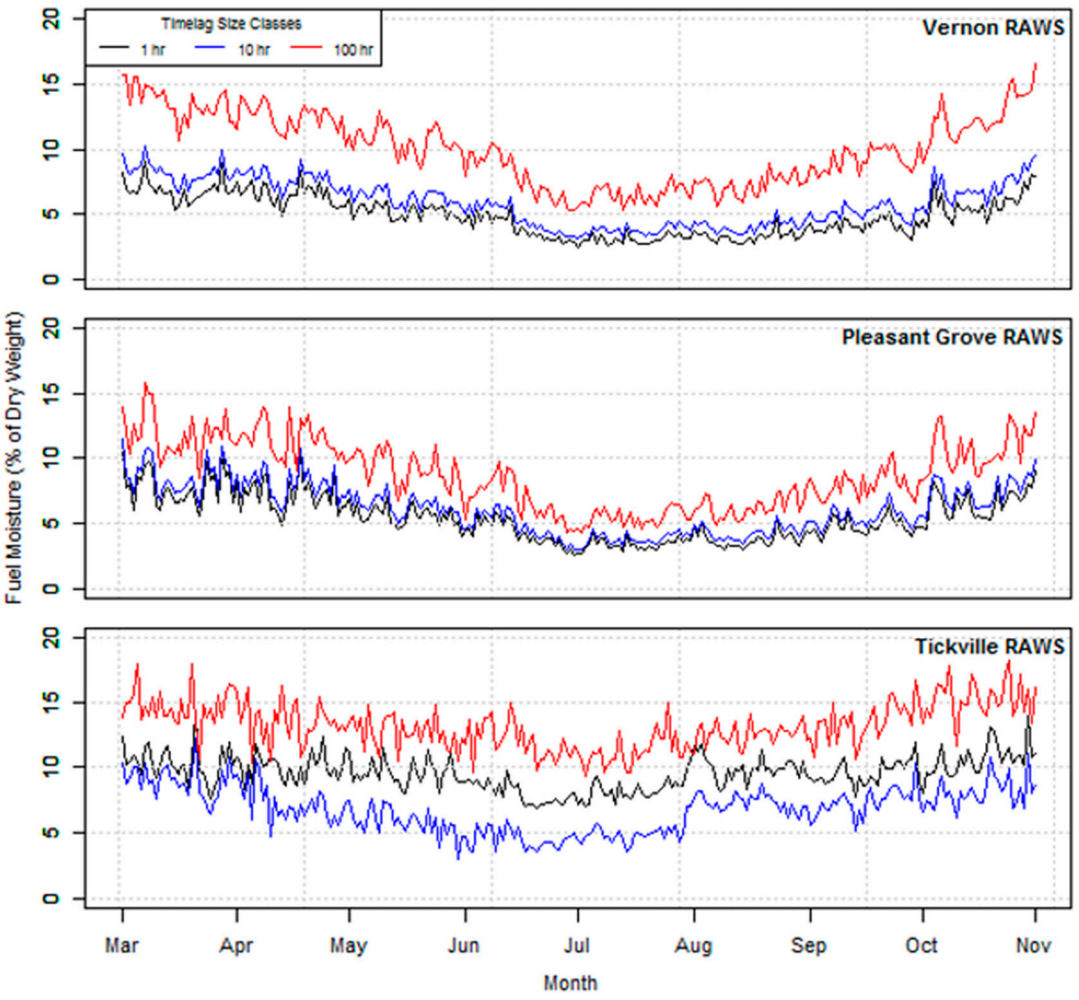

Figure S4. The seasonal variation in daily dead fuel moistures for 1-, 10- and 100-h time-lag size classes as computed for 1300 hours from March 1 to October 31 at three remote automated weather stations (RAWS) within and near Army Garrison Camp Williams.

