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Copernicus for Urban Resilience in Europe: Intermediate results from the CURE project

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A major challenge for the urban community is the exploitation of Earth Observation (EO) in dealing with the multidimensional nature of urban sustainability towards enhancing urban resilience, particularly in the face of climate change. Here, we present how the H2020 funded project CURE (Copernicus for Urban Resilience in Europe) synergistically exploits Copernicus Core Services, to develop cross-cutting applications for urban resilience. CURE provides the urban planning community with spatially disaggregated environmental information at local scale, as well as a proof-of-concept that urban planning and management activities towards enhancing the resilience of cities can be supported by four Copernicus Core Services, namely, the Land Monitoring Service (CLMS), the Atmospheric Monitoring Service (CAMS), the Climate Change Service (C3S) and the Emergency Service (EMS).

CURE improved analysis methods for addressing specific dimensions of urban resilience, enabling its integration into operational services in the future, related to climate change adaptation and mitigation, healthy cities and social environments and energy and economy. Thus, CURE has the potential to reveal novel scientific insights on the exploitation of Copernicus for urban resilience and policy development, thereby generating new EO opportunities. CURE is built on Data and Information Access Services (DIAS), as a system integrating these cross-cutting applications, capable of supporting downstream services across Europe, addressing also its economic feasibility. CURE has resulted in information capacity presenting current state of cities against drivers (land use, green areas, energy use etc.) and pressures (pollution, emissions, floods, etc.) and help in assessing their overall impact (quality of life, health, economic damage, etc.) that will

enable cities to prepare an evidence and knowledge based response (i.e., better plans, local actions and new policies).

The contribution of CURE mainly concerns: online platform for combining Core Services to support urban resilience planning; uniform data for large samples of urban areas both within region and across regions in Europe; consistent measurements across European cities, including synergies between Copernicus core products and third-party data; different approaches and models for better information on urban form and function at different spatial and temporal scales; and assimilation of users' knowledge with technical data and benchmarking; fostering of innovation. The innovation potential of CURE lies on the exploitation of the Copernicus offer in the domain of urban resilience, by developing cross-cutting applications combining products from CLMS, CAMS, C3S and EMS with third-party data, as well as by developing a system for integrating these applications, enabling its incorporation into operational applications and downstream services in the future.

More information on CURE evolution at: <http://cure-copernicus.eu>