

1 Information deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.09 (0.06)	0.11** (0.03)	0.20*** (0.03)	0.12* (0.05)	0.18*** (0.03)	0.45 (0.43)	0.43 (0.41)	0.72 (0.40)	0.55 (0.40)	0.64 (0.40)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)
nrchildren						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Country variables										
DisVic	0.16 (0.10)					0.15 (0.10)				
DisVic_climo		0.37* (0.15)				0.30* (0.14)				
DisVic_geo			-0.23 (0.16)					-0.10 (0.15)		
DisVic_hydro				0.14 (0.10)					0.17 (0.10)	
DisVic_meteo					0.03 (0.10)					0.10 (0.09)
Year										-0.01 (0.01)
Democracy										0.01 (0.01)
GDP										-0.00 (0.01)
QoG										-0.11 (0.07)
Country variance	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Child variance	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Num. obs.	1409609	1409609	1409609	1409609	1409609	1409512	1409512	1409512	1409512	1409512
DIC	1134514	1134514	1134514	1134514	1134514	1077955	1077955	1077955	1077955	1077955

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is information deprivation

Table 1: Disaster victims and information deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.17*** (0.03)	0.15*** (0.03)	0.19*** (0.03)	0.16*** (0.03)	0.17*** (0.02)	0.70* (0.40)	0.58 (0.41)	0.77* (0.40)	0.71* (0.41)	0.71* (0.40)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)
nrchildren						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Country variables										
DisFre	3.50 (3.05)					0.94 (2.75)				
DisFre_climo		62.66* (28.07)					34.01 (25.87)			
DisFre_geo			-30.69 (47.82)					-46.05 (41.52)		
DisFre_hydro									0.73 (5.28)	
DisFre_meteo					5.89 (7.15)					3.05 (6.33)
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01* (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)
GDP						-0.11* (0.07)	-0.10 (0.07)	-0.13* (0.07)	-0.12* (0.07)	-0.12* (0.07)
QoG						-0.11* (0.06)	-0.11* (0.06)	-0.12* (0.06)	-0.11* (0.06)	-0.11* (0.06)
Country variance	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Child variance	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Num. obs.	1409609	1409609	1409609	1409609	1409609	1409512	1409512	1409512	1409512	1409512
DIC	1134514	1134514	1134514	1134514	1134514	1077955	1077955	1077955	1077955	1077955

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is information deprivation

Table 2: Disaster frequencies and information deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	-0.01 (0.09)	0.03 (0.06)	0.07 (0.05)	0.04 (0.08)	0.05 (0.05)	0.46 (0.44)	0.47 (0.42)	0.54 (0.41)	0.65 (0.42)	0.79* (0.40)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)
nrchildren						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Country variables										
DisVic	0.11 (0.16)					0.15 (0.16)				
QoG	-0.10 (0.12)	-0.11 (0.07)	-0.19** (0.06)	-0.06 (0.11)	-0.16** (0.06)	-0.12 (0.12)	-0.08 (0.08)	-0.08 (0.11)	-0.13 (0.07)	-0.16* (0.07)
DisVic:QoG	-0.15 (0.21)					-0.00 (0.21)				
DisVic.climo		0.09 (0.30)				0.04 (0.29)				
DisVic.climo:QoG		-0.46 (0.39)				-0.39 (0.38)				
DisVic.geo			0.10 (0.28)							0.28 (0.26)
DisVic.geo:QoG			0.55 (0.56)							0.88 (0.53)
DisVic.hydro				0.04 (0.15)				0.13 (0.15)		
DisVic.hydro:QoG				-0.27 (0.22)				-0.09 (0.22)		
DisVic.meteo					0.07 (0.15)				0.11 (0.14)	
DisVic.meteo:QoG					-0.09 (0.24)				0.02 (0.23)	
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)
GDP						-0.08 (0.07)	-0.08 (0.07)	-0.09 (0.07)	-0.11 (0.07)	-0.13* (0.07)
Country variance	0.02	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02
Child variance	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Num. obs.	1409609	1409609	1409609	1409609	1409609	1409512	1409512	1409512	1409512	1409512
DIC	1134514	1134514	1134514	1134514	1134514	1077955	1077955	1077955	1077955	1077955

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^c*dot* $p < 0.1$. Dependent variable is information deprivation

Table 3: Disaster victims and information deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.06 (0.05)	0.07 (0.05)	0.08* (0.04)	0.06 (0.05)	0.07 (0.04)	0.70* (0.42)	0.61 (0.42)	0.80* (0.41)	0.71* (0.42)	0.71* (0.41)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)	0.15*** (0.00)
nrchildren						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Country variables										
DisFre	3.09 (7.29)					1.95 (6.78)				
QoG	-0.16** (0.06)	-0.14* (0.06)	-0.16** (0.06)	-0.16** (0.06)	-0.16** (0.05)	-0.12* (0.07)	-0.10 (0.07)	-0.13* (0.07)	-0.12* (0.07)	-0.12* (0.07)
DisFre:QoG	0.52 (6.69)					0.98 (6.21)				
DisFre_climo		24.46 (74.13)					-2.48 (70.98)			
DisFre_climo:QoG		-32.74 (75.61)					-40.04 (72.05)			
DisFre_geo			-25.68 (97.32)				4.68 (89.11)			
DisFre_geo:QoG			-6.00 (148.76)				87.72 (138.17)			
DisFre_hydro				6.27 (15.98)				1.55 (14.89)		
DisFre_hydro:QoG				1.65 (13.97)				0.71 (12.96)		
DisFre_meteo					6.91 (15.04)					8.06 (13.98)
DisFre_meteo:QoG					2.41 (14.55)					5.34 (13.47)
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)
GDP						-0.12* (0.07)	-0.10 (0.07)	-0.13* (0.07)	-0.12* (0.07)	-0.12* (0.07)
Country variance	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Child variance	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Num. obs.	1409609	1409609	1409609	1409609	1409609	1409512	1409512	1409512	1409512	1409512
DIC	1134514	1134514	1134514	1134514	1134514	1077955	1077955	1077955	1077955	1077955