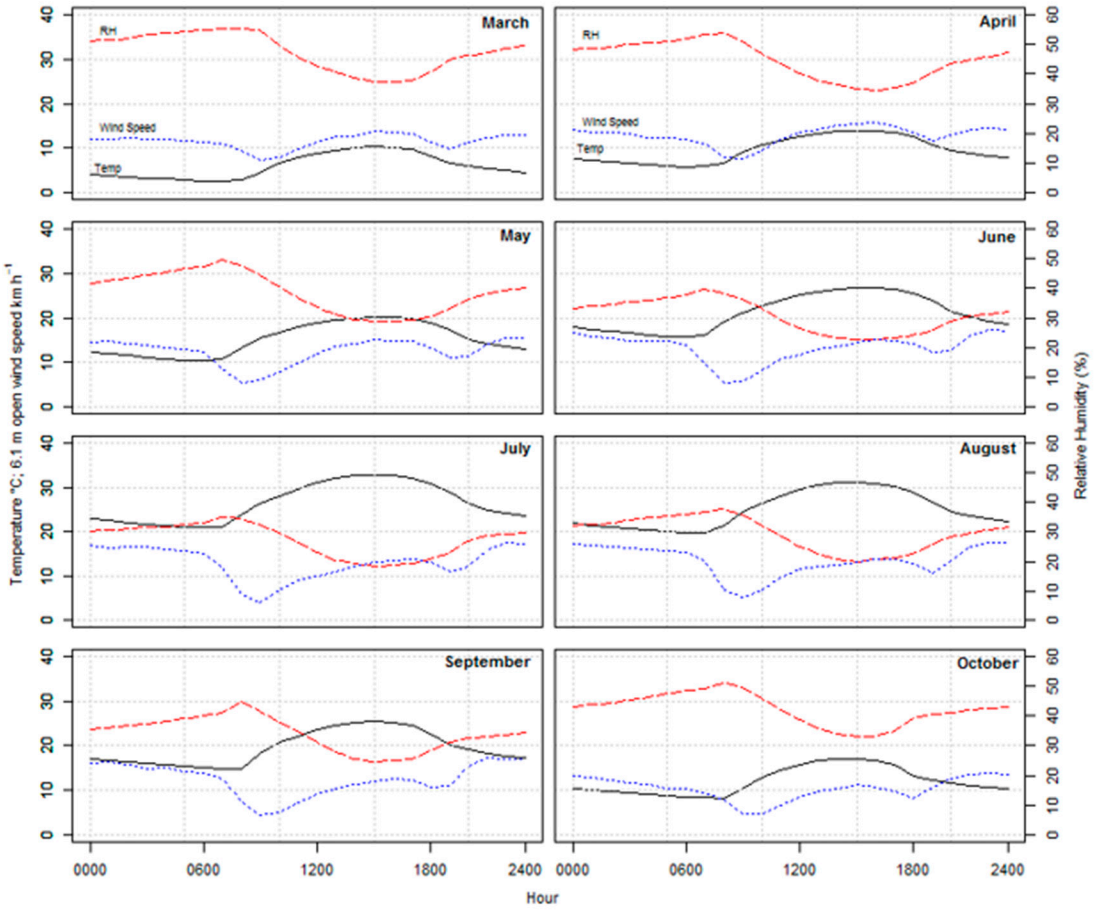

Figure S5. Graphical summary of diurnal variation in relative humidity (RH), ambient air temperature (Temp), and 6.1-m open wind speed by month during the fire season at Army Garrison Camp Williams based on the Pleasant Grove remote automated weather station for the period 1997 to 2013.

