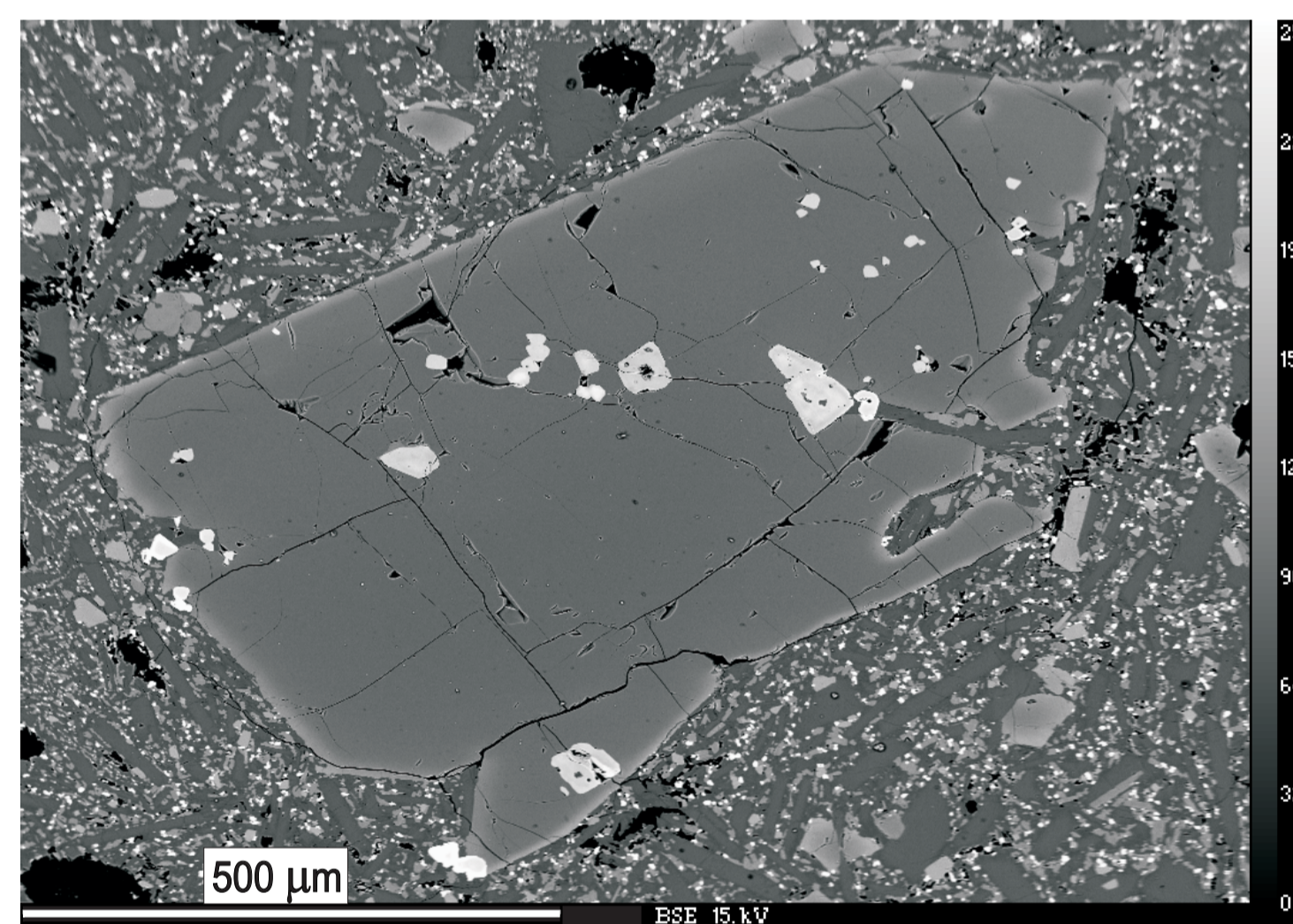