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{dot} $p < 0.1$. Dependent variable is information deprivation

Table 4: Disaster frequencies and information deprivation - interactive models

2 Food deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.09** (0.03)	0.10*** (0.02)	0.14*** (0.01)	0.11*** (0.03)	0.13*** (0.01)	0.50* (0.20)	0.44* (0.19)	0.55** (0.18)	0.54** (0.19)	0.56*** (0.19)
Child variables										
age						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Male						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
rural						0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.07 (0.05)					0.04 (0.05)				
DisVic_climo		0.15 (0.08)				0.13* (0.07)				
DisVic_geo			-0.17 (0.09)					-0.14 (0.07)		
DisVic_hydro									0.02 (0.05)	
DisVic_meteo					-0.07 (0.07)					-0.04 (0.06)
Year									0.00 (0.00)	0.00 (0.00)
Democracy									0.00 (0.00)	0.00 (0.00)
GDP										
QoG										
Country variance	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Child variance	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Num. obs.	409667	409667	409667	409667	409667	409624	409624	409624	409624	409624
DIC	269779	269779	269779	269779	269779	267022	267022	267022	267022	267022

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} , $p < 0.1$. Dependent variable is food deprivation

Table 5: Disaster victims and food deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.13*** (0.01)	0.12*** (0.01)	0.13*** (0.01)	0.13*** (0.01)	0.13*** (0.01)	0.56*** (0.19)	0.52** (0.19)	0.57** (0.19)	0.57** (0.19)	0.55** (0.19)
Child variables										
age						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Male						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
rural						0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	0.07 (1.77)					-1.04 (1.49)				
DisFre_climo		15.96 (13.13)					17.45 (11.07)			
DisFre_geo			-14.21 (24.13)					-17.62 (19.92)		
DisFre_hydro									-2.35 (2.73)	
DisFre_meteo										-3.61 (3.67)
Year										0.00 (0.00)
Democracy										0.00 (0.00)
GDP										0.00 (0.00)
QoG										0.00 (0.00)
Country variance	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Child variance	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Num. obs.	409667	409667	409667	409667	409667	409624	409624	409624	409624	409624
DIC	269779	269779	269779	269779	269779	267022	267022	267022	267022	267022

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is food deprivation

Table 6: Disaster frequencies and food deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.07 (0.05)	0.06 [*] (0.03)	0.08 ^{***} (0.02)	0.10 ^{**} (0.04)	0.07 ^{**} (0.02)	0.48 [*] (0.21)	0.44 [*] (0.20)	0.50 [*] (0.20)	0.59 ^{**} (0.19)	0.63 ^{***} (0.18)
Child variables										
age						0.01 ^{***} (0.00)	0.01 ^{***} (0.00)	0.01 ^{***} (0.00)	0.01 ^{***} (0.00)	0.01 ^{***} (0.00)
Male						0.01 ^{***} (0.00)	0.01 ^{***} (0.00)	0.01 ^{***} (0.00)	0.01 ^{***} (0.00)	0.01 ^{***} (0.00)
rural						0.05 ^{***} (0.00)	0.05 ^{***} (0.00)	0.05 ^{***} (0.00)	0.05 ^{***} (0.00)	0.05 ^{***} (0.00)
nrchildren						0.00 ^{***} (0.00)	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)
Country variables										
DisVic	0.01 (0.08)					-0.01 (0.08)				
QoG	-0.01 (0.06)	-0.06 [*] (0.03)	-0.10 ^{***} (0.03)	0.01 (0.05)	-0.09 ^{**} (0.03)	-0.01 (0.06)	-0.03 (0.04)	0.01 (0.05)	-0.08 [*] (0.03)	-0.08 ^{**} (0.03)
DisVic:QoG	-0.13 (0.10)					-0.08 (0.10)				
DisVic_climo		0.09 (0.13)					0.04 (0.12)			
DisVic_climo:QoG		-0.16 (0.17)					-0.15 (0.15)			
DisVic_geo			0.11 (0.16)							0.19 (0.14)
DisVic_geo:QoG			0.56 [*] (0.31)							0.74 ^{**} (0.28)
DisVic_hydro										
DisVic_hydro:QoG				-0.04 (0.07)				-0.04 (0.07)		
DisVic_meteo										
DisVic_meteo:QoG					0.04 (0.10)				0.06 (0.08)	
Year										
Democracy										
GDP										
Country variance	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
Child variance	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Num. obs.	409667	409667	409667	409667	409667	409624	409624	409624	409624	409624
DIC	269779	269779	269779	269779	269779	267022	267022	267022	267022	267022

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{c dot} $p < 0.1$. Dependent variable is food deprivation