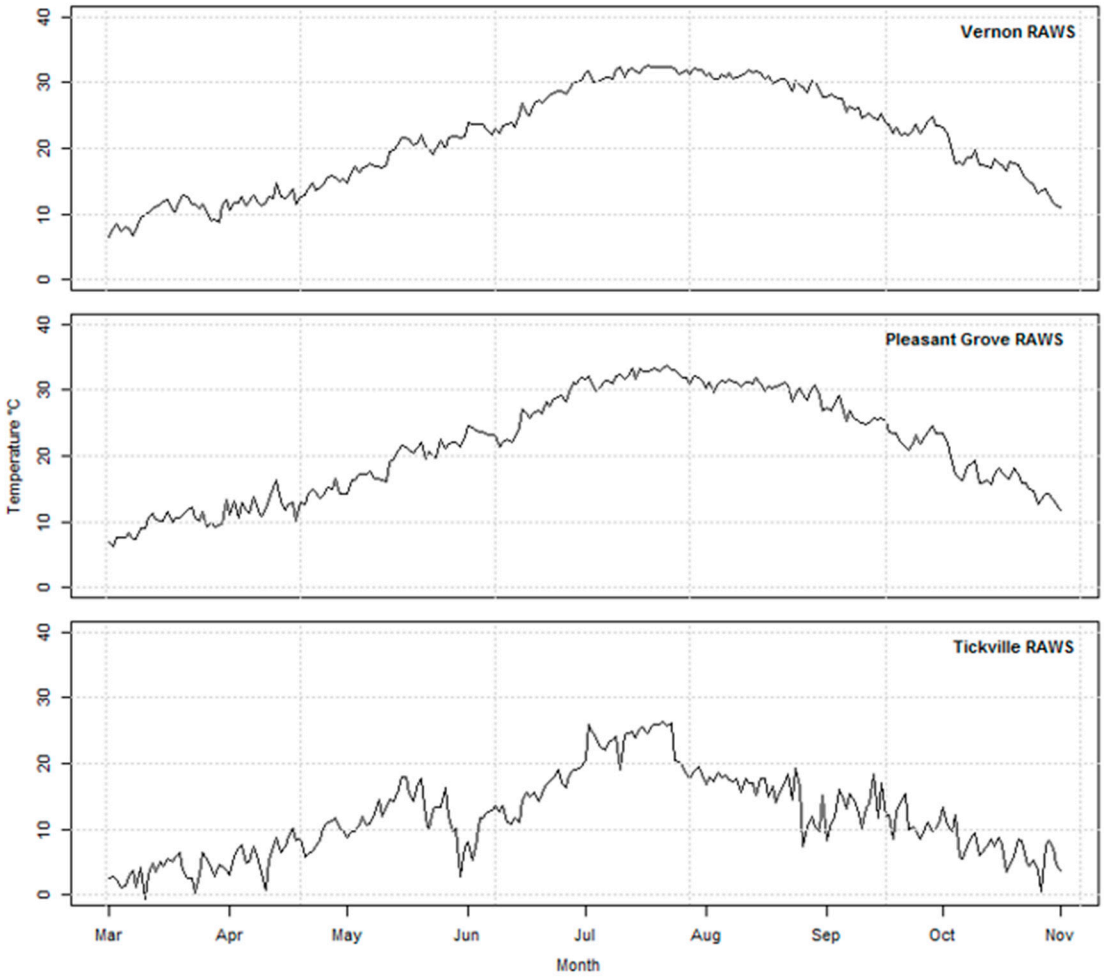

Figure S6. The seasonal variation in the daily ambient air temperature as recorded at 1300 hours from March 1 to October 31 at three remote automated weather stations (RAWS) within and near Army Garrison Camp Williams.

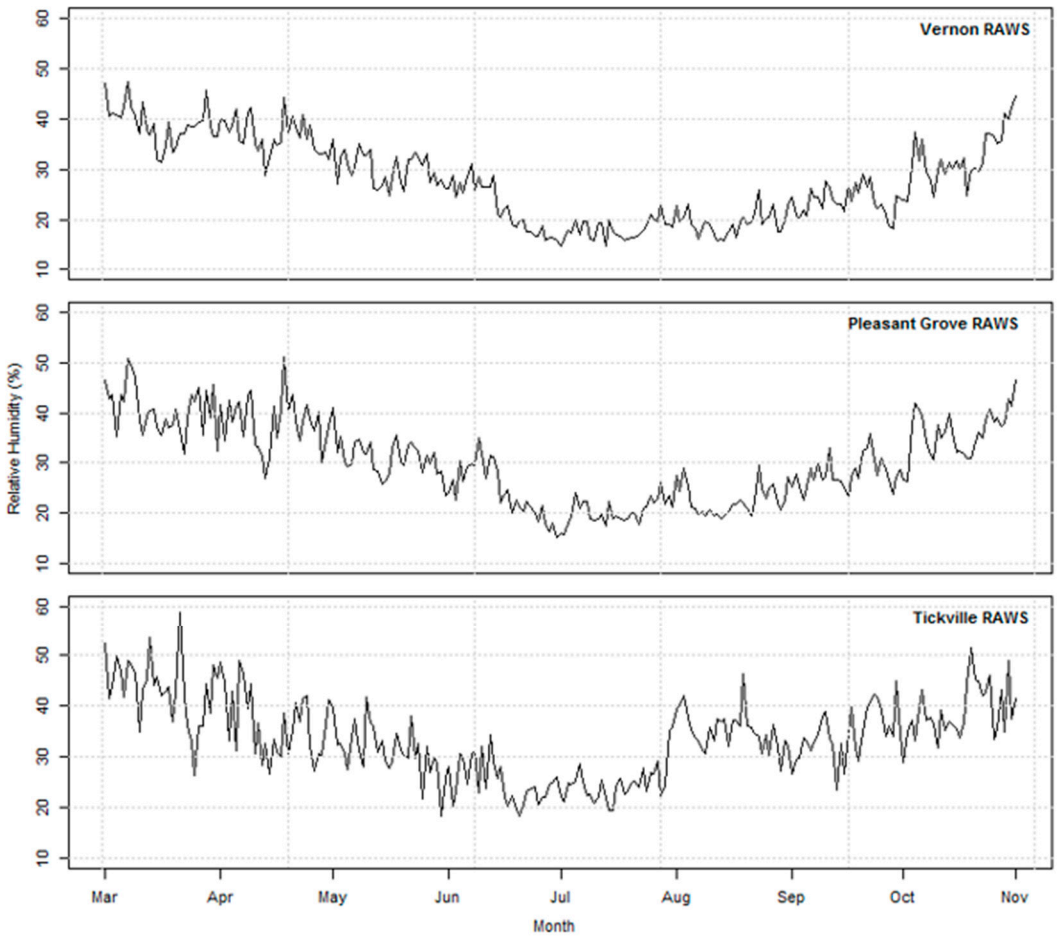

Figure S7. The seasonal variations in the daily relative humidity as recorded at 1300 hours from March 1 to October 31 at three remote automated weather stations (RAWS) within and near Army Garrison Camp Williams.

