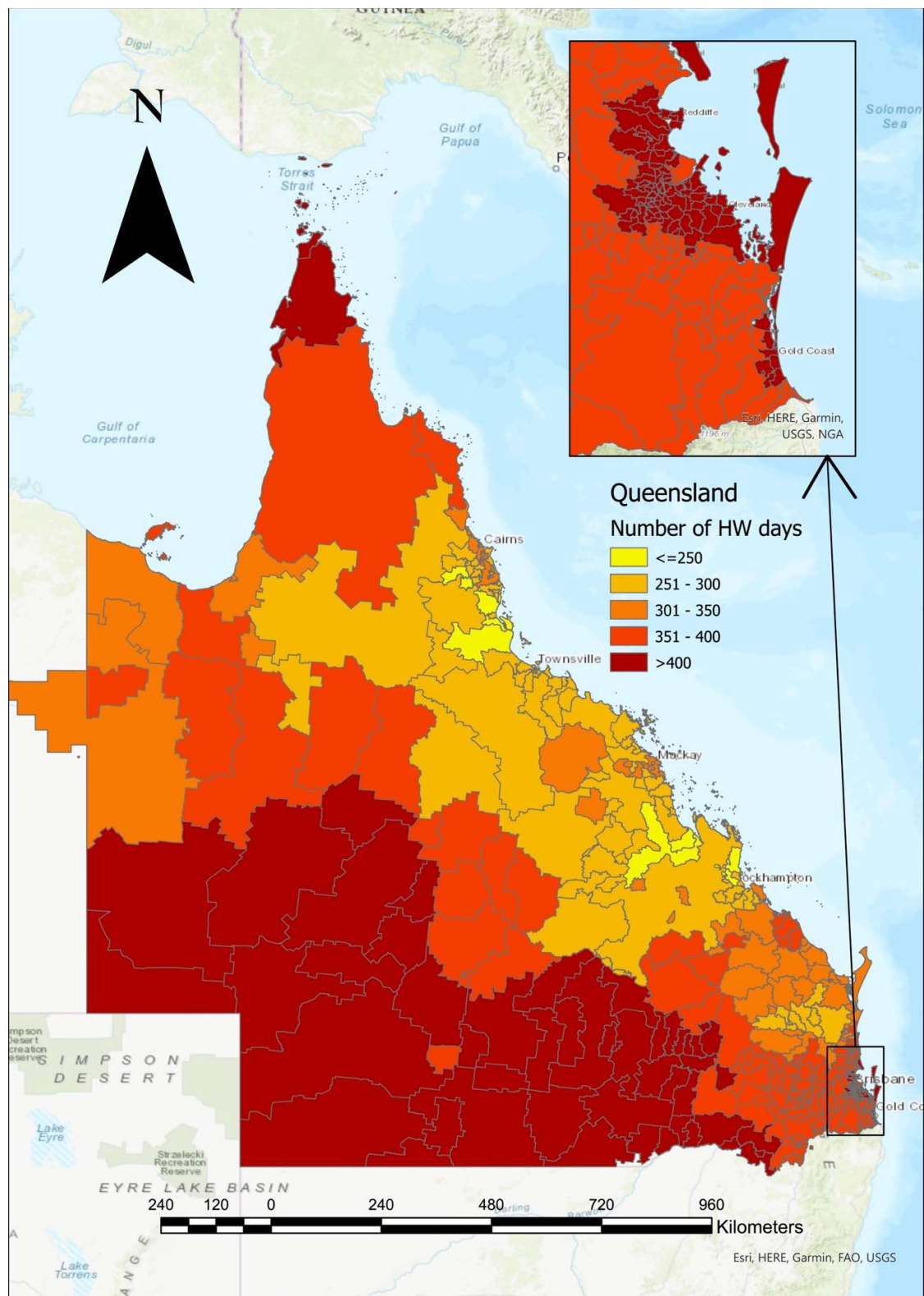


**Figure S1-** Number of heatwave days per postcode (Queensland; 2010-2019).

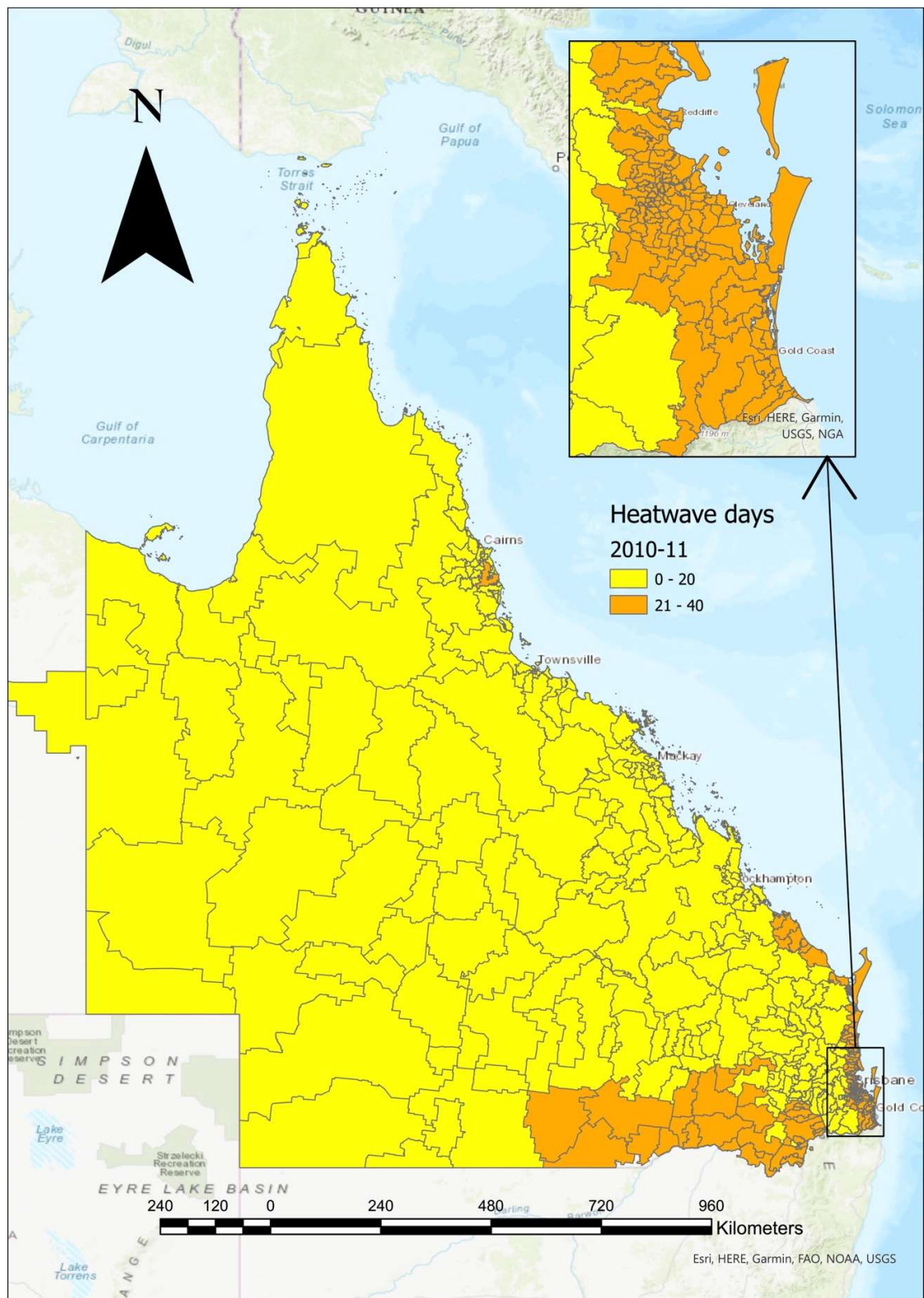


**Supplementary Table 1-** Suggested broad MPDS categories

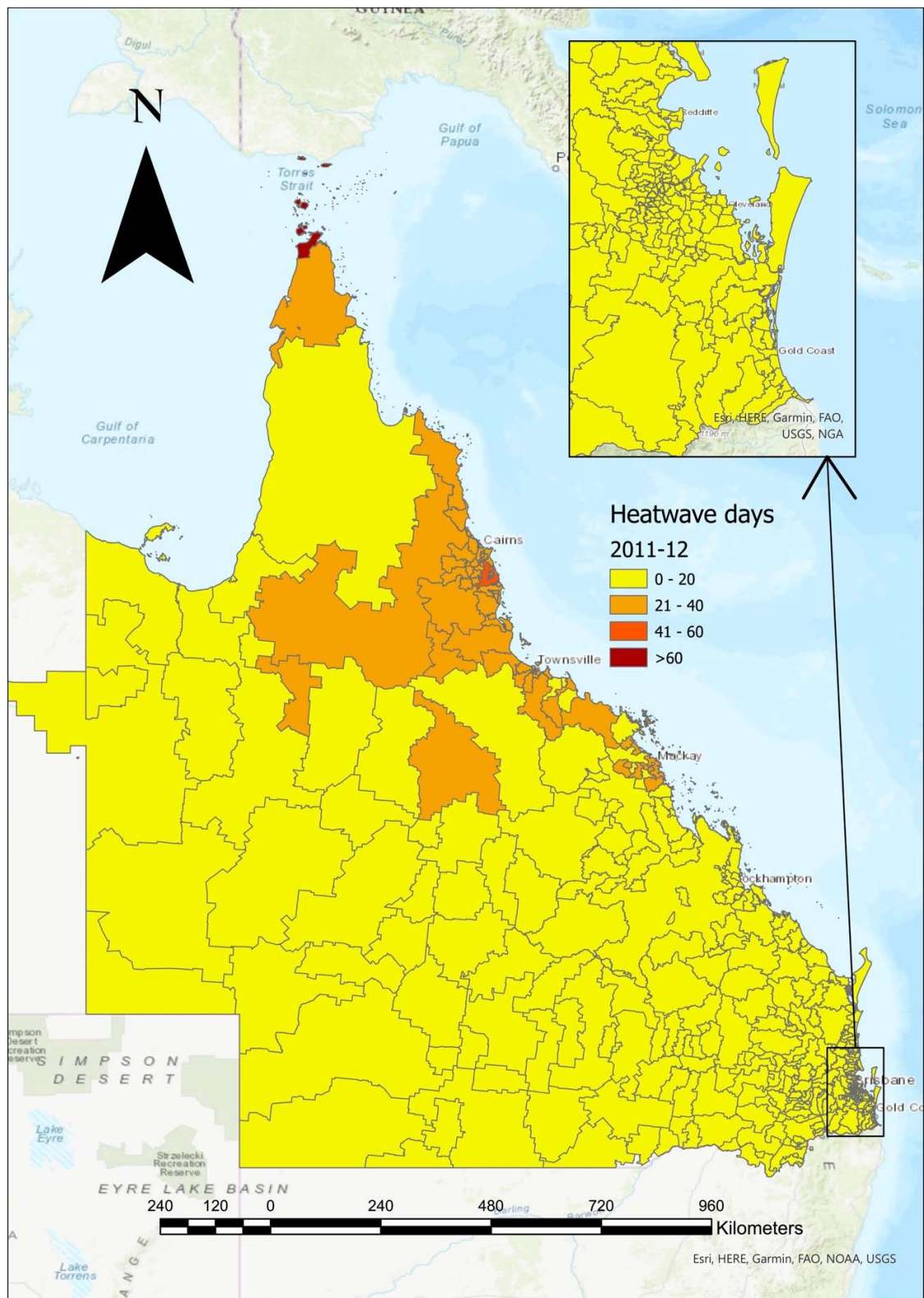
Cardiac	<p>9 - Cardiac or Respiratory Arrest / Death  10 - Chest Pain / Chest Discomfort (non-traumatic);  19 - Heart Problems (AICD)</p> <p>[note: there is some crossover between subgroups of card 9 and other categories (e.g., intentional trauma resulting in cardiac arrest (which could be coded to mental health or injury), or unintentional trauma resulting in cardiac arrest (which could be coded to injury).</p>
Stroke	28 -Stroke (CVA ) / Transient Ischaemic Attack (TIA)
Mental Health	25 -Psychiatric / Abnormal Behaviour / Suicide Attempt.
Specified Medical	<p>1 - Abdominal pain/problems;  2 – allergies (include only 02E01, 02D01, 02D02, 02C01, 02C02, 02B01, 02A01, as other codes relate to envenomation);  5 - back pain (non-traumatic or non-recent trauma);  12 - convulsions/fittings  13 - diabetic problems;  16 – eye problems (only 16D01, 16A03)  18 - headache;  21 haemorrhage (medical related) – includes only 21C01, 21C02, 21C03, 21B03, 21B04, and any codes with suffix M (others are trauma related)  26 - sick persons (specific diagnosis)  31 - unconscious fainting (near);  32 - unknown problems (collapse, 3rd party);</p>
Obstetric	24 – pregnancy / childbirth/ miscarriage
Respiratory	6 - breathing problems;

