

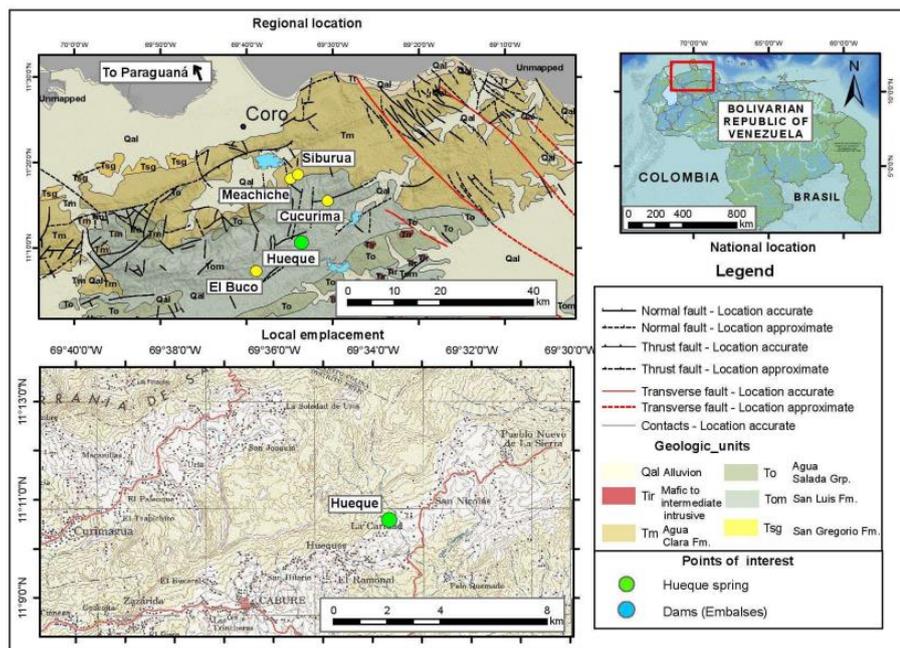


Country (NIKAS)	NIKAS springs	Coordinates / Nearby City	Spring discharge (Q in l/s,min/av/max) / tapped or not	Criteria* order / Main justification */ H-historic, A-aesthetic, S-scientific, E-Economic, Ec-ecologic	Data collected by
Venezuela 	1. Cucurima	11° 15' 30" -69° 30' 55" Z ~ 500 m asl Falcon State, Cabure, Rio Coro, El Isiro Reservoir, Caribbean Sea basin	- / - / > 500 Not tapped at the spring, but down river water is pumped to the nearby basin of El Isiro dam, to feed the Falcon state capital and the Paraguaná peninsula	E, H, S, Ec, A <i>The spring is issuing from limestones of San Luis Formation of Oligocene - early Miocene age. The springs around the "Sierra de Coro" are the most visible and most profitable feature of this karst, and the Falcon state had in Venezuela the biggest amount of surveyed caves, 145 of them are mapped and registered in the Catastro Espeleológico de Venezuela (https://sve-espeleologia.org.ve/boletines-sve/), while the San Luis range is also a place where the kilometric caves and deepest pits are concentrated in a very small area. All the economy in a dry state depends directly or indirectly on the water, before the springs were caughted, the workers routine depend on scarce resources as artisanal farming, fishing or families offering handcrafts, but the population had grown and the oil industry built in the peninsula of Paraguaná that was the second biggest refinery of the word during the second half of XX century (now a days partially working by several reasons), so the water demand had increased and its availability in the nearby springs, improved with tree main dams (El Isiro, Barrancas and Hueque), allowed alternative programs to exploit natural resources, as increasing the beach tourism along the central coast of the state. Several endemic troglobiont species adapted to the underground environment had been reported in the wet and oligotrophic caves of the San Luis range (as Charinides tronchonii or Vima chapmani), some rare stygobiont have been reported in galleries near the karstic springs.</i>	Rafael Carreño
	2. El Buco	11° 07' 23" -69° 38' 53" Z ~ 700 m asl Falcon State, Cabure, Rio Coro, El Isiro Reservoir, Caribbean Sea basin	~200/-/>1000 Spring tapped, water is utilized for drinking water supply	Ec, E, S, H, A <i>The water of El Buco is tapped by an aqueduct that serves the towns of Santa Cruz de Taratara and other minor settlements in the very dry lowlands south of the Sierra de San Luis, also the town of San Luis at a middle elevation and the town of Curimagua in the upper part of the western half of the Range located inside an uvala. The rest (geology, utilization, ecology) is the same as for the Cucurima spring above, as they are relatively close each other and belong to the same San Luis Range system.</i>	Rafael Carreño

	<p>3. Siburúa-Meachine</p>	<p>Siburua spring 11°18', -69°35'</p> <p>Meachine spring 11°19', -69°34'</p> <p>Falcon State, Cabure, Rio Coro, El Isiro Reservoir, Caribbean Sea basin</p>	<p>Siburua spring - / 25 / 4500</p> <p>Meachine spring - / 28 / -</p> <p>Tapped, superficial pipe by gravity; Treated and used for very different purposes, as human consumption, tourism facilities, animal watering, irrigation and big oil industry</p>	<p>E, H, S, Ec, A</p> <p><i>The spring is captured for human and industrial use by the public enterprise Hidrofalcón settled in El Isiro dam and pumped to Punto Fijo, the most populated city of the state in the Paraguaná peninsula.</i></p> <p><i>By paleontological and archaeological works we know the area was inhabited by humans since 15.000 years (Morón 2015), due to the hard conditions of the environment and the dry climate, the springs are surely played an important role in the survival and development of cultures, from the pre-Columbian Caquetios, to the Spanish conquerors, even actually the water is not only a matter for well-being, but mostly a resource to settle and to avoid a marginal economy, mostly in this decades of global warming.</i></p> <p><i>The rest (geology, utilization, ecology) is the same as for the Cucurima spring above, as they are relatively close each other and belong to the same San Luis Range system.</i></p>	<p>Rafael Carreño</p>
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Location and geological map of karst of San Luis Range and local springs

No photos shared.





Note (by authors): *In the past decades, mainly in the 70's, occurred some uprising and political struggle between peasants and the government, were the conflict ended in armed operations that affected several communities by small guerrilla activities in front of military units, this led to casualties, selective imprisonment and several displacements of some settlements of the "Sierra", moved out of wild areas under surveillance, that's why few fertile mountain terrains were abandoned, grooves and crops were lost, several trails were covered by the jungle, and the previously available experts like guides, hunters or "baquianos" had been forced to move to other controlled lands, but since around 4 decades ago the peace had returned to the San Luis range and it is possible to freely explore, study or to work in farms, in an ideal ecosystem that is still lesser developed by this historical background.*