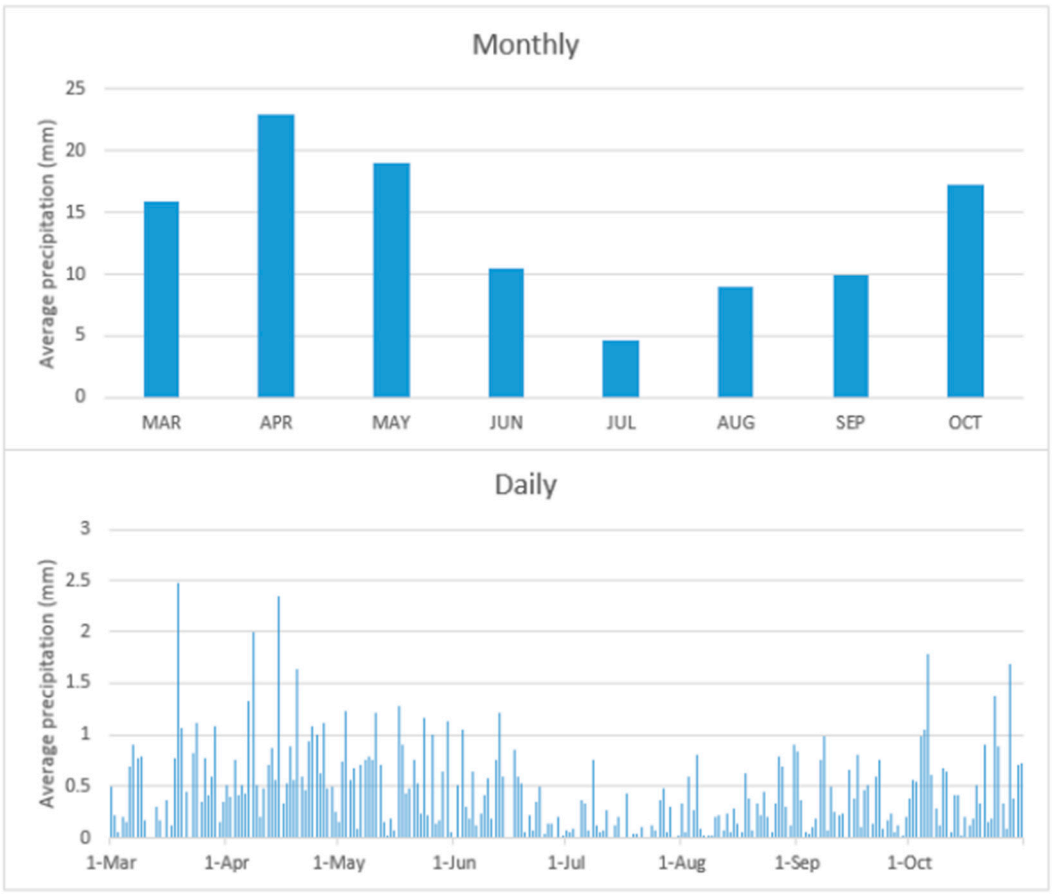

Figure S8. Daily and monthly precipitation averages recorded at the Pleasant Grove remote automated weather station near Army Garrison Camp Williams from 1997–2013.