Table 7: Disaster victims and food deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.06** (0.02)	0.05* (0.02)	0.07*** (0.02)	0.06** (0.02)	0.07*** (0.02)	0.54** (0.19)	0.43* (0.18)	0.63*** (0.18)	0.54** (0.19)	0.57** (0.19)
Child variables										
age						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Male						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
rural						0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)	0.05*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	8.13 (4.64)					7.54 (4.03)				
QoG	-0.09*** (0.02)	-0.11*** (0.02)	-0.10*** (0.02)	-0.09*** (0.02)	-0.09*** (0.02)	-0.07* (0.03)	-0.09*** (0.03)	-0.07* (0.03)	-0.07* (0.03)	-0.06 (0.03)
DisFre:QoG	8.12* (4.05)					7.96* (3.51)				
DisFre_climo		104.66*** (31.59)					101.98*** (27.59)			
DisFre_climo:QoG		135.95** (45.50)					129.71** (39.46)			
DisFre_geo			98.70 (63.15)					123.63* (53.83)		
DisFre_geo:QoG			184.80 (96.93)					234.34** (84.07)		
DisFre_hydro				15.06 (8.99)					12.28 (7.84)	
DisFre_hydro:QoG				14.82 (7.79)					13.43* (6.79)	
DisFre_meteo					12.38 (12.33)					14.14 (10.78)
DisFre_meteo:QoG					13.80 (10.37)					15.65 (9.00)
Year						0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Democracy						0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
GDP						-0.09** (0.03)	-0.08** (0.03)	-0.11*** (0.03)	-0.09** (0.03)	-0.09** (0.03)
Country variance	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Child variance	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Num. obs.	409667	409667	409667	409667	409667	409624	409624	409624	409624	409624
DIC	269779	269779	269779	269779	269779	267022	267022	267022	267022	267022

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is food deprivation

Table 8: Disaster frequencies and food deprivation - interactive models

3 Health deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.16** (0.05)	0.19*** (0.03)	0.22*** (0.02)	0.18*** (0.04)	0.22*** (0.02)	0.54 (0.32)	0.61* (0.31)	0.71* (0.30)	0.62* (0.30)	0.72* (0.30)
Child variables										
age					-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)
Male					0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
rural					0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)
nrchildren					0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.09 (0.08)					0.10 (0.08)				
DisVic_climo		0.15 (0.12)					0.10 (0.11)			
DisVic_geo			-0.13 (0.13)					-0.04 (0.12)		
DisVic_hydro									0.09 (0.07)	
DisVic_meteo										-0.02 (0.07)
Year										-0.01 (0.00)
Democracy										-0.01 (0.00)
GDP										0.00 (0.00)
QoG										0.00 (0.00)
Country variance	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Child variance	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Num. obs.	528065	528065	528065	528065	528065	528065	528021	528021	528021	528021
DIC	511846	511846	511845	511846	511845	497685	497685	497685	497685	497685

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is health deprivation

Table 9: Disaster victims and health deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.21*** (0.02)	0.22*** (0.02)	0.22*** (0.02)	0.20*** (0.02)	0.21*** (0.02)	0.71* (0.30)	0.73* (0.30)	0.73* (0.30)	0.71* (0.30)	0.71* (0.30)
Child variables										
age					-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)
Male					0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
rural					0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)
nchildren					0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	0.64 (2.14)				-0.09 (1.93)					
DisFre_climo		-3.04 (17.81)				-14.79 (15.73)				
DisFre_geo			-14.15 (34.57)					-24.55 (30.96)		
DisFre_hydro				4.12 (4.52)					-0.11 (4.15)	
DisFre_meteo					-0.45 (4.00)					0.95 (3.66)
Year						-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)	-0.01 (0.00)
Democracy						0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
GDP					-0.10* (0.05)	-0.10* (0.05)	-0.10* (0.05)	-0.10* (0.05)	-0.10* (0.05)	-0.10* (0.05)
QoG					-0.11* (0.05)	-0.11* (0.05)	-0.11* (0.05)	-0.11* (0.05)	-0.11* (0.05)	-0.10* (0.05)
Country variance	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Child variance	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Num. obs.	528065	528065	528065	528065	528065	528021	528021	528021	528021	528021
DIC	511846	511846	511846	511846	511846	497685	497685	497685	497685	497685

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is health deprivation

Table 10: Disaster frequencies and health deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.12* (0.07)	0.12** (0.04)	0.13*** (0.03)	0.15** (0.06)	0.14*** (0.04)	0.51 (0.32)	0.62* (0.31)	0.57 (0.30)	0.71* (0.30)	0.76** (0.29)
Child variables										
age						-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)
Male						0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
rural						0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	-0.00 (0.12)					0.00 (0.12)				
QoG	0.03 (0.09)	-0.06 (0.05)	-0.14** (0.04)	0.03 (0.08)	-0.10* (0.05)	-0.03 (0.09)	-0.07 (0.06)	-0.04 (0.08)	-0.11* (0.05)	-0.15** (0.05)
DisVic:QoG	-0.30* (0.15)					-0.17 (0.16)				
DisVic.climo		-0.00 (0.20)					-0.08 (0.19)			
DisVic.climo:QoG		-0.42* (0.26)					-0.28 (0.25)			
DisVic.geo			0.11 (0.26)							0.29 (0.20)
DisVic.geo:QoG			0.45 (0.50)							0.78* (0.41)
DisVic.hydro				-0.05 (0.11)				0.00 (0.11)		
DisVic.hydro:QoG				-0.36* (0.17)				-0.17 (0.17)		
DisVic.meteo					-0.04 (0.15)				-0.02 (0.11)	
DisVic.meteo:QoG					-0.19 (0.20)				0.00 (0.18)	
Year						-0.01 (0.01)	-0.01 (0.00)	-0.01 (0.01)	-0.01 (0.00)	-0.01* (0.00)
Democracy						-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
GDP						-0.06 (0.05)	-0.08 (0.05)	-0.07 (0.05)	-0.10* (0.05)	-0.11* (0.05)
Country variance	0.01	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.02	0.01
Child variance	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Num. obs.	409667	409667	409667	409667	409667	528021	528021	528021	528021	528021
DIC	381728	381728	381728	381728	381728	497685	497685	497685	497685	497685

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^c*dot* $p < 0.1$. Dependent variable is health deprivation

