



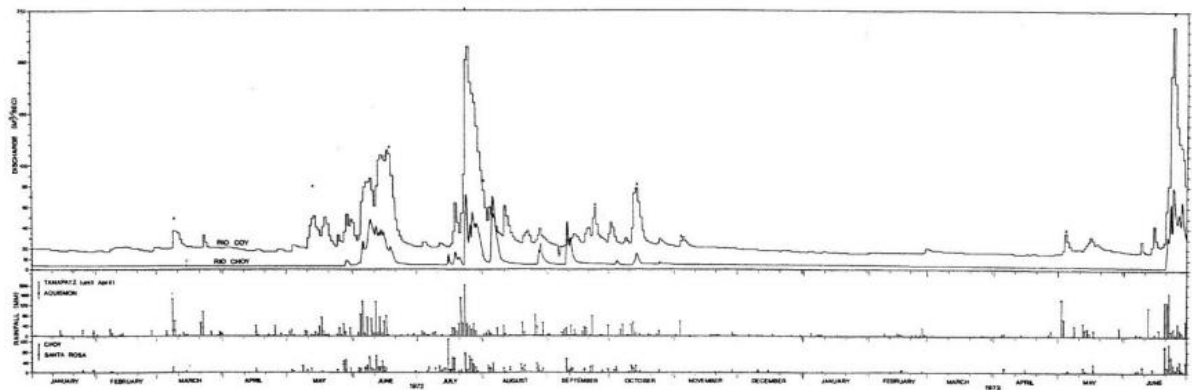
| Country                                                                                            | MIKAS springs                                               | Coordinates /<br>Nearby City                                                                           | Spring discharge<br>(Q in l/s,min/av/max)<br>/ tapped or not                                                           | Criteria* in order / Main<br>justification<br>*/ H-historic, A-aesthetic, S-<br>scientific, E-Economic, Ec-ecologic                                                                                                                                                                                                                                                                                                                                                                          | Data<br>collected by |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>Mexico</b><br> | 1.<br><b>Nacimiento<br/>del Río Coy</b>                     | 21.459256<br>-98.976962<br><br>Z = 114 m asl<br><br>Huichihuayán,<br>Ciudad Valles,<br>San Luis Potosi | 13000/24000/210000<br><br>Non-tapped                                                                                   | <b>S, A, Ec, E</b><br><i>One of several springs that drain the spectacular Sierra de El Abra karst and Cretaceous limestones. According to its peak discharge (210 m³/s) belongs to group of most powerful springs globally. Beautiful ascending spring used for recreational purposes, generates local income related to tourism. Presence of cave adapted fauna, including blind catfish.</i>                                                                                              | Augusto<br>Auler     |
|                                                                                                    | 2. <b>El Choy<br/>(Nacimiento<br/>del Choy,<br/>Tamuín)</b> | 21.988752<br>-98.8838712<br><br>Z = 62 m asl<br><br>Tamuín,<br>Ciudad Valles,<br>San Luis Potosi       | 3000/5400/30000<br>occasionally > 100<br>m³/s<br><br>Not tapped                                                        | <b>E, S, H</b><br><i>One of several springs that drain the spectacular Sierra de El Abra karst and Cretaceous limestones. This is one of best studied spring in the area. Flows to Tantoán River, which joins the Tampaón River and then the Montezuma River towards the Gulf of Mexico. The water has a thermal signature. It issues from a deep phreatic cave in which cave adapted fauna has been found. Spring is located close to the Sierra de El Abra Tanchipa Biosphere Reserve.</i> | Augusto<br>Auler     |
|                                                                                                    | 3. <b>Mante</b>                                             | 22.698126<br>-99.045902<br><br>Z = 116 m asl<br><br>Ciudad<br>Mante,<br>Tamaulipas                     | - / 11900/ 150 000-<br>200 000<br><br>Not tapped                                                                       | <b>S, A, Ec, E</b><br><i>Very deep spring, that held in the past the world cave diving depth record at over 260 m in depth. It also issues from Sierra de El Abra karst and Cretaceous limestones. Maximal discharge is one of the globally largest. Water is managed by the local government The spring lies outside but close to the boundary of Reserva de la Biósfera El Cielo. This is an ecotourism destination and leisure spot.</i>                                                  | Augusto<br>Auler     |
|                                                                                                    | 4.<br><b>Nacimiento<br/>Rio Frio</b>                        | 22.989218<br>-99.150185<br><br>Z = 117 m asl<br><br>Gomez<br>Faria,<br>Tamaulipas                      | - / 28000 / 554000<br><br>(Max: 304 m³/s for<br>the Nacimiento and<br>250 m³/s for the Poza<br>Azul)<br><br>Not tapped | <b>Ec, S, A, E</b><br><i>Group of springs (Nacimiento, Poza Azul) which drains a large and well karstified El Abra karst and Cretaceous limestones. The cave linked to spring has unique cave fauna, including blind catfish. The spring lies outside but close to the boundary of Reserva de la Biósfera El Cielo. This is an ecotourism destination and leisure spot.</i>                                                                                                                  | Augusto<br>Auler     |

