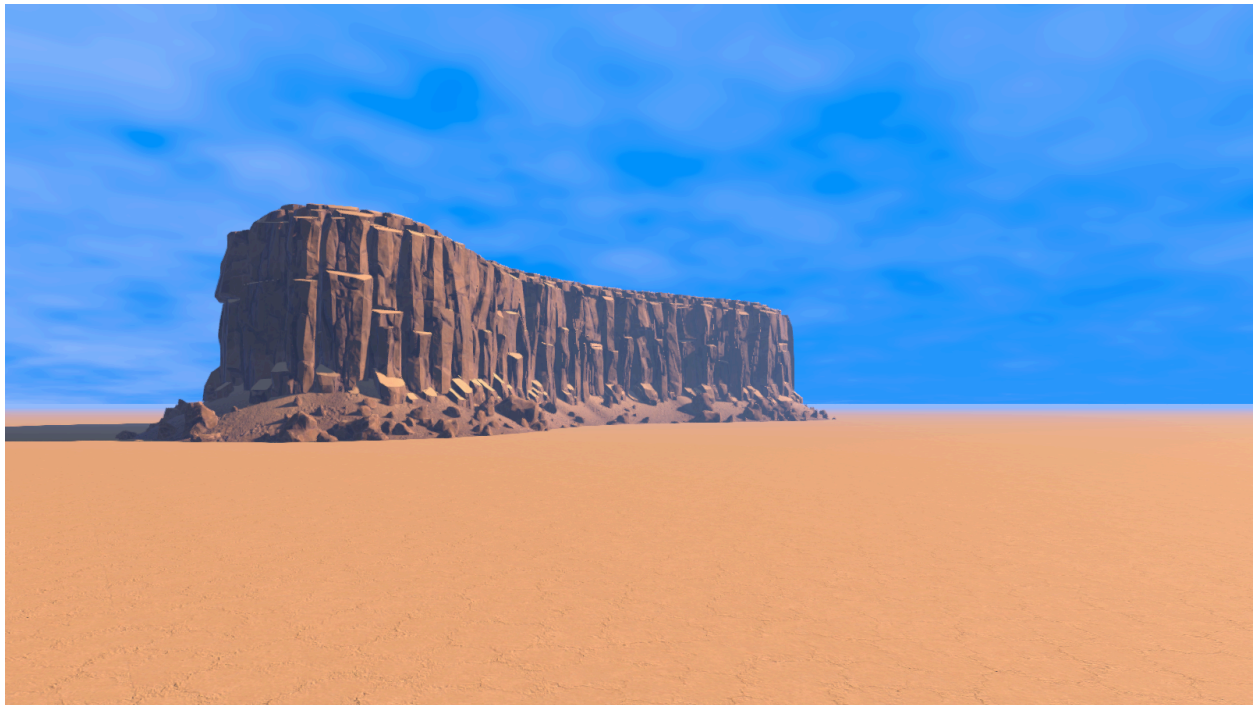


Stylized Nature - Cliff Builder

Thank you for using **Stylized Nature - Cliff Builder** by **Arkerion Studios**.

Cliff Builder is an editor tool for drawing cliffs directly in the Scene view. You click a line on the ground and the tool builds a complete cliff along it: a wall of low-poly fractured rock blocks, stepped rock terraces on top, a walkable plateau or top strip, a debris slope at the foot and rocks scattered over it. Long canyon walls, round mesas, small rock pillars and inward-facing pits all come from the same line. When the cliff is finished, you bake it into an ordinary prefab that needs no Cliff Builder code in your game.

Main Features



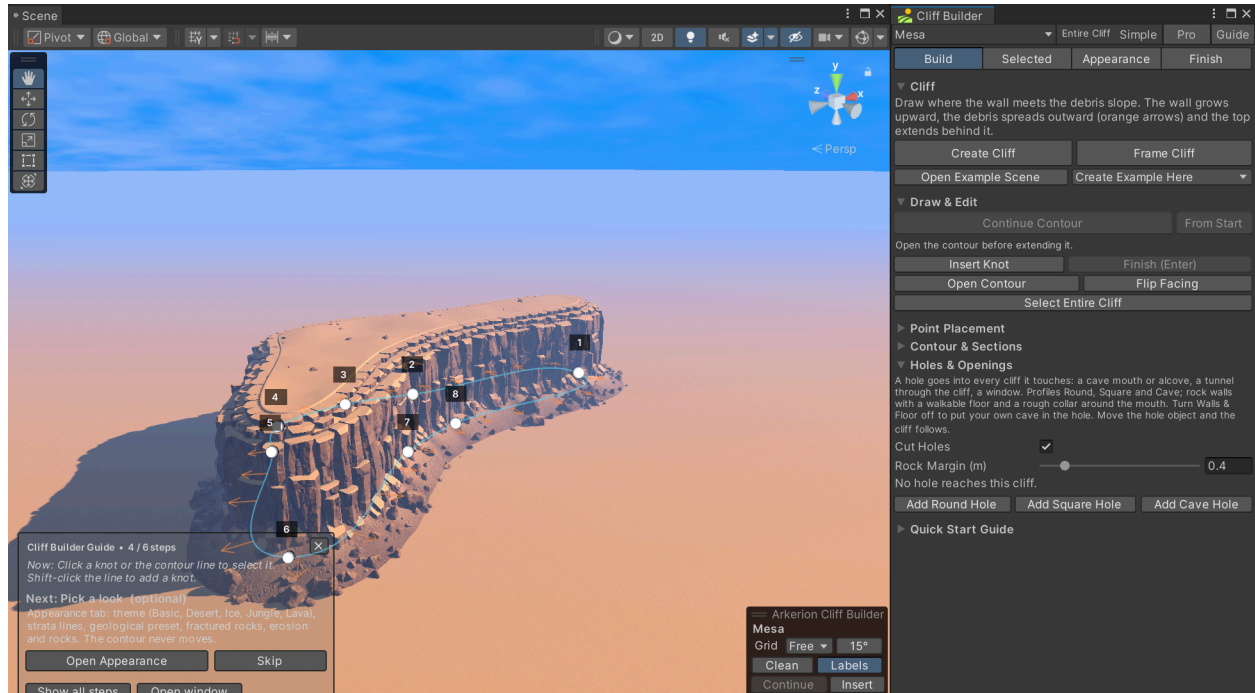
- Draw a cliff by clicking its wall foot in the Scene view; open lines become cliff walls, closed loops become mesas with a plateau
- A wall of low-poly fractured rock blocks (100–200 triangles each) with seams, breaks, ledges and rubble
- Stepped rock terraces on top, always a little lower than the top itself
- Debris slope with erosion and drainage channels that follows your terrain
- Rocks scattered on the slope and the top, lying naturally instead of standing on their tips

- Five themes – Basic, Desert, Ice, Jungle and Lava – switchable at any time without moving the cliff
- Surface materials by drag and drop: two wall materials, two debris materials and a top material, mixed in round patches
- Strata lines, top and bottom bands, top cover (grass, sand, snow, ash) and glowing lava heat zones
- Same Look For All Themes and your own Look Presets
- Height, slope and shape per section or knot, blended smoothly along the cliff
- Validation with one-click fixes
- Bake to a prefab with LODs, colliders and rocks
- Holes in three profiles - Round, Square and Cave - for cave mouths, tunnels and windows, with rock walls, walkable floors and colliders
- Simple mode with the main settings in one block per tab, Pro mode with every setting
- Full Undo for every action

Requirements

- **Unity** 2022.3 LTS or Unity 6
- Any render pipeline: **URP** 14 or newer, **HDRP** 14 or newer, or the **Built-in Render Pipeline** (Built-in needs the free Shader Graph package from the Package Manager)
- The Physics module (colliders, ground fit and placing knots on terrain)