Table 11: Disaster victims and health deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.13*** (0.03)	0.13*** (0.03)	0.13*** (0.03)	0.13*** (0.03)	0.13*** (0.03)	0.70* (0.30)	0.73* (0.30)	0.78** (0.29)	0.70* (0.30)	0.70* (0.30)
Child variables										
age						-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)	-0.04*** (0.00)
Male						0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
rural						0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)	0.07*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	1.90 (7.35)					-0.23 (3.17)				
QoG	-0.11** (0.04)	-0.12** (0.04)	-0.13** (0.04)	-0.11** (0.04)	-0.12** (0.04)	-0.11* (0.05)	-0.12* (0.05)	-0.13** (0.05)	-0.11* (0.05)	-0.10* (0.05)
DisFre:QoG	-0.64 (6.42)					-0.19 (3.35)				
DisFre_climo		13.54 (53.57)					-0.31 (36.29)			
DisFre_climo:QoG		17.83 (77.19)					18.92 (43.38)			
DisFre_geo			26.37 (100.76)					66.00 (65.23)		
DisFre_geo:QoG			60.70 (154.72)					164.29 (105.65)		
DisFre_hydro				2.19 (14.20)					-1.54 (9.87)	
DisFre_hydro:QoG				-2.31 (12.31)					-1.39 (8.86)	
DisFre_meteo					10.47 (19.15)					0.16 (4.65)
DisFre_meteo:QoG					2.23 (16.10)					-1.67 (6.27)
Year						-0.01 (0.01)	-0.01 (0.00)	-0.01* (0.00)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
GDP						-0.10 (0.05)	-0.10* (0.05)	-0.11* (0.05)	-0.10 (0.05)	-0.09 (0.05)
Country variance	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.02
Child variance	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Num. obs.	409667	409667	409667	409667	409667	528021	528021	528021	528021	528021
DIC	381728	381728	381728	381728	381728	497685	497685	497685	497685	497685

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{*cdot*} $p < 0.1$. Dependent variable is health deprivation

Table 12: Disaster frequencies and health deprivation - interactive models

4 Education deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.03 (0.05)	0.09** (0.03)	0.15*** (0.02)	0.06 (0.04)	0.15*** (0.02)	0.50 (0.38)	0.61 (0.37)	0.74* (0.35)	0.60* (0.36)	0.83* (0.35)
Child variables										
age						-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)
Male						-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)
rural						0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.17* (0.09)					0.14 (0.09)				
DisVic_climo		0.22* (0.13)				0.15 (0.13)				
DisVic_geo			-0.21 (0.14)					-0.17 (0.14)		
DisVic_hydro				0.14* (0.08)					0.13 (0.09)	
DisVic_meteo					-0.13 (0.08)					-0.13 (0.09)
Year										
Democracy						-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)
GDP						0.00 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
QoG						-0.08 (0.06)	-0.10 (0.06)	-0.11* (0.06)	-0.10* (0.06)	-0.13* (0.06)
						-0.08 (0.05)	-0.08 (0.06)	-0.07 (0.05)	-0.07 (0.05)	-0.06 (0.05)
Country variance	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Child variance	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Num. obs.	1150711	1150711	1150711	1150711	1150711	1150627	1150627	1150627	1150627	1150627
DIC	590021	590021	590021	590021	590021	558780	558779	558780	558779	558779

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is education deprivation

Table 13: Disaster victims and education deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.14*** (0.02)	0.14*** (0.02)	0.14*** (0.02)	0.14*** (0.02)	0.14*** (0.02)	0.79* (0.34)	0.81* (0.34)	0.81* (0.34)	0.84* (0.34)	0.72* (0.35)
Child variables										
age						-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)
Male						-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)
rural						0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	-3.29 (2.34)					-4.60* (2.21)				
DisFre_climo		-25.69 (19.52)					-37.71* (18.16)			
DisFre_geo			-54.30 (37.89)					-71.92* (35.72)		
DisFre_hydro				-4.76 (5.02)					-9.76* (4.76)	
DisFre_meteo					-6.01 (4.41)					-6.23 (4.29)
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
GDP						-0.12* (0.06)	-0.12* (0.06)	-0.13* (0.06)	-0.13* (0.06)	-0.11* (0.06)
QoG						-0.08 (0.05)	-0.07 (0.05)	-0.08 (0.05)	-0.09 (0.05)	-0.08 (0.05)
Country variance	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Child variance	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Num. obs.	1150711	1150711	1150711	1150711	1150711	1150627	1150627	1150627	1150627	1150627
DIC	590021	590021	590021	590021	590021	558779	558779	558780	558779	558779

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is education deprivation

Table 14: Disaster frequencies and education deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.01 (0.08)	0.06 (0.05)	0.09* (0.04)	0.05 (0.07)	0.10* (0.04)	0.49 (0.39)	0.61 (0.37)	0.58 (0.37)	0.85* (0.36)	0.78* (0.35)
Child variables										
age						-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)
Male						-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)
rural						0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.09 (0.14)					0.08 (0.14)				
QoG	-0.01 (0.11)	-0.05 (0.06)	-0.10* (0.05)	-0.01 (0.10)	-0.08 (0.05)	-0.03 (0.11)	-0.04 (0.07)	-0.04 (0.10)	-0.08 (0.06)	-0.10 (0.06)
DisVic:QoG	-0.18 (0.19)					-0.09 (0.19)				
DisVic.climo		0.07 (0.24)					-0.02 (0.23)			
DisVic.climo:QoG		-0.27 (0.31)					-0.25 (0.30)			
DisVic.geo			-0.03 (0.25)							0.07 (0.25)
DisVic.geo:QoG			0.38 (0.52)							0.58 (0.50)
DisVic.hydro				0.05 (0.13)				0.09 (0.13)		
DisVic.hydro:QoG				-0.20 (0.20)				-0.07 (0.20)		
DisVic.meteo					-0.09 (0.14)				-0.07 (0.13)	
DisVic.meteo:QoG					0.00 (0.22)				0.15 (0.21)	
Year						-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
GDP						-0.08 (0.06)	-0.09 (0.06)	-0.09 (0.06)	-0.14* (0.06)	-0.12* (0.06)
Country variance	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Child variance	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Num. obs.	1150711	1150711	1150711	1150711	1150711	1150627	1150627	1150627	1150627	1150627
DIC	590021	590021	590021	590021	590021	558780	558780	558780	558780	558780

