4.21 Runoff rate for different rainfall events

Project Name: OPERANDUM (Grant Agreement no. 776848)

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Runoff rate for different rainfall events	Water Management
Description and justification	Runoff occurs when the soil is fully saturated and precipitation arrives more quickly than soil can absorb it. Surface runoff often occurs because impervious areas (such as roofs and pavement) do not allow water to percolate into the ground. Runoff is directly related to water infiltration into the soil (affecting degree of saturation and soil stength) but also to river discharge and flooding.
Definition	The flow of water that occurs when excess stormwater, meltwater, or other sources flow over the ground surface. Runoff includes all the water flowing in the stream channel while the surface runoff includes only the water that reaches the stream channel
Strengths and weaknesses	+ Surface runoff is a major component of the water cycle and the primary agent of soil erosion by water. Large body of reliable process-based models exist for its quantification. Directly related to soil type, land cover and rainfall. - May be difficult to measure at larger scale
Measurement procedure and tool	Field: generally using current meters and calibrated or rated channel cross sections, flumes or standardized weirs, together with water level readings, often by automatic recorders, to give a continuous height record which can be correlated to flow. Modelling: water mass balance coupled with soil infiltration/percolation model
Scale of measurement	Field (meso)
Data source	
Required data	Water volume; soil particle size distribution; soil organic matter
Data input type	Numerical, quantitative
Data collection frequency	During every rainfall event

Level of expertise required	Low to intermediate
Synergies with other indicators	Moisture content, interception, throughflow, stemflow, vegetation type, vegetation cover, precipitation, erosion rate, percolation
Connection with SDGs	11,13,15,17
Opportunities for participatory data collection	Yes
Additional information	
References	FAO Soils Bulletin 68, 'Field Measurement of Soil and Runoff

4.22 Run-Off Score

Project Name: Nature4Cities (Grant agreement: No. 730468)

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Run Off Score (ROS)	**Climate Resilience**
Description and justification	The ROS (Run Off Score) is one out of five Key Performance Scores of the GREENPASS® system. It expresses the ratio of water, which is discharged to the sewage system and is lost for NBS and climate regulation. No water, no NBS, no climate regulation.
Definition	The ROS (Run Off Score) describes the average run-off for a project area.
Strengths and weaknesses	+ worldwide standardized key performance score regarding run-off and water management + easy for communication, understanding and decision-making + useful for design optimization + as a base for regulative definitions (legal prohibition of climate deterioration)
Measurement procedure and tool	- area analysis (eg with GREENPASS® system and tools) - numerical index value (0-1)
Scale of measurement	Object, neighbourhood and city scale
Data source	