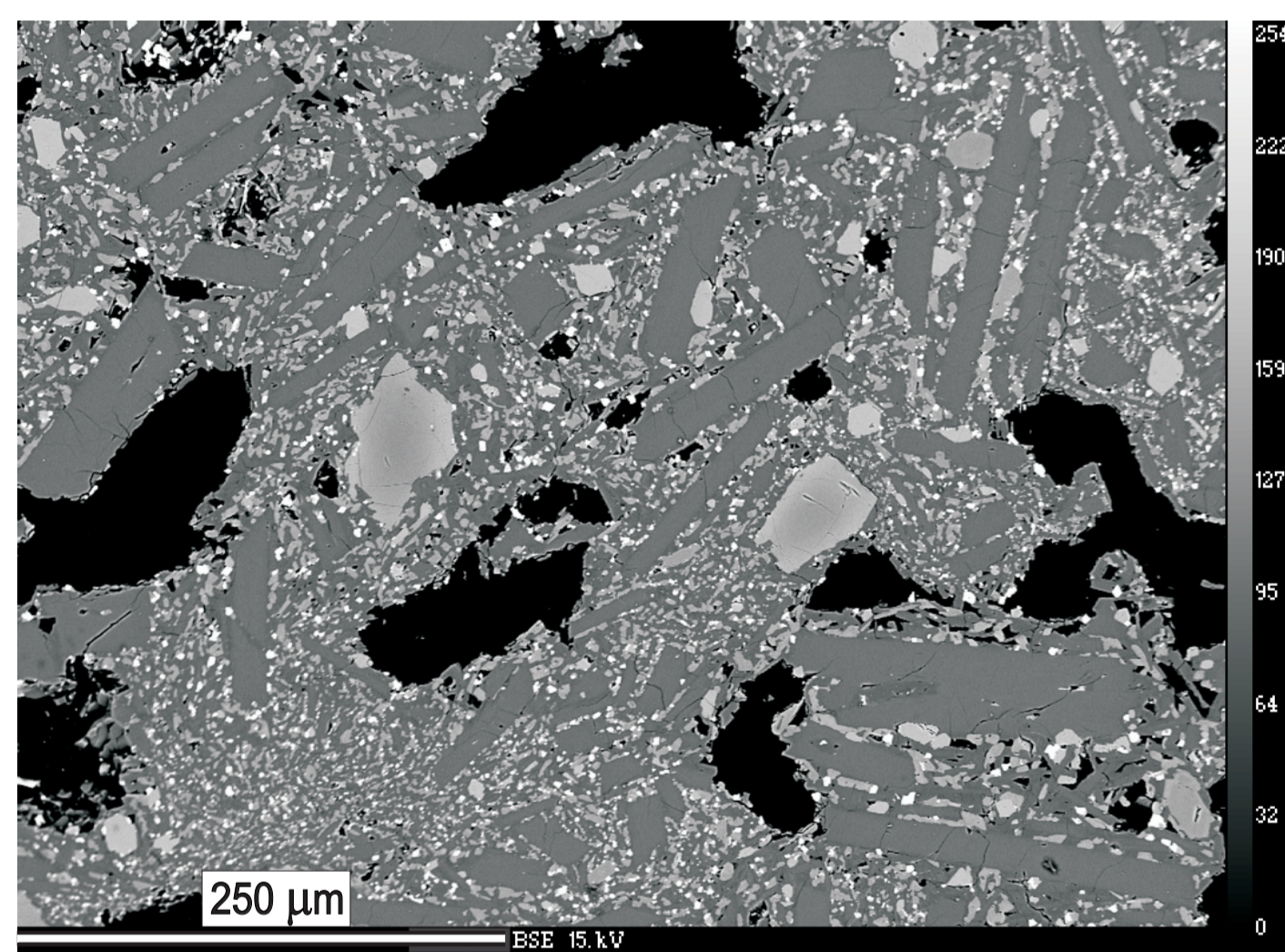


