

Supplementary Material:
Table S1. Mesonet weather station locations, LCZs, and surface covers.

STN NUMBER	STN NAME	LAT	LONG	LCZ	SFC COVER
6116200	UDORA (STRONG)	44.250°N	-79.200°W	C - Bush, scrub	Grass
6116201	HARDWOOD MOUNTAIN BIKE	44.517°N	-79.583°W	B - Scattered trees	Grass
6136285	ATMOS FENWICK	43.050°N	-79.367°W	9B - Sparsely built with scattered trees	Grass
6136290	ROYAL CANADIAN HENLEY	43.191°N	-79.267°W	9F - Sparsely built with sand	Sand/Gravel
6136300	VINELAND (STONE RIDGE)	43.150°N	-79.383°W	9B - Sparsely built with scattered trees	Grass/Gravel
6136303	WAINFLEET (SKYDIVE)	42.883°N	-79.350°W	D - Low plants	Grass
6136305	WELLAND FLATWATER CNTR	42.967°N	-79.250°W	CG - Bush, scrub, and water	Membrane
6136308	WINONA (VINE ESTATES)	43.217°N	-79.683°W	6E - Open low-rise with bare rock	Gravel
6140942	BRANTFORD AIRPORT	43.133°N	-80.333°W	N/A	N/A
6153170	HALTON HILLS	43.600°N	-80.050°W	9CD - Sparsely built with low plants	Grass
6156130	ATMOS BRAMPTON	43.783°N	-79.767°W	D - Low plants	Grass
6156131	ATMOS CAMPBELLVILLE	43.450°N	-80.017°W	BD - Scattered trees and low plants	Grass
6156132	ATMOS CLAREMONT	43.933°N	-79.083°W	9B - Sparsely built with scattered trees	Grass
6156133	ATMOS ERIN	43.833°N	-80.117°W	B - Scattered trees	Grass
6156134	ATMOS HAMILTON	43.200°N	-79.833°W	D - Low plants	Grass
6156135	ATMOS MISSISSAUGA	43.533°N	-79.650°W	5B - Open midrise with scattered trees	Grass
6156136	ATMOS NORTH YORK	43.750°N	-79.317°W	4 - Open high-rise	Gravel
6156137	ATMOS NORVAL	43.617°N	-79.833°W	D - Low plants	Grass
6156138	ATMOS VAUGHAN	43.867°N	-79.533°W	6B - Open low-rise with scattered trees	Grass
6156150	AJAX COMMUNITY CNTR	43.867°N	-79.033°W	5 - Open midrise	Gravel
6156152	AJAX (PAO TAU)	43.900°N	-79.050°W	D - Low plants	Grass
6156153	AJAX (VILLAGE CHRYSLER)	43.833°N	-79.033°W	3E - Compact low-rise with bare rock	Gravel
6156154	AJAX (WINTERMERE SOD)	43.900°N	-79.033°W	D - Low plants	Grass
6156155	AJAX (WATER SUPPLY)	43.817°N	-79.000°W	5 - Open midrise	Stone
6156156	CALEDON EQUESTRIAN PARK	43.967°N	-79.833°W	9C - Sparsely built with bush and scrub	Grass