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is education deprivation

Table 15: Disaster victims and education deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.10** (0.04)	0.10** (0.04)	0.09* (0.03)	0.10** (0.04)	0.09* (0.03)	0.78* (0.35)	0.80* (0.35)	0.85* (0.35)	0.84* (0.35)	0.73* (0.35)
Child variables										
age						-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)	-0.01*** (0.00)
Male						-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)
rural						0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)	0.09*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	-4.90 (3.90)					-4.81 (3.70)				
QoG	-0.08 (0.05)	-0.07 (0.05)	-0.10* (0.05)	-0.08 (0.05)	-0.08 (0.04)	-0.09 (0.06)	-0.06 (0.06)	-0.09 (0.06)	-0.07 (0.06)	-0.09 (0.06)
DisFre:QoG	-1.76 (4.12)					-0.13 (3.93)				
DisFre_climo		-58.18 (45.42)					-59.28 (42.59)			
DisFre_climo:QoG		-38.52 (54.40)					-27.51 (50.85)			
DisFre_geo			-22.07 (83.31)					-1.02 (77.73)		
DisFre_geo:QoG			59.53 (133.69)					131.57 (126.09)		
DisFre_hydro				-15.71 (12.25)					-17.84 (11.48)	
DisFre_hydro:QoG				-9.04 (11.01)					-7.75 (10.32)	
DisFre_meteo					-5.36 (5.69)					-4.57 (5.52)
DisFre_meteo:QoG					0.49 (7.81)					4.00 (7.55)
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
GDP						-0.12* (0.06)	-0.12* (0.06)	-0.13* (0.06)	-0.13* (0.06)	-0.12* (0.06)
Country variance	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Child variance	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Num. obs.	1150711	1150711	1150711	1150711	1150711	1150627	1150627	1150627	1150627	1150627
DIC	590021	590021	590021	590021	590021	558780	558780	558780	558780	558780

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{*cdot*} $p < 0.1$. Dependent variable is education deprivation

Table 16: Disaster frequencies and education deprivation - interactive models

5 Shelter deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.19* (0.09)	0.27*** (0.05)	0.49*** (0.04)	0.26*** (0.07)	0.49*** (0.04)	0.66 (0.56)	0.49 (0.47)	1.33* (0.56)	0.93 (0.52)	1.45** (0.56)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)
nrchildren						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Country variables										
DisVic	0.47** (0.15)					0.42** (0.13)				
DisVic_climo		1.02*** (0.20)					0.94*** (0.16)			
DisVic_geo			-0.29 (0.25)					-0.14 (0.21)		
DisVic_hydro									0.45*** (0.12)	
DisVic_meteo					-0.17 (0.15)					-0.15 (0.13)
Year										-0.01 (0.01)
Democracy										0.03 (0.03)
GDP										-0.18* (0.09)
QoG										-0.20* (0.08)
Country variance	0.07	0.05	0.07	0.07	0.07	0.04	0.03	0.05	0.04	0.05
Child variance	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15
Num. obs.	1926435	1926435	1926435	1926435	1926435	1926282	1926282	1926282	1926282	1926282
DIC	2102432	2102432	2102432	2102432	2102432	1868129	1868129	1868129	1868129	1868129

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, dot $p < 0.1$. Dependent variable is shelter deprivation

Table 17: Disaster victims and shelter deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.45*** (0.04)	0.44*** (0.04)	0.47*** (0.04)	0.44*** (0.04)	0.46*** (0.04)	1.42* (0.56)	1.34* (0.57)	1.39* (0.56)	1.41* (0.57)	1.38* (0.56)
Child variables										
age					-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male					0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural					0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)
nrchildren					0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Country variables										
DisFre	2.41 (4.78)					-3.36 (4.00)				
DisFre_climo		34.79 (36.32)					-1.03 (30.57)			
DisFre_geo			-40.46 (68.83)					-65.19 (56.31)		
DisFre_hydro									-4.91 (7.77)	
DisFre_meteo					-0.50 (11.18)					-9.49 (9.22)
Year										
Democracy										
GDP										
QoG										
Country variance	0.08	0.07	0.08	0.08	0.08	0.05	0.05	0.05	0.05	0.05
Child variance	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15
Num. obs.	1926435	1926435	1926435	1926435	1926435	1926282	1926282	1926282	1926282	1926282
DIC	2102432	2102432	2102432	2102432	2102432	1868129	1868129	1868129	1868129	1868129

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, dot $p < 0.1$. Dependent variable is shelter deprivation

