

**MIKAS and NIKAS springs photo gallery**

**SOUTH & CENTRAL  
AMERICA**

**Bolivia**



**MIKAS- Chiflonqqa**



*View from the distance of Chiflonqqa spring waterfall on the left side of the Toro Toro canyon*



*Close up view of the Chiflonqqa spring waterfall*

**Brazil**



**MIKAS - Baía Bonita**



*View of Baía Bonita Spring. From: [www.aquarionatural.com.br](http://www.aquarionatural.com.br)*

**MIKAS - João Baio**



*View of João Baio spring (Photo by Alexandre Lobo)*



*Cycle of discharge variation few meters downstream from the spring. Low discharge (Photo by Alexandre Lobo)*

### **MIKAS - Pratinha**



*Aerial view of Pratinha Spring (Photo by Alexandre Lobo)*



*View from the interior of the cave where the Pratinha spring issues (Photo by Alexandre Lobo)*

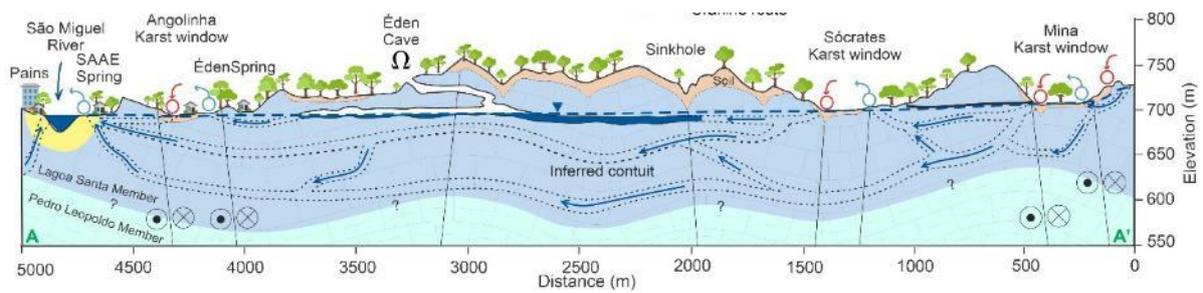


*View of the lake in front of the spring with the cave in the background. This lake is used as a water park (Photo by Alexandre Lobo)*

## NIKAS - Éden



Top view of the karst spring highlighting the dimensions of the channel (Photo by Gabriel Lourenço)



Schematic profile of Éden spring and catchment area. Source: Assunção et al. (2023).

## NIKAS - Lagoa do Japonês



Aerial view of the Lagoa do Japonês spring.

Source:

<https://www.t1noticias.com.br/cidades/dificuldade-no-acesso-representa-perigo-e-pode-afastar-turistas-da-lagoa-do-japones/96172/>



*Lagoa do Japonês spring issues from a cave in the limestone cliff. Source: <https://vaipassar.com/lagoa-do-japones/>*

### **NIKAS - Gruna da Mamona**



*View of the cave associated with Gruna da Mamona spring*

## NIKAS - Poço Azul



*View of Poço Azul spring.  
From:*

<https://www.facebook.com/BH.AVALIACOES/photos/a.481050048580558/720474414638119/?type=3>

## NIKAS - Rio Azuis



*Aerial view of the Rio Azuis spring. Source:*

<https://www.aventuraspelonossomundo.com.br/aurora-do-tocantins-serras-gerais/>

## NIKAS - Roncador spring



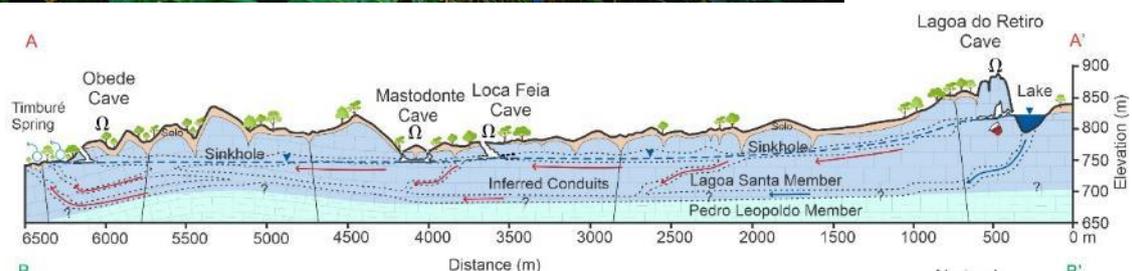
*Roncador Spring and the entrance to Santana Cave. Source:*

