

Supplementary Table S1. Taal Volcano Alert Level (VAL) Scheme (as of June 2015) This is the VAL used during the January 2020. For comparison, the Batangas Province Evacuation Protocol is presented.

TAAL VOLCANO ALERT LEVEL			Batangas Province Evacuation Protocol
June 2015 version			(2018 Batangas Province Contingency Plan)
Alert Level	Criteria	Interpretation	
0	Background, quiet	No Eruption in foreseeable future.	
1	Low level seismicity, fumarolic, other activity	Hazardous eruption is not imminent. The public however, is reminded that the Main Crater should be strictly off-limits because sudden steam explosions may occur and high concentrations of toxic gases may accumulate. The northern portion of the Main Crater rim, in the vicinity of Daang Kastila Trail may also become hazardous when steam emission along existing fissures suddenly increases. Magmatic, tectonic or hydrothermal disturbance;	Entire Volcano Island is Permanent Danger Zone (PDZ), and permanent settlement in the island is strongly not recommended.
2	Low to moderate level of seismicity, persistence of local but unfelt earthquakes. Ground deformation measurements above baseline levels. Increased water and/or ground probe hole temperatures, increased bubbling at Crater Lake.	A) Probable magmatic intrusion; could eventually lead to an eruption. B) If trend shows further decline, volcano may soon go to level 1.	Voluntary evacuation of the Taal Volcano Island residents is recommended, the mothers with infants and children, the sick or old age and the persons with disabilities from the five (5) community groupings in the volcano island under the jurisdiction of the Municipalities of Balete, San Nicolas and Talisay are being encouraged and guided in the evacuation at the mainland.

3	Relatively high unrest manifested by seismic swarms including increasing occurrence of low frequency earthquakes and/or harmonic tremor (some events felt). Sudden or bubbling activity or radon gas emission or crater lake pH. Bulging of the edifice and fissuring may accompany seismicity.	<p>A) If trend is one of increasing unrest, eruption is possible within days to weeks.</p> <p>B) If trend is one of decreasing unrest, volcano may soon go to level 2.</p>	Aside from the mandatory evacuation of all the remaining residents in the volcano island, the residents from the municipalities/ barangays in the mainland also within seven (7) kilometer radius danger zone are being advised / warned to evacuate to the pre-designated evacuation center at the safer grounds as far as 10 kilometer radius and beyond. At eruption stage, the abandoned areas may be affected by large volcanic fragments or ballistic projectiles explosively thrown out from the vents.
4	Intense unrest, continuing seismic swarms, including harmonic tremor and/or "low frequency earthquakes" which are usually felt, profuse steaming along existing and perhaps new vents and fissures.	Hazardous explosive eruption is possible within days.	<p>With or without the possibility of base surges emission if and when the volcano erupts, the residents from the city/ municipalities/ barangays/ sitios within 7-10 kilometer danger zone of Taal Volcano, are being guided to the pre-designated evacuation center at the safer grounds as far as 15 kilometer radius or beyond.</p> <p>At eruption stage, the abandoned areas may be affected by base surges and lake water oscillation (volcanic tsunami) and falling out of tephra/ ash is heavier near active vents</p>
5	Base surges accompanied by eruption columns or lava fountaining or lava flows.	Hazardous eruption in progress. Extreme hazards to communities west of the volcano and ashfalls on downwind sectors.	<p>Eruption in progress and if the hazards of eruption continuously threaten to affect even beyond the 10 kilometer radius areas, then the resident of the city, municipalities/ barangays/ sitios within the 10-15 km danger zone of Taal Volcano shall be guided to the pre-designated evacuation center at safer grounds beyond the 15 kilometer radius from the center of the island.</p> <p>Abandoned areas may be affected by the large base surges, lakewater oscillation (volcanic tsunami) and ballistic projectiles.</p>