Table 18: Disaster frequencies and shelter deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.15 (0.13)	0.11 (0.07)	0.34*** (0.06)	0.26* (0.10)	0.36*** (0.07)	0.61 (0.55)	0.49 (0.46)	0.80 (0.50)	1.46** (0.56)	1.33* (0.56)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)
nrchildren						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Country variables										
DisVic	0.24 (0.21)					0.20 (0.20)				
QoG	-0.00 (0.16)	-0.24** (0.09)	-0.22* (0.09)	0.09 (0.15)	-0.19* (0.09)	-0.04 (0.16)	-0.23** (0.09)	0.01 (0.14)	-0.20* (0.10)	-0.21* (0.09)
DisVic:QoG	-0.51 (0.28)					-0.38 (0.28)				
DisVic.climo		0.97** (0.32)				0.80** (0.29)				
DisVic.climo:QoG		-0.24 (0.41)				-0.22 (0.38)				
DisVic.geo			-0.25 (0.43)							-0.09 (0.39)
DisVic.geo:QoG			-0.20 (0.87)							0.10 (0.78)
DisVic.hydro				0.10 (0.20)				0.17 (0.19)		
DisVic.hydro:QoG				-0.77** (0.29)				-0.53 (0.28)		
DisVic.meteo					-0.18 (0.23)				-0.14 (0.20)	
DisVic.meteo:QoG					-0.25 (0.36)				0.01 (0.32)	
Year						-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.01 (0.02)	0.02 (0.01)	0.01 (0.01)	0.03 (0.02)	0.03 (0.02)
GDP						-0.12 (0.09)	-0.11 (0.08)	-0.14 (0.08)	-0.25** (0.09)	-0.23* (0.09)
Country variance	0.05	0.04	0.07	0.05	0.07	0.04	0.03	0.04	0.05	0.05
Child variance	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15
Num. obs.	1926435	1926435	1926435	1926435	1926435	1926282	1926282	1926282	1926282	1926282
DIC	2102432	2102432	2102432	2102432	2102432	1868129	1868129	1868129	1868129	1868129

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is shelter deprivation

Table 19: Disaster victims and shelter deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.34*** (0.06)	0.33*** (0.06)	0.35*** (0.06)	0.33*** (0.07)	0.33*** (0.06)	1.45* (0.56)	1.36* (0.57)	1.32* (0.56)	1.45* (0.57)	1.39* (0.55)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)	0.30*** (0.00)
nrchildren						0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)	0.01*** (0.00)
Country variables										
DisFre	-5.70 (10.64)					-9.96 (9.32)				
QoG	-0.21** (0.08)	-0.20* (0.08)	-0.19* (0.08)	-0.22** (0.08)	-0.22** (0.08)	-0.20* (0.09)	-0.19* (0.09)	-0.19* (0.09)	-0.20* (0.09)	-0.21* (0.09)
DisFre:QoG	-6.32 (9.91)					-6.75 (8.65)				
DisFre_climo		-35.39 (80.43)				-46.89 (72.98)				
DisFre_climo:QoG		-79.96 (95.34)				-59.04 (85.71)				
DisFre_geo			-208.28 (137.02)				-171.35 (121.69)			
DisFre_geo:QoG			-303.98 (219.63)				-193.16 (197.49)			
DisFre_hydro				-4.90 (23.50)					-16.63 (20.71)	
DisFre_hydro:QoG				-7.50 (20.70)					-11.07 (18.17)	
DisFre_meteo					-15.36 (22.40)					-20.98 (19.70)
DisFre_meteo:QoG					-13.31 (21.90)					-12.59 (19.16)
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.03 (0.02)	0.02 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)
GDP						-0.25** (0.09)	-0.23* (0.09)	-0.23* (0.09)	-0.25** (0.09)	-0.24** (0.09)
Country variance	0.07	0.06	0.06	0.07	0.07	0.05	0.05	0.05	0.05	0.05
Child variance	0.17	0.17	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15
Num. obs.	1926435	1926435	1926435	1926435	1926435	1926282	1926282	1926282	1926282	1926282
DIC	2102432	2102432	2102432	2102432	2102432	1868129	1868129	1868129	1868129	1868129

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{*cdot*} $p < 0.1$. Dependent variable is shelter deprivation

Table 20: Disaster frequencies and shelter deprivation - interactive models

6 Sanitation deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	-0.01 (0.07)	0.13*** (0.04)	0.26*** (0.03)	0.09 (0.06)	0.25*** (0.03)	0.29 (0.49)	0.50 (0.48)	0.95* (0.48)	0.62 (0.48)	0.97* (0.49)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00** (0.00)	0.00** (0.00)	0.00** (0.00)	0.00** (0.00)	0.00** (0.00)
rural						0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.45*** (0.11)					0.39** (0.12)				
DisVic_climo		0.64*** (0.17)				0.48*** (0.17)				
DisVic_geo			-0.21 (0.20)					-0.16 (0.19)		
DisVic_hydro									0.30** (0.12)	
DisVic_meteo					-0.01 (0.12)					-0.04 (0.12)
Year									-0.01 (0.01)	-0.01 (0.01)
Democracy									0.01 (0.01)	0.01 (0.01)
GDP									0.01 (0.01)	0.01 (0.01)
QoG									-0.13* (0.08)	-0.17* (0.08)
Country variance	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04
Child variance	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15
Num. obs.	1940599	1940599	1940599	1940599	1940599	1940446	1940446	1940446	1940446	1940446
DIC	1979247	1979247	1979248	1979247	1979247	1762331	1762331	1762331	1762331	1762331

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is sanitation deprivation

Table 21: Disaster victims and sanitation deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.26*** (0.03)	0.27*** (0.03)	0.28*** (0.03)	0.26*** (0.03)	0.25*** (0.03)	1.00* (0.47)	1.05* (0.46)	1.09* (0.45)	1.08* (0.48)	0.92* (0.48)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00** (0.00)	0.00** (0.00)	0.00** (0.00)	0.00** (0.00)	0.00** (0.00)
rural						0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)
nchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	-3.65 (3.26)					-5.86* (3.07)				
DisFre_climo		-39.13 (26.98)					-60.81* (24.75)			
DisFre_geo			-115.61* (51.35)					-148.98** (47.16)		
DisFre_hydro									-12.87* (6.59)	
DisFre_meteo										-6.02 (5.98)
Year										-0.01 (0.01)
Democracy										0.02 (0.02)
GDP										0.02 (0.02)
QoG										-0.17* (0.08)
Country variance	0.05	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.04
Child variance	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15
Num. obs.	1940599	1940599	1940599	1940599	1940599	1940446	1940446	1940446	1940446	1940446
DIC	1979247	1979247	1979247	1979247	1979247	1762331	1762331	1762331	1762331	1762331