|  |                              |                                                                         |                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
|--|------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
|  | <b>5. Cueva de Villa Luz</b> | 17.44414<br>-92.765377<br><br>Z= 71 m asl<br><br>Tapijulapa,<br>Tabasco | - / 270-290 / -<br>Very low discharge<br>variation<br><br>Not tapped | <b>S, Ec, H</b><br><i>The spring issues from a 2,000 m long cave, developed in Cretaceous limestones, with peculiar chemoautotrophic ecosystem and unique atmosphere and speleothems (snottites). This is sulfur-rich spring, one of the best studied of such kind in the world. Temperature 28°C; H<sub>2</sub>S content varies from 300-500 mg/L to less than 0.02 mg/L. TDS averages 3,000 ppm. Spring is located within the Parque Natural Villa Luz and is protected by the Reserva de la Biosfera Cascadas Sulfurosas. There is an annual ceremony "Pesca de las Sardinas" that probably has pre-historic roots</i> | Augusto<br>Auler |
|--|------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|

### MIKAS - Nacimiento del Río Coy



View of Nacimiento del Río Coy (source Internet)



*Rio Coy spring hydrograph and rainfall for the period January 1, 1971 to June, 30, 1973. From Fish (1977)*

### MIKAS – Nacimiento del Choy

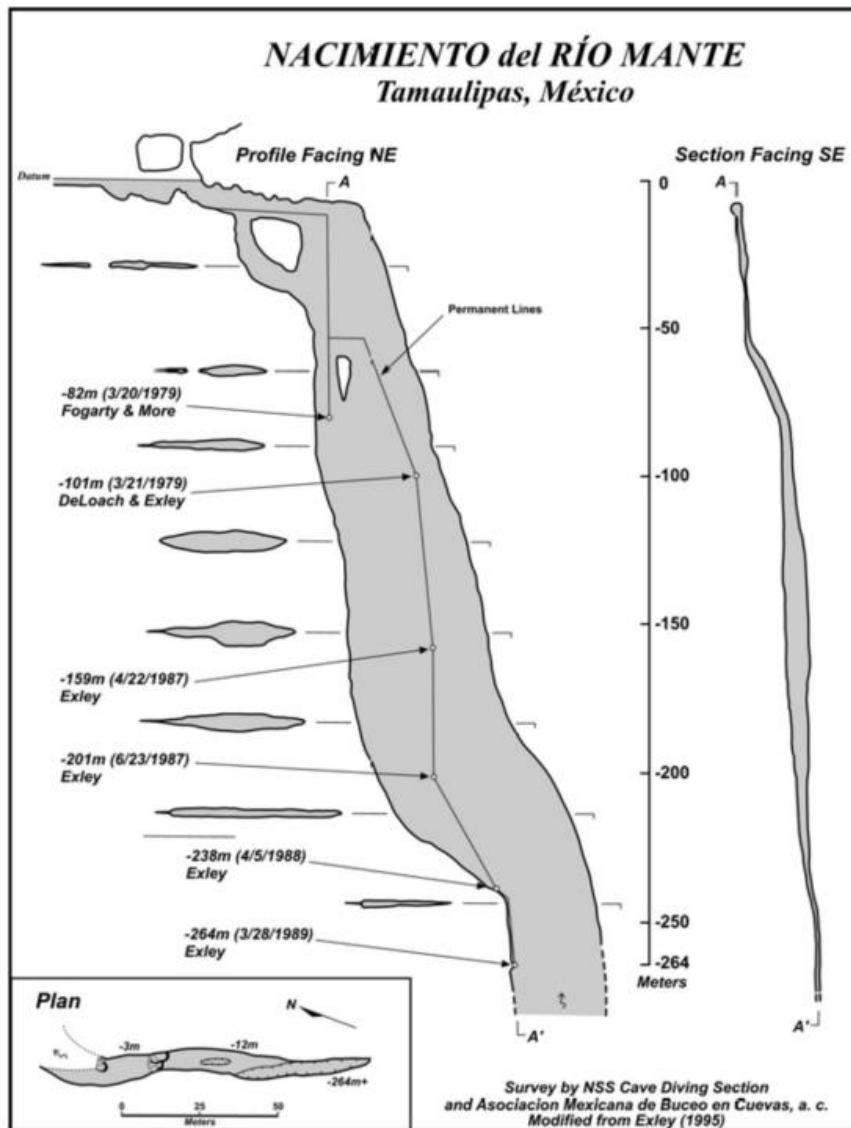


*View of Nacimiento del Río Choy in Tamuin (source Internet)*

## MIKAS - Mante



*General aspect of Mante spring (source Internet)*

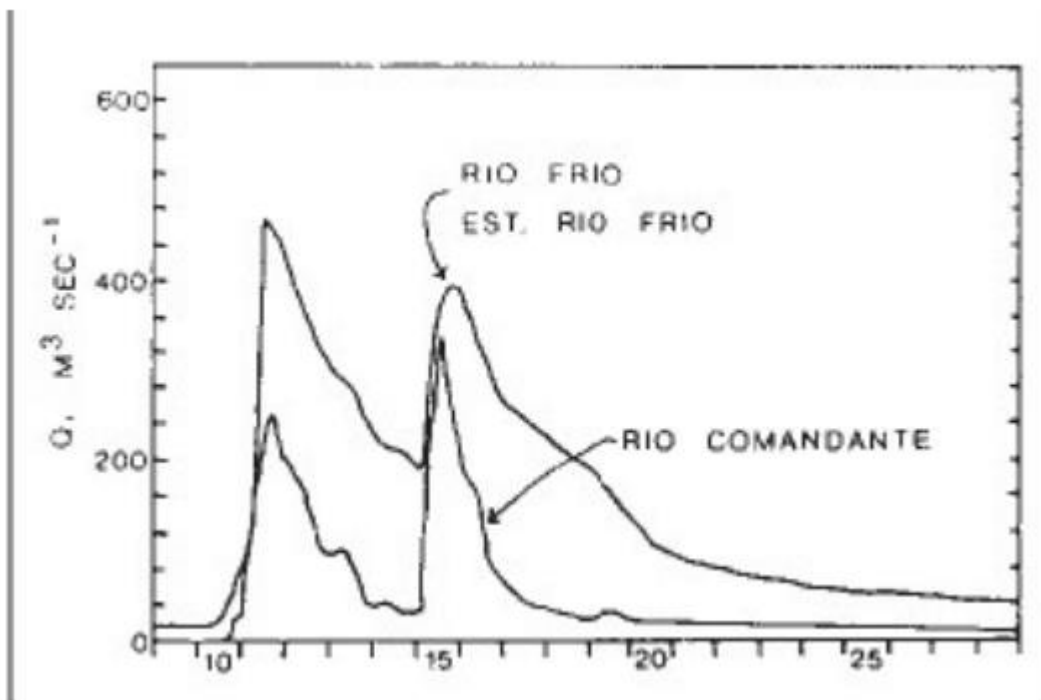


Cross-section of Mante spring's siphon (after Exley, 1995)

