Table S1: Mean RMSE and bias of DTS stream temperature compared to three reference temperatures for each DTS channel.

	RMSE (°C)	Mean Bias (°C)
East Walker River Ch. 1	0.12	0.00
East Walker River Ch. 2	0.09	0.00
Mainstem Walker River Ch. 1	0.15	0.00
Mainstem Walker River Ch. 2	0.15	0.00

Table S2: RMSE and Bias between DTS and iButton stream temperature measurements at the East Walker River and Mainstem Walker River DTS sites.

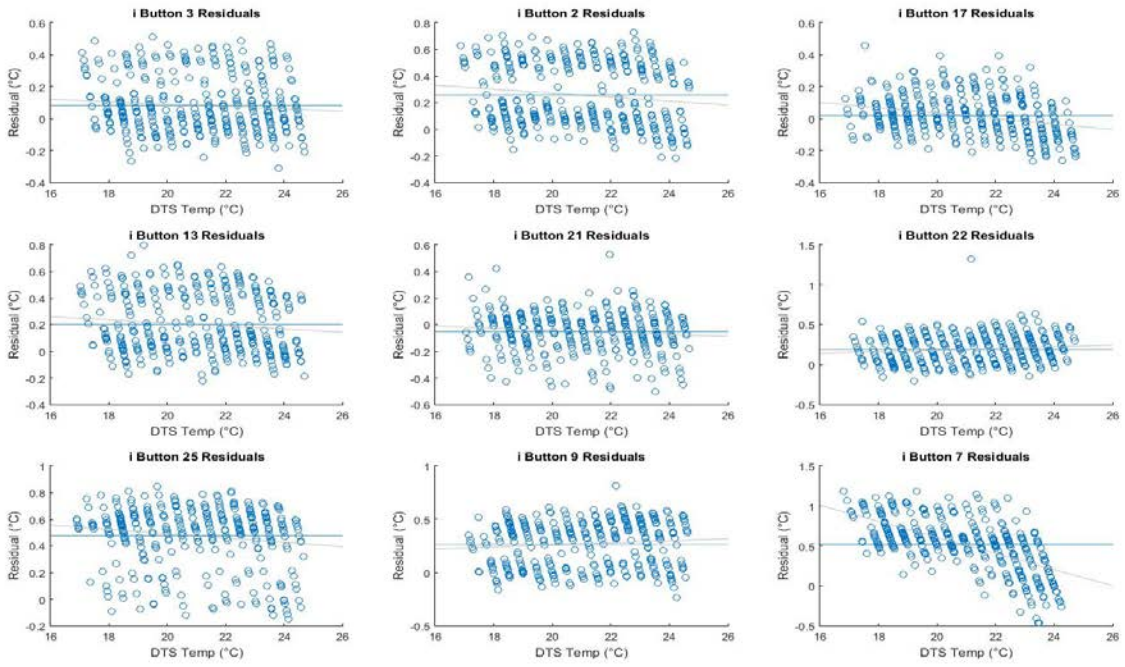
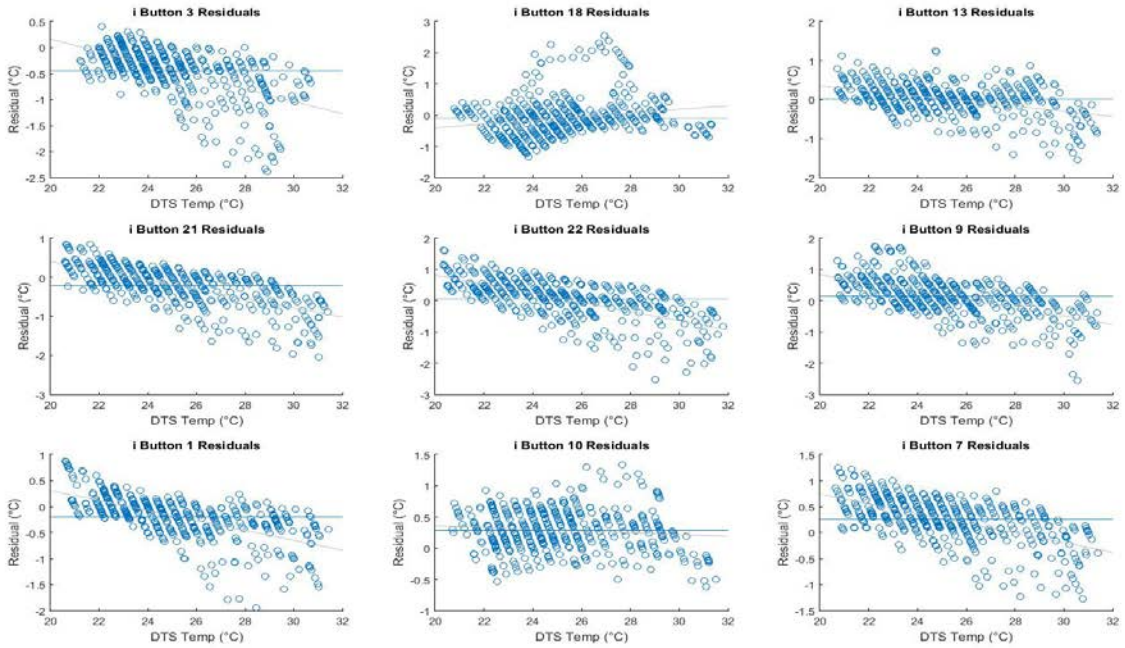
iButton Number	East Walker River			Mainstem Walker River		
	Cable Distance (m)	RMSE (°C)	Bias (°C)	Cable Distance (m)	RMSE (°C)	Bias (°C)
3	509.883	0.0	0.0	162.892	0.5	-0.5
2	777.736	0.0	0.0	calibration bath	--	--
17	975.582	0.0	0.0	buried in sediment	--	--
18	buried in sediment	--	--	325.227	0.5	0.0
13	691.495	0.5	0.0	748.313	0.5	0.0
21	482.489	0.0	0.0	725.992	0.5	-0.5
22	278.555	0.5	0.5	872.093	0.5	0.0
25	890.356	0.5	0.5	calibration bath	--	--
9	601.196	0.5	0.5	buried in sediment	--	--
1	calibration bath	--	--	941.086	0.5	0.0
10	calibration bath	--	--	498.722	0.5	0.5
7	941.086	0.5	0.5	609.313	0.5	0.5
Average		**0.5**	**0.5**		**0.5**	**0.0**