Injuries	<p>2 – allergies/bites/stings (envenomation) – this includes only 02D03, 02D04, 02D05, 02D06, 02D07, 02A02 [all other 02 codes are most likely allergies]</p> <p>3 – animal bites/attacks;</p> <p>4 – assault/sexual assault;</p> <p>7 – burns (scalds) / explosion (blast);</p> <p>8 – hazardous exposure (carbon monoxide, inhalation / chemical, biological, radiological, nuclear);</p> <p>11 – choking;</p> <p>14 – drowning/near drowning /diving/scuba incident;</p> <p>15 – electrocution / lightning;</p> <p>16 – eye injuries [includes 16B01, 16A01, 16A02]; [other 16 codes are not injuries]</p> <p>17 – falls;</p> <p>21 – haemorrhage/lacerations; [this <b>excludes</b> 21C01, 21C02, 21C03, 21B03, 21B04, and any codes with suffix M, as these are all medically related, not injury-related]</p> <p>22 – inaccessible incident /other entrapments (non-traffic)</p> <p>23 – overdose/poisoning (ingestion);</p> <p>27 – stab / gunshot / penetrating trauma;</p> <p>29 – traffic/transport incidents</p> <p>30 – traumatic injuries (specific)</p>
Heat/cold exposure	Codes with suffix H are heat-related; codes with suffix C are cold-related

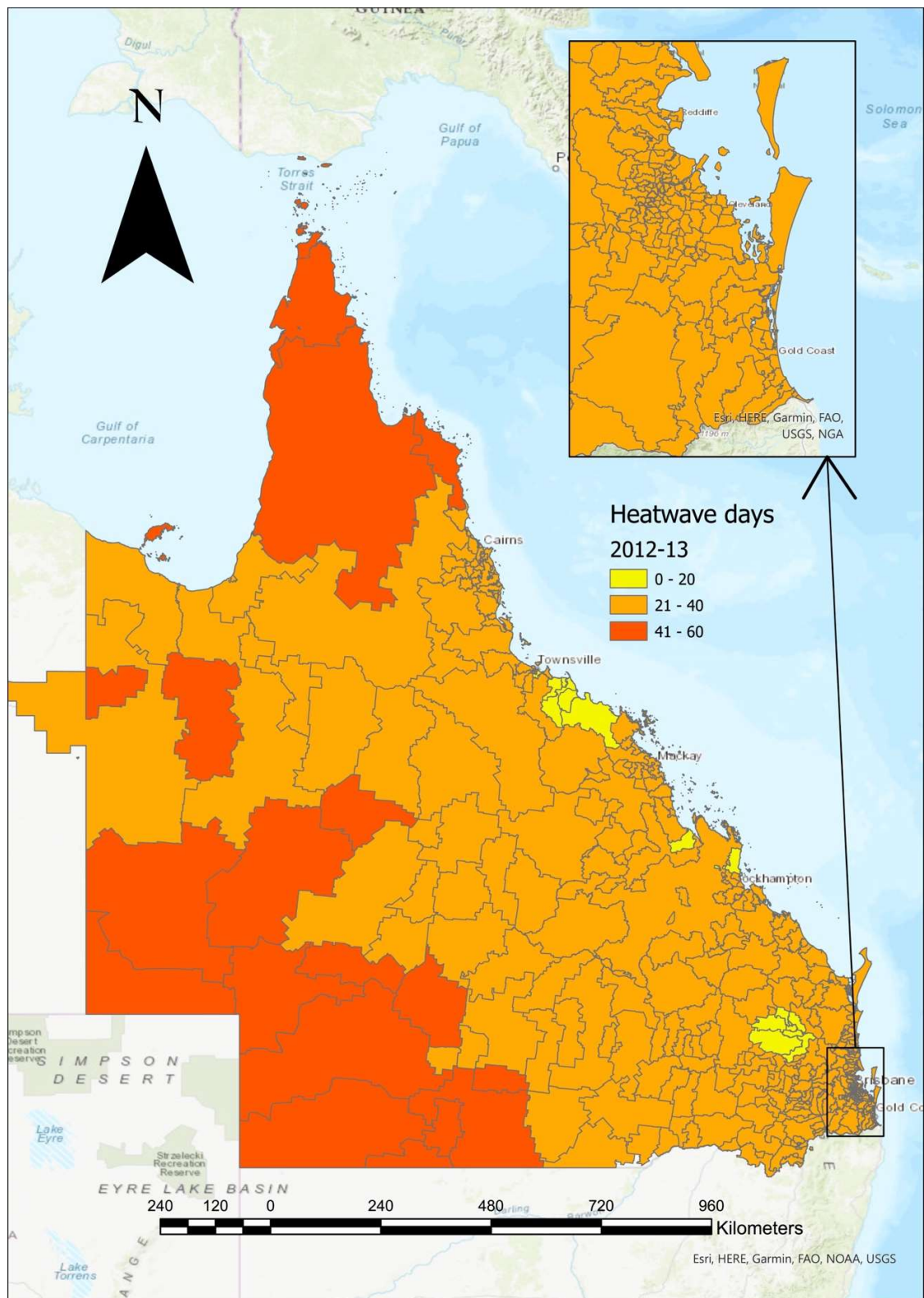
**Figure S2-** Number of heatwave days per postcode (Queensland; 2010-2011).