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, $\overset{c}{d}o\overset{t}{t}$ $p < 0.1$. Dependent variable is sanitation deprivation

Table 22: Disaster frequencies and sanitation deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.04 (0.11)	0.14 [*] (0.07)	0.23 ^{***} (0.05)	0.16 [*] (0.10)	0.25 ^{***} (0.06)	0.26 (0.50)	0.51 (0.49)	0.58 (0.49)	0.94 [*] (0.51)	1.03 [*] (0.48)
Child variables										
age						-0.00 ^{***} (0.00)	-0.00 ^{***} (0.00)	-0.00 ^{***} (0.00)	-0.00 ^{***} (0.00)	-0.00 ^{***} (0.00)
Male						0.00 ^{**} (0.00)	0.00 ^{**} (0.00)	0.00 ^{**} (0.00)	0.00 ^{**} (0.00)	0.00 ^{**} (0.00)
rural						0.28 ^{***} (0.00)	0.28 ^{***} (0.00)	0.28 ^{***} (0.00)	0.28 ^{***} (0.00)	0.28 ^{***} (0.00)
nrchildren						0.00 ^{***} (0.00)	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)	0.00 ^{***} (0.00)
Country variables										
DisVic	0.30 (0.19)					0.31 (0.19)				
QoG	0.07 (0.14)	-0.00 (0.09)	-0.08 (0.07)	0.12 (0.14)	-0.00 (0.08)	0.02 (0.14)	-0.01 (0.09)	0.03 (0.13)	-0.01 (0.09)	-0.09 (0.08)
DisVic:QoG	-0.27 (0.25)					-0.14 (0.25)				
DisVic.climo	0.39 (0.33)					0.29 (0.30)				
DisVic.climo:QoG	-0.37 (0.42)					-0.29 (0.40)				
DisVic.geo			0.18 (0.36)							0.40 (0.33)
DisVic.geo:QoG			0.99 (0.74)							1.38 [*] (0.68)
DisVic.hydro				0.13 (0.19)				0.23 (0.18)		
DisVic.hydro:QoG				-0.38 (0.28)				-0.14 (0.27)		
DisVic.meteo					-0.11 (0.19)				-0.08 (0.18)	
DisVic.meteo:QoG					-0.27 (0.31)				-0.09 (0.30)	
Year						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0.02 (0.02)	0.02 (0.01)
GDP						-0.07 (0.08)	-0.10 (0.08)	-0.12 (0.08)	-0.17 [*] (0.08)	-0.19 [*] (0.08)
Country variance	0.04	0.04	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.04
Child variance	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15
Num. obs.	1925300	1925300	1925300	1925300	1925300	1940446	1940446	1940446	1940446	1940446
DIC	1978600	1978600	1978600	1978600	1978600	1762332	1762332	1762332	1762331	1762332

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{c dot} $p < 0.1$. Dependent variable is sanitation deprivation

Table 23: Disaster victims and sanitation deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.27*** (0.05)	0.25*** (0.05)	0.26*** (0.05)	0.27*** (0.06)	0.25*** (0.05)	0.96* (0.48)	1.04* (0.47)	1.17* (0.46)	1.08* (0.48)	0.88* (0.49)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00** (0.00)	0.00** (0.00)	0.00** (0.00)	0.00** (0.00)	0.00** (0.00)
rural						0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)	0.28*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	-11.98 (9.10)					-9.05* (5.11)				
QoG	-0.01 (0.07)	-0.04 (0.07)	-0.05 (0.07)	-0.01 (0.07)	-0.02 (0.07)	-0.03 (0.08)	-0.04 (0.08)	-0.08 (0.07)	-0.02 (0.08)	-0.03 (0.08)
DisFre:QoG	-9.43 (8.47)					-4.02 (5.43)				
DisFre_climo		-31.83 (69.62)					-57.55 (58.21)			
DisFre_climo:QoG		-0.07 (82.52)					5.50 (69.49)			
DisFre_geo			-64.18 (115.11)				-12.40 (101.62)			
DisFre_geo:QoG			107.37 (184.52)				251.83 (164.82)			
DisFre_hydro				-27.00 (20.04)					-33.88* (15.71)	
DisFre_hydro:QoG				-20.50 (17.65)					-20.41 (14.12)	
DisFre_meteo					-17.52 (19.29)					-9.26 (7.69)
DisFre_meteo:QoG					-18.17 (18.86)					-6.29 (10.51)
Year						-0.01 (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.01 (0.01)	-0.01 (0.01)
Democracy						0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)
GDP						-0.17* (0.08)	-0.18* (0.08)	-0.21** (0.08)	-0.19* (0.08)	-0.16* (0.08)
Country variance	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.03	0.04	0.04
Child variance	0.16	0.16	0.16	0.16	0.16	0.15	0.15	0.15	0.15	0.15
Num. obs.	1925300	1925300	1925300	1925300	1925300	1940446	1940446	1940446	1940446	1940446
DIC	1978600	1978600	1978600	1978600	1978600	1762331	1762332	1762332	1762332	1762331

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{cdot} $p < 0.1$. Dependent variable is sanitation deprivation

