Sea spray aerosols, a new wind in coastal monitoring

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Abstract
A growing number of epidemiological studies are confirming what appears to be common knowledge around the world: i.e. that human health benefits can often be linked directly to the proximity of oceans and seas. People living near the coast are generally healthier, and have longer life-expectancies than urban dwellers. These health benefits are attributed to the quality of air and food, the physical and psychiological advantages provided by the wide range of (cheap) recreational possibilities, and the constant exposure to immunological cues that boost the overall function of the human immune system. Little is known, though, about the relative importance of each of these factors. The inhalation of aerosolized triggers, which gained attention due to emerging harmful algal blooms that cause respiratory distress, probably varies strongly on spatiotemporal scales. Yet, to date, only a handful of studies have characterized the composition of seaspray aerosols (SSAs), and none have done so on a regular basis. Here, we present a new methodology that was used to monitor the composition of SSAs along the Belgian coast during summer. Overall, these efforts aim to enhance our understanding of the natural variability of immunological cues present in SSAs and, hence, their contribution to the health benefits that are associated with blue environments.

Keywords: monitoring; sea spray aerosols; biogenic compounds

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