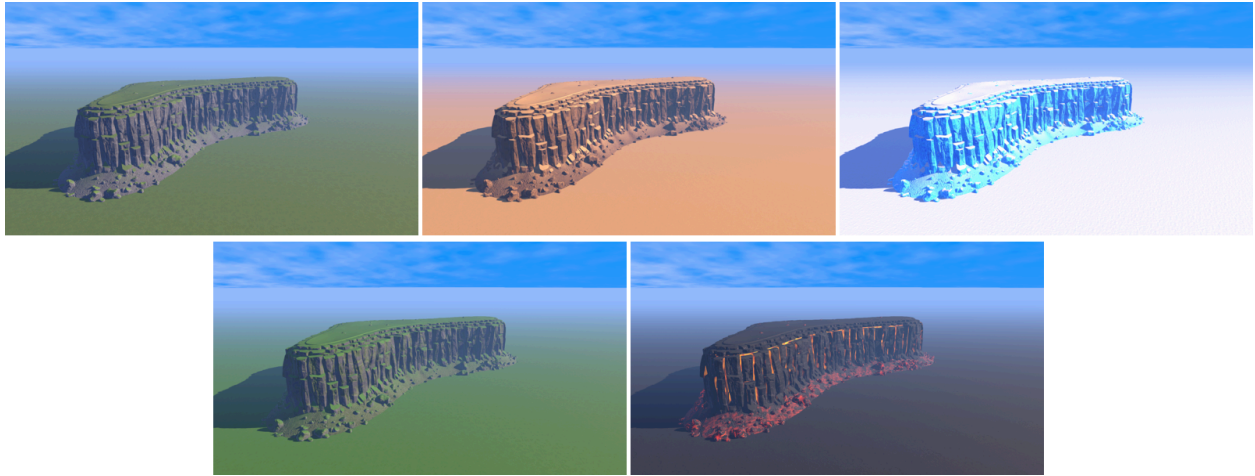
Quick Start (5 minutes)



1. Open **Tools > Arkerion > Cliff Builder**. Dock the window next to the Inspector.
2. On the **Build** tab, click **Create Cliff**.
3. Click the ground where the foot of the wall should be. Every click adds a knot. The orange arrows show where the wall faces.
4. Press **Enter** to finish an open cliff, or click the first knot to close the loop into a mesa.
5. Drag a knot to move it. Drag the **cyan arrow** above a knot to change the wall height there.
6. On the **Appearance** tab, pick a theme and a **Geological Preset**.
7. On the **Finish** tab, click **Bake Cliff** to save it as a prefab.

Tip: **Create Example Here** (Build tab) creates a finished example – straight wall, curved canyon, mesa or pillar – in front of the camera, and **Open Example Scene** opens the Desert demo scene.

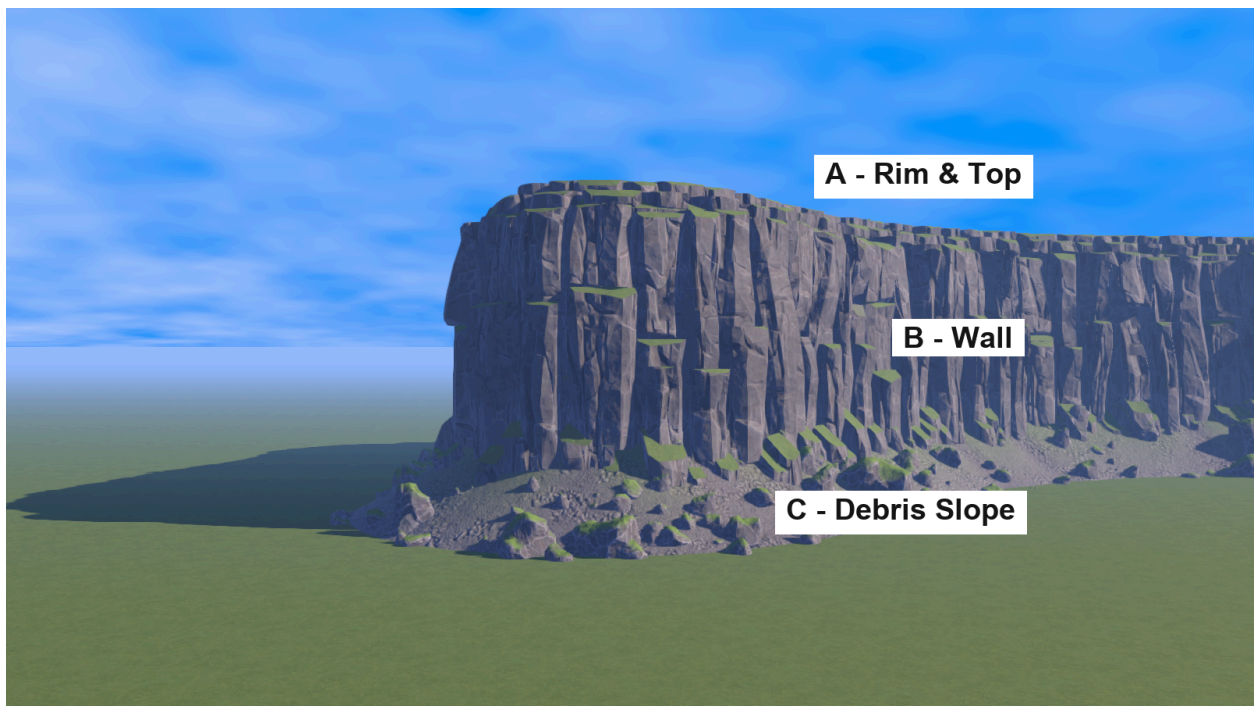
Demo Scenes



DemoScene_CliffBuilder_Basic, **_Desert**, **_Ice**, **_Jungle** and **_Lava** show the same mesa in each theme, with a sky, sun, fog, a themed ground and a free camera (press Play and fly with WASD and the mouse).

The demo cliffs are live: the scenes are saved without their generated meshes, so they stay small, and the cliffs are built the moment you open a scene. This takes a few seconds and does not mark the scene as changed. Select the mesa and change anything – it is an ordinary editable cliff.