6156157	DUFFERIN / ST. CLAIR CIBC	43.867°N	-79.033°W	3 - Compact low-rise	Shingles
6156158	CLAREMONT (SILO FARM)	44.000°N	-79.100°W	D - Low plants	Grass
6156159	TORONTO TRAP AND SKEET	44.183°N	-79.667°W	9B - Sparsely built with scattered trees	Stone/Tar
6156160	CONCORD (RYDER)	43.817°N	-79.517°W	8 - Large low-rise	Gravel
6156161	DOWNSVIEW PARK	43.750°N	-79.483°W	8 - Large low-rise	Gravel
6156162	KING CITY	43.967°N	-79.567°W	9 - Sparsely built	Grass
6156164	HERSHEY CNTR	43.633°N	-79.650°W	5B - Open midrise with scattered trees	Membrane
6156165	MARKHAM (NORTH TOYOTA)	43.817°N	-79.350°W	8 - Large low-rise	Gravel
6156166	BOUSFIELD FARMS	43.483°N	-79.900°W	9C - Sparsely built with bush and scrub	Grass
6156168	TORONTO (NORTH YORK)	43.717°N	-79.467°W	2 - Compact midrise	Gravel
6156169	GENERAL MOTORS CNTR	43.897°N	-78.867°W	2 - Compact midrise	Membrane
6156170	DOWNSVIEW	43.783°N	-79.467°W	5 - Open midrise	Grass
6156171	ROYAL CANADIAN YACHT CLUB	43.633°N	-79.350°W	5EG - Open midrise with bare rock and water	Grass
6156172	SCARBOROUGH (TORONTO HUNT)	43.683°N	-79.267°W	9D - Sparsely built with low plants	Grass
6156174	STONE CREEK CARDINAL	43.217°N	-79.750°W	8 - Large low-rise	Gravel
6156175	MATTAMY ATHLETIC CNTR	43.667°N	-79.383°W	1 - Compact high-rise	Membrane
6156177	TORONTO(HYUNDAI)	43.699°N	-79.450°W	2 - Compact midrise	Gravel
6156179	U OF T SCARBOROUGH TENNIS	43.783°N	-79.183°W	9CE - Sparsely built with bush and bare rock	Stone
6156180	MONOPOLY PROPERTY	43.850°N	-79.300°W	5CE - Open midrise with bush and bare rock	Tar
6156181	UXBRIDGE (LEE ACRES)	44.167°N	-79.217°W	C - Bush and scrub	Grass
6156182	UXBRIDGE (TARIS)	44.050°N	-79.117°W	9 - Sparsely built	Stone
6156183	YORK UNIVERSITY	43.783°N	-79.517°W	5 - Open midrise	Grass
6156184	WHITBY ABILITIES CNTR	43.867°N	-78.950°W	6 - Open low-rise	Concrete
6156186	ANGUS GLEN GOLF CLUB	43.902°N	-79.317°W	D - Low plants	Grass
6156187	HAMILTON SOCCER CNTR	43.250°N	-79.833°W	6 - Open low-rise	Mulch
6157000	MONO CNTR	43.033°N	-80.017°W	C - Bush and scrub	Grass/Dirt
6159123	UXBRIDGE WEST	44.100°N	-79.167°W	N/A	N/A
6166400	BLAIRHAMPTON GOLF CLUB	44.996°N	-78.667°W	D - Low plants	Grass