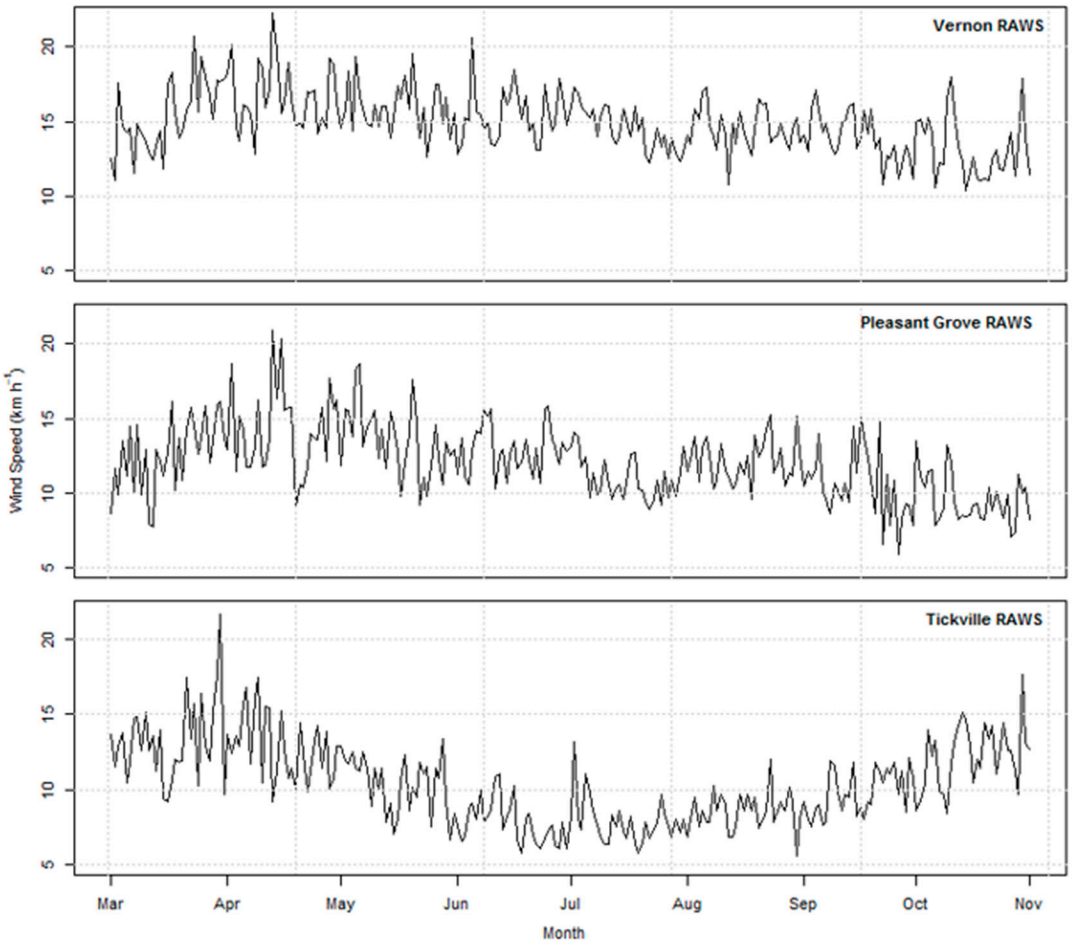

Figure S9. The seasonal variation in the daily 6.1-m open wind speed as recorded at 1300 hours for the fire season at three remote automated weather stations (RAWS) within and near Army Garrison Camp Williams.

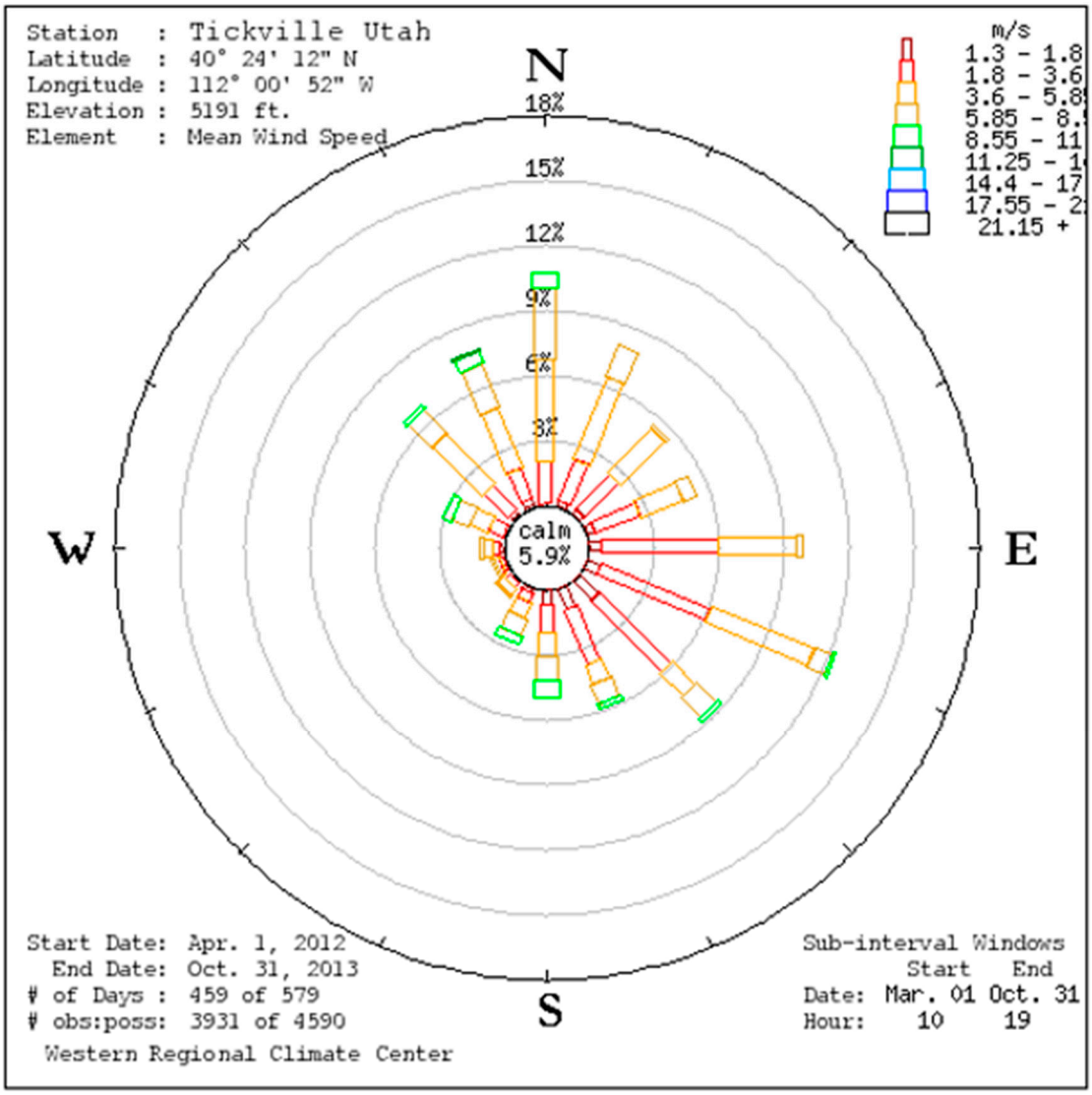

Figure S10. Wind rose diagram following the WRCC [1] format for the Tickville remote automated weather station near Army Garrison Camp Williams.