Words Used in the Tool

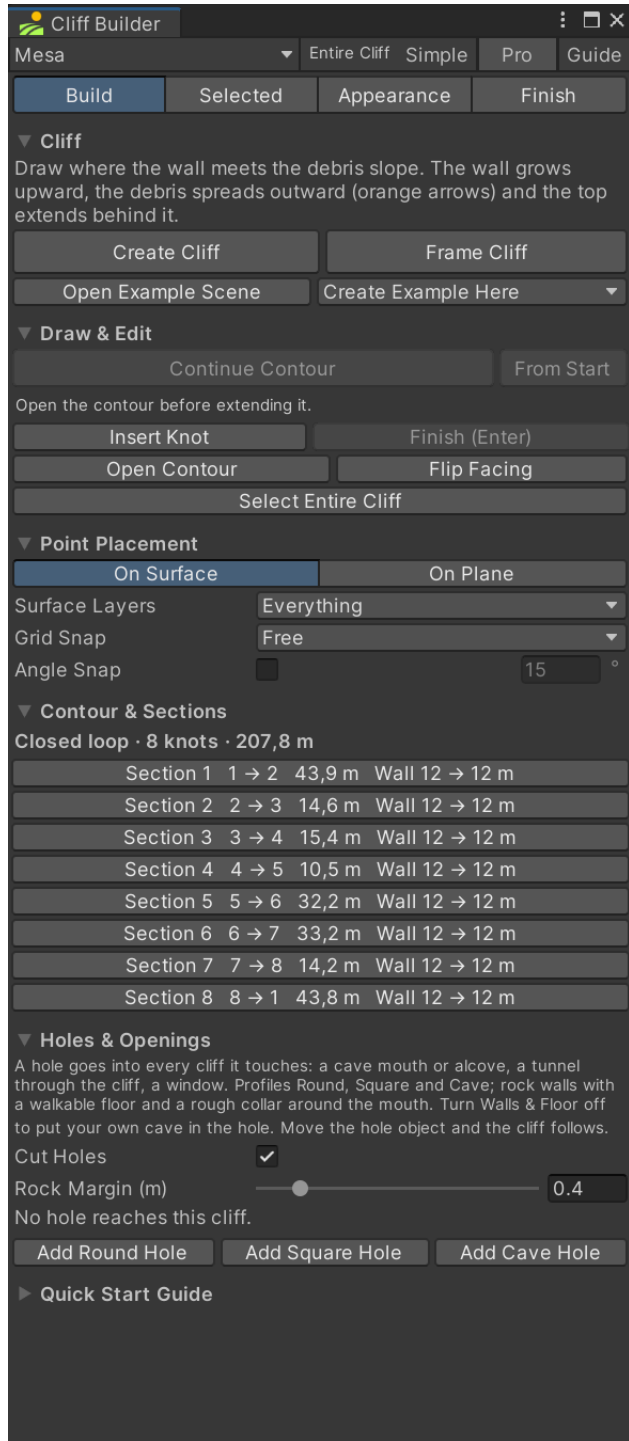


- **Cliff** – the object holding one cliff. Everything it builds goes into its **Generated** child.
- **Contour** – the line you draw: the foot of the wall.
- **Knot** – a point of the contour. **Section** – the piece between two knots.
- **A – Rim & Top** – the rock terraces and the top (plateau on a closed cliff, top strip on an open one).
- **B – Wall** – the wall of fractured rock blocks.
- **C – Debris Slope** – the slope of loose rock at the foot of the wall.
- **Theme** – a set of materials and rocks (Basic, Desert, Ice, Jungle, Lava).

Step Guide

The **Step Guide** panel in the bottom left of the Scene view shows what to do next – create a cliff, draw the contour, shape it, pick a look, bake – and ticks steps off as you go. Hide it with the **Guide** button in the window toolbar.

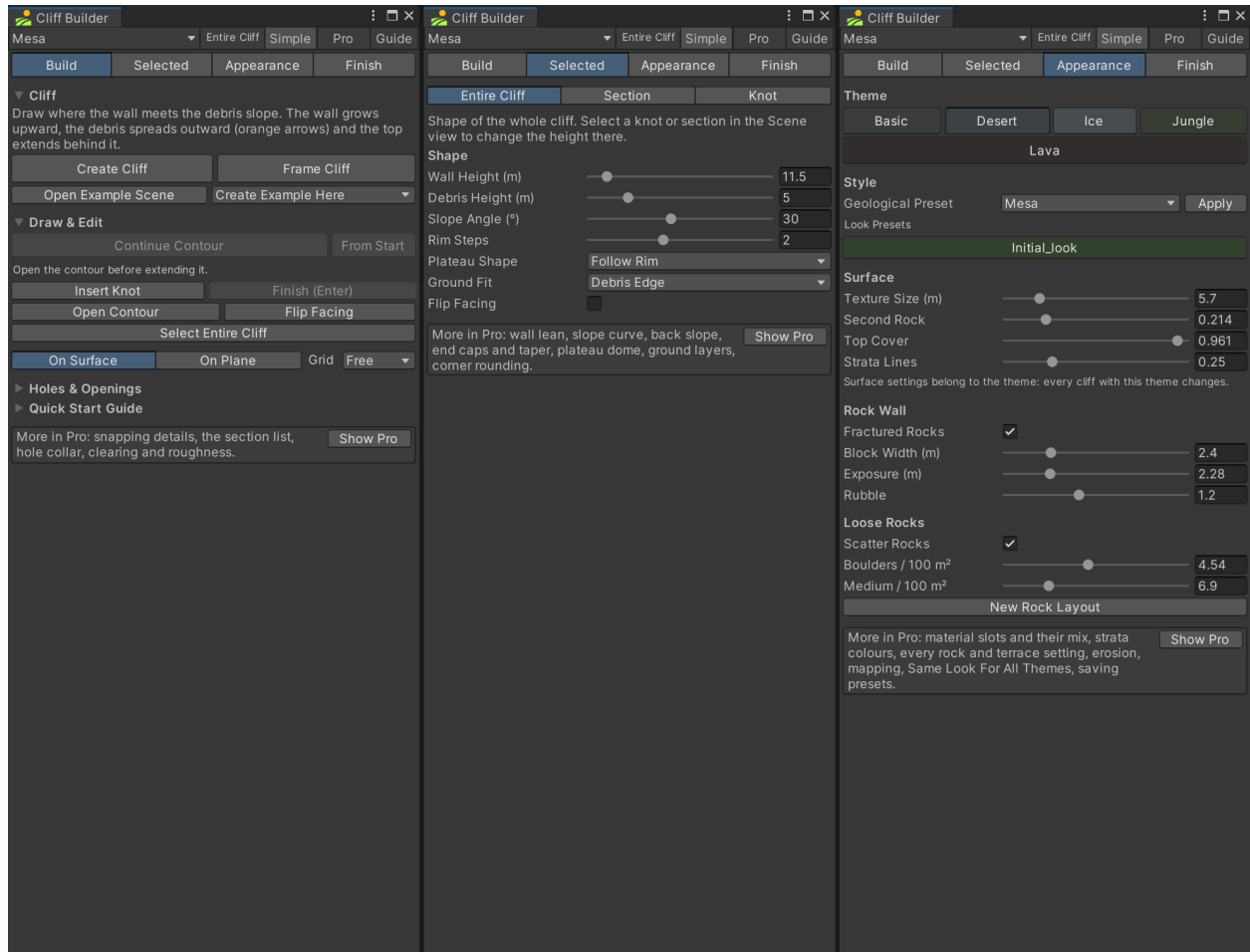
The Cliff Builder Window



- **Build** – create cliffs, draw and edit the contour, snapping and placement.
- **Selected** – the shape of the whole cliff, a section or a knot.
- **Appearance** – theme, surface materials, fractured rocks, scattered rocks, presets.
- **Finish** – validation, preview quality, baking and statistics.

All sections can be folded. **Simple | Pro** in the toolbar switches between the main settings and all of them (see Simple and Pro). A baked cliff is locked: only the Finish tab works until you press **Unbake / Edit**.

Simple and Pro

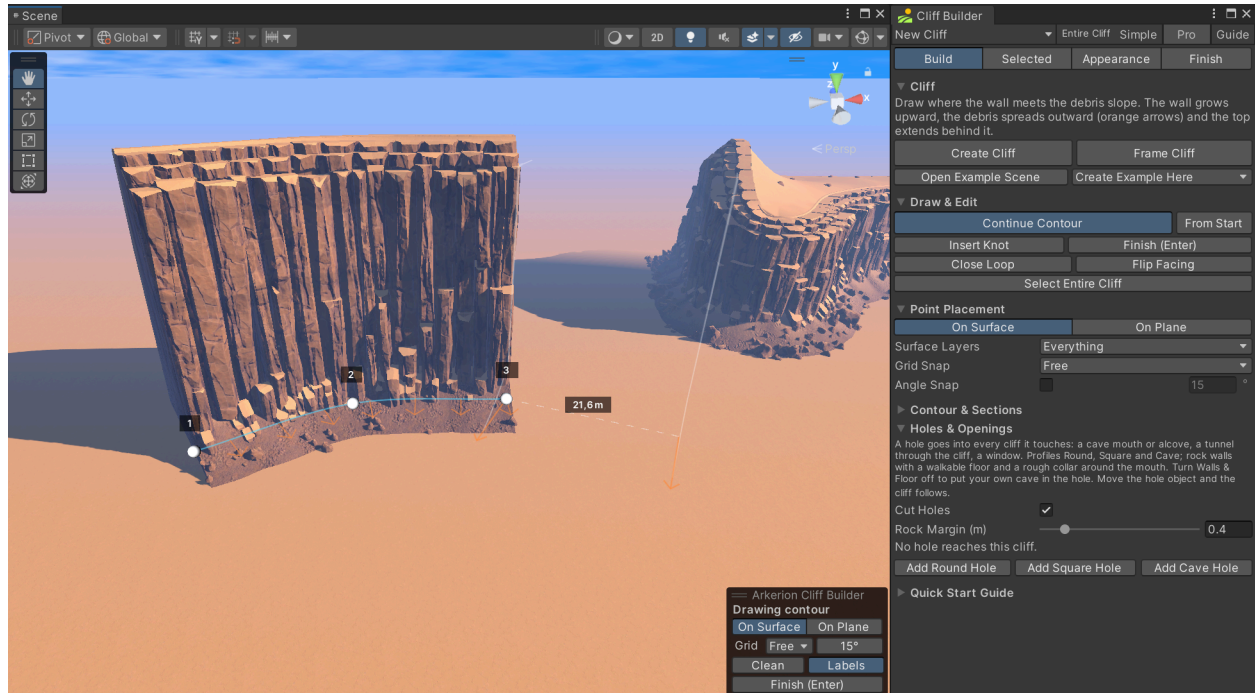


The **Simple | Pro** switch in the window toolbar sets how much you see.

