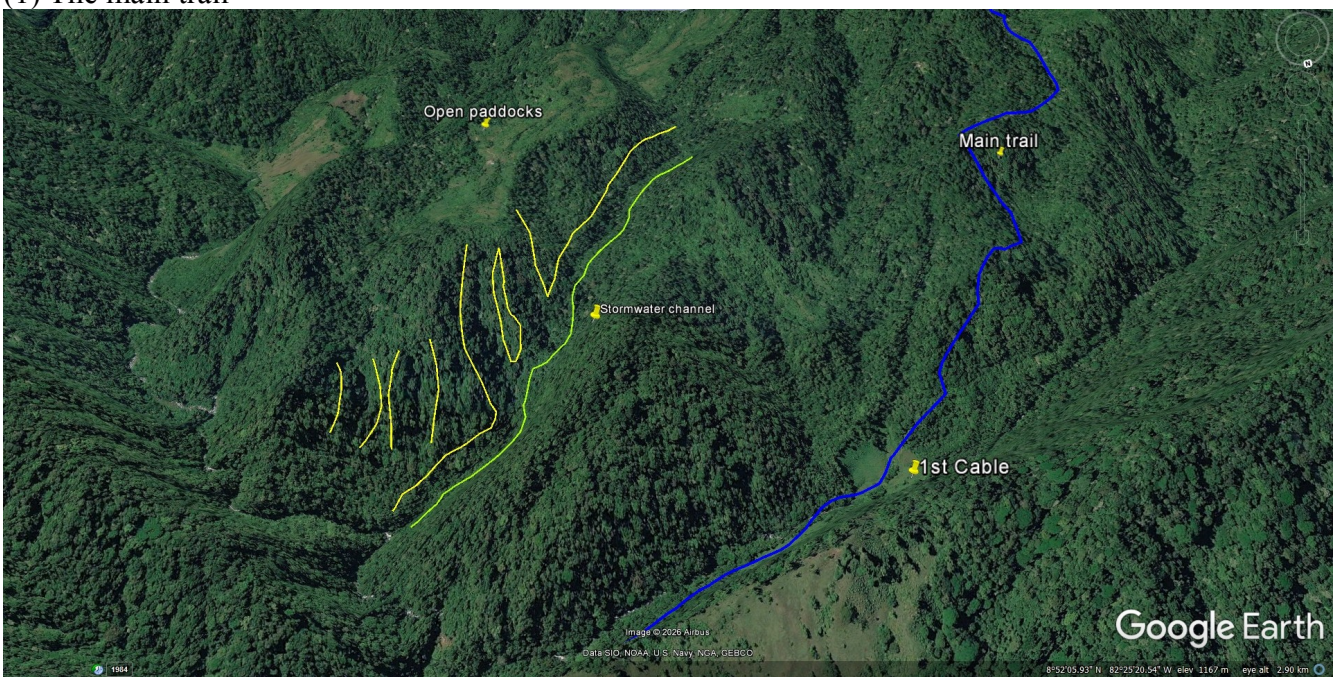
3 different geological environments that exist within the Pianista trail

(1) The main trail



Within the most tectonically active section of the Talamanca Pianista trail, the safest pathways typically run along the apex sections of the mountain.

A hiker being present alongside the lower sections of that mountain would be exposed to the potential hazards of large boulders rolling down that mountain slope.

Being too close to the large flowing main culebra would also endanger the hiker, if a large scale landslide occurred, which they often do.

Along that apex line, the main pathway between rivers 1,2 and 3 and the 1st cable bridge represents a standard type of cloud forest geology.

(2) The main culebra



The main culebra has it's own type of geological conditons also, it contains a type of step pool morthology that exists on a very large scale.