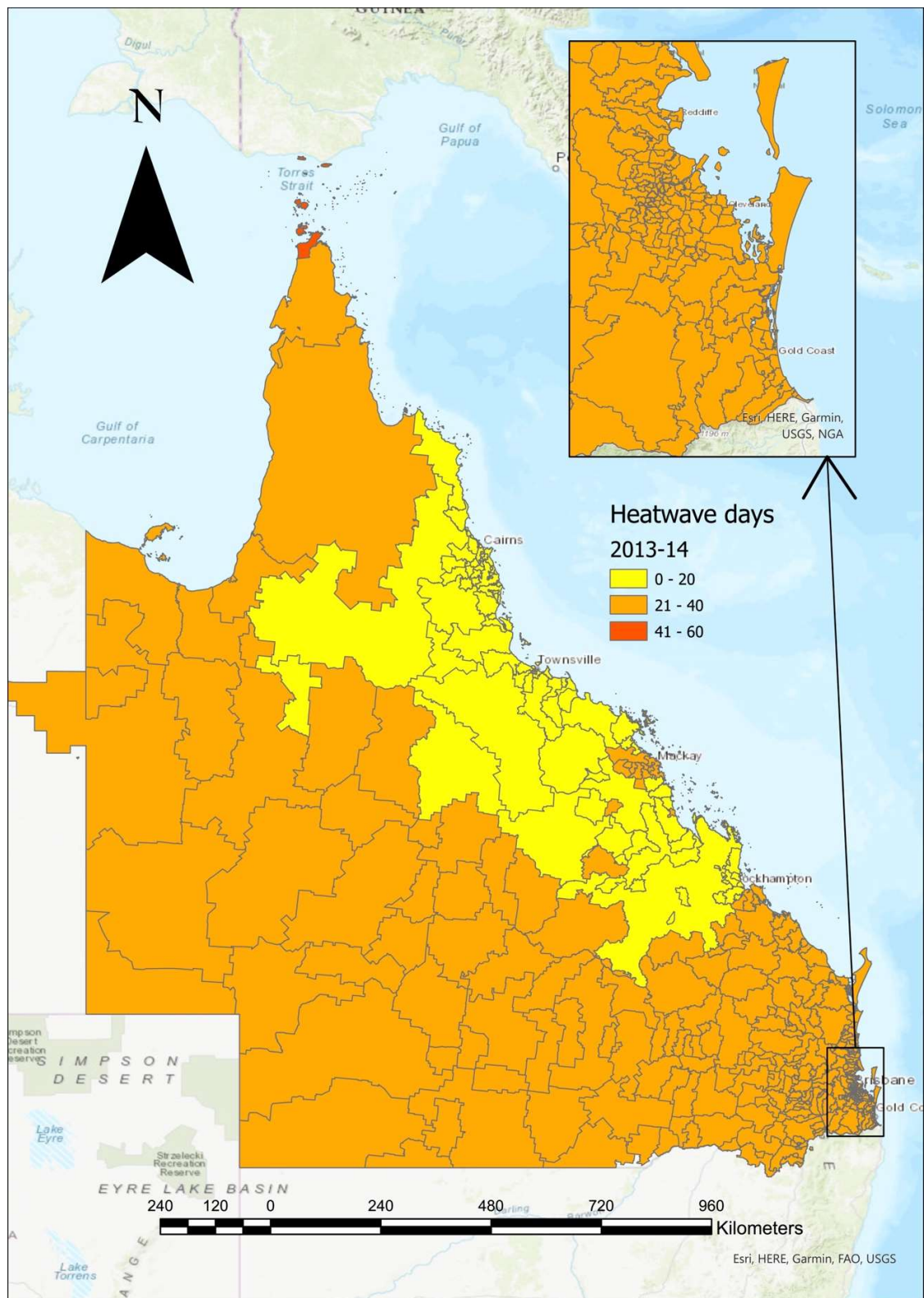
**Figure S3-** Number of heatwave days per postcode (Queensland; 2011-2012).



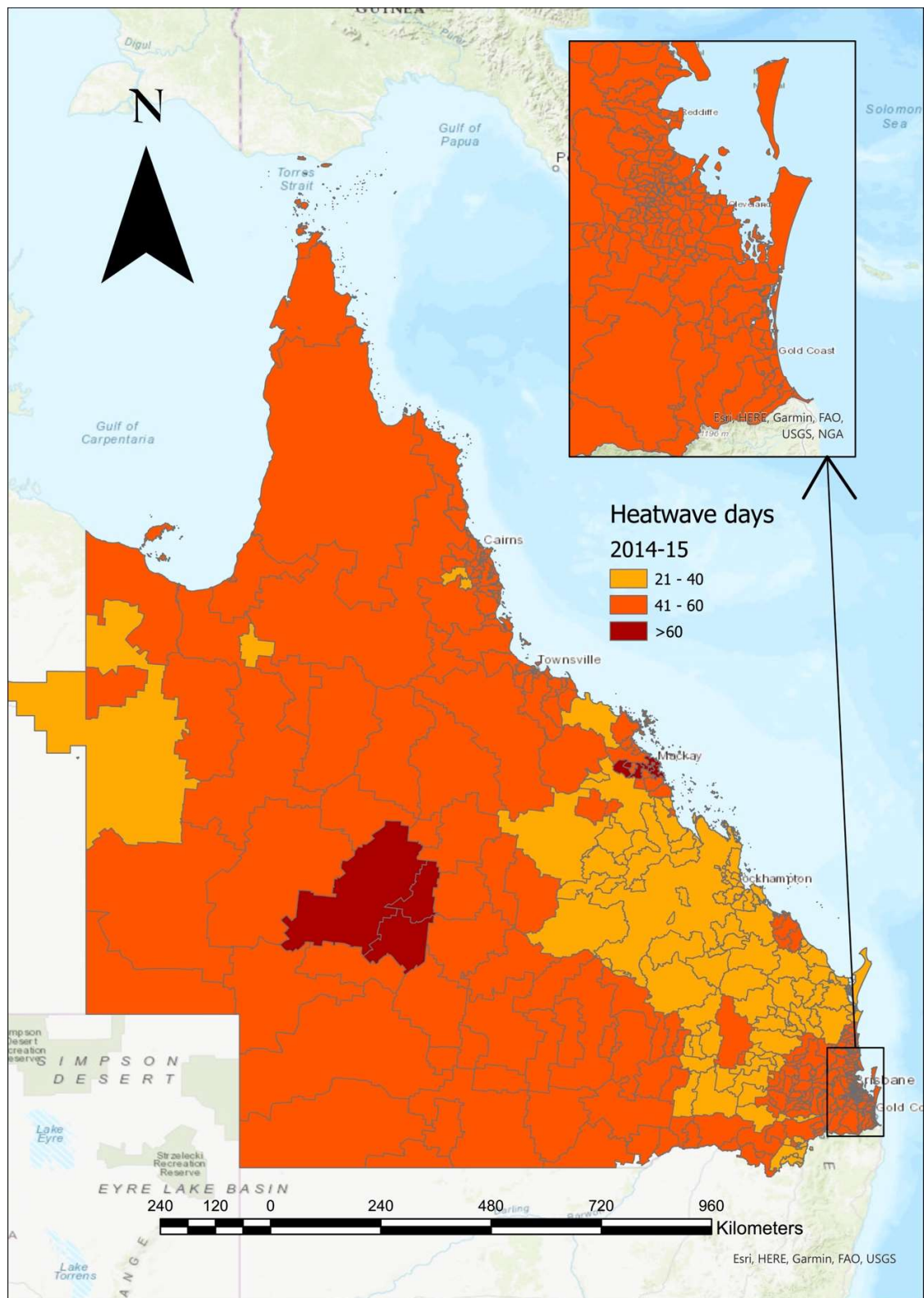
**Figure S4-** Number of heatwave days per postcode (Queensland; 2012-2013).