- **Simple** (the start) shows the settings most people need, one block per tab: drawing and holes on **Build**; wall height, debris, slope, rim steps, plateau or top end, ground fit and facing on **Selected**; theme, geological preset, look presets, texture size, second rock, top cover, strata, rock wall and loose rocks on **Appearance**; validation, preview quality and baking on **Finish**.
- **Pro** shows every setting described in this guide.

The switch only changes what the window shows - it never changes a cliff. Settings made in Pro keep working in Simple. The box at the bottom of every Simple tab lists what else is in Pro, with a **Show Pro** button.

Drawing a Cliff



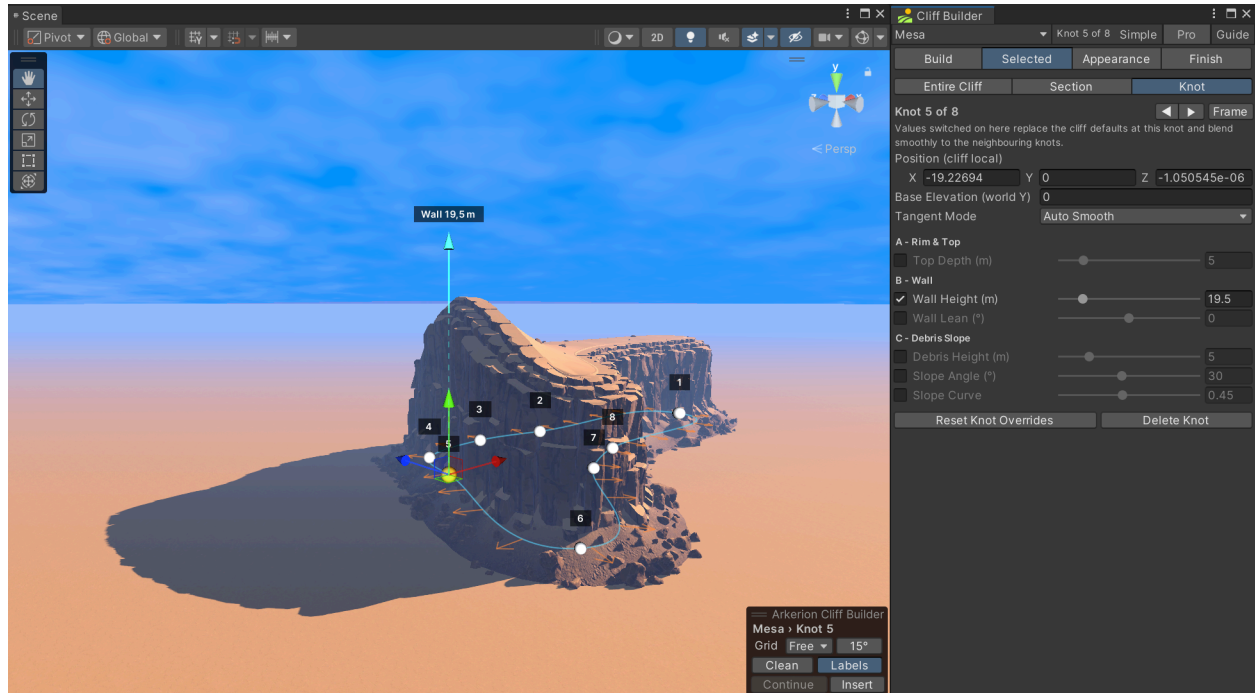
The line you draw is the **wall foot**. The wall grows upward from it, the debris slope spreads to the side of the **orange arrows**, and the top extends behind it.

- **Create Cliff** starts drawing. Click to add knots; **Backspace** removes the last one.
- **Enter** (or **Finish**) ends an open cliff. **Close Loop** (or clicking the first knot) makes a closed one.
- **Escape** finishes drawing, stops the current tool or clears the selection.
- **Shift-click** the line, or use **Insert Knot**, to add a knot. The cliff keeps its exact shape.
- **Flip Facing** turns the wall to the other side. On a closed loop it makes an inward-facing pit or canyon.
- **From Start** adds knots before the first knot instead of after the last.

Placing knots

- **Point Placement** – on colliders (**Surface Layers** picks which ones: terrain, ground) or on a flat plane at **Plane Elevation**.
- **Grid Snap** and **Angle Snap** – in the Build tab and in the Scene view overlay. Hold **Ctrl** to place freely.

Shaping the Cliff



The **Selected** tab edits one of three scopes:

- **Entire Cliff** – the defaults of the whole cliff.
- **Section** – the piece between two knots. Its values are strongest in the middle and fade towards the knots, so the cliff never breaks apart.
- **Knot** – values at one knot, blended smoothly to its neighbours. **Tangent Mode** sets how the line passes through it: Auto Smooth, Corner, Aligned or Free.

Tick a value to override it for that section or knot; untick it to follow the cliff again.

A – Rim & Top

- **Rim Steps** – the number of rock terraces on top. **Step Falloff** makes higher terraces thinner.
- **Top Above Steps (m)** – how much higher the top is than the highest terrace rocks.
- Open cliffs: **Top Depth**, **Top Ends With** (a **Slope** down to the ground behind, or a short **Edge**), **Back Slope**, **End Caps** and **End Taper** (the cliff sinks into the ground towards both ends).
- Closed cliffs: **Fill Plateau** and **Plateau Shape** – **Follow Rim**, **Level** or **Dome** (a rounded hill top). **Top Unevenness** adds gentle bumps.

The plateau is a mesh of its own; it never changes a Unity Terrain.

