

Additional information	
References	Mickovski S.B., Santos O., Ingunza P.M.D., Bressani L.2015. Coastal slope instability in contrasting geo-environmental conditions. In: Geotechnical Engineering for Infrastructure and Development - Proc. XVI European Conference for Soil Mechanics and Geotechnical Engineering, Edinburgh, Scotland, September 2015: 1801-1806.

### 6.36 Occurred landslide area

**Project Name:** PHUSICOS (Grant Agreement no. 776681)

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Occurred Landslide Area	Natural and Climate Hazards
<b>Description and justification</b>	Indicators of Landslide Risk Resilience sub-criterion will assess the site response to landslide phenomena based on susceptibility indicators: slope angle, pore water pressure, groundwater depth, soil properties, land use, land cover.
<b>Definition</b>	Represents the observed surface which moves downward of a mass of rock, earth, or artificial fill on a slope divided by the surface subjected to the high and medium landslide risk obtained by analytical modelling (in percentage). The main scopes of the index is to assess the effectiveness of the adopted design solution for either the entire or the partial area referred to the total risk area.
<b>Strengths and weaknesses</b>	Relatively easy to estimate.
<b>Measurement procedure and tool</b>	This indicator can be estimated from both analytical and observational considerations.
<b>Scale of measurement</b>	Dimensionless, %
<b>Data source</b>	
<b>Required data</b>	Geological and geotechnical information, topography (Model/Survey).

<b>Data input type</b>	Quantitative
<b>Data collection frequency</b>	
<b>Level of expertise required</b>	High
<b>Synergies with other indicators</b>	
<b>Connection with SDGs</b>	13
<b>Opportunities for participatory data collection</b>	
<b>Additional information</b>	
<b>References</b>	

### 6.37 Landslide risk – Digital elevation/terrain modelling

**Project Name:** OPERANDUM (Grant Agreement no. 776848)

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Topography (digital elevation/ terrain models)	Natural and Climate Hazards
<b>Description and justification</b>	Topography and relief of a slope are needed as a basis for the assessment of the stability of the terrain where the NBS will be built or operated in. It is also needed for siting and conceptual design of NBS against any form of natural or climate hazard.
<b>Definition</b>	Digital elevation model (DEM), digital terrain model (DTM) or digital surface model (DSM) is a 3D CG representation of a terrain's surface created from a terrain's elevation data.
<b>Strengths and weaknesses</b>	+ : DTMs exist globally (provided by: BGS, USGS, ERSDAC, CGIAR, Spot Image, etc); algorithms to retrieve topographical attributes such as slope gradient, aspect, and curvature exist. DTMs can be used for digital soil mapping. Topographic indices related to landscape ecology and dynamics are available and need DTM-derived information.