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(sub-) catchment delineation with different levels of geographical data: which effects on combined sewer overflow modelling?

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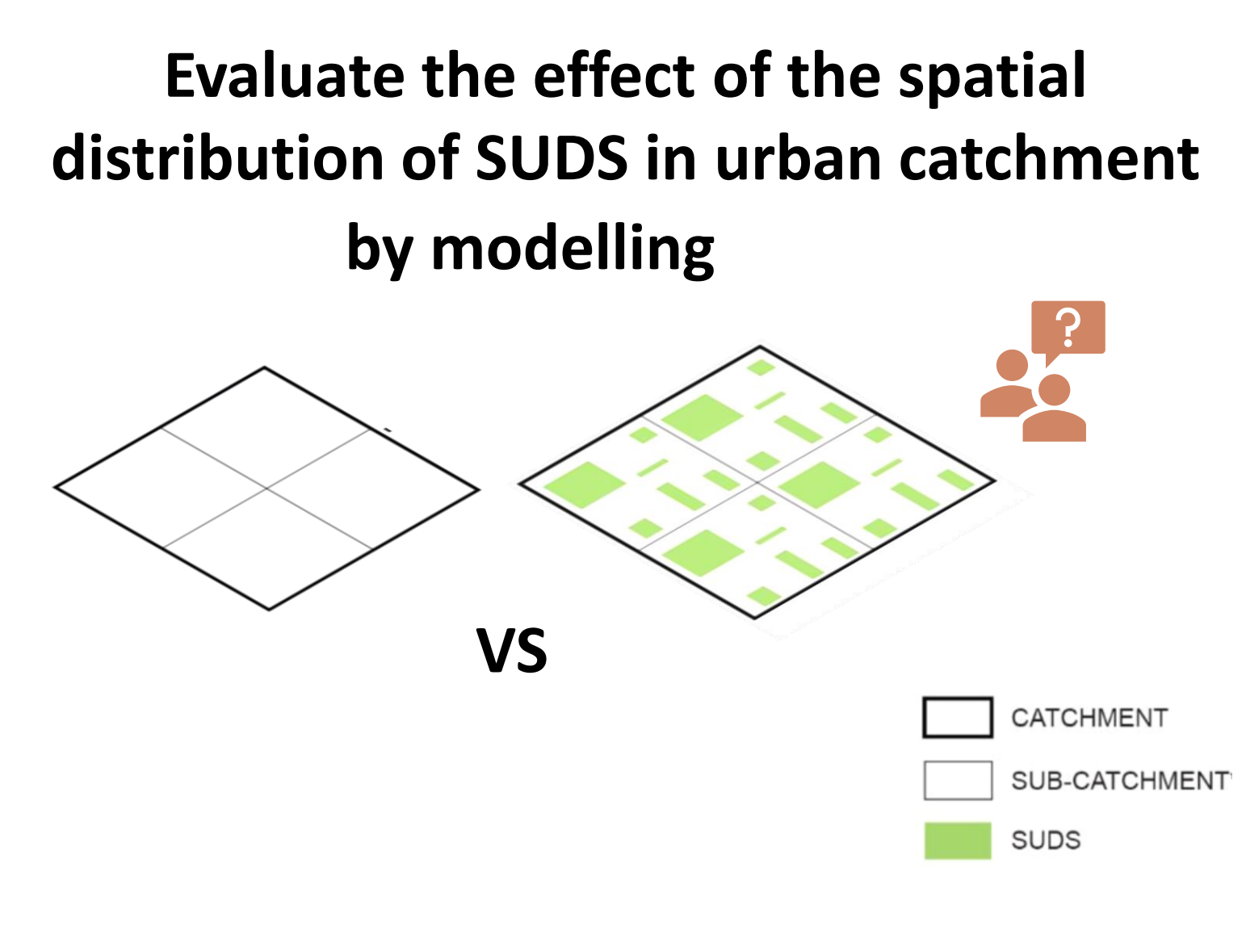
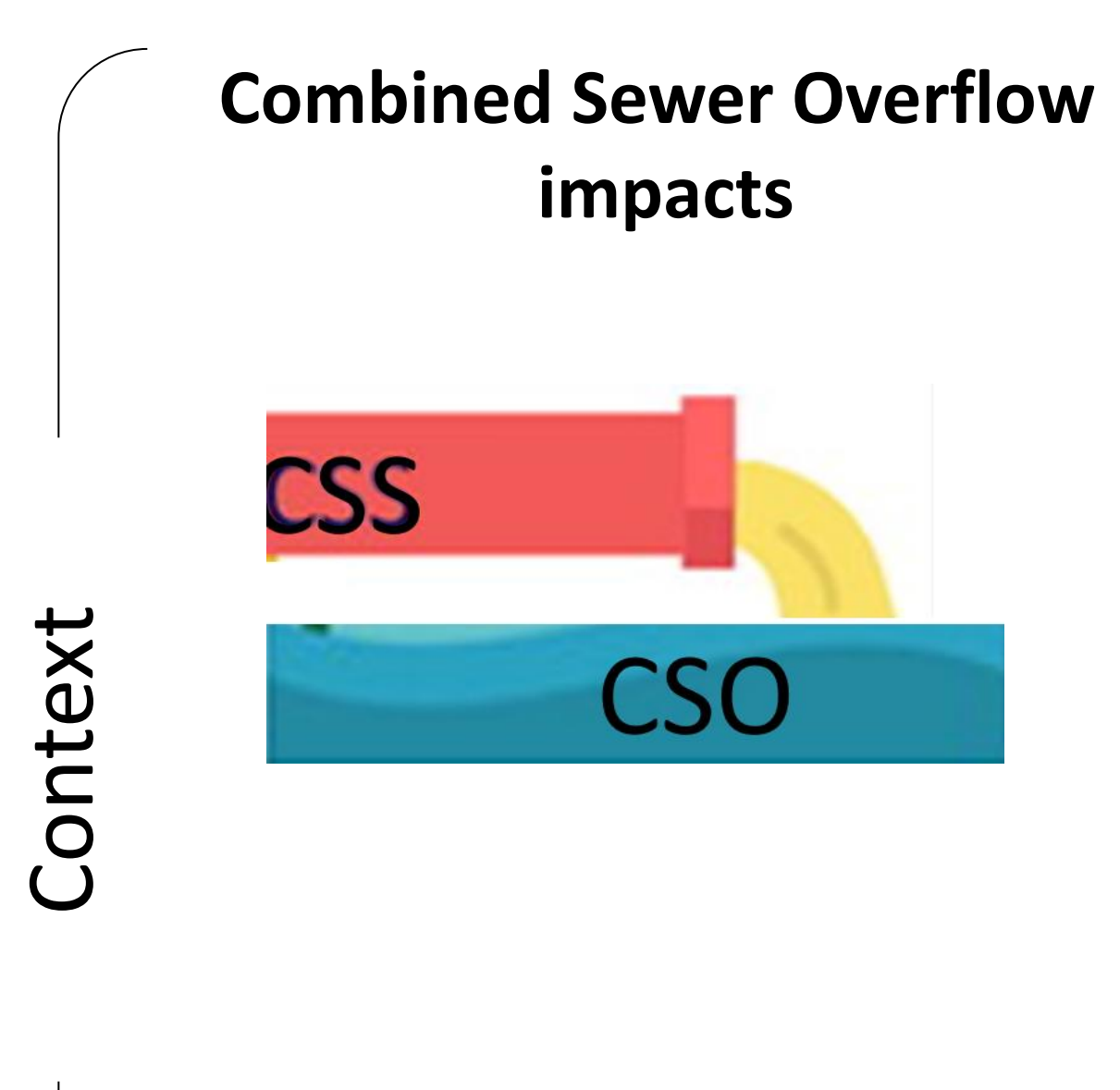
(sub-)catchment delineation with different levels of geographical data: which effects on combined sewer overflow modelling?