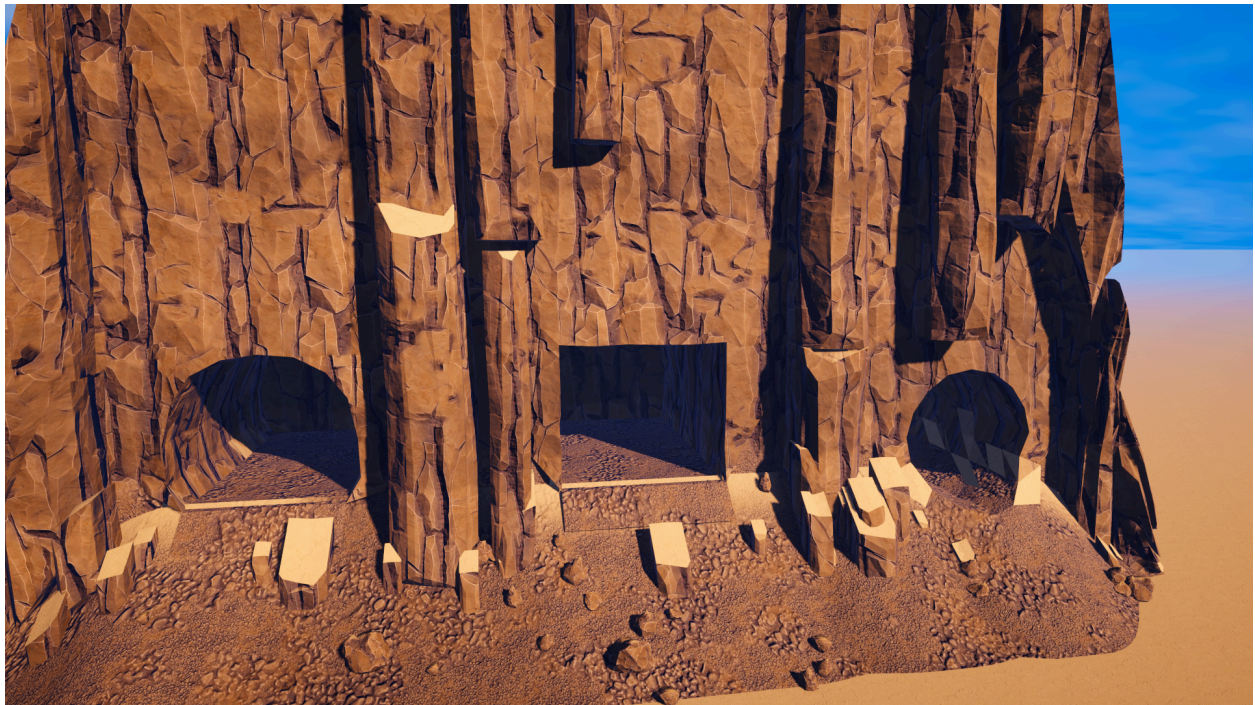
B – Wall

- **Wall Height** and **Wall Lean**.

C – Debris Slope

- **Debris Height** and **Slope Angle** – the run outward follows from both. **Slope Curve** makes the slope concave.
- **Ground Fit** – the debris edge (and, if you like, the wall foot) follows the ground under it. **Ground Layers** picks what counts as ground; **Re-fit To Ground** updates the fit after you change your terrain.

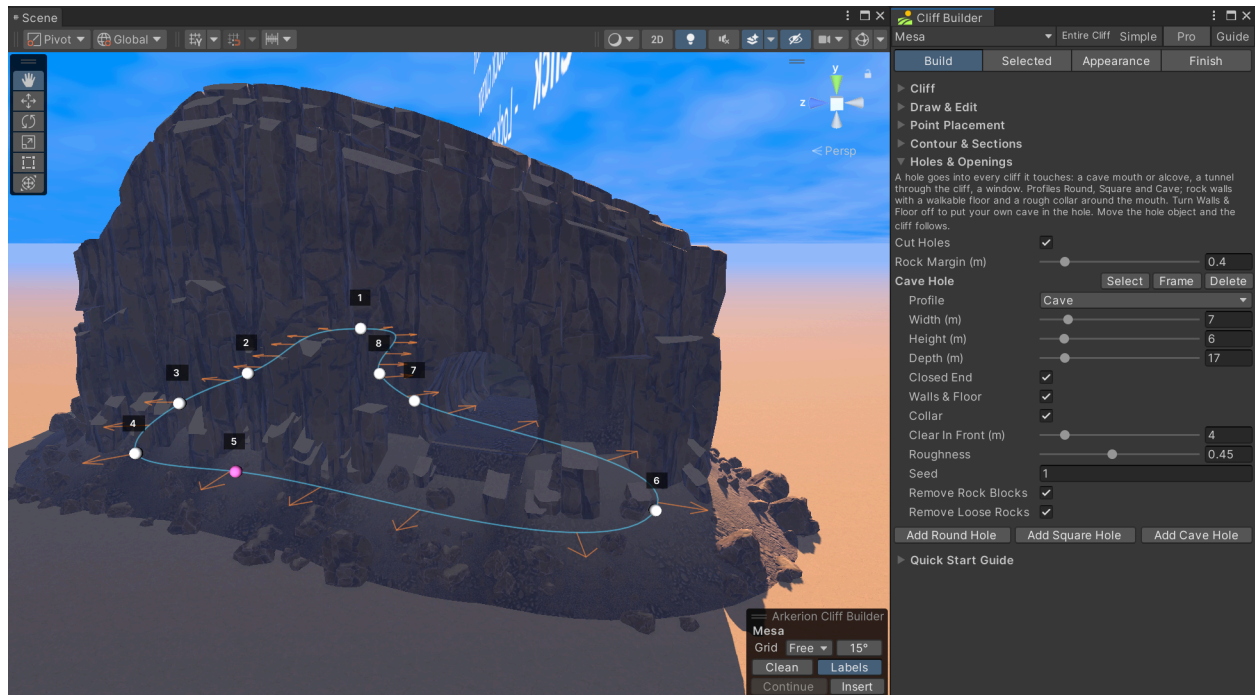
Holes: Cave Mouths, Tunnels and Windows



Holes make cliffs part of your level: a cave mouth the player walks into, a tunnel through a mesa, a window high in a wall, or a socket where your own cave starts.

1. Select the cliff and open **Build > Holes & Openings**.
2. Click **Add Cave Hole**, **Add Square Hole** or **Add Round Hole**. The hole appears at the middle of the wall, facing into the cliff.

3. Move and turn the hole object to where it should be. Its orange outline shows the volume; local **Z** points into the cliff. The cliff updates as you move it.
4. Set it up in the list (or in the Inspector of the hole object).



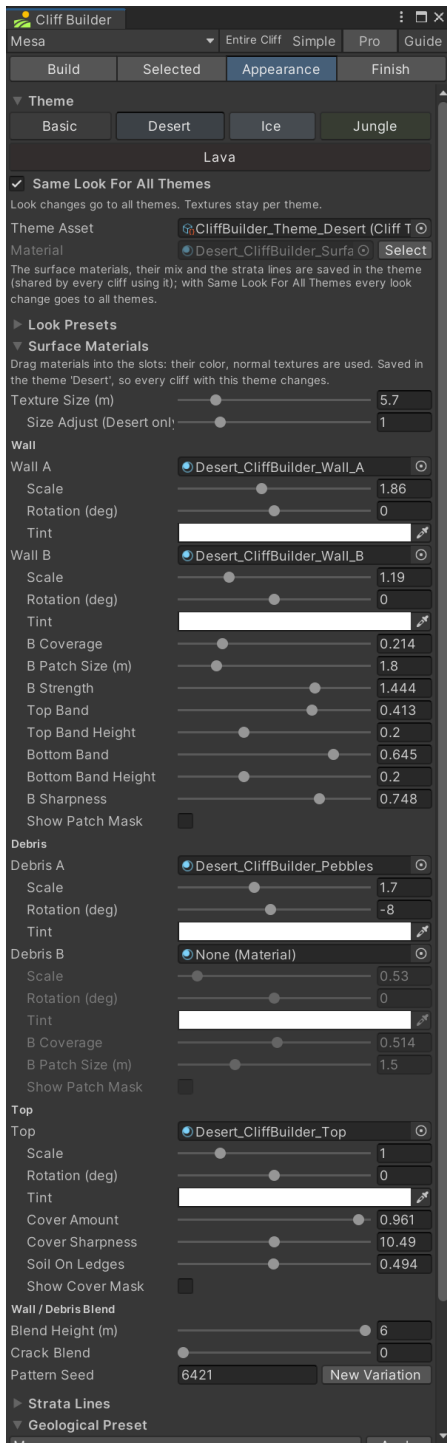
- **Profile** – **Round**, **Square** or **Cave** (flat walkable floor, steep sides, uneven arched roof)
- **Width**, **Height** and **Depth** in metres – the mouth stays in place when you change the depth
- **Closed End** – on: a cave mouth or alcove with a back wall; off: a tunnel through the cliff (make it deep enough to come out on the other side)
- **Walls & Floor** – rock walls in the cliff's material and a flat, walkable floor with a collider. Turn it off when your own cave or tunnel continues inside.
- **Collar** – a rough rock frame around the mouth that hides the cut edge of the cliff. Keep it on with your own cave.
- **Clear In Front** – removes rock blocks and scattered rocks in front of the mouth, so the way in is free
- **Roughness** and **Seed** – how uneven the rock walls are
- **Remove Rock Blocks** / **Remove Loose Rocks** – what the hole clears away

Select, **Frame** and **Delete** work on each hole in the list. Per cliff, **Cut Holes** switches all holes on or off and **Rock Margin** keeps rocks a little further away. Baked prefabs keep their holes.

