REALY COOLING WATER BODIES IN CITIES . REALCOOL

design prototypes showing the physical processes behind the effective cooling potential of urban water bodies

which combinations of shading, evaporation and ventilation are most effective in improving outdoor human thermal sensation?

what is the rainwater storage potential?

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problem

urban heat
many cities suffer from urban heat problems and climate change is likely to exacerbate it

water & urban heat
it is assumed that water bodies necessarily have a cooling effect but, during warm summer, this effect is limited over day and may even originate night time warming

urban design
designers need to be given guidance on how to design urban water bodies with an effective cooling potential

research through designing

an iterative multiple cycle process actively employing designing

definition of testbeds reference spatial situations

loop 1 . first stage of creating the prototypes

preliminary conclusions

- the daytime cooling effect at the testbeds is small and there is hardly any contribution to nighttime warming or cooling
- the differences between testbeds are small regarding cooling effects in air and water temperature. The highest shading level leads to the coolest conditions
- the designs can have positive impacts on micrometeorological, aesthetical, functional, cost and maintenance criteria.

this work is part of the research programme Research through Design with project number 14589, which is (partly) financed by the Netherlands Organisation for Scientific Research (NWO) and Taskforce for Applied Research SIA