

Attribute Table of the Primary Marker (PM) layers.

Attributes of the Primary Marker (PM) gpkg files (M: mandatory attribute; O: optional attribute). The last column refers to the sections of the [RGIK guidelines](#) documenting the recommendations for identifying rock glaciers and assigning values to each attribute.

Attribute	Description	Values	RGIK guidelines
fid (M)	Unique identifier of the Primary Marker.	Automatic filling	
Landform (M)	<p>‘Rock glacier’ is the default value.</p> <p>‘Uncertain rock glacier’: Ambiguous landforms that should be investigated in the future (need for additional data and/or field visit). It provides an option to document the location of suspected rock glaciers that remain uncertain based on the currently available data.</p> <p>‘Not a rock glacier’: This attribute allows the operators to highlight landforms that are likely to be misinterpreted as rock glaciers, for educational purpose.</p>	<p>0. Uncertain rock glacier</p> <p>1. Rock glacier</p> <p>2. Not a rock glacier</p>	<p>RoGI guidelines chap. 3 (sections 3.1 and 3.7)</p> <p>RoGI guidelines chap. 5 (section 5.1)</p>
WorkingID (O)	Practical identifier chosen by the operator (e.g., TYR001, TYR002, ... for an inventory in Tyrol).	Text	
Lat. (M)	Latitude of the Primary Marker in decimal degrees.	Automatic filling	
Long. (M)	Longitude of the Primary Marker in decimal degrees.	Automatic filling	
PrimaryID (M)	RGU + 12 to 15 digits depending on the “Lat.”, “Long.” values. Always 4 digits after the degrees. (e.g., RGU34567S123456E means 3,4567° South and 12,3456° East)	Automatic filling	RoGI guidelines chap. 5 (section 5.2)
Alter.ID1 (O)	Alternative local or regional name	Text	
Alter.ID2 (O)	Identifier used in a previous inventory.	Text	
Assoc.RGS (O)	<p>Defines if the Primary Marker is part of a mono-unit system (‘Mono-unit RGS’) or a multi-unit system (‘Multi-unit RGS’).</p> <p>‘Mono-unit RGS’: A rock glacier system (RGS) including only one unit.</p> <p>‘Multi-unit RGS’: A rock glacier system (RGS) composed of multiple units that are spatially connected, either in a downslope sequence or through coalescence.</p>	<p>1. Mono-unit RGS</p> <p>2. Multi-unit RGS</p>	RoGI guidelines chap. 3 (section 3.2)
RGS.Primar (O)	<p>Primary ID of the associated Rock Glacier System.</p> <p>RGU + 12 to 15 digits depending on the “Lat.”,</p>	Automatic filling	

	<p>“Long.” values. Always 4 digits after the degrees.</p>		
Morpho. (O)	<p>Defines if the rock glacier identified by the primary marker is a rock glacier with simple or complex morphology.</p> <p>‘Simple’: unambiguous and homogeneous morphological expression and/or landcover, connection to the upslope unit and activity (or kinematic if available).</p> <p>‘Complex’: ambiguous and heterogenous morphological expression and/or landcover, connection to the upslope unit and activity (or kinematic if available). Despite the spatial variability, there is no sufficient evidence to unambiguously separate units.</p>	<ol style="list-style-type: none"> 1. Simple 2. Complex 	<p>RoGI guidelines chap. 3 (section 3.2)</p> <p>RoGI guidelines chap. 5 (section 5.3)</p>
Compleat. (O)	<p>Defines if the rock glacier identified by the Primary Marker is completely visible or not.</p> <p>‘No, Ups.Con’ means that it is not complete due unclear upslope connection (e.g., several rock glaciers generations are overlapping).</p> <p>‘No, truncated front’ means that it is not complete due to truncated front.</p> <p>‘Uncertain’ when data or analysis do not allow to decide.</p>	<ol style="list-style-type: none"> 1. Yes 2. No unclear connection to the upslope 3. No, truncated front 4. Uncertain 	<p>RoGI guidelines chap. 5 (section 5.3)</p>
Upsl.Con. (O)	<p>Defines the geomorphological unit directly located upslope of a rock glacier unit or system (five main categories). See related documentation for further information.</p> <p>When dealing with uncertain or intermediate situations, four additional categories are included: ‘Poly-connected’, ‘Other’, ‘Uncertain’ and ‘Unknown’.</p> <p>‘Poly-connected’: two or more upslope connections (e.g., talus and glacier). The use of poly-connected should be restricted to cases where there is no obvious dominance of one connection type.</p> <p>‘Other’: other types of geomorphological sequencing related to a rock glacier landform</p> <p>‘Uncertain’: the geomorphological assessment cannot be performed with confidence.</p> <p>‘Unknown’: the rock glacier unit has been overridden by another one and the former connection to the upslope unit cannot be assessed with confidence anymore.</p>	<ol style="list-style-type: none"> 1. Talus-connected 2. Glacier forefield-connected 3. Glacier-connected 4. Debris-mantled slope-connected 5. Landslide-connected 6. Poly-connected 7. Other 8. Uncertain 9. Unknown 	<p>RoGI guidelines chap. 3 (section 3.3)</p> <p>RoGI guidelines chap. 5 (section 5.3)</p>

