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## Chemical composition and $^{87}\text{Sr}/^{86}\text{Sr}$ signatures of rainwaters from São Miguel, Azores

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Rainwater samples were collected at Furnas and Fogo volcanoes (São Miguel, Azores) in order to characterize their chemical signatures and to investigate a possible interaction with fumarolic gases. Marine aerosols contribute significantly to the chemistry of the rainwaters. The marine inputs ranges from 17.72 to 100 % for  $\text{Cl}^-$ , 9.81 to 100 % for  $\text{SO}_4^{2-}$ , 3.79 to 30.31 % for  $\text{Ca}^{2+}$ , 34.09 to 48.12 % for  $\text{Mg}^{2+}$  and 17.29 to 81.09 % for  $\text{K}^+$ . This suggests other sources beyond marine aerosols influencing the hydrochemistry of rainwater, which can be ascribed to two additional components: mineral and volcanic aerosols. The majority of the samples shows an influence of dust particles from North Africa, which can be found in the north Atlantic atmosphere. It is also possible to notice inputs of fumarolic fluids over the hydrochemistry of at least two samples, namely the ones collected near the Caldeiras fumarolic field in Furnas volcano.

Most of the rainwater samples showed  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios ( $0.70849 \pm 21$  -  $0.71027 \pm 45$ ) similar to the seawater ( $^{87}\text{Sr}/^{86}\text{Sr} = 0.70918 \pm 1$ ), suggesting that sea salts are the main source of the strontium isotopic ratios. The results are within the range of values presented by rainwater in mainland Portugal ( $^{87}\text{Sr}/^{86}\text{Sr} = 0.708965 \pm 31$  -  $0.710345 \pm 38$ ). One sample that is exposed to the fumarolic fluids deviates from these values, depicting a lower strontium isotopic ratio (0.70701), confirming the influence of fumarolic fluids already deduced from the major ion hydrogeochemistry.