

## ANEXO #1

### PROPOSED CRITERIA FOR IDENTIFICATION OF HIGH-RISK VOLCANOES

#### HAZARD RATING

SCORE\*

- 1) High silica content of eruptive products  
(andesite-dacite-rhyolite)
- 2) Major explosive activity within last 500 years
- 3) Major explosive activity within last 5000 years
- 4) Pyroclastic flows within last 500 years
- 5) Mudflows " " " "
- 6) Destructive tsunami " " "
- 7) Area of destruction within last 5000 years is  $>10 \text{ km}^2$
- 8) " " " " " "  $>100 \text{ km}^2$
- 9) Occurrence of frequent volcanic seismic swarms
- 10) Occurrence of significant ground deformation  
within last 50 years

#### RISK RATING

SCORE\*

- 1) Population at risk  $> 100$
- 2) " " "  $> 1000$
- 3) " " "  $> 10000$
- 4) " " "  $> 100000$
- 5) " " "  $> 1 \text{ million}$
- 6) Historical fatalities from eruptions
- 7) Evacuation as result of historical eruption(s)

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\* For each of the above queries to which the answer is yes, score 1  
(for answer no, score 0)

YOKOYAMA I, TILLING R. & SCARPA R.; 1984: Internat. Mob. Early-Warning Syst. for  
Volc. Erupt. and Related Seismic Activ.; UNESCO (Paris), EP/L 106-82-01-2286, 102p.

ANEXO # 2

TABLE 1. Criteria for Estimation of the Volcanic Explosivity Index (VEI)

Criteria	VEI	0	1	2	3	4	5	6	7	8
DESCRIPTION		non-explosive	small	moderate	mod-large	large	very large			
VOLUME OF EJECTA (M <sup>3</sup> )		<10 <sup>4</sup>	10 <sup>4</sup> -10 <sup>6</sup>	10 <sup>6</sup> -10 <sup>7</sup>	10 <sup>7</sup> -10 <sup>8</sup>	10 <sup>8</sup> -10 <sup>9</sup>	10 <sup>9</sup> -10 <sup>10</sup>	10 <sup>10</sup> -10 <sup>11</sup>	10 <sup>11</sup> -10 <sup>12</sup>	>10 <sup>12</sup>
(Tsuya classification)+		(I)	(II-III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	
COLUMN HEIGHT (KM)		<0.1	0.1-1	1-5	3-15	10-25	>25			
QUALITATIVE DESCRIPTION		--"gentle, effusive"--		--"explosive"--		--"cataclysmic, paroxysmal, colossal"---				
					"severe, violent, terrific"					
CLASSIFICATION			--"Strombolian"--			--"Plinian"--				
				--"Hawaiian"-----	--"Vulcanian"-----		--"Ultraplinian"-----			
DURATION (hours)						-->12-----				
of continuous blast							--1-6-----			
CAVW MAX EXPLOSIVITY**										
		--lava flows--	--explosion or nuée ardente-----							
			--phreatic-----							
		--dome or mudflow-----								
TROPOSPHERIC INJECTION		negligible	minor	moderate	substantial					
STRATOSPHERIC INJECTION		none	none	none	possible	definite	significant			

+If all eruptive products were pyroclastic ejecta

\* For VEI's 0-2, uses km above crater; for VEI's 3-8, uses km above sea level

\*\* The most explosive activity indicated for the eruption in the Catalogue of Active Volcanoes Criteria are listed in decreasing order of reliability

NEWHALL Ch. & SELF S.; 1982: The Volcanic Explosivity Ind. (VEI). An Estimate of Explosive Magn. for Hist. Volc. Jour. of Geoph. Res., Vol. 87, #C2, p 1231