Upsl.Cur. (O)	<p>Defines if the rock glacier is currently connected to the upslope unit or not.</p> <p>This attribute is noted <u>only for ‘talus-connected’</u> rock glaciers and allows rock glaciers that are currently connected to their upslope unit (i.e., efficient sediment connectivity) to be distinguished from those that have been disconnected from their original source.</p>	<ol style="list-style-type: none"> 1. Yes 2. No 3. Uncertain 4. Unknown 	<p>RoGI guidelines chap. 3 (section 3.3)</p> <p>RoGI guidelines chap. 5 (section 5.3)</p>
Comment (O)	Comment on possible poly-connection and uncertainty in the geomorphological interpretation.	Text	
Acti.Ass. (O)	<p>Defines how the activity assessment was performed: based on geomorphologic evidence only, or with additional kinematic data.</p>	<ol style="list-style-type: none"> 1. Kinematic 2. Geomorphologic 	<p>RoGI guidelines chap. 3 (section 3.4)</p> <p>RoGI guidelines chap. 5 (section 5.3)</p>
Acti.Cl. (O)	<p>Activity class assigned to the rock glacier, defined as the efficiency of sediment conveyance (expressed by the surface movement) at the time of observation. See related documentation for further information.</p> <p><u>Already pre-filled if “Kin.Att.” is filled.</u></p> <p>It is also possible to change the value manually from the drop-down list, in case of low reliability of the kinematic attribute, e.g., due to unclear pattern in InSAR, due to unideal slope orientation (N/S) compared to InSAR LOS measurements, or small MA not covering the entire landform. In such cases the “Kin.Att.” may still be documented but assessed as not representative of the real activity of the rock glacier (based on geomorphologic evidence).</p> <p>‘Active’: rock glacier moving downslope over most of its surface.</p> <p>‘Active uncertain’: the rock glacier unit is not in a relict state, but there is not sufficient data or geomorphological evidence to distinguish between an active and transitional state.</p> <p>‘Transitional’: rock glacier with slow movement only detectable by measurements or movement restricted to areas of non-dominant extent.</p> <p>‘Relict uncertain’: the rock glacier unit is not in an active state, but there is not sufficient data or geomorphological evidence to distinguish between a transitional and relict state.</p> <p>‘Relict’: rock glacier with neither</p>	<ol style="list-style-type: none"> 1. Active 2. Active uncertain 3. Transitional 4. Relict uncertain 5. Relict 6. Uncertain 	<p>RoGI guidelines chap. 3 (section 3.4)</p> <p>RoGI guidelines chap. 5 (section 5.3)</p> <p>RoGI guidelines chap. 6 (sections 6.1, 6.2 and 6.3)</p>

