Supplement of

Extreme precipitation events induce high fluxes of groundwater and associated nutrients to coastal ocean

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S1. Captions

**Figure S1.** Activities of (a) $^{224}$Ra, (b) $^{228}$Ra, and (c) $^{226}$Ra against salinity for groundwater samples collected from the different piezometers and sampling campaigns. Red, green, and blue colors indicate shallow (<15 m), intermediate, and deep (>20 m) piezometers, respectively. Modified from Diego-Feliu et al. (2021).

**Figure S2.** Concentrations of nitrate ($\text{NO}_3^-$), nitrite ($\text{NO}_2^-$), ammonia ($\text{NH}_4^+$), phosphate ($\text{PO}_4^{3-}$), and silica ($\text{SiO}_2^{2-}$) in groundwater and seawater samples collected at the experimental site of the Argentona ephemeral stream and at the different coastal seawater stations during the samplings from October 2019 and March 2020. Red, yellow, and blue indicate the depth of the groundwater samples (shallow, <15 m; intermediate, from 15 to 20 m; and deep, >20 m, respectively) and gray color represent the seawater samples.
S2. Figures

Figure S1.
Figure S2.