Recent volcanic activity in El Salvador is concentrated at the subduction-related volcanic front, which predominantly consists of andesitic to rhyolitic stratovolcanoes and calderas. Apart of it, several areas of cinder cones, lava fields and small shield volcanoes formed behind the volcanic front (BVF). Differentiated rocks are scarce in this setting.

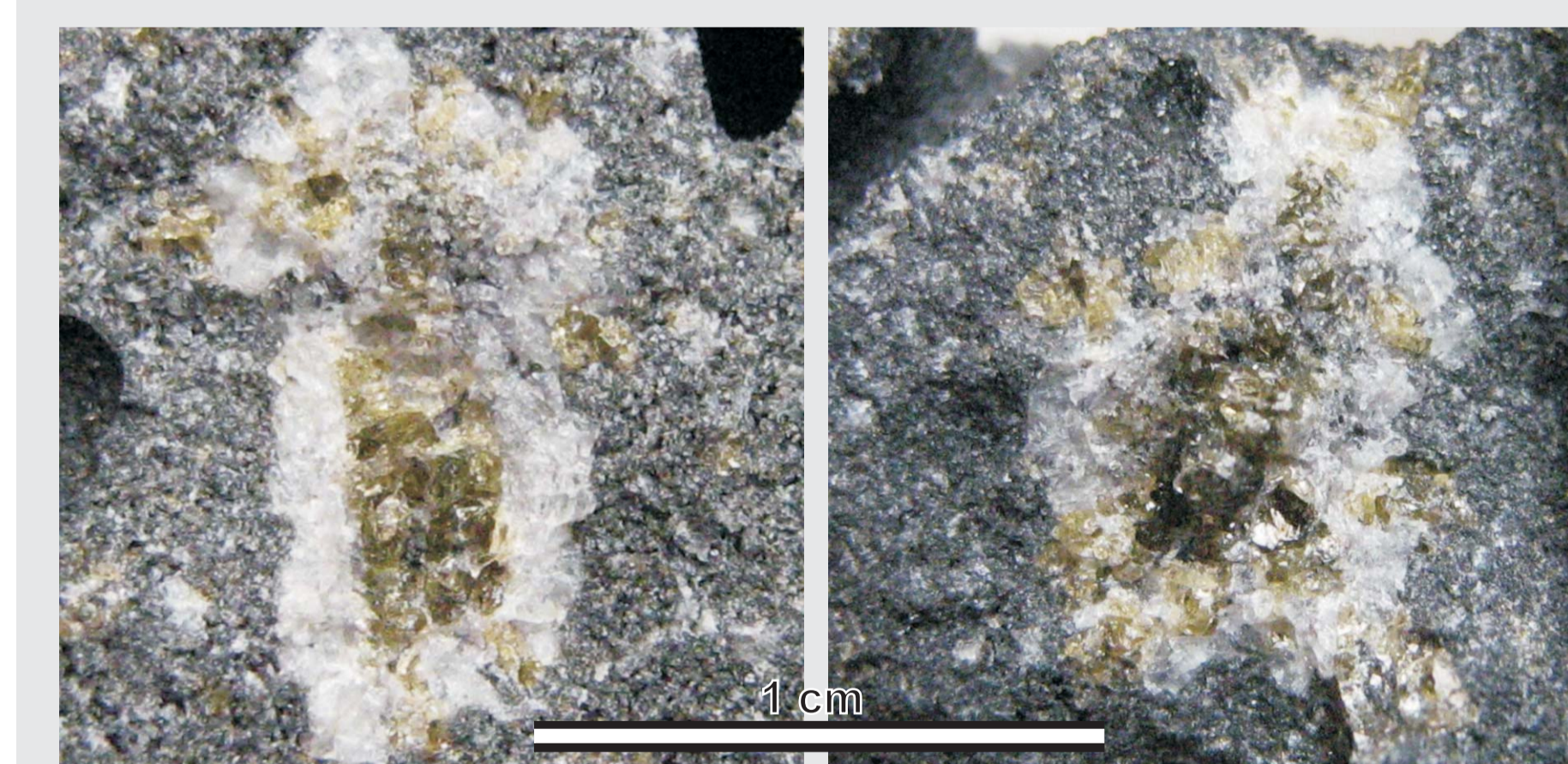
In order to investigate the spatial variability of BVF products, we sampled two cross sections from the volcanic front landwards. One is located in the Cinotepeque range, north of San Salvador Volcano, the second one in the Salvadorian part of the Ipala Graben, north of Santa Ana - Izalco volcanic complex.