<https://www.loucosporviagem.com/destinos-nacionais/roteiro-no-petar-nucleo-santana-post-2/>

## NIKAS - Timburé



*Lateral view of the karst spring highlighting the dimensions of the channel that make it attractive for recreational use by the local population (Photo by Gabriel Lourenço)*



*Cross-section through catchment area. Source: Assunção et al. (2023).*

Colombia



**MIKAS - Manantial de Cañaverales**



*Crystal clear waters of Manantial de Cañaverales. Retrieved from, <https://semanariovoz.com/la-quajira-canaverales-manantial-amenazado-muerte/>*

**MIKAS - Ventanas de Tisquizoque**



*Ventanas de Tisquizoque three-tiered waterfall (Photo by Marianela Vargas)*



*View from the interior of the Ventanas de Tisquizoque cave (Photo by Marianela Vargas)*



*Panoramic view and outflow of La Venta Creek in Ventanas de Tisquizoque (Photo by Marianela Vargas)*

Ecuador



**MIKAS - Jumandi cave**

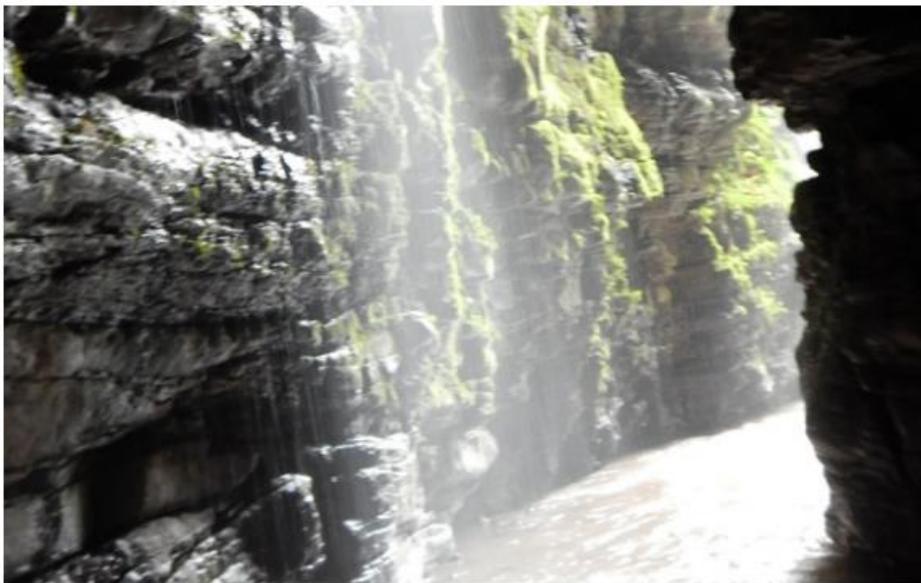


*Sinkhole present at Cotundo Petroglyphs geosite*



*Map of entrance and speleotems inside the Jumandy cave*

**NIKAS - Rio Cacapishco (Gruta de los Tayos)**



*Photos of the Gruta de los Tayos and Cacapishco River (Guía Espeleológica de la Provincia Napo).  
From Sánchez Cortez (2017)*