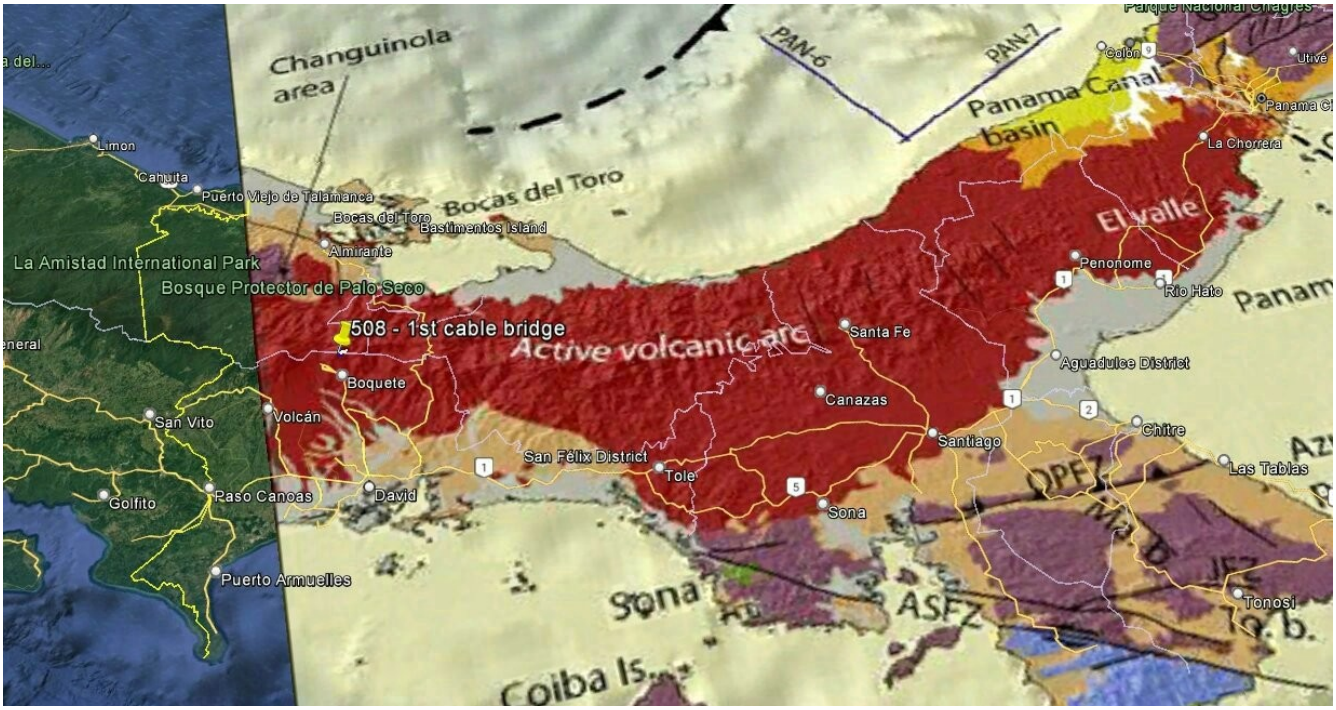
Both the main trail and the main culebra don't really need alot of discussion. The concepts are well documented within scientific literature.

This description for example:

Montane streams in the tropics are among the most extreme fluvial environments in the world (Gupta,1988). A combination of steep slopes, high mean annual rainfall, and intense tropical storms generate an energetic and powerful flow regime.

The Talamanca mountains contain a dritic network of small ephemeral channels that range from leaf-filled swales to mossy cobble-lined channels that become active only during large rainfall events.

The Pianista mountain is one of the most tectonically active parts of this Talamanca volcanic arc. Many of the large size culebra streams are formed within subduction zones that are subject to geenschist metamorphic conditions.



Floods are intense and peak discharges can be 1000 times greater than baseflow.

Stormflow runoff is quickly flushed through the system such that the streams return to baseflow within 24 hours of large events. Large floods are driven by storm events,

Second and third order streams have high gradient reaches, exposed bedrock channels, matrices of large boulders interspersed with finer sediment, and periodic waterfalls (up to 30 m in height).

