

Ramboll Engineering, design and consultancy company

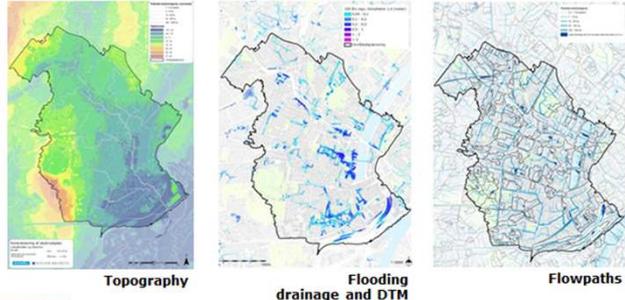
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What do we do?

Ramboll is a global engineering, design and consultancy company with a strong representation in the Nordics, UK, North America, Middle East and Asia-Pacific. Among others Ramboll is specialist in planning and implementation of services for climate adaptation and flood risk management including coastal waters, rivers, surface water, groundwater, and man-made structures such as reservoirs, overland flow, site drainage and public sewers. We work with a holistic approach focusing to enhance multi-benefits, and to design environmentally and financially sustainable solutions.



DEFINING PROJECTS HYDROLOGICAL ANALYSIS



How will climate change impact us?

Climate changes call for implementation and investment in climate-adapted buildings and infrastructure to safeguard standards of living and avoid undesirable human and material losses from more extreme weather and flooding. Knowledge of climate changes and the impact on rainfall and runoff, river discharge, sea levels, storm surges, heat waves and temperature, groundwater level, tropical cyclone risk and draught is important for Ramboll to plan and design robust solutions e.g. dikes, blue-green infrastructure, SUDS, storm-surge barriers, adapted buildings to flooding, urban nature to reduce urban heat islands and overall spatial planning.

Why do we need climate change information?

In planning and designing urban areas, we need climate change information for:

- Screening the area for climate related risks
- Hydraulic modelling of flooding from rivers, sewer systems, coastal waters and groundwater
- Estimation of flood risk
- Cost benefit analysis to decide an optimal level of safety
- Design of sustainable urban drainage systems (SUDS) and rivers and coastal protection constructions
- Prepare flood warning and evacuation plans



User story and interest in C3S Global Service:

Working with projects globally we are interested in climate data, that are tailored to our specific needs, have an easy and reliable access and with guidance in using data. This will help us to refine, streamline and expand our business working with adaptation to climate changes.

In many projects we work with climate adaptation in urban areas, and the future impacts from climate changes are often modelled with different hydraulic models. More specifically, for rainfall we use climate factors for a rainfall intensity that correspond to a specific return period. Mean sea level rise is both modelled as a static boundary condition, but also in condition with storm surge. For rivers, we model flow with specific return period and a corresponding climate factor. We want the C3S Global Service to be a provider of statistical climate data and climate factors for rainfall events, climate factors of river flow, expected increase in mean sea level and maximum water level during storm surge. These factors should correspond to a return period. We can also see a need for climate impact on heatwaves, drought, hurricanes etc. and combined probability of storm surge and extreme rainfall, and other combined events.