Jamaica



**MIKAS – Dornoch Head (Dornock) Blue Hole**



*Dornoch Blue Hole in low water season (Photo by G. Marshal)*



*Dornoch Blue Hole in high water season, when water becomes very turbid*

**MIKAS – Roaring River Blue Hole (Springs)**



*Roaring River Blue Hole #1 in Botanical garden (Photo: G. Marshall)*



*Roaring River Blue Hole # 2 (Photo: S. Watson)*

Peru



**MIKAS - Maras spring (Male and Female springs)**



*View of the salt mines of Maras (source: J. Ccopa)*

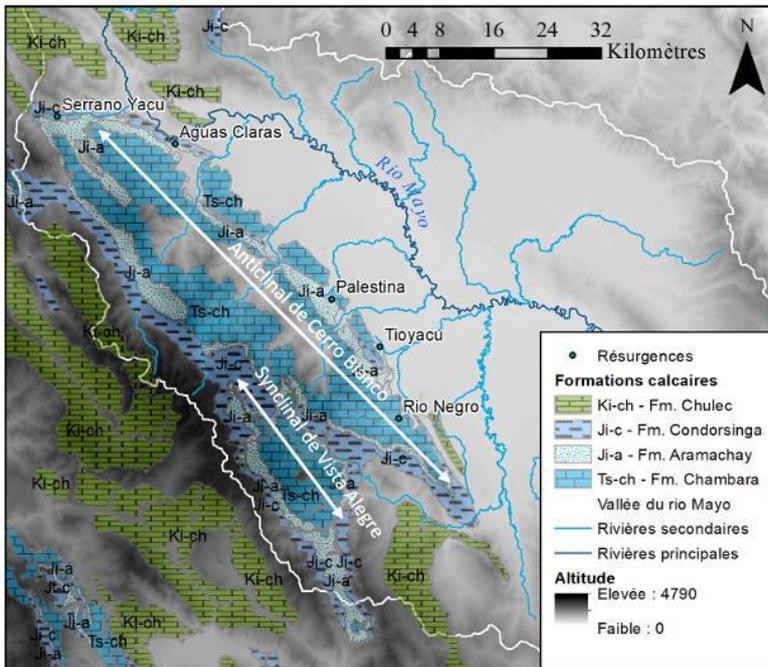


*Channels that transport salt water from the male spring (source: N. Luque)*



The Salt mines of Maras  
(source: N. Luque)

**MIKAS – Naciente del Río Serrano Yacu**



Hydrogeological sketch map and locations of the four MIKAS springs in the Peruvian Alta Maya area – Serrano Yacu, Aguas Claras, Tio Yacu and Rio Negro (graphics: INGEMMET, 2016).