End of scientific descrition

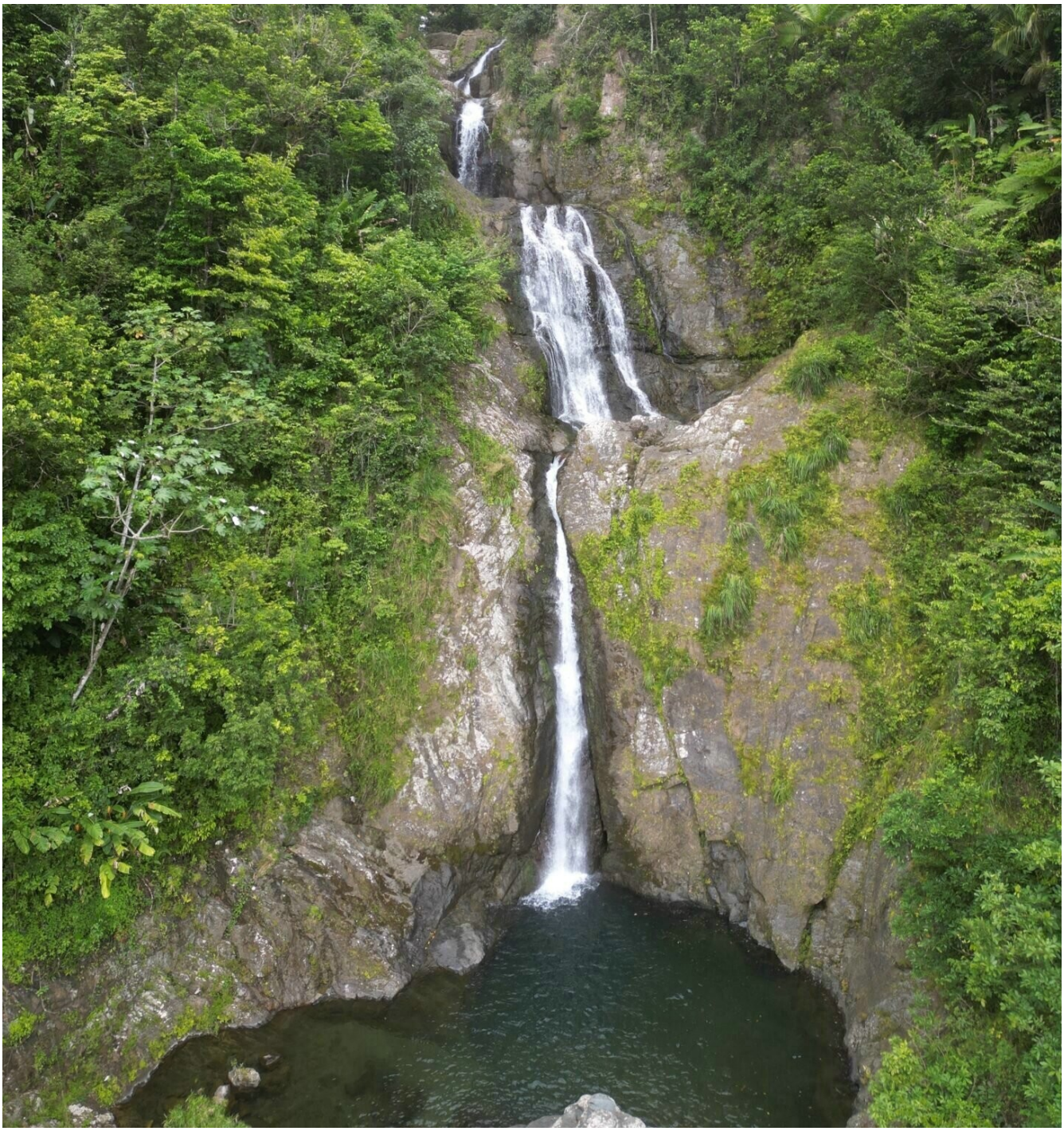
The outer limits of the Pianista trail haven't been explored extensively, but these types of fluvial environments are diverse in nature. It's this unknown night location that people want to track down, locate and discover.

(3) The night location

This is the main topic of interest here;

The night location seems to resemble a multi-step waterfall that exists alongside the stormwater channels that interconnect the open paddock areas.