Tip: for a cave built with another tool, turn **Walls & Floor** off, keep **Collar** on and put your cave entrance into the hole. Tools can also provide holes from code (see Scripting in the in-editor guide).

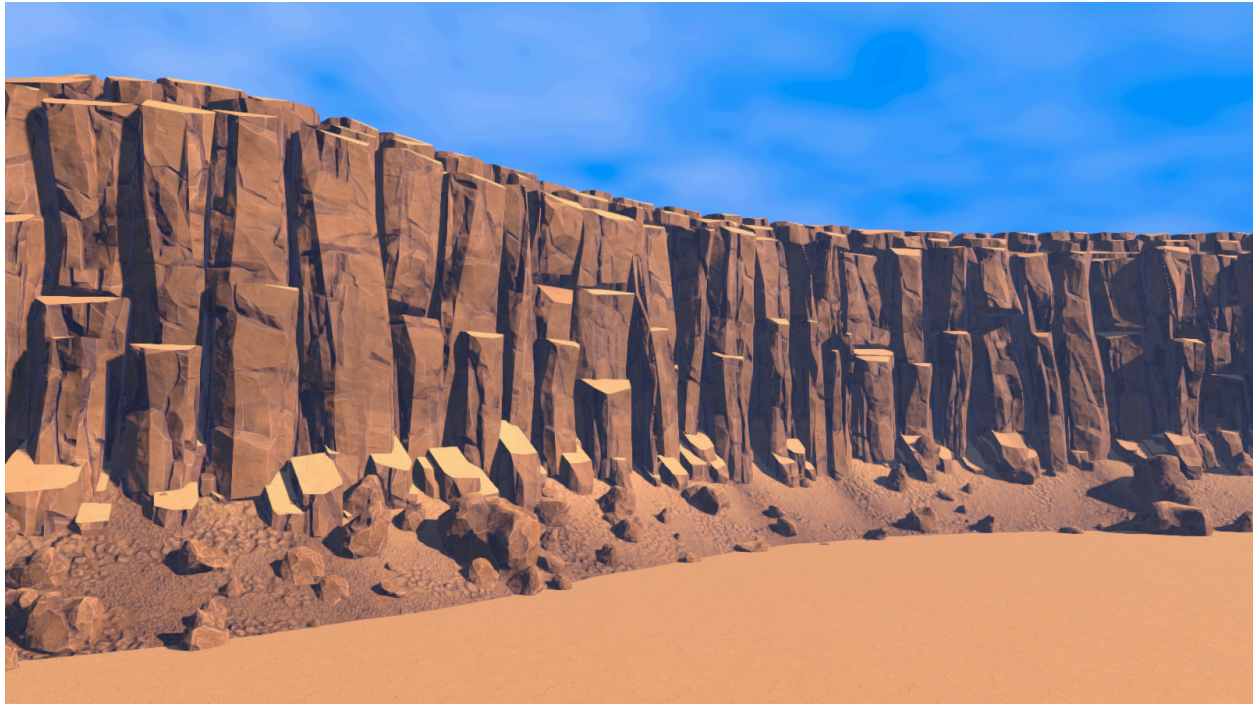
Appearance

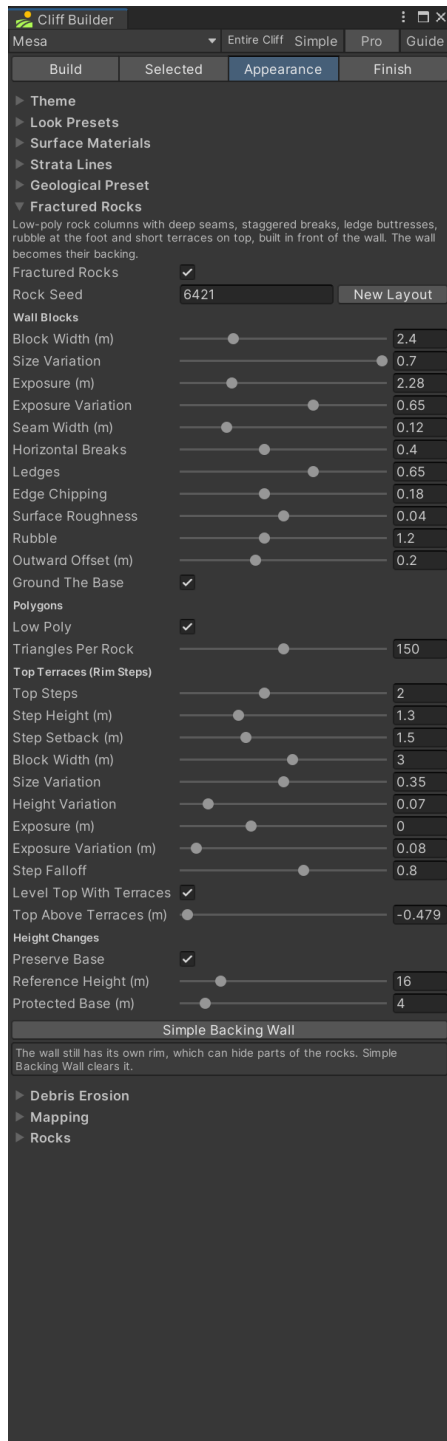
Theme and Geological Preset



- **Theme** – Basic, Desert, Ice, Jungle or Lava. Swapping changes the materials and the rocks, never the shape.
- **Geological Preset** – Mesa, Canyon Wall, Eroded Badlands, Tall Climbing Wall or Small Pillar. A preset changes heights, rocks and terraces but keeps your contour and knot heights.

Fractured Rocks





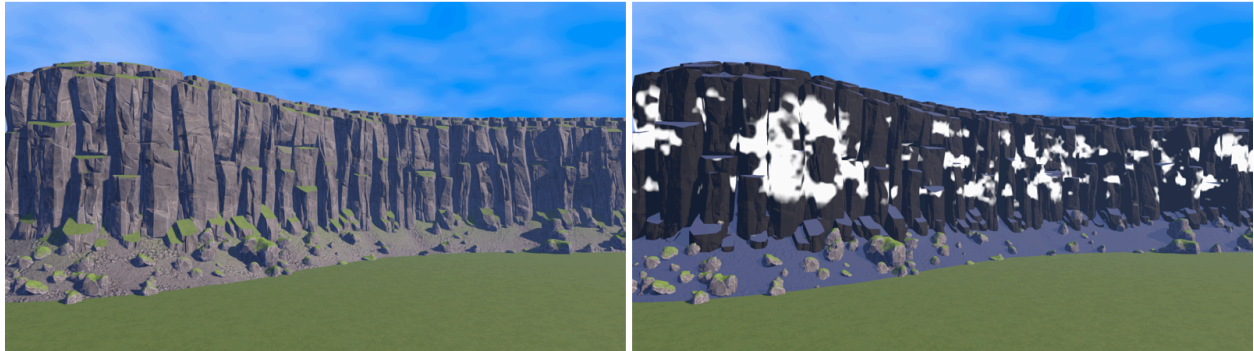
The rock blocks that make the wall:

- **Wall Blocks – Block Width, Size Variation, Exposure** (how far the blocks stand out of the wall), **Exposure Variation** and **Seam Width**.
- **Horizontal Breaks** – how many columns are split into stacked blocks. **Ledges** – shorter buttresses in front.