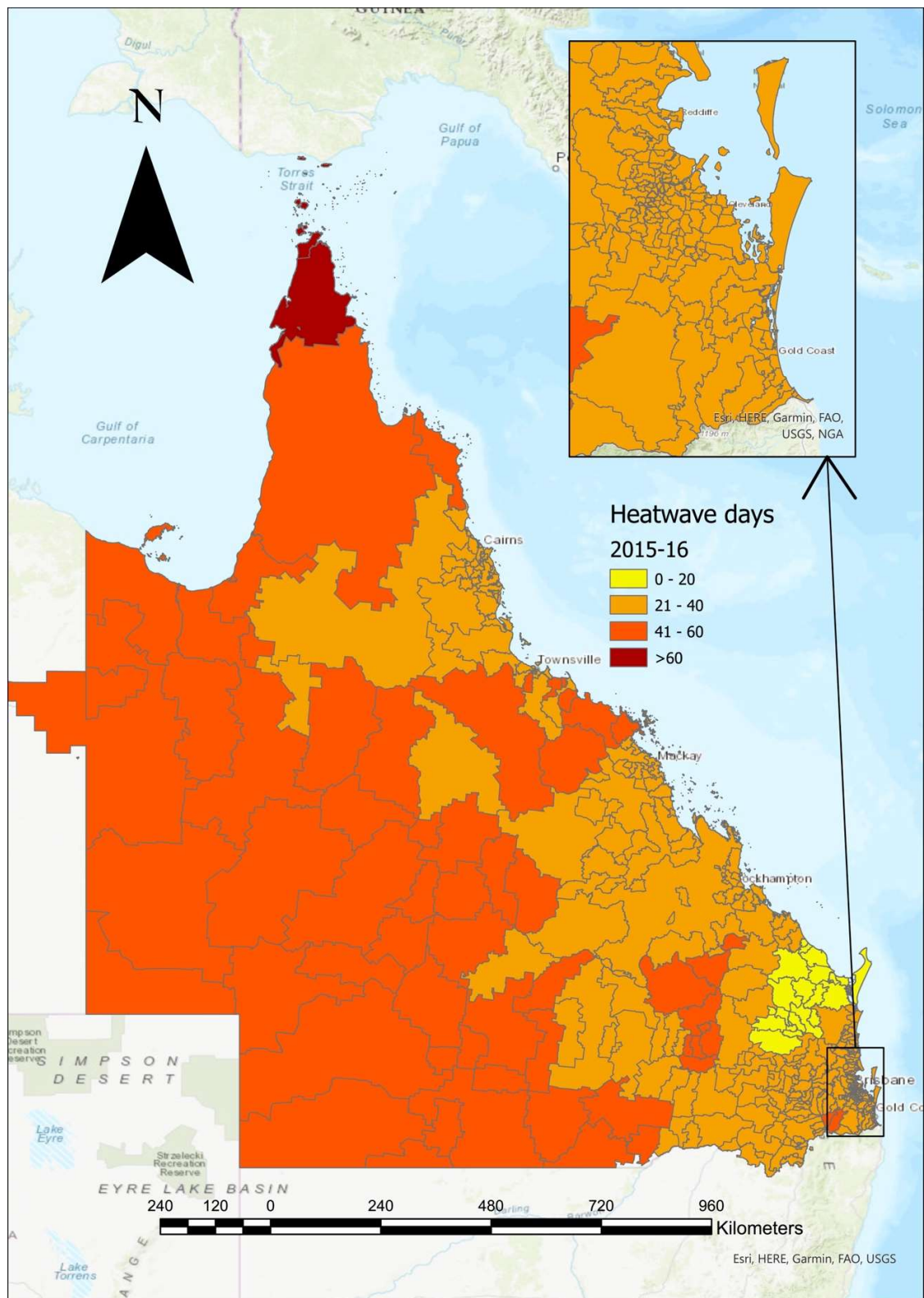
**Figure S5-** Number of heatwave days per postcode (Queensland; 2013-2014).



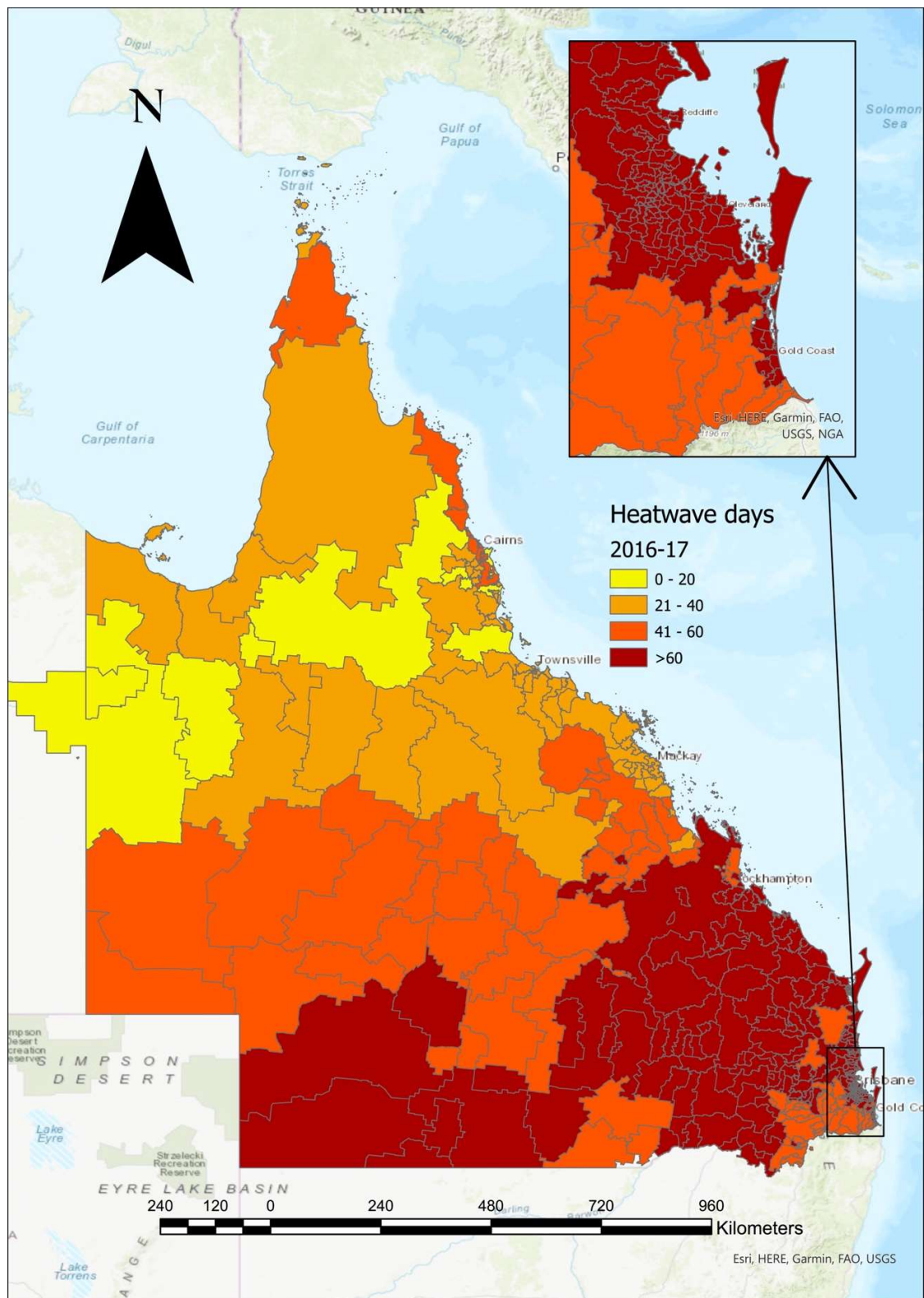
**Figure S6-** Number of heatwave days per postcode (Queensland; 2014-2015).



