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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "The Volcanoes of Naples: how effectively mitigating the highest volcanic risk in the World?" *by* Giuseppe De Natale et al.

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I have found this manuscript a well-constructed piece of work in which the authors address a review of the structure and recent evolution of the active volcanoes in the Neapolitan district, integrated with an interesting in-depth discussion on the several issues associated with the long-debated planning for the mitigation of volcanic risk, eruption forecast and alerts in the area (and in active volcanic areas in general).

The review of the volcanological framework of the Neapolitan district is concise but informative and it may eventually benefit from (even very short) additional mention/discussion on Roccamonfina, as the NW boundary of the Campania volcanic area, as well as on the volcanic edifices and subvolcanic structures offshore the Napoli Bay,

as the S border of the volcanic district, (see detailed reference list below). The mentioning of the (significantly vast) submerged volcanic features of the Napoli Bay may also serve to highlight the importance the volcanic hazard associated with the (relatively less known) submarine volcanic features for a more comprehensive and reliable hazard estimate and mapping.

The analysis on emergency plans and evacuation plans, along with strength and weakness of the two components in the play of the volcanic risk mitigation is well introduced and discussed in sections 4 and 5. The most relevant and innovative outcome of the paper is probably the recognized importance of setting up a fully integrated, flexible risk mitigation strategy including three major components: 1) a sustainable long term plan to decrease population living in the area; 2) a long-term policy to enhance and diversify the regional transportation network and escape routes (i.e. terrestrial, marine, aerial?) in case eruption alert; 3) a sustainable long-term integration of the population progressively leaving from the volcanic area into the social and economic network of the hosting region(s).

All in all, I suggest the manuscript be accepted for publication with very minor revision. Here's a list of further detailed comments/suggestions:

line 144-145: Consider the possibility of adding (a selection of) the following references: "The main volcanic hazards are pyroclastic flows and ash/pumice fallout (e.g. Sacchi et al., 2005; 2019; 2020), but also associated hazards like earthquakes, lahars, lava flows and floods (Sacchi et al., 2009), need to be considered".

line 177: Cassano and La Torre, 1987 instead of "Cassano et al., 1987"

line 177: Capuano and Achauer, 2003 instead of "Capuano et al., 2003"

line 177-178: Consider the possibility of adding (a selection of) the following references: "has a radius of about 3 km, with center approximately located at the Pozzuoli town harbour" (Sacchi et al., 2014; Somma et al., 2015; Steinmann et al, 2016; 2018 Sacchi

et al, 2019; 2020).

Line 192: Consider the possibility of adding the following reference: “(the so-called ‘mini-uplift’ episodes: see Gaeta et al., 2003; Troise et al., 2007;” Iuliano et al., 2015).

Line 228-229: Consider the possibility of adding the following reference: Ischia island, located South-West of Campi Flegrei, is another volcanic field, characterized by both effusive and explosive eruptions (Passaro et al., 2015).

List of suggested References:

Sacchi M., Insinga D., Milia A., Molisso F., Raspini A., Torrente M.M., Conforti A., 2005. Stratigraphic signature of the Vesuvius 79 AD event off the Sarno prodelta system, Naples Bay. Marine Geology 222–223 (2005) 443– 469.

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Steinmann L., Spiess V., Sacchi M., 2018. Post-collapse evolution of a coastal caldera system: Insights from a 3D multichannel seismic survey from the Campi Flegrei caldera (Italy). Journal of Volcanology and Geothermal Research, 349, 83-98.

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