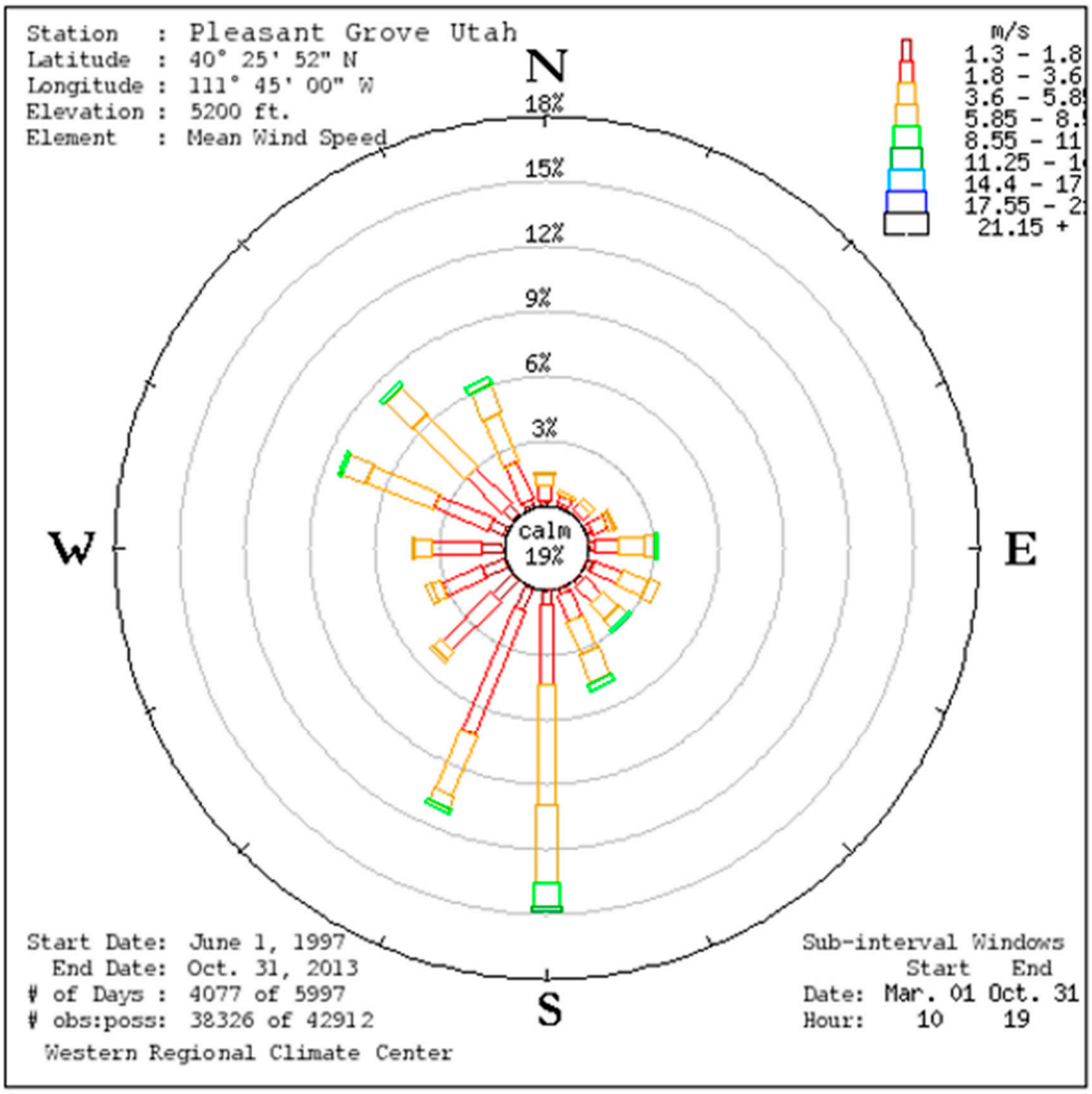

Figure S11. Wind rose diagram following the WRCC [1] format for the Pleasant Grove remote automated weather station east of Army Garrison Camp Williams.