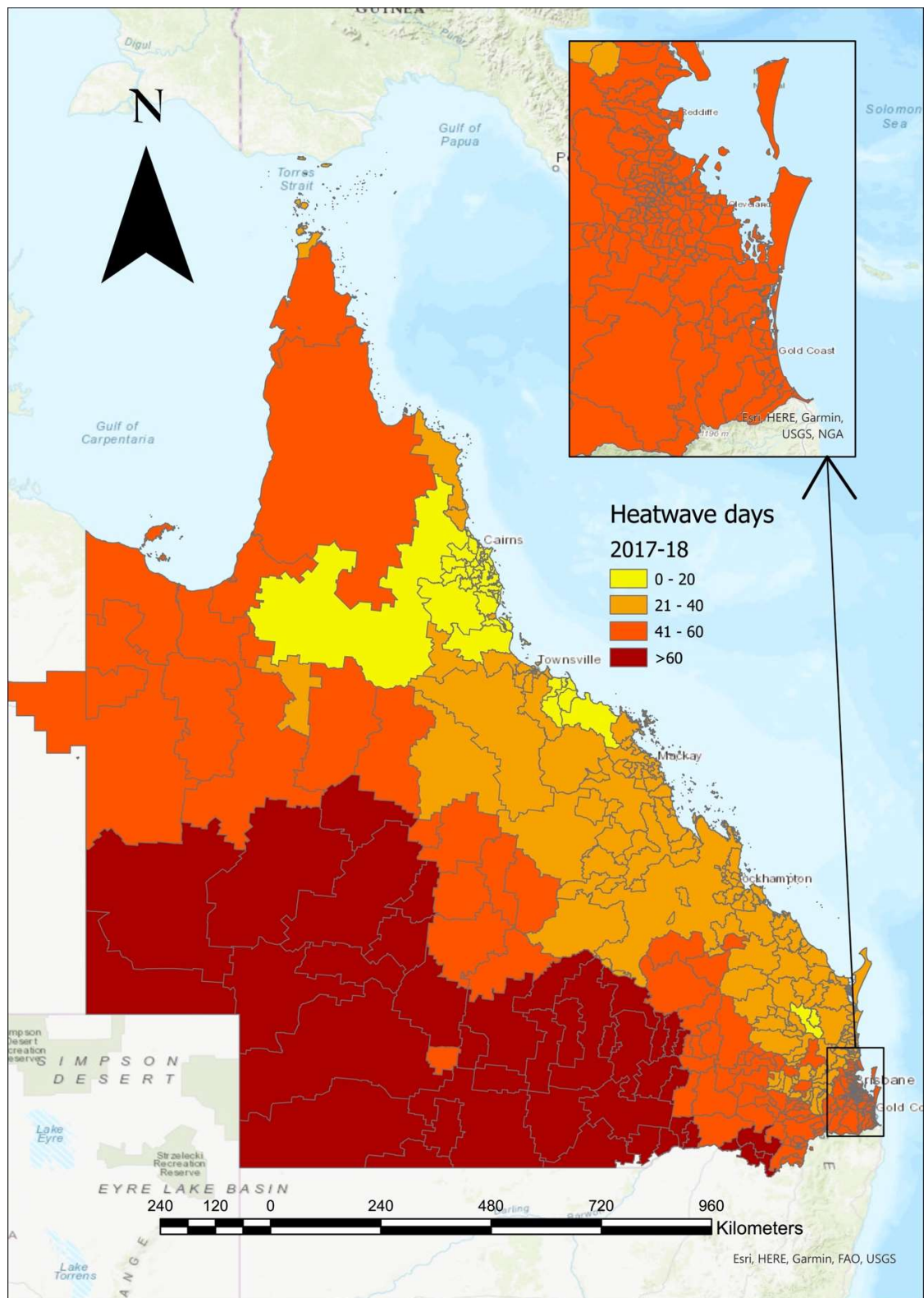
**Figure S7-** Number of heatwave days per postcode (Queensland; 2015-2016).