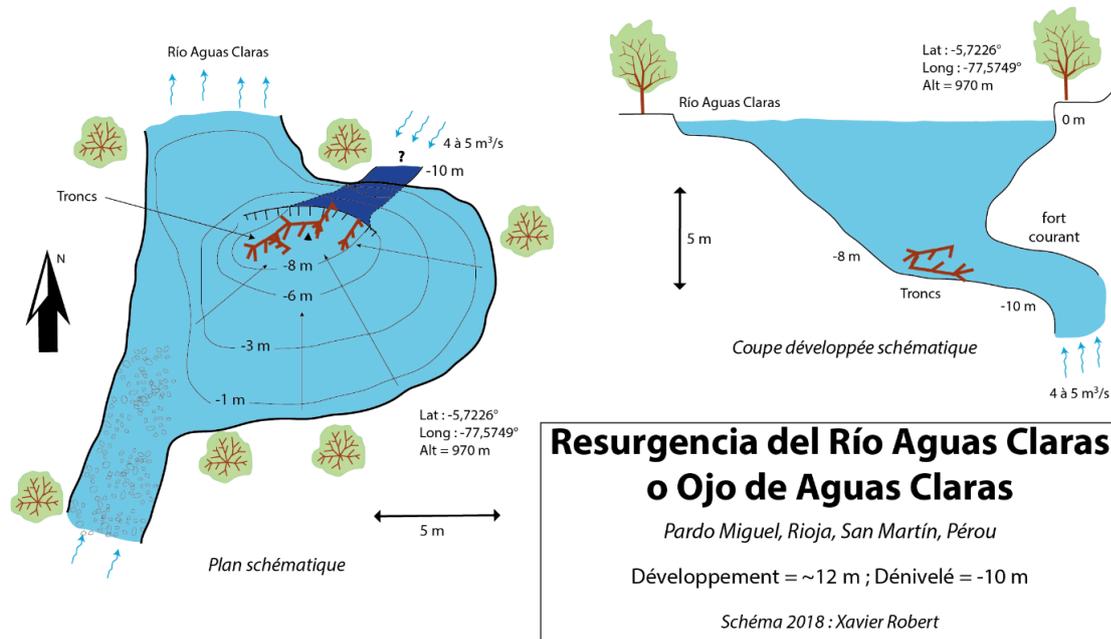


*Rio Serrano Yacu spring (source: JL Guyot)*



*Rio Serrano Yacu downstream the spring (source: JL Guyot)*

## MIKAS – Naciente del Río Aguas Claras

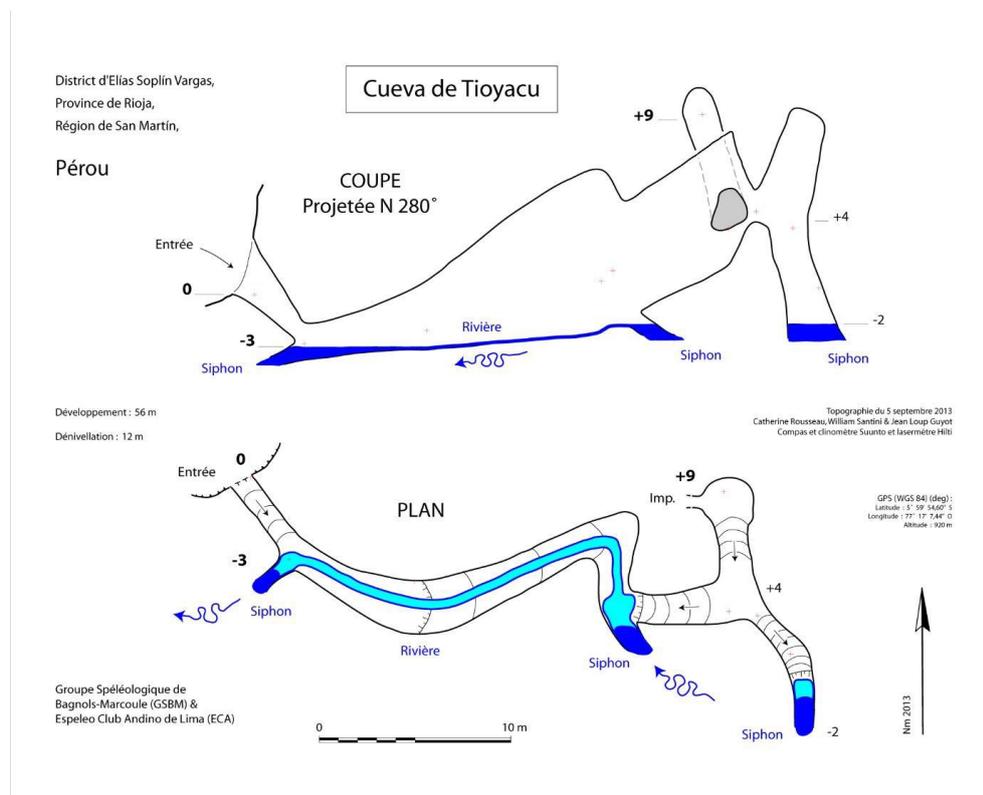


Siphon section of the spring of Rio Aguas Claras (X. Robert, 2019)



Rio Aguas Claras spring (source: JL Guyot)

