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A climate change service for health

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Health will, in all likelihood, be strongly impacted by climate change. For example, the mortality associated with heat waves is expected to increase considerably, and city dwellers are particularly in danger, as the urban heat-island effect exacerbates thermal stress. Conversely, the impact of cold spells is expected to decrease. Climate change is also expected to affect the incidence, outbreak frequency, and distribution of many infectious diseases, mainly because of an altered distribution of infectious disease vectors. Similarly, it is expected that the geographic distribution of allergenic pollen in Europe, as well as the start/end and intensity of the pollen season, will be altered. Therefore, the health community urges the climate community to provide tailor-made information for these topics.

Within the Climate Change Services programme of Copernicus (C3S), we are leading the Sectoral Information System on European Health. During the contract period, a strong user-interaction resulted in valuable information for the health community. The final design of the service is the result of an intense co-creation trajectory between the developers at VITO and the user partners of the contract in different health institutes. Within this service, three topics are addressed: heat and cold stress, allergenic pollen and vector-borne diseases. The partner health institutes are located in Belgium, Hungary, Italy and Lithuania to cover a wide geographical area.

The applications that are created within this service are based on user requirements. Several applications target a European-wide scale, with more specific information at the regional level. The topical information is given under current climate conditions, but also under future climate conditions using difference scenario's. Furthermore, some applications require a focus on the urban scale at high resolution as the health impacts are much more relevant at this spatial scale. To satisfy this user need, we simulated the urban climate for 100 European cities for multiple climate variables under current climate conditions.

The health service embedded within the C3S programme delivers evidence regarding health impacts of past, present and future climate. Therefore, it provides support to decision-making challenges that are currently facing unmet climate data needs.