Table 24: Disaster frequencies and sanitation deprivation - interactive models

7 Water deprivation

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.22** (0.07)	0.20*** (0.04)	0.30*** (0.03)	0.31*** (0.06)	0.30*** (0.03)	0.93* (0.39)	0.85* (0.36)	1.11** (0.36)	1.13** (0.37)	1.15** (0.36)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.09 (0.12)					0.11 (0.09)				
DisVic_climo		0.42* (0.17)				0.28* (0.13)				
DisVic_geo			-0.29 (0.18)					-0.10 (0.14)		
DisVic_hydro									-0.03 (0.09)	
DisVic_meteo										-0.06 (0.09)
Year										-0.03*** (0.01)
Democracy										-0.03*** (0.01)
GDP										-0.01 (0.01)
QoG										-0.01 (0.01)
Country variance	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02
Child variance	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14
Num. obs.	1941734	1941734	1941734	1941734	1941734	1941581	1941581	1941581	1941581	1941581
DIC	1771654	1771654	1771654	1771654	1771654	1628374	1628374	1628374	1628374	1628374

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is water deprivation

Table 25: Disaster victims and water deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.27*** (0.03)	0.26*** (0.03)	0.28*** (0.03)	0.26*** (0.03)	0.28*** (0.03)	1.12** (0.36)	1.11** (0.36)	1.17*** (0.35)	1.13** (0.36)	1.10** (0.36)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	0.08 (3.07)					-1.18 (2.32)				
DisFre_climo		26.39 (25.34)					-5.94 (19.08)			
DisFre_geo			-34.81 (49.52)					-65.67 (36.49)		
DisFre_hydro									-2.04 (4.99)	
DisFre_meteo				5.56 (6.50)						
Year					-4.87 (5.74)					-1.45 (4.43)
Democracy						-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)	-0.03*** (0.01)
GDP						-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
QoG						-0.18** (0.06)	-0.17** (0.06)	-0.19** (0.06)	-0.18** (0.06)	-0.17** (0.06)
Country variance	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02
Child variance	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14
Num. obs.	1941734	1941734	1941734	1941734	1941734	1941581	1941581	1941581	1941581	1941581
DIC	1771654	1771654	1771654	1771654	1771654	1628374	1628374	1628374	1628374	1628374

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is water deprivation

Table 26: Disaster frequencies and water deprivation - non-interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.15 (0.11)	0.02 (0.06)	0.20*** (0.05)	0.25** (0.09)	0.19*** (0.05)	0.94* (0.40)	0.81* (0.36)	1.16** (0.38)	1.17** (0.37)	1.12** (0.36)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisVic	0.02 (0.18)					0.19 (0.15)				
QoG	-0.10 (0.13)	-0.27*** (0.08)	-0.16** (0.06)	-0.10 (0.12)	-0.17* (0.07)	-0.19* (0.11)	-0.19** (0.07)	-0.17 (0.10)	-0.13* (0.07)	-0.12* (0.06)
DisVic:QoG	-0.17 (0.24)					0.15 (0.20)				
DisVic.climo		0.73* (0.28)					0.57* (0.22)			
DisVic.climo:QoG		0.40 (0.37)					0.46 (0.29)			
DisVic.geo			-0.35 (0.31)							0.03 (0.25)
DisVic.geo:QoG			-0.27 (0.63)							0.32 (0.52)
DisVic.hydro								0.05 (0.14)		
DisVic.hydro:QoG								0.15 (0.21)		
DisVic.meteo									0.01 (0.13)	
DisVic.meteo:QoG									0.18 (0.22)	
Year										-0.03*** (0.01)
Democracy										-0.01 (0.01)
GDP										-0.01 (0.01)
										-0.19** (0.06)
Country variance	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Child variance	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14
Num. obs.	1926435	1926435	1926435	1926435	1926435	1941581	1941581	1941581	1941581	1941581
DIC	1769256	1769256	1769256	1769256	1769256	1628375	1628375	1628375	1628374	1628375

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, c^{dot} $p < 0.1$. Dependent variable is water deprivation

Table 27: Disaster victims and water deprivation - interactive models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
cons	0.19*** (0.05)	0.15*** (0.05)	0.19*** (0.04)	0.19*** (0.05)	0.18*** (0.04)	1.10*** (0.37)	1.11*** (0.37)	1.14*** (0.36)	1.12*** (0.37)	1.10*** (0.37)
Child variables										
age						-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
Male						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
rural						0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)	0.22*** (0.00)
nrchildren						0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Country variables										
DisFre	-8.13 (7.69)					-2.28 (3.88)				
QoG	-0.16** (0.06)	-0.18** (0.06)	-0.15** (0.06)	-0.16** (0.06)	-0.17** (0.05)	-0.10* (0.06)	-0.10 (0.06)	-0.10* (0.06)	-0.09 (0.06)	-0.11* (0.06)
DisFre:QoG	-8.88 (7.16)					-1.31 (4.12)				
DisFre_climo		18.60 (58.45)					-26.67 (44.79)			
DisFre_climo:QoG		-18.29 (69.28)					-26.35 (53.47)			
DisFre_geo			-178.38* (99.25)					-107.63 (79.99)		
DisFre_geo:QoG			-245.12 (159.08)					-73.47 (129.73)		
DisFre_hydro									-12.87 (12.02)	
DisFre_hydro:QoG						-15.54 (16.94)			-10.45 (10.80)	
DisFre_meteo										-0.68 (5.71)
DisFre_meteo:QoG										2.11 (7.81)
Year										-0.03*** (0.01)
Democracy										-0.01 (0.01)
GDP										-0.17** (0.01)
Country variance	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Child variance	0.15	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14
Num. obs.	1926435	1926435	1926435	1926435	1926435	1941581	1941581	1941581	1941581	1941581
DIC	1769256	1769256	1769256	1769256	1769256	1628374	1628375	1628375	1628375	1628374

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, ^{cdot} $p < 0.1$. Dependent variable is water deprivation

Table 28: Disaster frequencies and water deprivation - interactive models