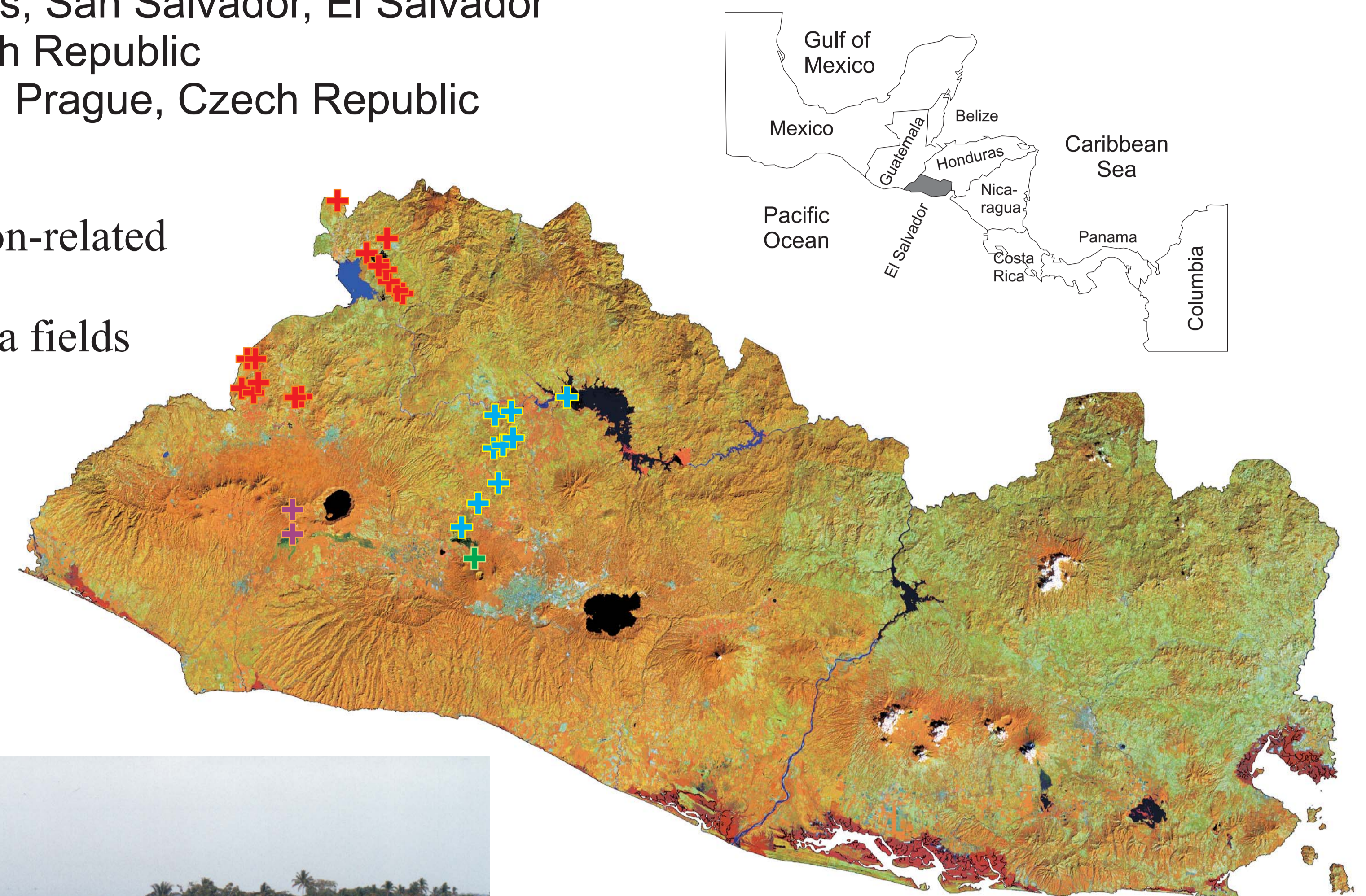
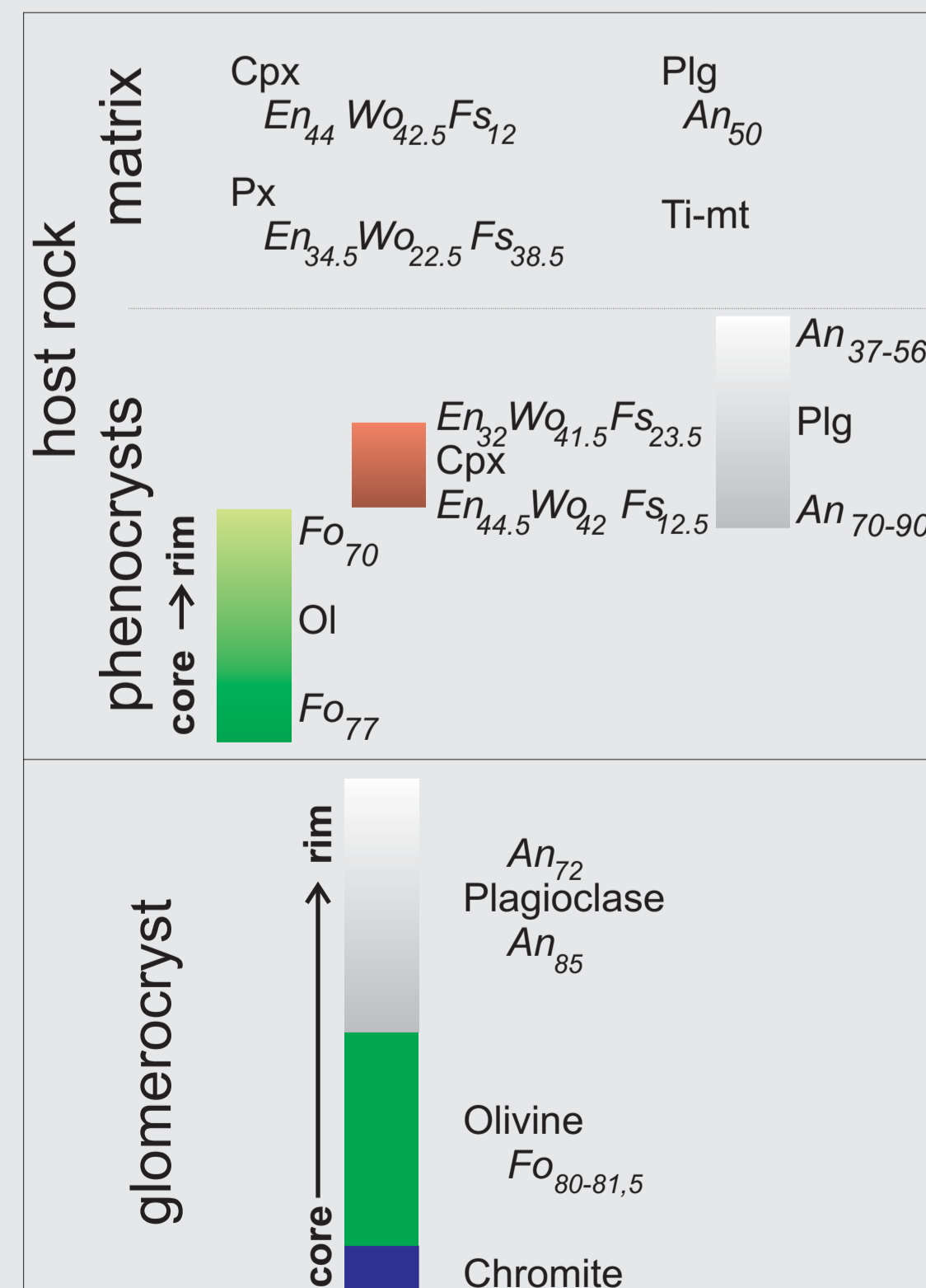
The basaltic lavas consist mostly of plagioclase and olivine pheno-crysts, enclosed in plg-ol-px-mt matrix (below). Some very fine-grained varieties do not have phenocrysts. Pyroxenes are



