

Craters of elevation / forced folds: more examples of shallow magma accumulation and its consequences

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Craters of elevation are uplifts with apical depressions that are caused by shallow magma intrusion. Forced folds are dome-like folds caused by magma intrusion that also have apical extensional structures. They are the same feature described from the different viewpoints of the volcanologist and the structural geologist. While working on such features in the Chaîne des Puys (Central France), and Ethiopia we have been searching for other examples in the world. This is our most up to date review of such phenomena taken from a global search in the world of volcanology where some stunning examples are seen in the landscape, and in outcrop. We also show such features from tectonics data and literature, where such features are superbly displayed in seismic data. We take three examples, the Puy de Gouttes, in the Chaîne des Puys, the Montana Encantada in Lanzarote, which we have mapped in the field, and the Diamond Craters National Monument in Oregon to show the different structures and possible evolutionary trends that such features can follow. We use the observations to integrate the possible eruptive, deformational and structural events that can combine in a forced fold to create the surface features observed at such craters of elevation. The hazard implications of the growth and destruction of such features are assessed.