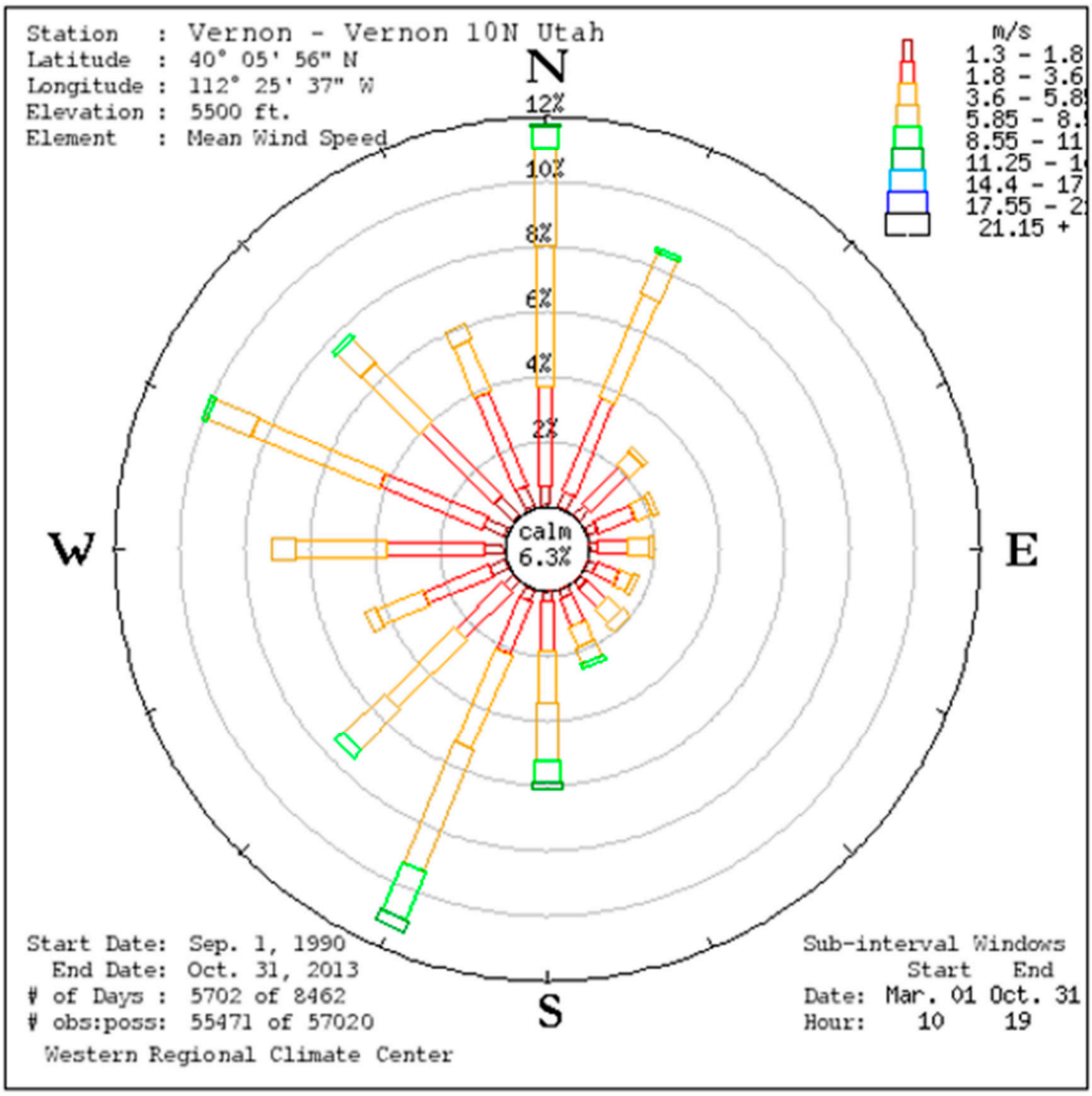

Figure S12. Wind rose diagram following the WRCC [1] format for the Vernon remote automated weather station southwest of Army Garrison Camp Williams.