## MIKAS – Naciente del Río TioYacu



*Cave-Siphon section of the spring of the Rio TioYacu (ECA-GSBM, 2013)*



*Rio TioYacu spring (source: JL Guyot)*



*Rio TioYacu spring recreational park (source: JL Guyot)*

### **MIKAS – Naciente del Río TioYacu**

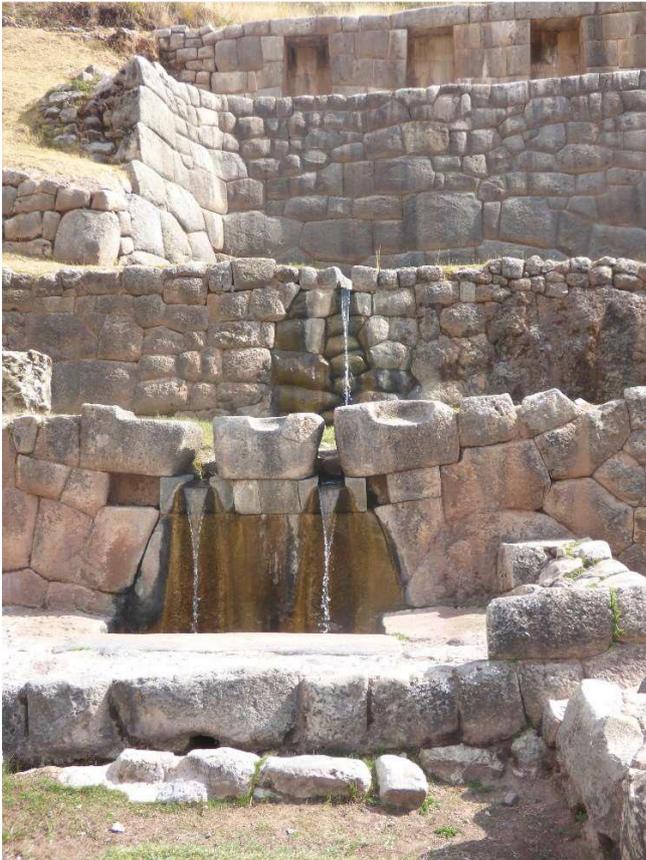


*Rio Negro spring (source: JL Guyot)*



*Discharge zone of the Rio Negro spring (source: JL Guyot)*

**MIKAS – Tambomachay**



*Tambomachay spring (source: J. Ccopa)*



*Tambomachay spring (photo by Z. Stevanović)*

**NIKAS - Cueva de Palestina / Naciente del Río Jordán**



*Cueva de Palestina*



*Río Jordan, downstream of the Cueva de Palestina*

**NIKAS - Río Seco – Río Soloco**



*Cueva del Rio Seco entrance (source: JL Guyot)*