Table S2. Hamilton Soccer Center station average hourly meteorological data for 25–26 July 2015.

DATETIME	AIR TEMPERATURE (°C)	WINDSPEED (ms⁻¹)	RELATIVE HUMIDITY (%)	GLOBE TEMPERATURE (°C)
July 25 00:00	25.4	8.6	36.4	25.5
July 25 01:00	24.6	10.8	39.7	24.3
July 25 02:00	24.3	11.0	46.3	24.0
July 25 03:00	23.8	9.2	48.0	23.7
July 25 04:00	23.5	6.3	47.1	22.8
July 25 05:00	22.6	5.8	55.2	21.9
July 25 06:00	22.3	6.1	57.0	21.8
July 25 07:00	22.2	6.6	58.7	21.8
July 25 08:00	22.0	5.2	58.4	21.6
July 25 09:00	21.9	4.6	60.8	21.6
July 25 10:00	21.8	5.4	65.9	21.9
July 25 11:00	22.3	6.1	67.9	24.7
July 25 12:00	24.1	8.0	66.6	33.7
July 25 13:00	26.1	7.5	61.7	37.3
July 25 14:00	28.2	6.6	55.3	40.9
July 25 15:00	29.9	10.7	48.7	40.8
July 25 16:00	30.6	11.6	45.1	41.0
July 25 17:00	31.1	12.2	42.8	40.7
July 25 18:00	31.0	14.1	43.0	39.9
July 25 19:00	31.3	14.4	41.8	40.9
July 25 20:00	31.1	14.9	40.7	39.6
July 25 21:00	30.5	15.4	40.6	37.5
July 25 22:00	29.4	11.6	47.4	35.7
July 25 23:00	28.5	10.7	52.6	32.5
July 26 00:00	27.5	10.9	56.4	28.0
July 26 01:00	26.3	8.7	61.9	25.8
July 26 02:00	25.5	6.8	66.0	24.8
July 26 03:00	24.5	7.3	70.1	23.8
July 26 04:00	24.0	6.7	73.3	23.3
July 26 05:00	23.1	4.1	76.7	22.0
July 26 06:00	22.3	5.0	77.5	21.0
July 26 07:00	21.8	4.9	74.0	20.6
July 26 08:00	21.0	4.4	74.6	19.8
July 26 09:00	20.4	4.6	76.5	19.3
July 26 10:00	19.9	5.4	77.3	19.5
July 26 11:00	20.4	5.6	74.0	23.8
July 26 12:00	21.8	5.8	69.2	32.8
July 26 13:00	24.2	4.0	61.7	39.1
July 26 14:00	27.3	2.7	53.1	45.3
July 26 15:00	28.3	3.7	50.5	45.1
July 26 16:00	29.6	3.8	47.5	47.0
July 26 17:00	30.2	4.2	45.9	46.9
July 26 18:00	30.9	4.1	40.9	46.6
July 26 19:00	31.5	4.5	35.8	46.7
July 26 20:00	31.1	5.0	36.2	44.5
July 26 21:00	30.5	3.7	33.7	38.9
July 26 22:00	29.8	3.7	36.6	35.8
July 26 23:00	29.3	2.8	38.8	31.3

