

## Geochemical observation of a fumarolic gas appeared on the east flank of Mt. Fuji, Japan

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A fumarolic gas have appeared in Sep. 2003 on the east flank of Mt. Fuji, Japan. The fumarolic gas have been sampled and analyzed in Oct., Nov., Dec., of 2003 and Jan., 2004. Though the period of the observation, the temperature of gas has shown a small variation between 37 and 40C. The fumarolic gas contained CO<sub>2</sub> gas with 1.6 to 4.7 vol.%. The <sup>13</sup>C/<sup>12</sup>C ratio of the CO<sub>2</sub> gas was similar to the ratio characteristic to organic origin. The D/H and <sup>18</sup>O/<sup>16</sup>O ratio of water vapor in fumarolic gas was lower than the ratios of local meteoric water, and consistent to the ratios of water vapor equilibrated with the local meteoric water at 40C. The <sup>3</sup>He/<sup>4</sup>He ratio of He in fumarolic gas was identical to normal air indicating no contribution from a magmatic gas. A ground water with meteoric origin in volcanic body would be heated by an unknown source up to 40C and raised to a shallow depth on the east flank of Mt. Fuji. A water flow would be developed under ground. The flow removed a part of layer resulting in a subsidence of soil and formation of a channel through which a water vapor is transported to surface.

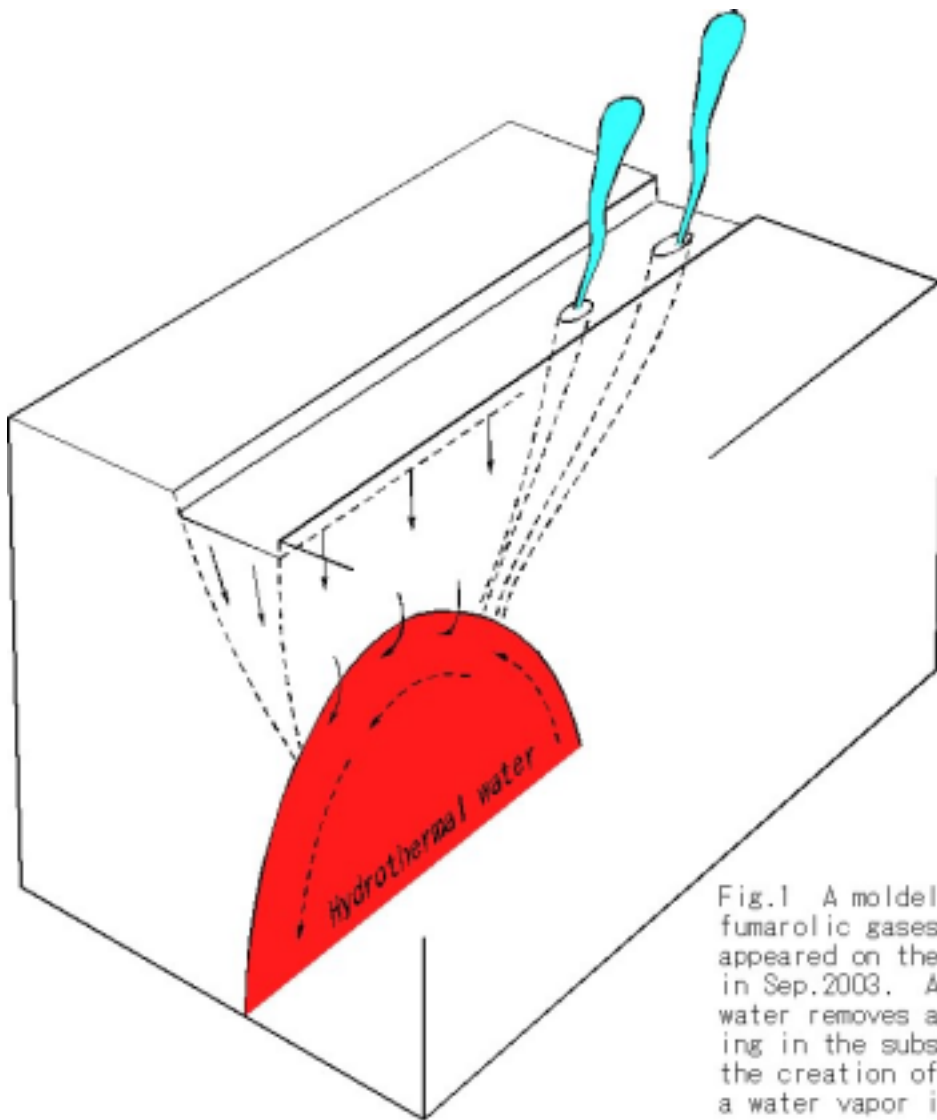


Fig.1 A model for the generation of fumarolic gases and depressions appeared on the east flank of Mt. Fuji in Sep.2003. A flow of hydrothermal water removes a part of layer resulting in the subsidence of the layer and the creation of channels through which a water vapor is discharged.