- **Edge Chipping** and **Surface Roughness** – chamfers and dents. **Rubble** – angular blocks at the foot.
- **Low Poly / Triangles Per Rock** – the rock budget. Colliders and LOD1 use 100 triangles.
- **Top Terraces** – **Top Steps**, **Step Height**, **Step Setback**, **Block Width**, **Size Variation**, **Height Variation**, **Exposure**, **Exposure Variation** and **Step Falloff**. **Level Top With Terraces** raises the top to the terraces; **Top Above Terraces** keeps it a little higher.
- **Preserve Base** – when you raise the wall later, the lower part (**Protected Base**) stays exactly as it is and only the upper part stretches.
- **Rock Seed / New Layout** – another arrangement of the same rocks.

While you drag a knot or slider the rocks keep their last shape; they update when you let go.

Surface Materials



Drag any of the pack's materials (or your own) into the slots. Their colour, normal and – for Lava – emission textures are used, each with its own **Scale**, **Rotation** and **Tint**.

- **Wall A** and **Wall B** – Wall B shows in round patches over Wall A, on the wall and on the rocks alike. **B Coverage**, **B Patch Size** (1 to 25 m), **B Strength** and **B Sharpness** (from a soft blend to a crisp edge).
- **Top Band / Bottom Band** – change the mix near the top and the foot of the wall (+ more Wall A, – more Wall B), over **Top / Bottom Band Height**. Real cliffs often look different at the top and the bottom.
- **Debris A** and **Debris B** – the same patches on the debris slope.
- **Top** – the plateau and the cover on up-facing rock: **Cover Amount**, **Cover Sharpness**, **Soil On Ledges**.
- **Wall / Debris Blend** – **Blend Height** (how high the debris fades into the wall) and **Crack Blend** (the layers meet along the cracks of the textures).

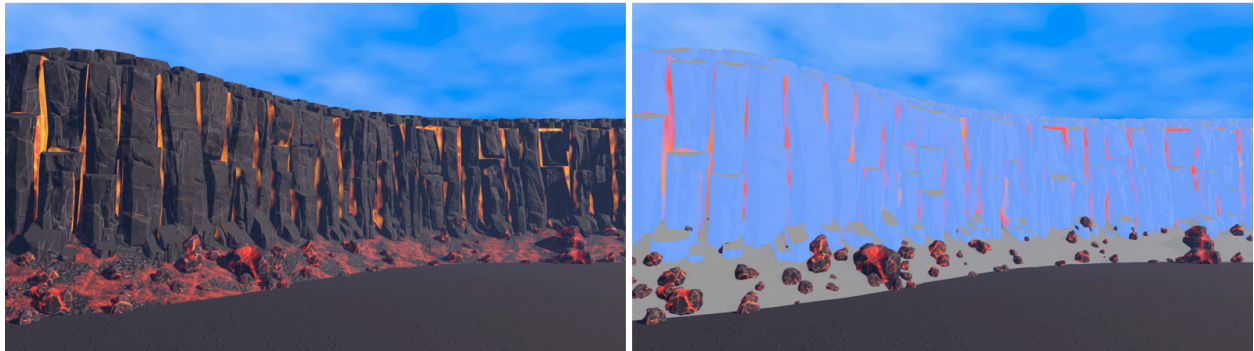
- **Show Patch Mask / Show Cover Mask** – preview the masks in white and black. Turn them off when you are done.
- **Texture Size** – shared by all themes; **Size Adjust** – this theme only, for textures that read bigger or smaller.
- **Pattern Seed / New Variation** – moves all patterns.

These settings live in the theme's material, so every cliff with that theme changes together.

Strata Lines

Horizontal rock layers drawn across the wall: **Amount**, **Color A / B** (presets **Warm Sandstone** and **Cool Shale**), **Blend Mode**, **Spacing**, **Thin Lines**, **Breakup**, and the distortion settings **Waviness**, **Wave Length**, **Distortion** and **Distortion Size**.

Lava Heat Zones



The Lava theme glows where lava would stay hot – in the cracks behind the rocks – and has cooled in the open:

- The wall behind the rocks is **Hot** (Lava Maximum).
- Rock sides close to that wall mix **Hot** and **Warm** (Lava).
- Open rock faces, the debris and the top stay cold (Lava Minimum).

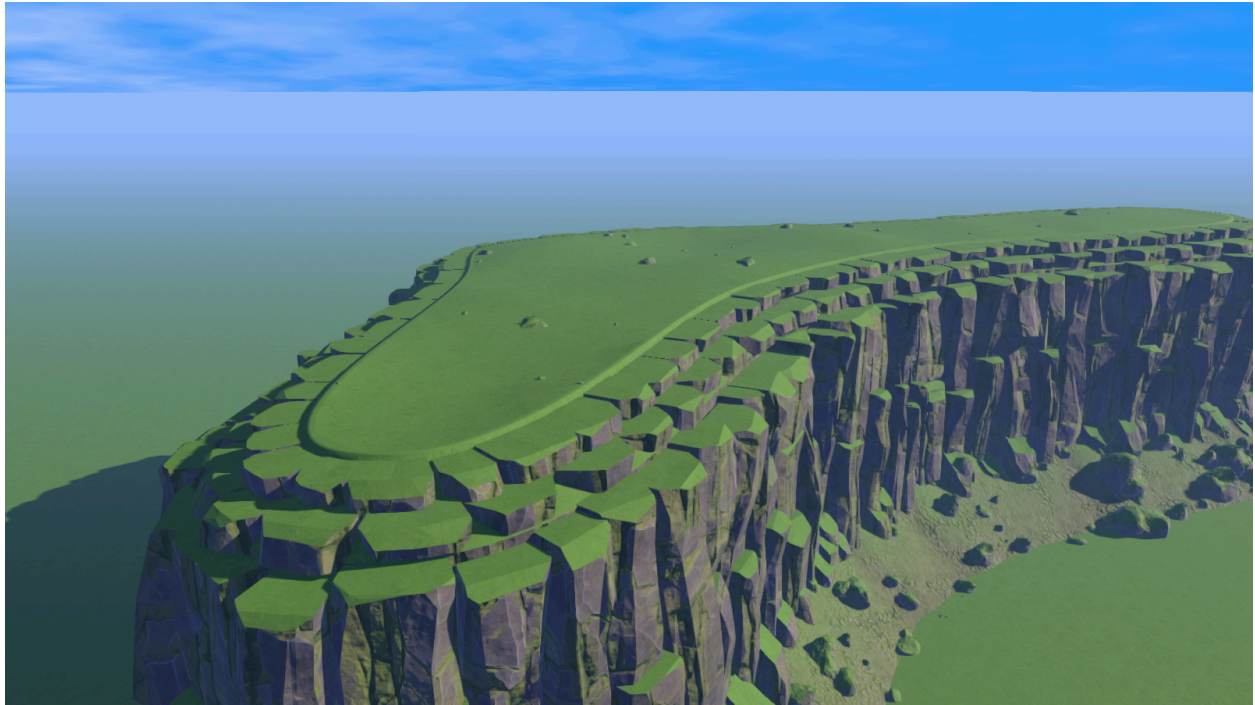
Pick **Cooling**, **Balanced** or **Molten**, then fine-tune **Heat Depth**, **Lava Maximum Amount**, **Maximum / Lava Blend**, **Breakup**, **Patch Size**, **Wall Heat** and the glow. **Show Zones** colours the zones red, orange and blue.

Same Look For All Themes and Look Presets

- **Same Look For All Themes** – while it is on, every look setting you change goes to all five themes at once; the textures stay per theme. Set up one theme and the others follow.

- **Look Presets** – save the current look under a name with a colour swatch. Click a preset to apply it; ... renames, updates or deletes it. Presets store settings, never textures, so one preset works on every theme. They are saved in **Assets/Cliff Builder Presets**.