	<p>geomorphological evidence nor detection of current movement associated with permafrost creep.</p> <p>‘Uncertain’: the data quality is insufficient to determine any activity status.</p>		
Kin.Att. (O)	<p>Kinematic Attribute (KA) assigned to the rock glacier. The kinematic attribute must be representative of the multi-annual movement rate of the rock glacier unit at the time of an inventory.</p> <p><u>Only if “Acti.Ass.” is ‘Kinematic’.</u></p> <p>The default category is ‘0. Undefined’. The rock glacier unit remains in this category when: no (reliable) kinematic information is available, the kinematic information is derived from a single point survey which cannot be related to any MA, the rock glacier unit is mainly characterised by an identified MA of undefined or unreliable velocity, or the kinematic information is too heterogeneous.</p> <p>See related documentation on the recommendations to document the KA based on a MA layer.</p>	<p>0. Undefined</p> <p>1. < cm/a</p> <p>2. cm/a</p> <p>3. cm/y to dm/a</p> <p>4. dm/a</p> <p>5. dm/a to m/a</p> <p>6. m/a</p> <p>7. > m/a</p>	<p>RoGI guidelines chap. 6</p> <p>(sections 6.1, 6.2 and 6.3)</p>
TypeOfData (O)	<p>Type of data used for kinematic assessment. Use “Kin.Comment” if you want to add more details about the type of data used (e.g., InSAR or SAR offset tracking for ‘Radar’).</p> <p><u>Only if “Acti.Ass.” is ‘Kinematic’.</u></p> <p>‘Other’ can be used if there is a combination of methods (add comments in “Kin.Comment”).</p>	<p>Optical</p> <p>Radar</p> <p>Lidar</p> <p>Geodetic</p> <p>Other</p>	<p>RoGI guidelines chap. 6</p> <p>(sections 6.1, 6.2 and 6.3)</p>
Kin.Period (O)	<p>Period of the data used to assign the KA (e.g., 2018–2020).</p> <p><u>Only if “Acti.Ass.” is ‘Kinematic’.</u></p>	<p>yyyy–yyyy</p>	<p>RoGI guidelines chap. 6</p> <p>(sections 6.1, 6.2 and 6.3)</p>
Destabili. (O)	<p>Describes if the rock glacier unit is (ongoing) or has been (completed) destabilised.</p> <p>Destabilisation refers to rock glaciers with obvious signals of abnormally large displacements, often associated with by the opening of large transversal cracks and/or scarps.</p> <p>‘Yes, ongoing’: geomorphological evidence and/or kinematic data signal to an ongoing phase of destabilisation.</p> <p>‘Yes, completed’: geomorphological evidence and/or kinematic data confirm a completed destabilisation phase.</p>	<p>0. No</p> <p>1. Yes, ongoing</p> <p>2. Yes, completed</p> <p>3. Uncertain</p>	<p>RoGI guidelines chap. 3</p> <p>(section 3.5)</p> <p>RoGI guidelines chap. 5</p> <p>(section 5.3)</p>

Kin.Comm. (O)	<p>Comment regarding kinematic information, data type and quality, spatial representativeness, etc. It allows to document uncertainties, especially when the reliability is low or medium.</p>	Text	
Rel.Kin. (O)	<p>Reliability of the assignment of the KA based on a qualitative assessment of the data quality and spatial heterogeneity.</p> <p><u>Only if “Acti.Ass.” is ‘Kinematic’</u></p> <p>The attribute accounts for the reliability of MAs covering the rock glacier, the spatial representativeness of the kinematic information (fraction of the rock glacier that is covered by MAs), and the heterogeneity of the available kinematic information (numbers of overlapping MAs with potentially different velocity classes).</p> <p>‘Low’: KA assessment is affected by several of the abovelisted limitations.</p> <p>‘Medium’: KA assessment is affected by one of the abovelisted limitations.</p> <p>‘High’: No limitation is significantly impacting the KA assessment.</p>	<p>0. Low</p> <p>1. Medium</p> <p>2. High</p>	<p>RoGI guidelines chap. 6</p> <p>(sections 6.1, 6.2 and 6.3)</p>