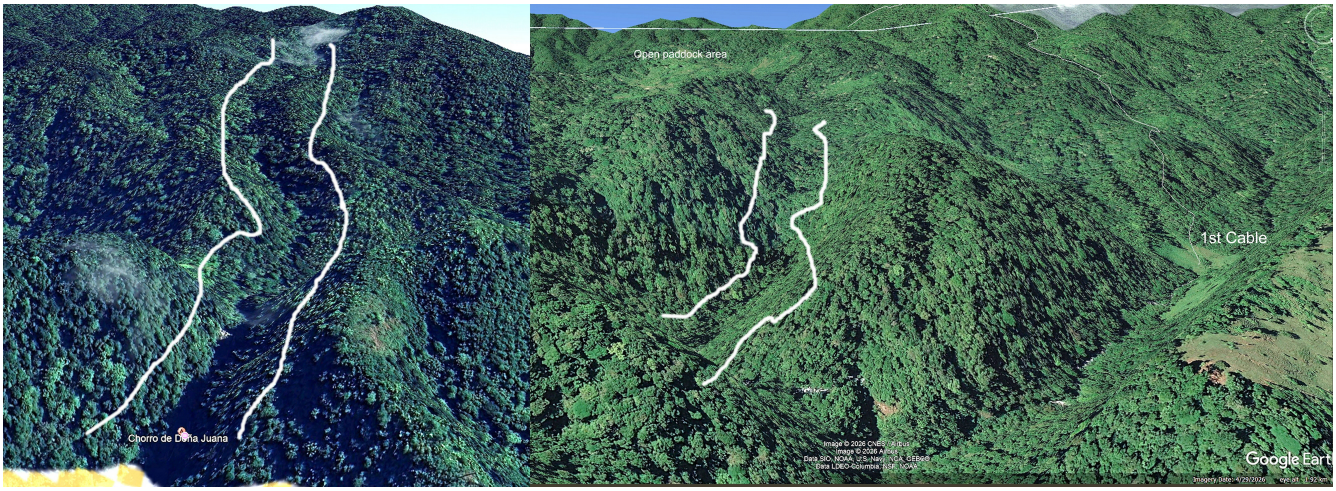
Similar in nature to the Chorro de Dona Juana waterfall, for example, though not quite as large:



https://westindiestravel.com/chorro-de-dona-juana/

Additionally, the night location, which resembles a multi-tiered cascade waterfall most likely exists alongside the stormwater channels between the open paddock areas, it has it's own unique type of geological characteristics also.

A comparison to Chorro de Dona Juana waterfall:



A stormwater channel that runs off from an open paddock area. This location was originally suggested by Treegnesas as an alternative path that may have been followed by the girls after they reached the 1st cable bridge.

Multi-step waterfalls are bedrock armored sections of the mountain that have had their soil completely eroded by stormwater currents. The only vegetation that are able to grow are from certain plants that can spawn from between the cracks of the bedrock.

Plants capable of spawning and thriving in the harsh conditions between bedrock cracks are known as chasmophytes (crevice-dwellers) or lithophytes (rock-dwellers).

To survive, these plants have adapted to minimal root space, extreme heat or cold, and limited moisture.



https://www.researchgate.net/publication/51169261_Hydraulic_properties_of_fern_sporophytes_Consequences_for_ecological_and_evolutionary_diversification

Dennstaedtia punctilobula for example:



https://panamabiota.org/portal/ident/key.php?cl=60&proj=10&dynclid=0&taxon=All+Species

In the girls situation, it's likely that they attempted to descend down a waterfall and got trapped within one step of that multi-step structure.

- It explains why they spent the night making night photos whilst confined to a fairly small area of space.

- Why such ineffective signaling equipment ended up being used. The small stick within the 550 stick and bag photo. These waterfalls have had their soil washed out completely, there is no surplus vegetation on the ground where logs or sticks can be utilized to signal helicopters for example; all that has been washed out also. Rarely any small stones to construct SOS signs from either.

A comparison to Chorro de Dona Juana waterfall



A comparison to Salto Collazo waterfall

Salto Collazo is a scenic, easily accessible roadside waterfall located in San Sebastián, Puerto Rico.



https://westindiestravel.com/salto-collazo/