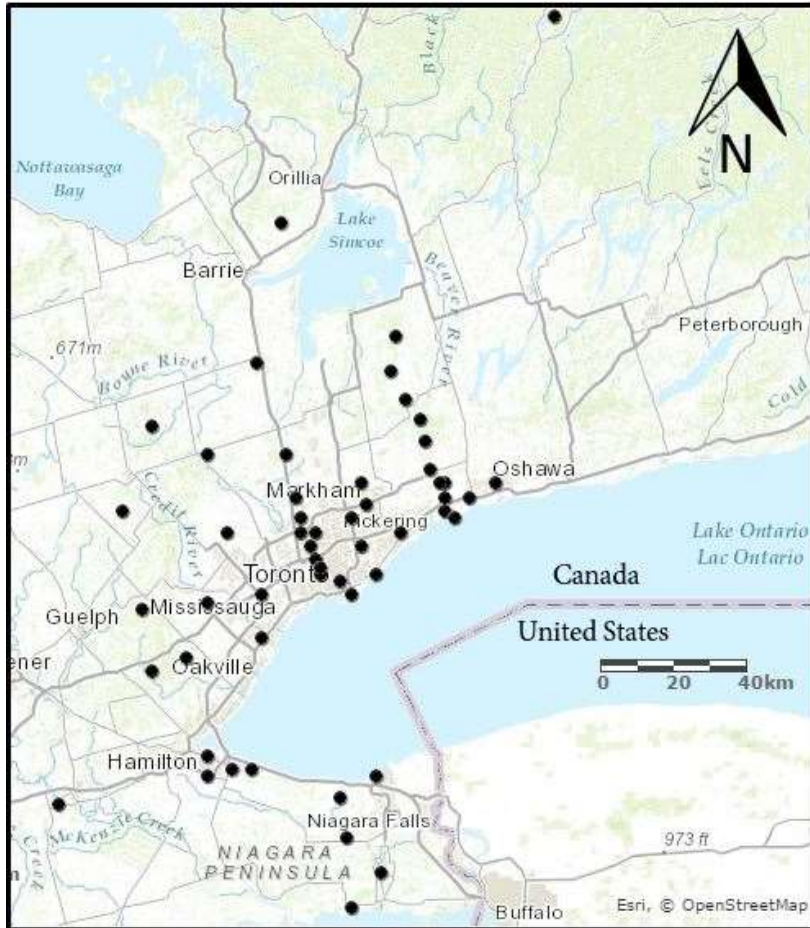


Figure S1. Mesonet monitoring network stations (black circles) dispersed across the Games area.

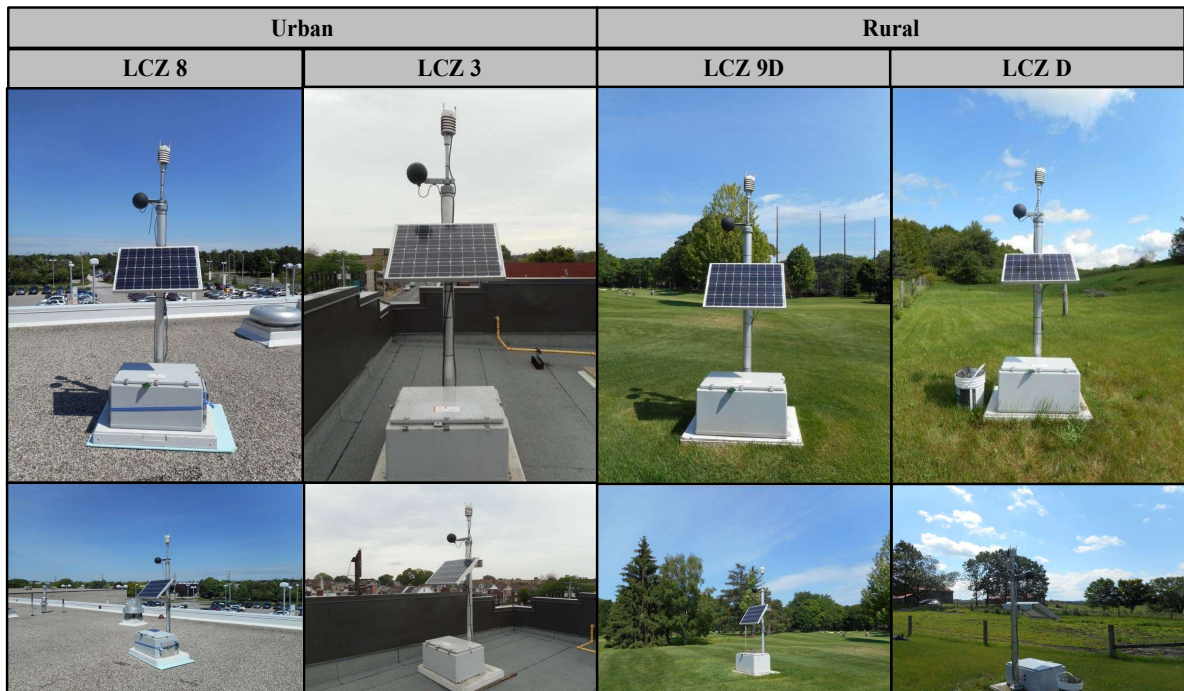


Figure S2. Urban and rural mesonet weather station LCZ examples.