Rocks



Rocks scattered on the debris slope and the top: **Boulders**, **Medium**, **Small** and **Top** per 100 m², how much they gather low on the slope, **Clustering**, **Separation**, **Embed**, **Align To Slope**, **Random Turn**, **Random Tilt** and **Scale**.

Top rocks have their own settings: **Top Embed** (how deep they sink in), **Lie Flat** (rest on their widest side, like heavy stones do) and **Top Tilt**. **Regenerate Rocks Only** re-scatters them without rebuilding the cliff.

Debris Erosion and Mapping

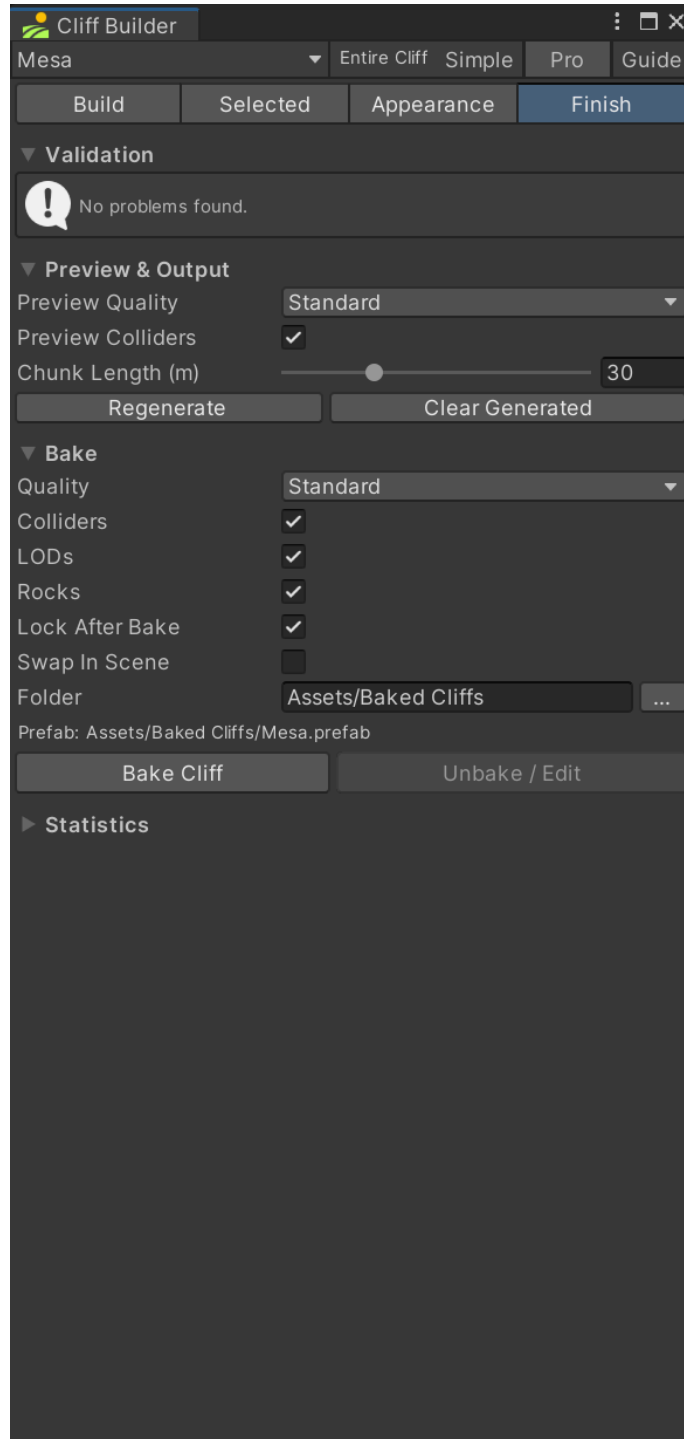
- **Debris Erosion** – **Erosion**, **Channels** and **Channel Spacing** carve the debris slope.
- **Mapping** – UV tile size and macro width of the generated surface.

Validation and Fixes

The **Finish** tab lists problems with a **Show** button that frames the spot. Many have a one-click fix:

- Debris slopes of two cliffs overlap – **Steeper Debris**
- The debris was narrowed in a sharp bend – **Smooth All Knots**
- No ground found under the cliff – **Use Everything** (Ground Layers)
- The cliff has no theme – **Use Default Theme**

Preview and Baking



- **Preview Quality** – Draft, Standard or High. While you drag, the preview drops to Draft without colliders and rocks.
- **Preview Colliders** – colliders on the live cliff, so you can walk on it in Play mode.

- **Chunk Length** – the cliff is split into pieces of about this length for culling; the pieces share their edges exactly.
- **Regenerate** rebuilds everything; **Clear Generated** removes the output and keeps the settings.

Bake Cliff saves the cliff as **Name.prefab** with its meshes in **Name_Meshes.asset**: **Quality**, **Colliders**, **LODs**, **Rocks**, **Lock After Bake**, **Swap In Scene** and the **Folder**. The baked prefab has no Cliff Builder scripts. **Unbake / Edit** unlocks the cliff so you can change it and bake again.

Best Practices

- Draw the wall foot where the cliff meets the ground, not the top edge.
- Use Auto Smooth knots for full debris slopes; sharp Corner knots narrow the slope in the bend so it can never fold.
- Very small closed loops narrow their terraces automatically so the plateau still fits – a warning tells you by how much.
- Work in Draft preview on long cliffs and bake at Standard or High.
- Set up one theme with **Same Look For All Themes** on, then save it as a **Look Preset**.

Troubleshooting

Nothing happens when I click in the Scene view

Check **Point Placement**: with **On Surface**, the click must hit a collider on one of the **Surface Layers**. Switch to **On Plane** to draw on a flat plane.

The debris slope floats or sinks into my terrain

Turn on **Ground Fit**, check **Ground Layers** and press **Re-fit To Ground** after changing the terrain.

The cliff does not update

A baked cliff is locked – press **Unbake / Edit**. Otherwise press **Regenerate** on the Finish tab.

Opening a demo scene takes a moment

The demo cliffs are built when the scene opens, so the scenes stay small. This is normal.

A tunnel does not come out on the other side

Turn **Closed End** off and raise the hole's **Depth** until it reaches past the back of the cliff. The orange outline shows how far it goes.

Rocks block the cave mouth

Raise **Clear In Front** on the hole, or **Rock Margin** on the cliff (Build > Holes & Openings).

All my cliffs of one theme changed

Surface, strata and heat settings live in the theme material and are shared by every cliff with that theme. With **Same Look For All Themes** on, they are also shared by all themes.

Folder Overview

Main package folder:

Assets/Arkerion Studios/Stylized Nature/Cliff Builder

- **Data** – the library and the five themes
- **Documentation** – the in-editor user guide
- **Materials/CliffBuilder Basic, Desert, Ice, Jungle, Lava** – per theme: the cliff material ({Theme}_CliffBuilder_Surface) and the slot materials (Wall_A, Wall_B, Debris, Pebbles, Top; Lava also Maximum and Minimum); **Materials/Demo** – the demo grounds
- **Models/CliffBuilder** – the debris rock models
- **Prefabs/CliffBuilder Basic, Desert, Ice, Jungle, Lava** – the themed rock prefabs
- **Scenes** – a demo scene per theme
- **Scripts** – the tool (Runtime and Editor)
- **Shaders** – the Cliff Surface and Cliff Lava Shader Graphs
- **Textures/Basic, Desert, Ice, Jungle, Lava** – the texture sets of each theme; **Textures/Shared** – detail and macro normals; **Textures/Demo** – the demo grounds

Support

For questions, feedback, or support, please contact us here:

Email: arkerionstudios@gmail.com

Discord: <https://discord.com/invite/gTHbWn94v2>

Instagram: <https://www.instagram.com/arkerion.studios/>