

Appendix 8. Viet Nam: National Flood Warning and Alarm Levels and 2006 Flood Loss and Damage Data

A8.1 Viet Nam: National flood warning levels

Warning (Alarm) Level I: Flood stage reaches flood protection dike footing. Potential inundation of low lying unprotected areas. Initial warnings issued to local authorities.

Warning (Alarm) Level II: Flood stage reaches dike body or inundation risk to unprotected populated areas with associated risk of property damage

Warning (Alarm) Level III: Flood stage close to dike crest elevation threatening serious inundation and threat to life, property and economic activity

Emergency Warning Level: Flood stage exceeds dike crest elevation.

A8.2 2006 Total monthly seasonal rainfall in the Se San and Se Kong region and the Mekong Delta

Month	Year	Stations														Seasonal Total (May – October)	
		Kon Tum	Sak To	Pleicu	BM Thuot	Buon Ho	Suc Xuyen	Cau 14	Ban Son	Chau Soc	Moc Hoa	Rach Gia	Cao Lanh	My Tho	Can Tho		Soc Trang
		Monthly Rainfall (mm)															
May	2006	368	182	152	262	169	319	239	178	102	45	386	145	116	208	82	149
	Mean	236	233	249	245	185	251	26	208	159	171	211	135	167	176	224	161
Jun	2006	175	96	202	226	156	240	168	176	113	239	381	190	223	139	388	247
	Mean	257	301	346	220	267	290	252	227	108	146	288	172	198	220	283	187
Jul	2006	669	487	649	217	398	180	190	168	96	215	416	201	94	176	243	198
	Mean	288	309	388	284	186	280	220	224	139	204	376	207	202	241	307	242
Aug	2006	499	470	526	406	372	360	334	283	235	181	279	199	284	148	369	171
	Mean	315	425	471	311	217	308	218	247	172	166	347	181	162	252	296	241
Sep	2006	421	353	338	365	348	273	280	255	145	372	526	359	355	307	249	180
	Mean	295	287	360	283	248	313	272	261	148	219	266	208	245	243	273	220
Oct	2006	115	112	202	157	250	136	148	195	239	218	232	274	191	295	130	231
	Mean	166	163	182	125	215	247	246	201	255	372	285	312	270	291	319	332
	2006	2247	1699	2068	1634	1692	1509	1359	1255	930	1268	2220	1368	1263	1273	1463	1176
	Mean	1556	1719	1997	1469	1318	1690	1234	1368	981	1277	1774	1215	1244	1422	1701	1383

A8.3 Provincial flood damage for 2006.

Flood Damage	Kon Tum	Gia Lai	Dak Lak	Dak Nong	Long An	An Giang	Dong Thap	Vinh Long	Can Tho	Hau Giang	Total
Loss of Human Life											
Total drownings					6	21	11		6	11	55
Children					5	19	10		5	11	50
Adult					1		1		1		3
Other						1					2
Domestic											
Inundated house					450	4					454
Collapsed house						2					2
Uninhabitable house	5	67	1,160	204		26		1814			3,276
Evacuated people	10			16	160						186
Inundated school	139			18	7						164
Agriculture											
Inundated	1			1		200		30			232 ha
Irrigation											
Canal embankment erosion	16				49	4.5	45	4			119 km
Eroded soil	20						62				82 10 ³ m ³
Canal siltation	126	23.3	5,059	347.7	18			486			5,689 km
Traffic											
Inundated road			0,012		119	56.0	17	87			279 m
Road erosion					86	348.0					434 m
Eroded soil				1,218			9				1,227 10 ³ m ³
Bridges damaged					7						7
River Bank erosion											
Embankment erosion		30		3,150			165				3,345 km
Eroded area		32,28	6	453		76.5	32				567 ha
Dangerous house	7,100						4,735				11,835
Evacuated house	1		1	16		619.0					637
Collapsed house						4.0					4
Total Damage Estimate					2		12.67		0.42		US\$ 1.5 million

A8.4 Provincial damage caused by Tropical Storm Durian during the first week of December

Damage	Tien Giang	Ben Tre	Tra Vinh	Vinh Long	Can Tho	Dong Thap	Long An	An Giang	Total
Human									
Killed	0	15		4					19 persons
Missing	4								4 persons
Injured	24	492		68	4	1	2	2	593 persons
Evacuated persons	1123	720	257					2381	4481 persons
Evacuated households	16933	3588	694					7841	29056
Domestic, commercial and industrial									
Collapsed houses	5702	29048	830	5294	55	96	66	4	41095
Severely damaged houses	8137	92600	2352	16031	1125	437	176	208	121066
Commercial roof damage		250	11	25		4			290
Collapse of commercial premises	17		5	10					32
Public health centre roof damage		39		21	2				62
Collapsed public health centres				4					4
Collapsed industrial premises			3	232				1	236
Industrial roof damage		457	8	160					625
Public market roof damage	1	27	1						29
Education									
Collapsed class rooms		96	3	7					106
Roof damage and unusable classrooms	221	1416	32	204	12	26	3	6	1920
Other school premises damaged						625			625
Affected students						332000	108257		440257
Electrical Services									
Collapsed or damaged transmission poles	235	4017	139	225	27	4	88	4	4739
Collapsed sub-stations			6		7				13
Agriculture									
Inundated paddy field	2103	17267	3033	500			3000		25903 ha
Damage crop	1140	998	128	73		0.2			2339.2 ha
Damage orchard	63607	15515	524	2552		4.5			82203 ha
Damage industrial crop (sugar-cane, rubber tree, pepper tree)	493	6160	6160	135					12948 ha
Felled verdure	294		235		131				660 ha
Felled coconut-tree		12295	23						12318 ha
Damaged sylviculture crop area		80							80 ha
Irrigation									
Eroded systems		4							4
Telecommunications									
Damaged telephone poles				715					715
Fishery									
Fishing vessels lost	51	50	1	1			1	1	105
Small boats lost			4	23	2		9		38
Fishing rafts lost	37			24	3				64
Total estimate of damage									Not available