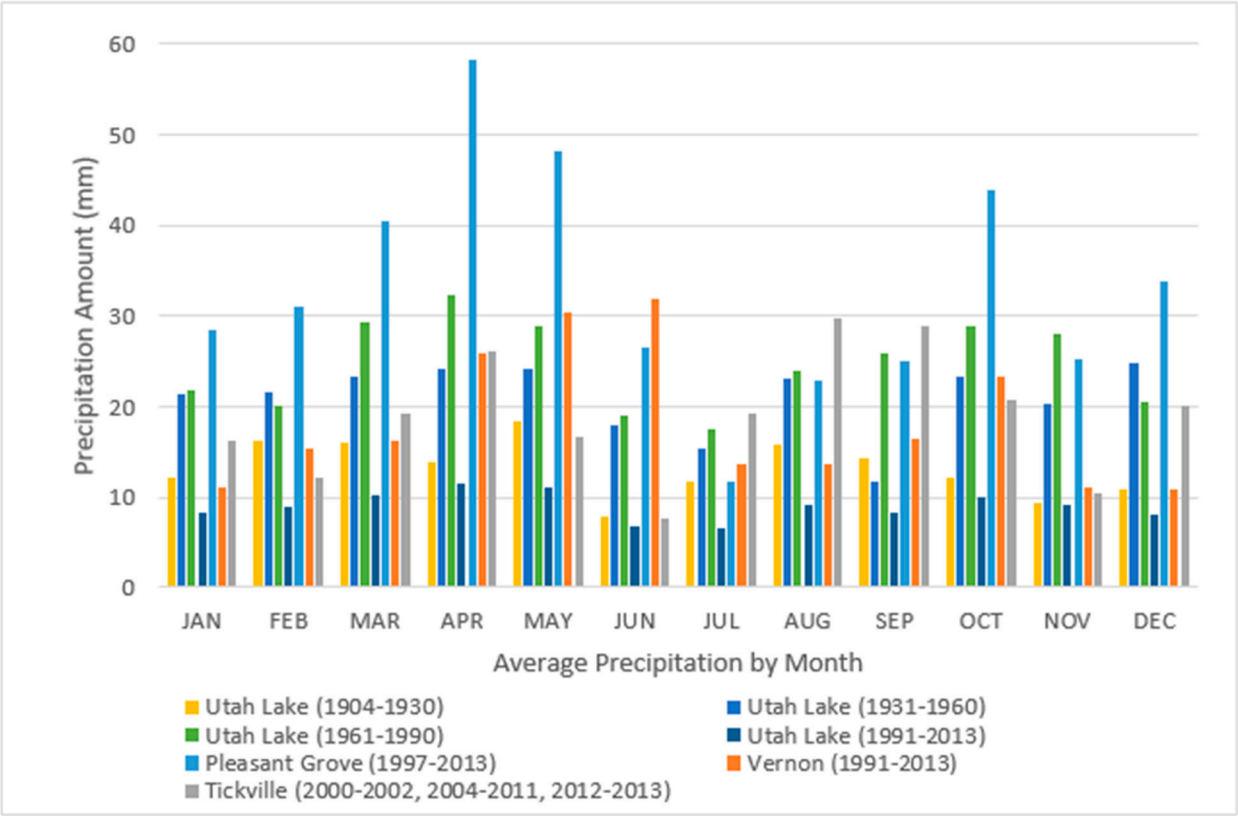

Figure S13. Monthly averages for precipitation for multi-year periods at the Utah Lake climatological station and Pleasant Grove and Vernon remote automated weather stations.

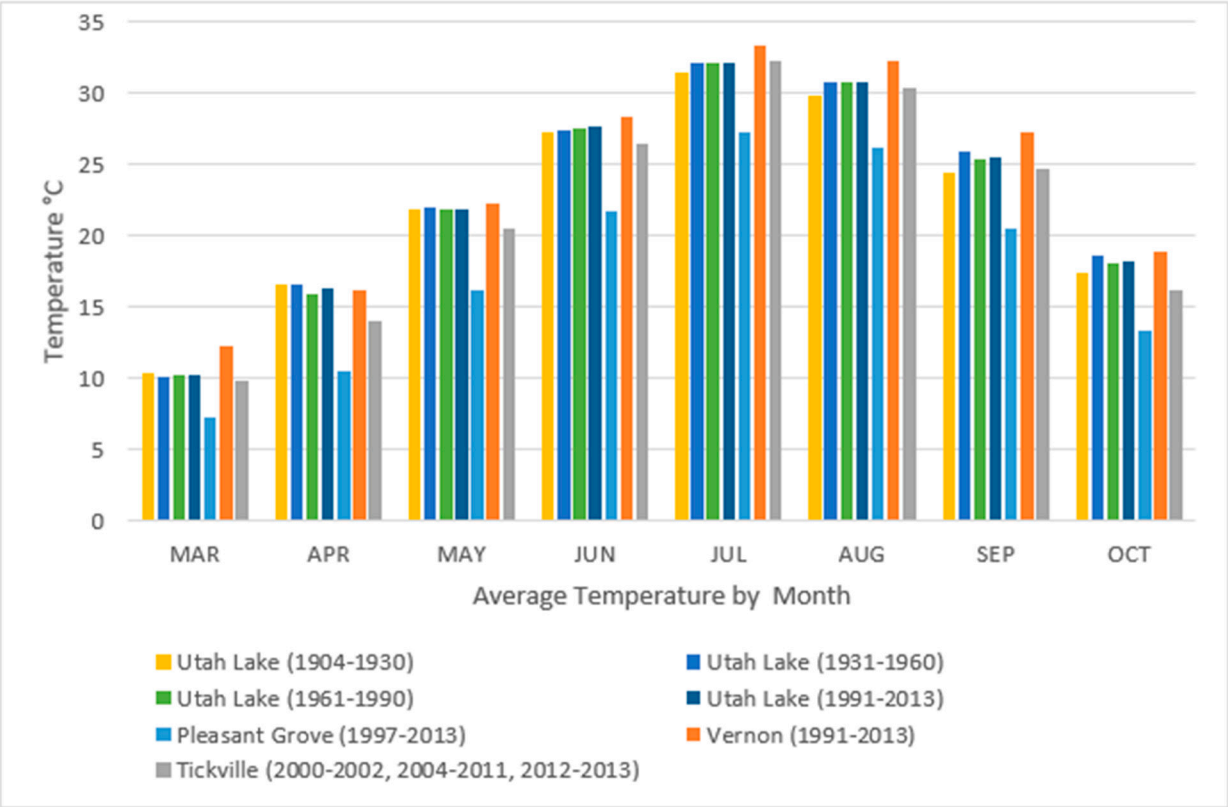

Figure S14. Monthly averages of ambient air temperature for multi-year periods at the Utah Lake climatological station and Pleasant Grove and Vernon remote automated weather stations.

Reference

1. Western Regional Climate Center [WRCC]. RAWS USA climate archive. **2014**.