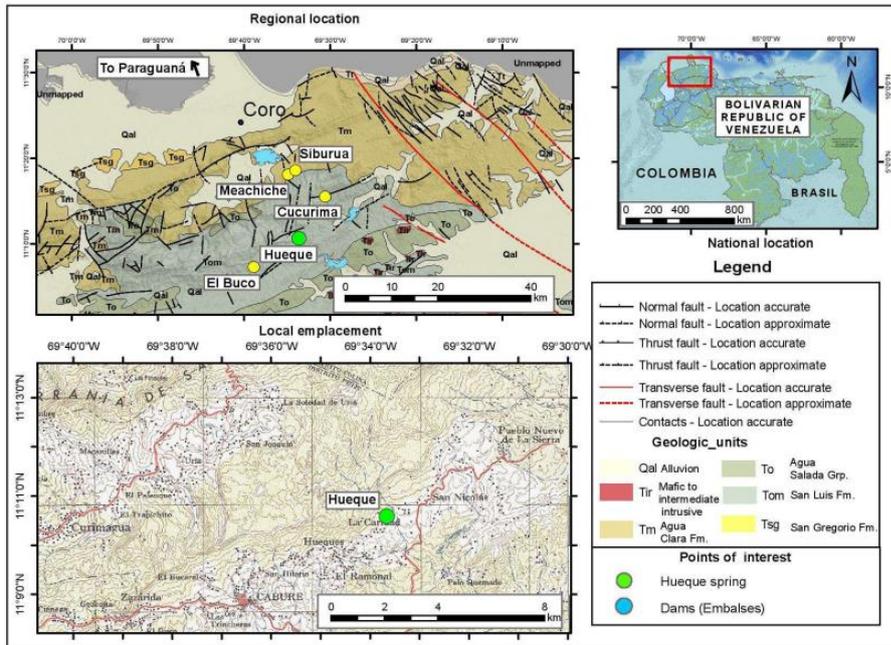


*Spring of Rio Soloco in flood period, downstream the Cave (source: JL Guyot)*

# Venezuela



## MIKAS – Hueque



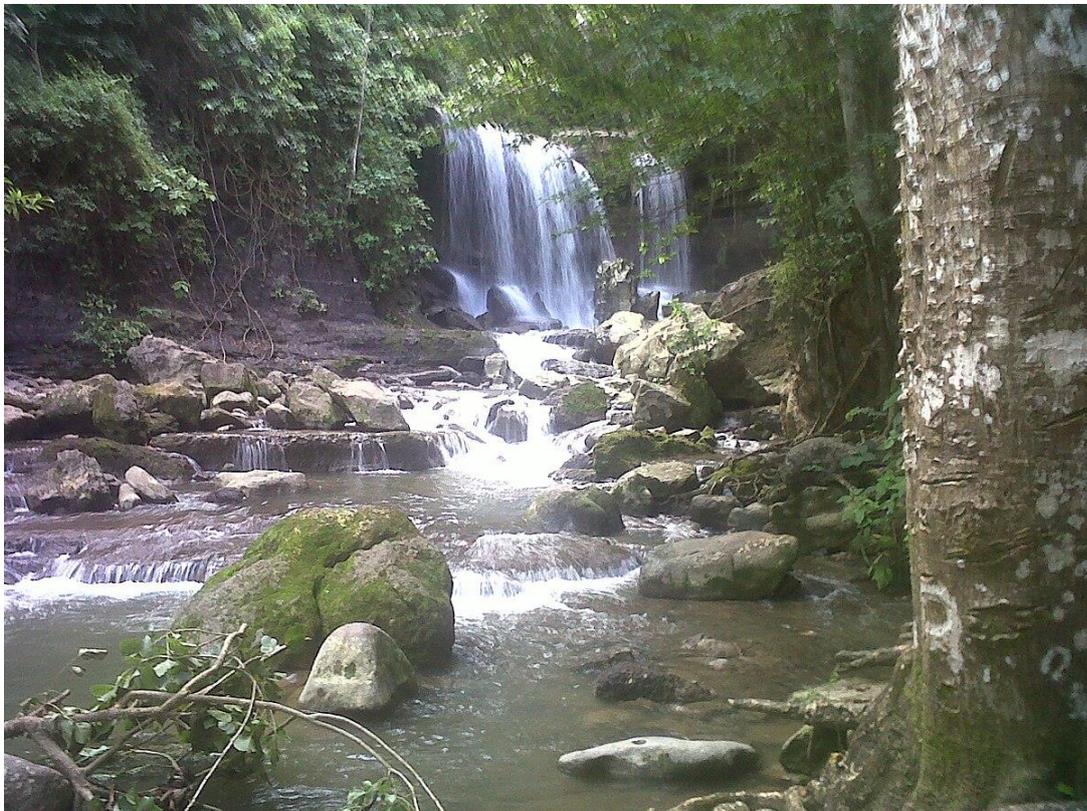
*Location and geological map of karst of San Luis Range and local springs*



*Hueque Spring under flood. Photo by Carlos Bordon.*



*Hueque water fall. Photo by Carlos Bordon.*



*Cataratas de Hueque Estado Falcon, Venezuela. Photo by [Loreina Velandia](#). This file is licensed under the [Creative Commons Attribution-Share Alike 3.0 Unported](#) license.*

## NIKAS – Cucurima, El Buco, Siburúa-Meachiche (springs of San Luis Range)

*No photos of springs available.*