## MIKAS – Nacimiento Rio Frio

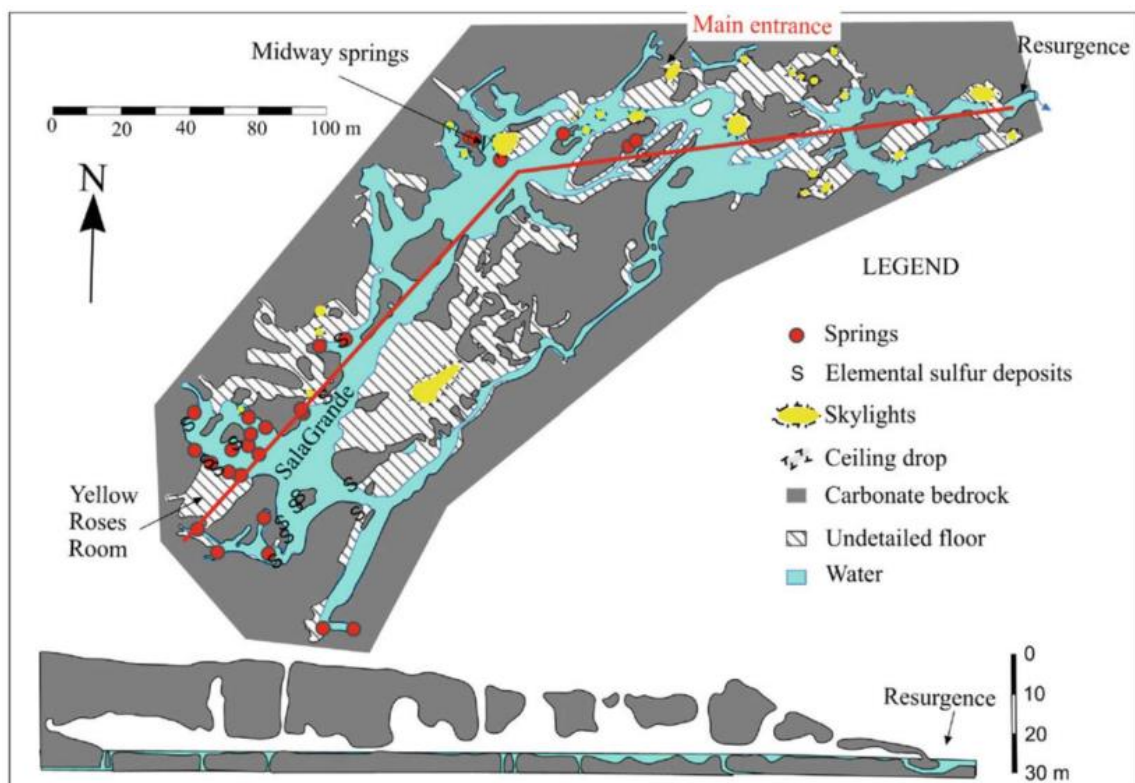


*General aspect of Nacimiento Rio Frio (source Internet)*



*Discharge of Rio Frio during the 1966 flood associated with Hurricane Ignez*

## MIKAS – Cueva de Villa Luz



*Cross-section of Cueva de Villa Luz, from Hose and Rosales-Lagarde (2017)*



*Underground stream within Cueva de Villa Luz. Photo by Robbie Shone (via Internet)*