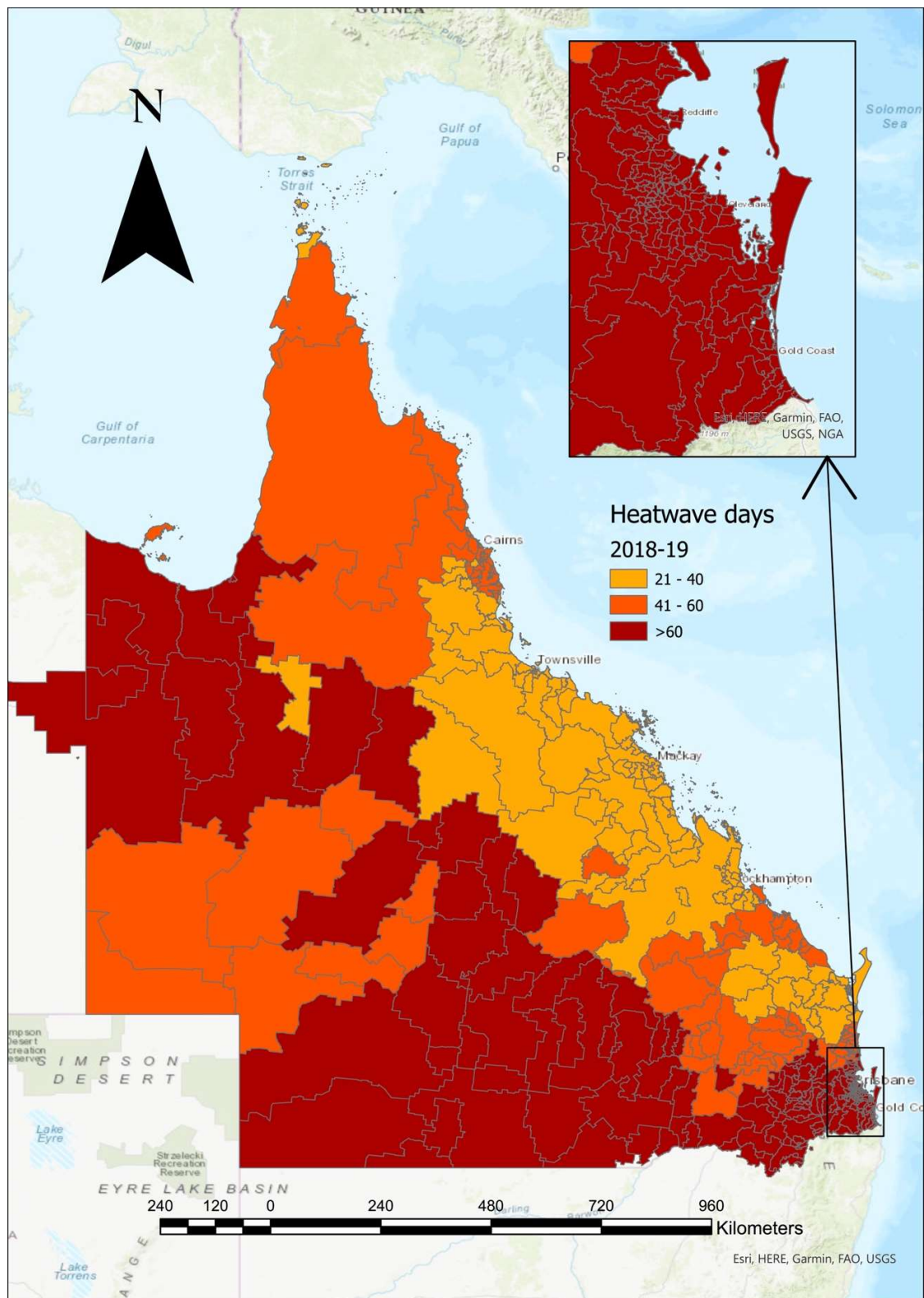
**Figure S8-** Number of heatwave days per postcode (Queensland; 2016-2017).



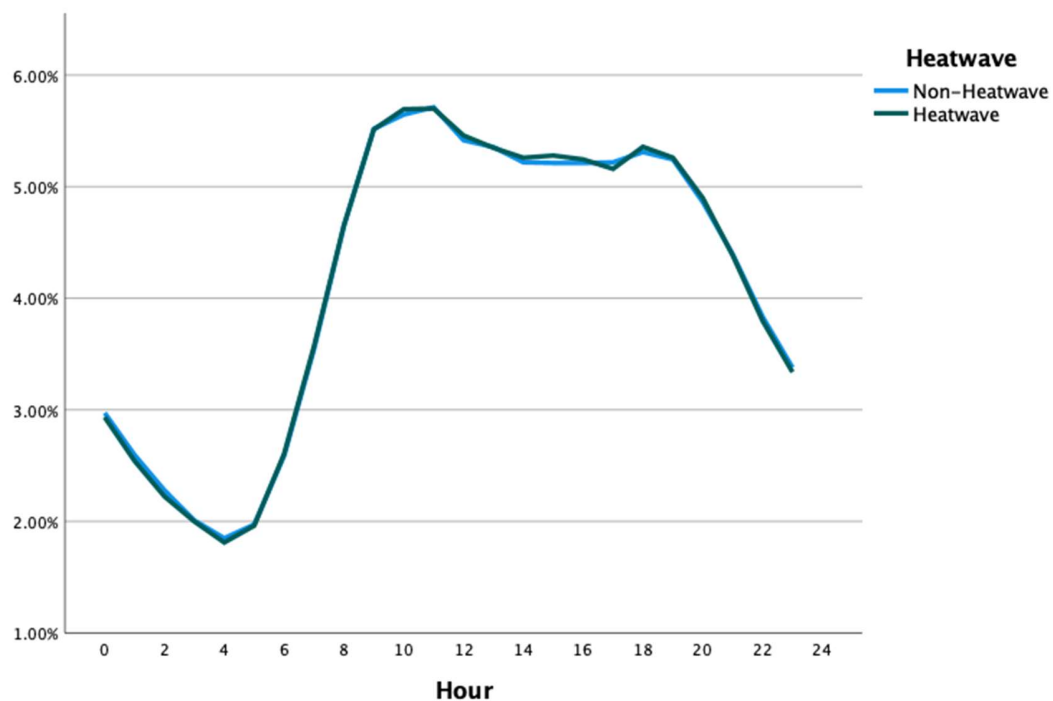
**Figure S9-** Number of heatwave days per postcode (Queensland; 2017-2018).