SPN10

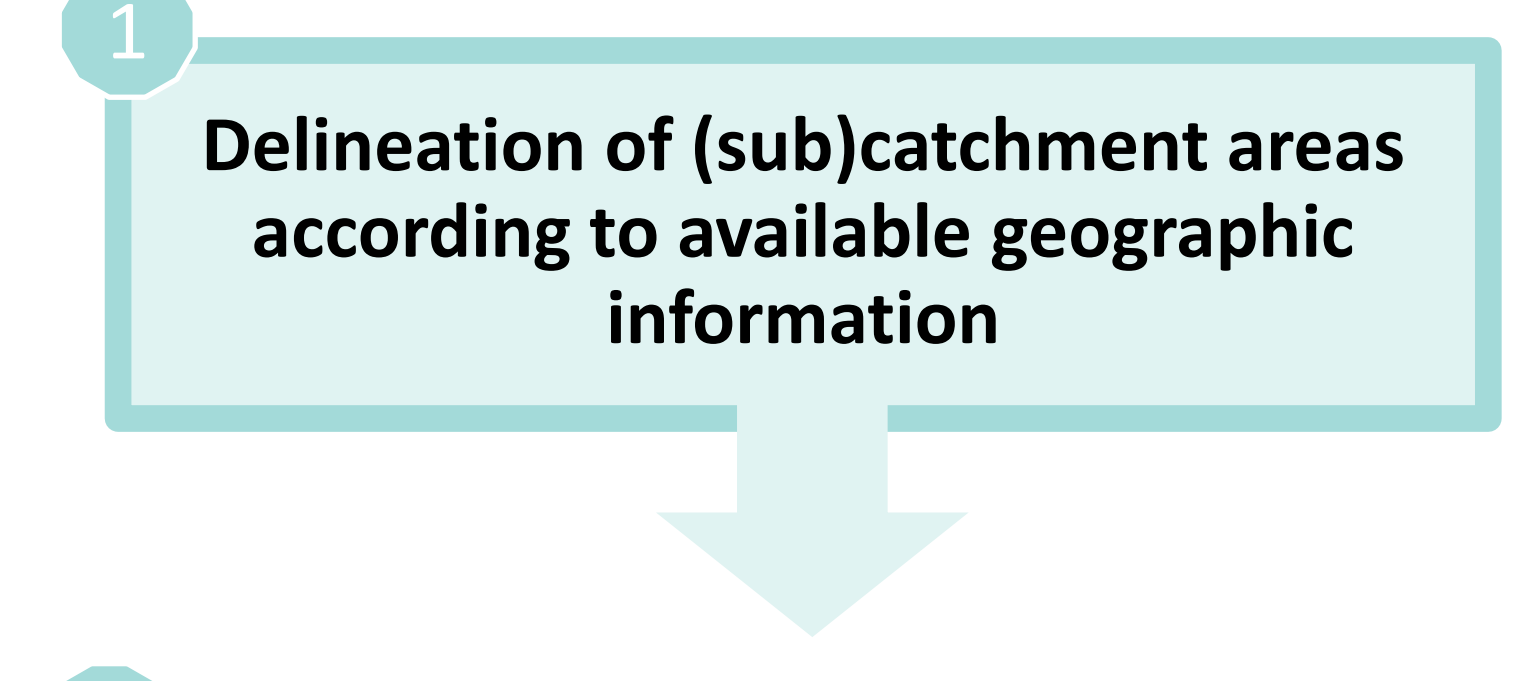
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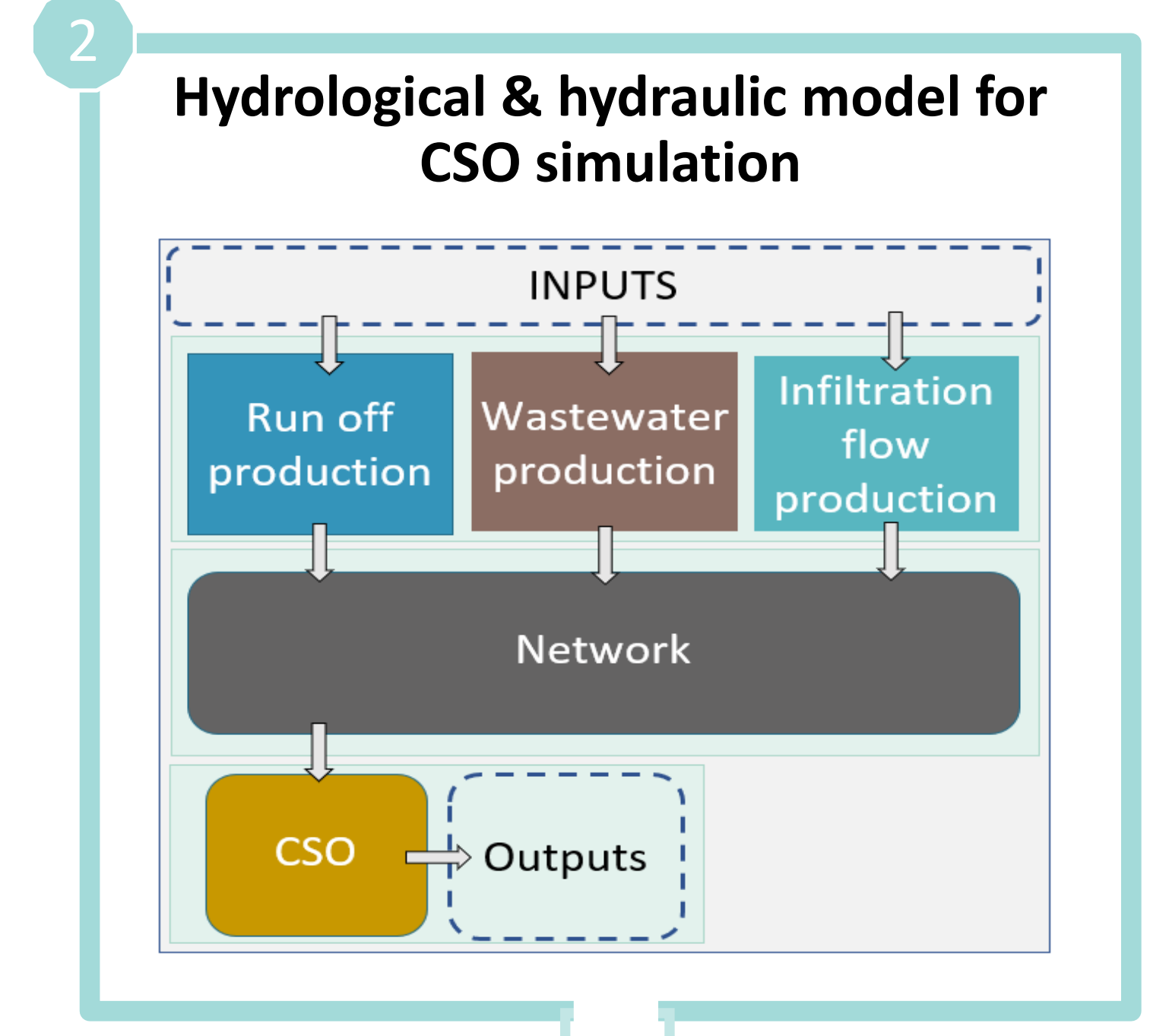
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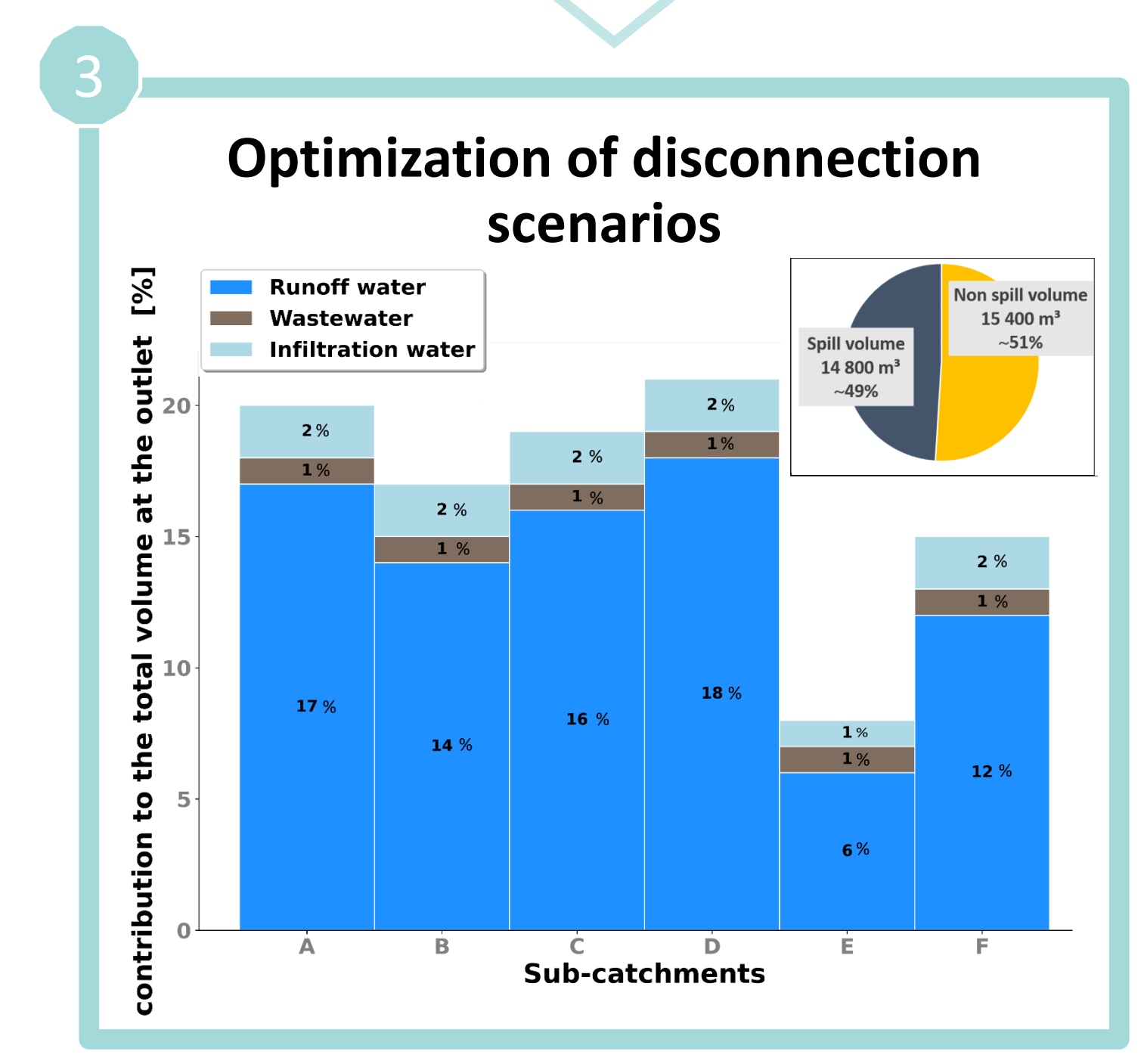
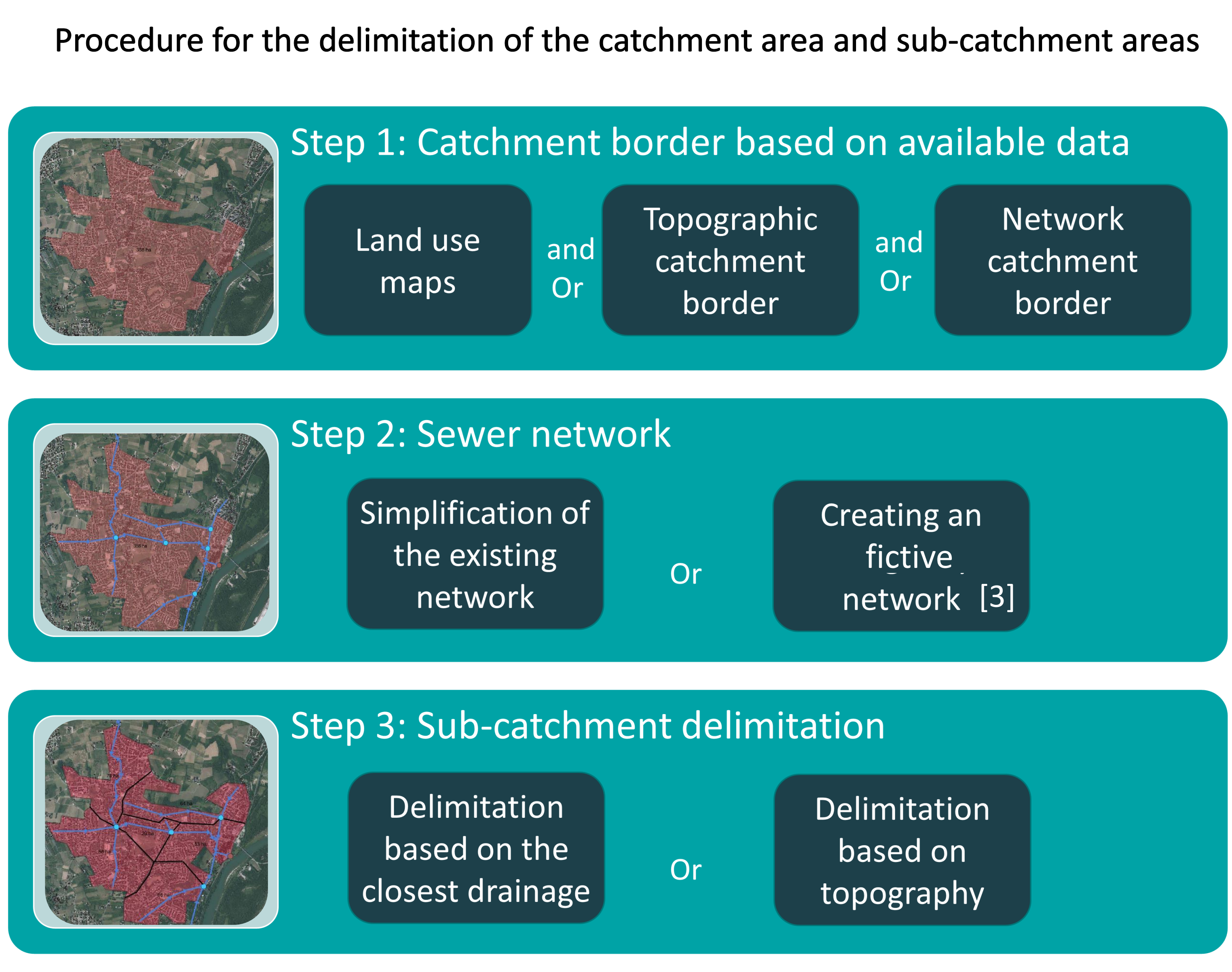
