	ecosystem-based adaptation perspective. *Hydrology Research*, *45*(6), 774-787.

6.24 Peak flow rate

Project Name: PHUSICOS (Grant Agreement no. 776681)

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Peak Flow Rate	**Natural and Climate Hazards**
Description and justification	Indicators of Flooding Risk Resilience sub-criterion will assess the site response to Flooding phenomena based on susceptibility indicators: land use cover, run-off coefficient, rainfall intensity and duration.
Definition	Maximum rate of discharge during the period of runoff caused by a rainfall event. For a time period of T years, the T years-recurrence peak flow Q_T is defined as a value of discharge, which occurs statistically each T years. More precisely, Q_T is defined by the fact that probability to have a maximal annual discharge greater than Q_T is equal to $1/T$. It is influenced by both the basin (size, shape, geographical location, topography, geology, type of vegetal cover, extent of surface detention) and the rainfall event characteristics (intensity, duration, spatial and temporal distribution pattern, storm direction).
Strengths and weaknesses	
Measurement procedure and tool	The peak flow can be estimated by applying two main approaches: probabilistic and deterministic models. Probabilistic models are based on statistical inference which essentially estimates the design variables by fitting the observed data. Deterministic models are based upon the peak flow estimation through analytical relationships and provide a point estimate without uncertainty assessment. Rainfall-Runoff models are applicable to estimate the peak flow. These are usually applied when flow observations are not available and, thus, they require the use of rainfall data (more easily available) to quantify the required data.

Scale of measurement	m^3/s
Data source	
Required data	Rainfall data, hydraulic, geological and geotechnical information, topography (Model/Survey).
Data input type	Quantitative
Data collection frequency	
Level of expertise required	High
Synergies with other indicators	
Connection with SDGs	13
Opportunities for participatory data collection	
Additional information	
References	

6.25 Peak flood volume

Project Name: PHUSICOS (Grant Agreement no. 776681)

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Peak flood volume	**Natural and Climate Hazards**
Description and justification	Indicators of Flooding Risk Resilience sub-criterion will assess the site response to Flooding phenomena based on susceptibility indicators: land use cover, run-off coefficient, rainfall intensity and duration.
Definition	Represents the volume of water corresponding to the peak flow. Flood volumes are related to 1) the time scales of the meteorological inputs (rainfall, snowmelt) and 2) the time