**Figure S10-** Number of heatwave days per postcode (Queensland; 2018-2019).



**Figure S11-** Proportion of ambulance calls by hour of the day for heatwaves vs. non-heatwave days (Queensland; 01 January 2010 to 31 December 2019)



**Figure S12-** Crosstabulation and chi-square analysis of heatwave by hour of the day

Hour * Heatwave Crosstabulation					Chi-Square Tests			
Hour		Heatwave		Total		Value	df	Asymptotic Significance (2-sided)
		0	1					
0	Count	52163	21724	73887	Pearson Chi-Square	44.357 <sup>a</sup>	23	.005
	% within Heatwave	3.0%	2.9%	3.0%	Likelihood Ratio	44.405	23	.005
1	Count	45546	18820	64366	Linear-by-Linear Association	3.575	1	.059
	% within Heatwave	2.6%	2.5%	2.6%	N of Valid Cases	2495269		
2	Count	39984	16462	56446	a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13606.55.			
	% within Heatwave	2.3%	2.2%	2.3%				
3	Count	35244	14800	50044				
	% within Heatwave	2.0%	2.0%	2.0%				
4	Count	32447	13409	45856				
	% within Heatwave	1.8%	1.8%	1.8%				
5	Count	34612	14524	49136				
	% within Heatwave	2.0%	2.0%	2.0%				
6	Count	45425	19292	64717				
	% within Heatwave	2.6%	2.6%	2.6%				
7	Count	62199	26429	88628				
	% within Heatwave	3.5%	3.6%	3.6%				
8	Count	81582	34460	116042				
	% within Heatwave	4.6%	4.7%	4.7%				
9	Count	96850	40826	137676				
	% within Heatwave	5.5%	5.5%	5.5%				
10	Count	99096	42163	141259				
	% within Heatwave	5.6%	5.7%	5.7%				
11	Count	100240	42210	142450				
	% within Heatwave	5.7%	5.7%	5.7%				
12	Count	95056	40422	135478				
	% within Heatwave	5.4%	5.5%	5.4%				
13	Count	93985	39603	133588				
	% within Heatwave	5.4%	5.3%	5.4%				
14	Count	91584	38942	130526				
	% within Heatwave	5.2%	5.3%	5.2%				
15	Count	91488	39090	130578				
	% within Heatwave	5.2%	5.3%	5.2%				
16	Count	91474	38833	130307				
	% within Heatwave	5.2%	5.2%	5.2%				
17	Count	91579	38207	129786				
	% within Heatwave	5.2%	5.2%	5.2%				
18	Count	93199	39670	132869				
	% within Heatwave	5.3%	5.4%	5.3%				
19	Count	92050	38949	130999				
	% within Heatwave	5.2%	5.3%	5.2%				
20	Count	85339	36274	121613				
	% within Heatwave	4.9%	4.9%	4.9%				
21	Count	77132	32461	109593				
	% within Heatwave	4.4%	4.4%	4.4%				
22	Count	67292	28119	95411				
	% within Heatwave	3.8%	3.8%	3.8%				
23	Count	59298	24716	84014				
	% within Heatwave	3.4%	3.3%	3.4%				
Total	Count	1754864	740405	2495269				
	% within Heatwave	100.0%	100.0%	100.0%				

**Figure S13-** Crosstabulation and chi-square analysis of heatwave by day of the week

Heatwave \* Monday=1, Sunday= 7 Crosstabulation

		Heatwave		Total		
		0	1			
Monday=1, Sunday= 7	1.00	Count	254868 <sup>a</sup>	107017 <sup>a</sup>	361885	
		Expected Count	254505.2	107379.8	361885.0	
	2.00	Count	250518 <sup>b</sup>	103080 <sup>b</sup>	353598	
		Expected Count	248677.2	104920.8	353598.0	
	3.00	Count	253208 <sup>c</sup>	109972 <sup>c</sup>	363180	
		Expected Count	255416.0	107764.0	363180.0	
	4.00	Count	242264 <sup>d</sup>	108915 <sup>d</sup>	351179	
		Expected Count	246975.9	104203.1	351179.0	
	5.00	Count	253195 <sup>e</sup>	97188 <sup>e</sup>	350383	
		Expected Count	246416.1	103966.9	350383.0	
	6.00	Count	248289 <sup>a, b</sup>	103368 <sup>a, b</sup>	351657	
		Expected Count	247312.1	104344.9	351657.0	
	7.00	Count	252522 <sup>c</sup>	110865 <sup>c</sup>	363387	
		Expected Count	255561.5	107825.5	363387.0	
Total		Count	1754864	740405	2495269	
		Expected Count	1754864.0	740405.0	2495269.0	

Each subscript letter denotes a subset of Monday=1, Sunday= 7 categories whose column proportions do not differ significantly from each other at the .05 level.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1178.279 <sup>a</sup>	6	<.001
Likelihood Ratio	1183.242	6	<.001
Linear-by-Linear Association	4.139	1	.042
N of Valid Cases	2495269		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 103966.88.

**Figure S14-** Crosstabulation and chi-square analysis of heatwave by medical condition

BroadMPDS * Heatwave Crosstabulation					Chi-Square Tests		
		Heatwave		Total	Value	df	Asymptotic Significance (2-sided)
		0	1				
BroadMPDS	Cardiac	Count	206837 <sup>a</sup>	85673 <sup>b</sup>	292510		
		Expected Count	205715.4	86794.6	292510.0		
	Cold exposure	Count	84 <sup>a</sup>	37 <sup>a</sup>	121		
		Expected Count	85.1	35.9	121.0		
	Heat exposure	Count	2096 <sup>a</sup>	3278 <sup>b</sup>	5374		
		Expected Count	3779.4	1594.6	5374.0		
	Injuries	Count	481238 <sup>a</sup>	193272 <sup>b</sup>	674510		
		Expected Count	474367.0	200143.0	674510.0		
	Mental Health	Count	80745 <sup>a</sup>	37567 <sup>b</sup>	118312		
		Expected Count	83206.0	35106.0	118312.0		
	Obstetric	Count	16218 <sup>a</sup>	6586 <sup>b</sup>	22804		
		Expected Count	16037.5	6766.5	22804.0		
	Other/Transport	Count	247108 <sup>a</sup>	106931 <sup>b</sup>	354039		
		Expected Count	248987.3	105051.7	354039.0		
	Respiratory	Count	128722 <sup>a</sup>	51917 <sup>b</sup>	180639		
		Expected Count	127039.2	53599.8	180639.0		
	Specified Medical	Count	563287 <sup>a</sup>	243322 <sup>b</sup>	806609		
		Expected Count	567269.1	239339.9	806609.0		
	Stroke	Count	28529 <sup>a</sup>	11822 <sup>a</sup>	40351		
		Expected Count	28377.9	11973.1	40351.0		
Total		Count	1754864	740405	2495269		
		Expected Count	1754864.0	740405.0	2495269.0		

Each subscript letter denotes a subset of Heatwave categories whose column proportions do not differ significantly from each other at the .05 level.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3355.065 <sup>a</sup>	9	.000
Likelihood Ratio	3080.295	9	.000
N of Valid Cases	2495269		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 35.90.