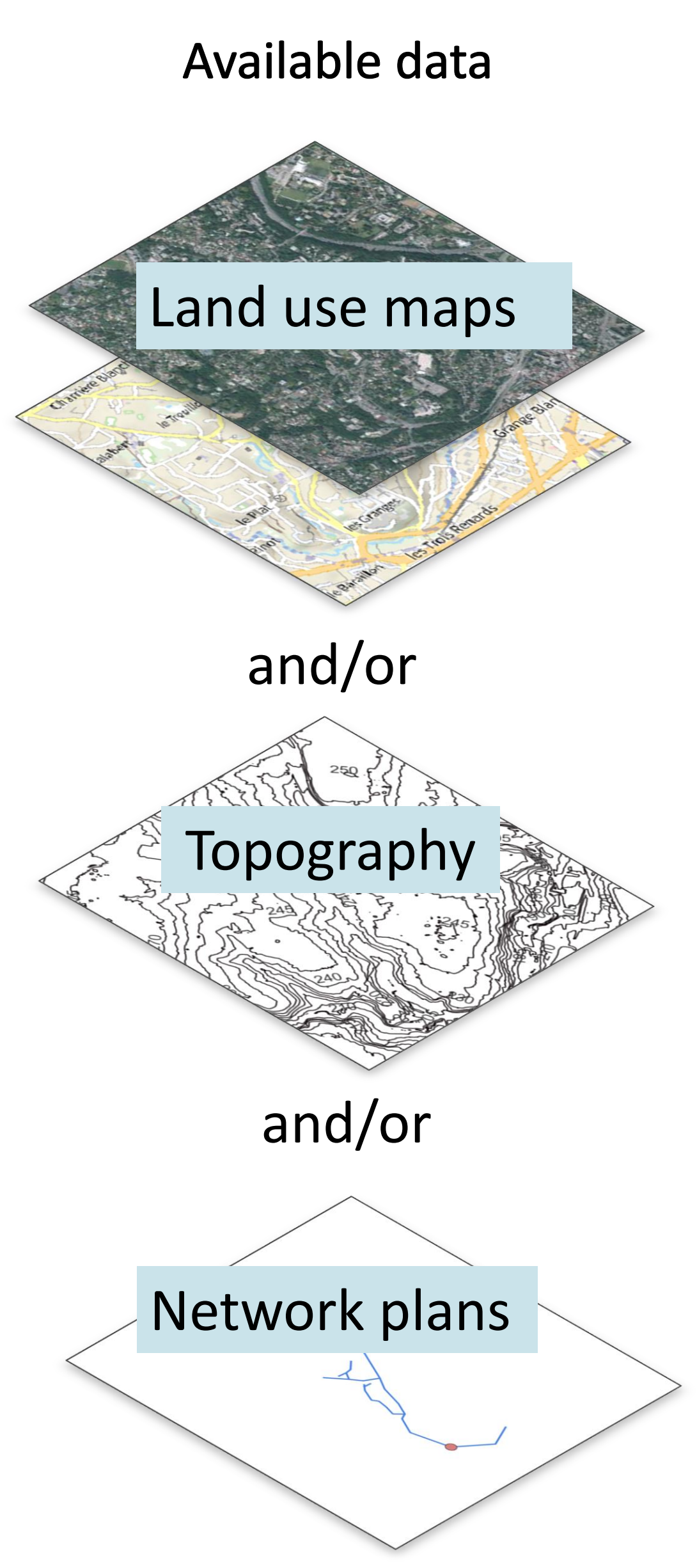
Need of a decision support tool for stormwater disconnection at urban catchment scale



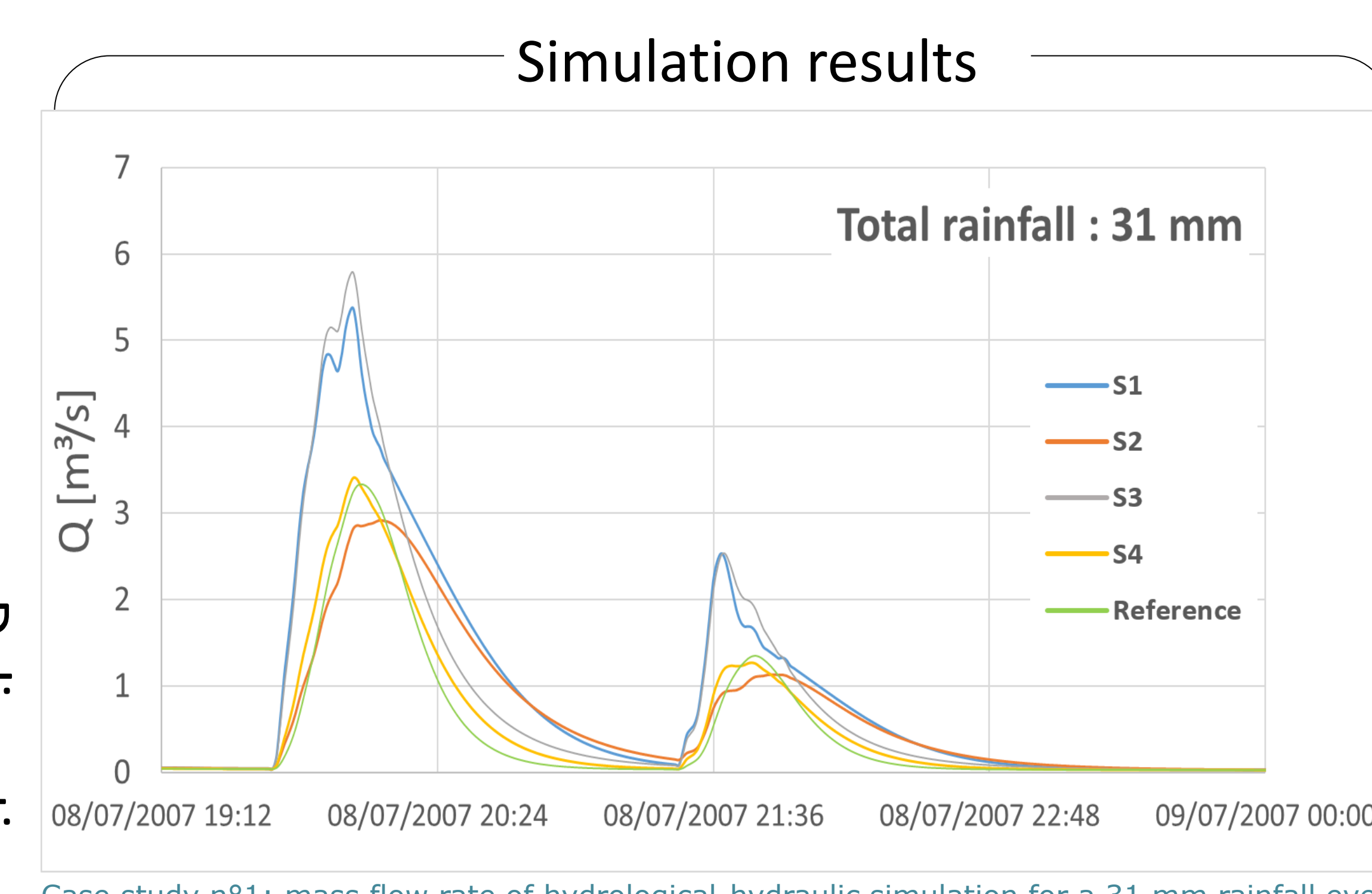
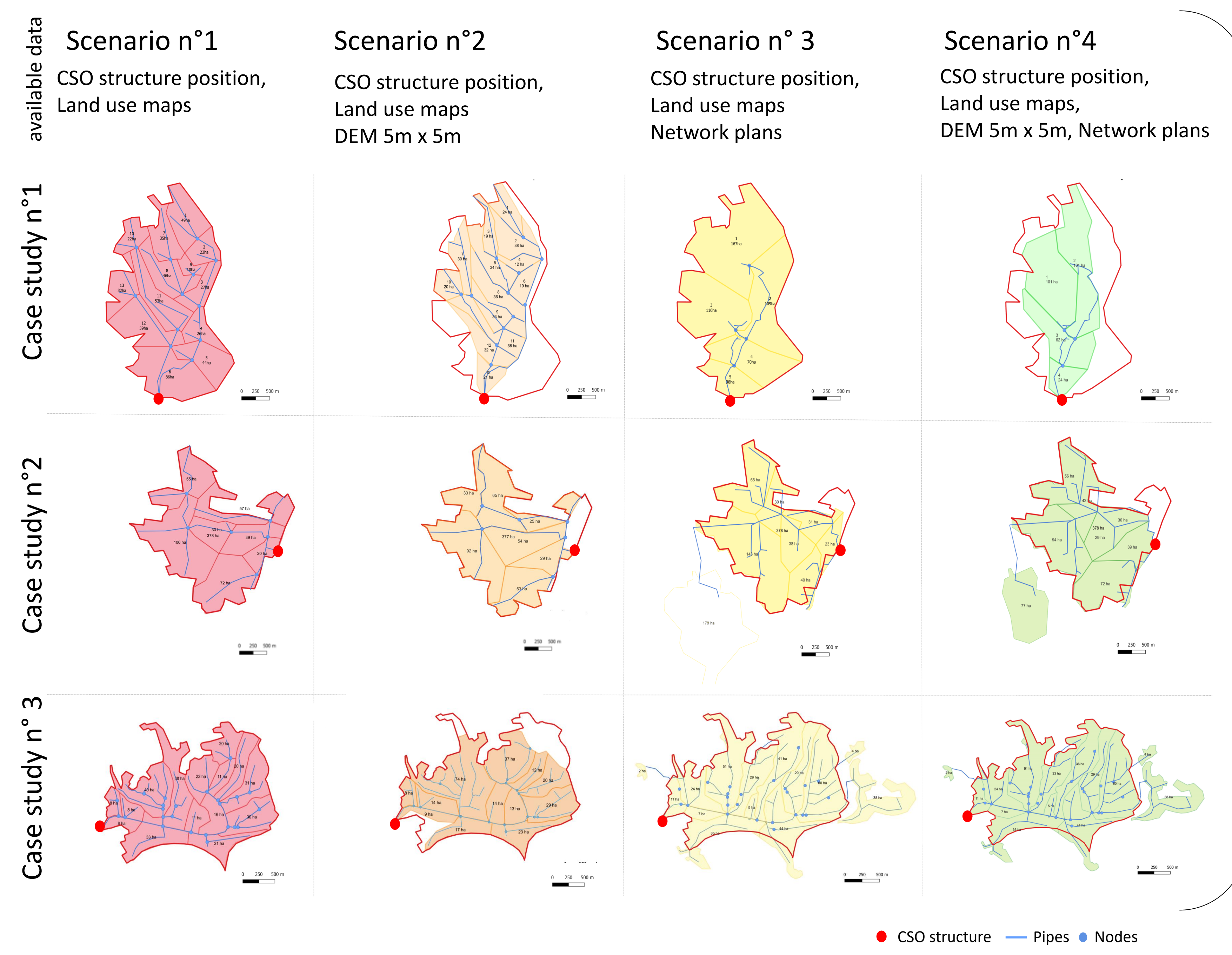
Hydrological and hydraulic models require a minimal description of the territory and its characteristics, notably the catchment and sub-catchment delineation [1] and the appropriate level of sewer network plan [2], however, these data are not always reliable. **The present study investigates the hydrological effect of different level of spatial data for catchment and sub-catchment delineation.**



Methodology



Case study n°1: Water balance during a 50 mm rainfall event



Conclusions

- Mimicking the network following the main roads provides a good approximation of the main branches of the network
- Current results show a better estimation of total runoff volume when topography is available.

References

[1] Li, C., Fan, Z., Wu, Z., Dai, Z., Liu, L., Zhang, C., 2020. Methodology of Sub-Catchment Division Considering Land Uses and Flow Directions. ISPRS International Journal of Geo-Information 9, 634.
 [2] Ghosh, I., Hellweger, F.L., 2012. Effects of Spatial Resolution in Urban Hydrologic Simulations. J. Hydrol. Eng. 17, 129–137.
 [3] Blumensaat, F., Wolfram, M., Krebs, P., 2012. Sewer model development under minimum data requirements. Environ Earth Sci 65, 1427–1437.