represented by both: ortho- and clinopyroxene. Occasionally, a clinopyroxene rim is mantling orthopyroxene core. Cores of Mg-rich olivines enclose chromite inclusions (above).

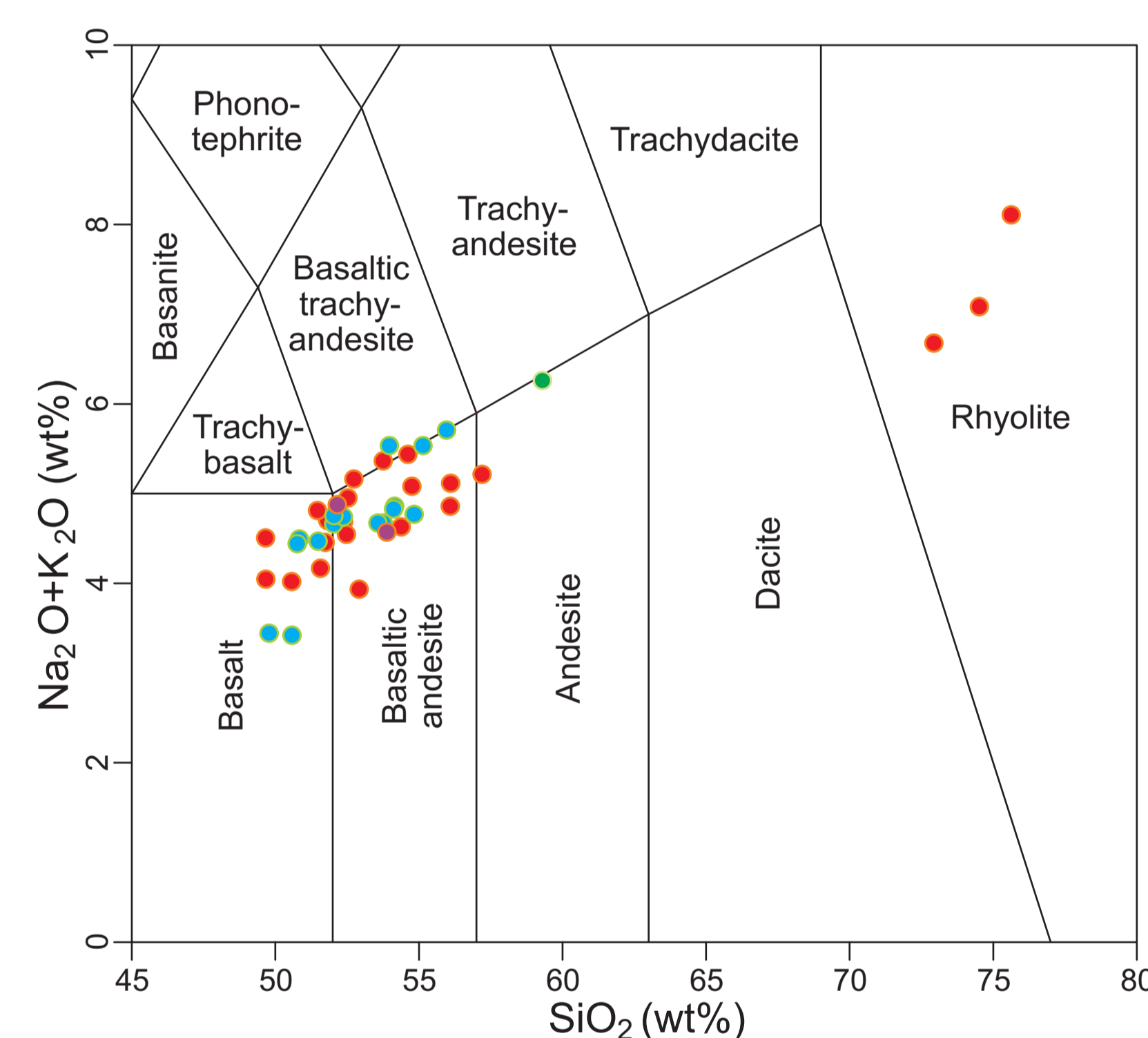


Lavas of the San Diego Volcano (NW El Salvador) contains abundant chromite-olivine-plagioclase glomerocrysts, reflecting complex magmatic evolution of erupted lavas. We assume that deeply accumulated olivine was captured by a portion of more evolved magma and served as a nucleus for rapid heterogenous nucleation of plagioclase.



● Cinotepeque range
● Ipala Graben, Salvadorian part
● San Salvador Volcano (Boquerón)
● Santa Ana - Izalco volcanic complex

Data for Santa Ana - Izalco from: Carr and Pontier, 1981; Feigenson et al., 1986; Noll et al., 1996



The Salvadorian BVF lavas were classified as subalkaline basalts to basaltic andesites, with rare rhyolitic occurrences. Mafic members are fairly fractionated, though the outcrops of the primitive lavas are rare ($\text{SiO}_2 = 49.1\text{--}55.5\%$, $\text{mg\#} = 28\text{--}63$, $\text{Cr} = 61\text{--}252$ ppm and $\text{Ni} = 14\text{--}113$ ppm). The position in the AFM diagram demonstrates its calc-

alkaline affinity. This is in sharp contrast with clearly tholeiitic lavas of the volcanic front Boquerón Volcano. A characteristic feature of the BVF lavas is a sharp increase in K_2O with increasing differentiation (SiO_2).

There is a significant decrease in fluid-mobile vs. incompatible ratios (i.e. Ba/La) with increasing distance from the volcanic front. This indicates decreasing role of the slab-related fluid during magma generation.