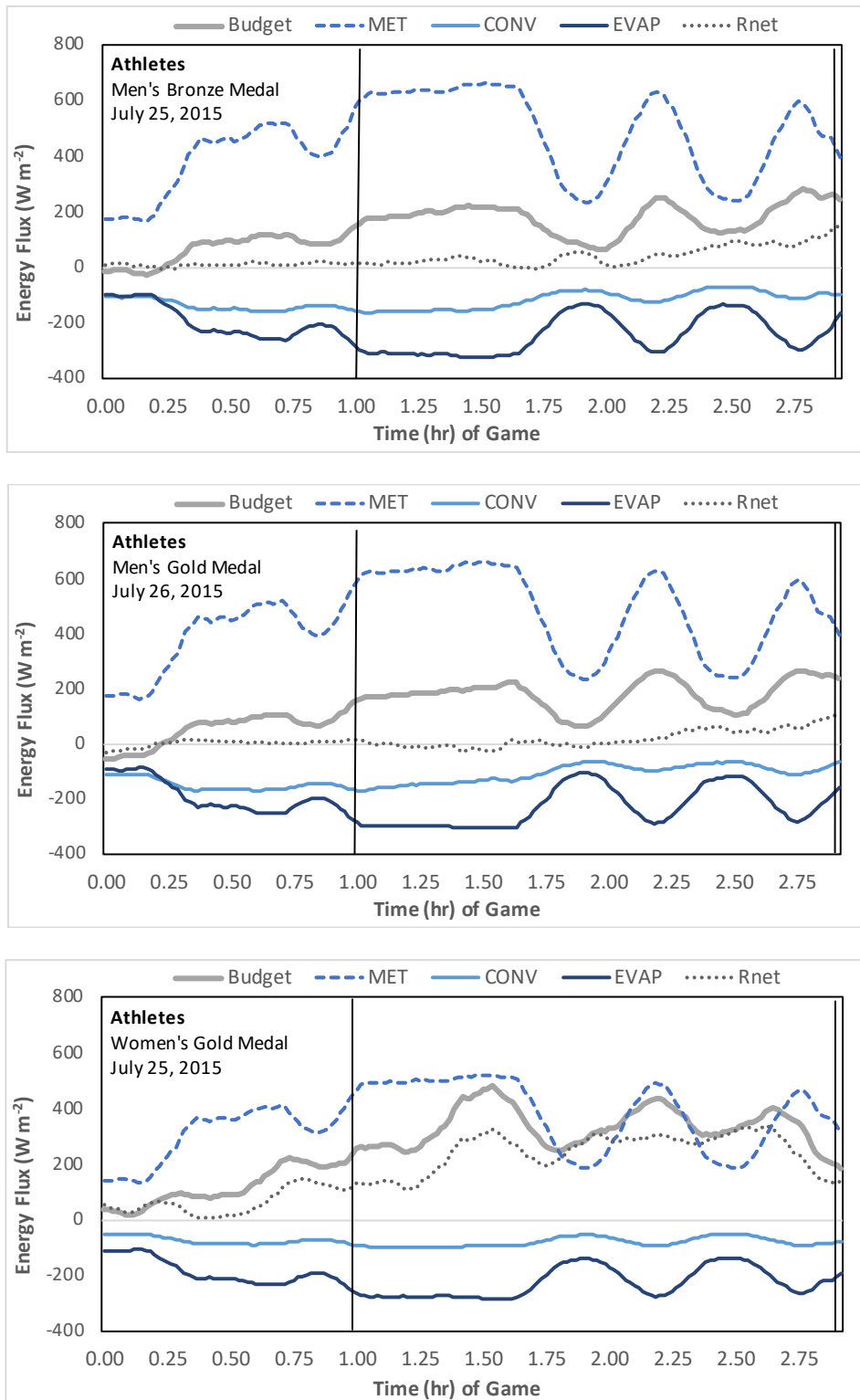


Figure S3. Energy budget and energy flux components (MET—metabolic activity; CONV—convective heat loss; EVAP—evaporative heat loss; R_{net} —net difference between absorbed radiation and emitted radiation by the body) for each game.