(a)

(b)

Figure S1: I Button Residuals vs. DTS data for the East Walker River (a) and Mainstem Walker River (b) DTS sites. Residual is defined as I Button temperature – DTS temperature. The best fit line (grey) represents the i Button residual. Bias is shown as the reference line (blue).

S1.0 Measure Flow and Weather Data

Stream flow and weather were fairly consistent during the study period at the East Walker River DTS site. Flow was initially near 1.4 cms (50 cfs) and dropped about 0.2 cms (5 cfs) during deployment. Initial streamflow was just over 0.6 cms (20 cfs) and increased over 0.6 cms (25 cfs) during the deployment at the mainstem Walker River DTS site. No rain events occurred during this time and flow changes were due to reservoir release magnitudes. The peaks in variability at the mainstem Walker River DTS site on the 25th and 29th do not correlate with changes in flow or weather (Fig. S2).

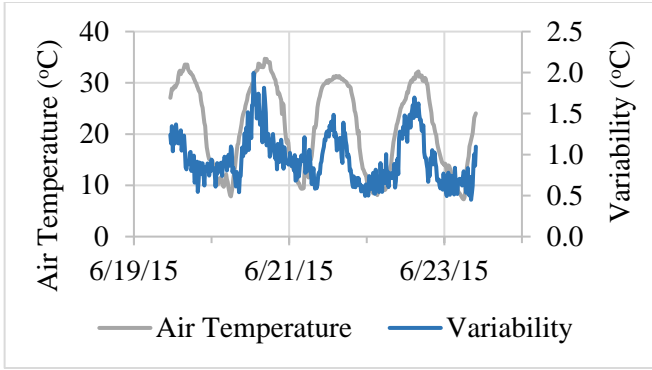
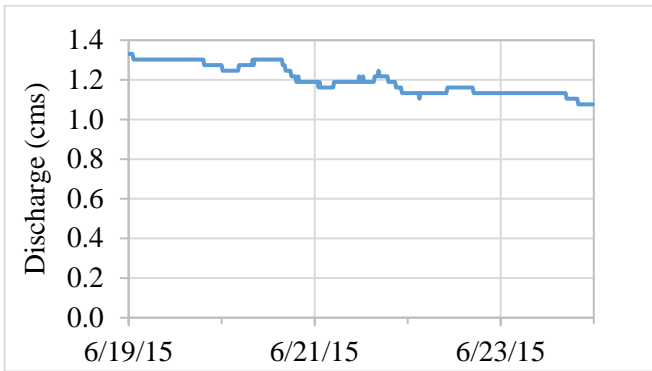
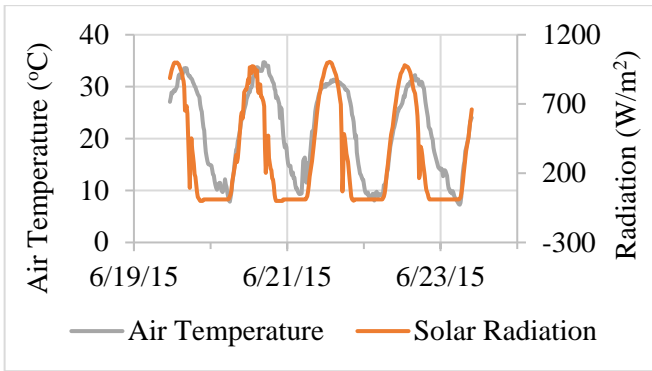
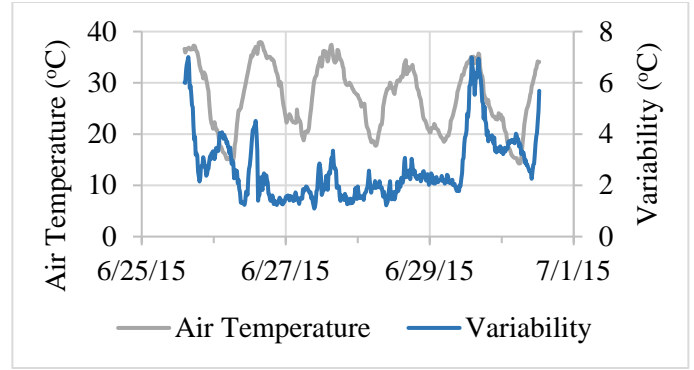
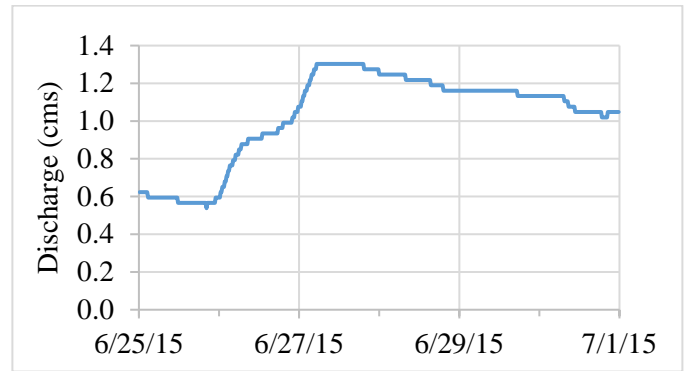
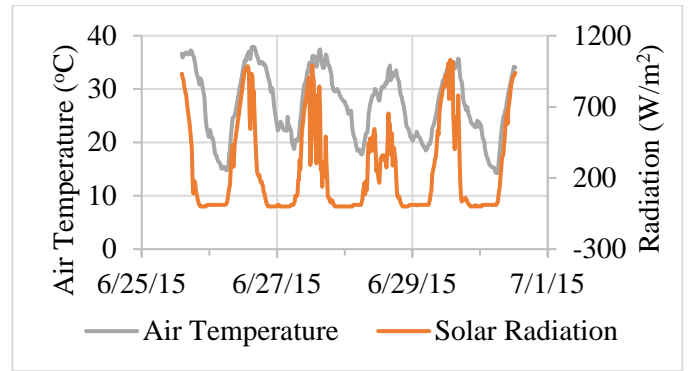



Figure S2: Stream temperature variability, flow, air temperature, and solar radiation measured every 15 minutes at the East Walker River (a, b, and c) and mainstem Walker River (d, e, and f) DTS sites. Stream temperature variability is calculated for the length of the study reach, not including Wabuska Drain at the mainstem Walker River DTS site.