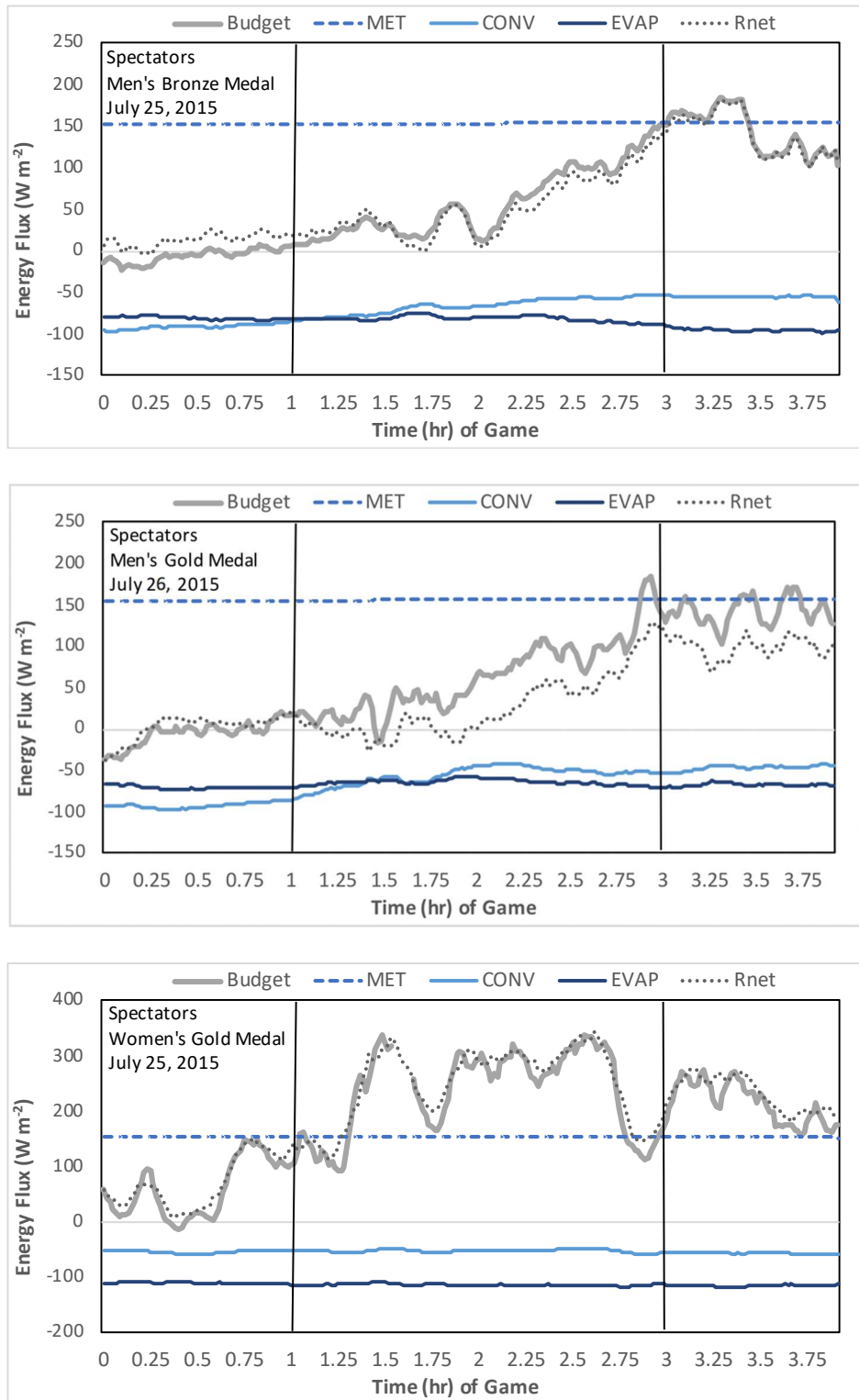


Figure S4. Energy budget and energy flux components (MET—metabolic activity; CONV—convective heat loss; EVAP—evaporative heat loss; R_{net} —net difference between absorbed radiation and emitted radiation by the body) for each game.