

GEOGRAPHIC DISTRIBUTION OF ANCHIALINE CAVES AND BLUE HOLES IN CUBA

Aston-type sinkholes in western Cuba and central Matanzas, fracture cracks in the Bay of Pigs and dendritic caves in the eastern zone of Gibara, Holguin

Matanzas:

El Brinco	Cueva Aurora
Cuba – Checoslovaquia	Laguna Playa Morena
Casimba 35 Aniversario	Laguna Larga
Cueva Membrillo	Cueva Maribel
Casimba Juana	Cueva el Humo
Cenote Janet	Las Pailas
Cueva Susana	Cueva del Trueno
Casimba Ilona	Laguna 3 Sabalos
Casimba Dagmar	La Colmena / Brinco 2
Casimba Daria	Hoyo de Potala
Laguna Fagundo	Casimba de Jutia
Cueva de los Carboneros	Abalcones de Wendy
Cueva 1900	Casimba Florence

Holguin:

Tanque Azul
Cueva el Baga
Poza de Agua Mala
Boca Chica

Pinar del Rio:

Pozo Azul
Poza de Juan Claro
Laguna Valle de San Juan

Guantanamo:

Pozo Azul

Comment: Not all of the anchialine caves have a hydrogen sulfide layer (H₂S)! In some lagoons close to the shoreline the H₂S layer is very close to the bottom and there are no passages. Some contain organic material but are without any H₂S layer.

Susana Cave got a temperature anomaly with a thermocline and a halocline, like Stafford Creek Blue Hole in North Andros, Bahamas.

There is a meteoric layer: a 2-meter layer at 23 °C, a hot water lens in a depth of up to 7 meters, at 30 °C, and below the halocline, a marine water lens at 25 °C.

The high temperature is caused by absorption of solar radiation by a salt water bacteria, without overturning / mixing of the different water layers there is no heat dispersion.

Ocean Blue Holes / Agujeros Azules

Site	Depth (m)	Coast
Ojo del Megano	62	North coast / Cayo Bahia de Cadiz
Cayo Flamenco 1	70	South coast / Bay of Pigs
Cayo Flamenco 2	?	South coast / Bay of Pigs
Poza de Palomo	45	South coast / Bay of Pigs
Cayo Sigua / Poza de Sigua	?	South coast / Bay of Pigs
Don Pedro	60	South coast / Bay of Pigs
El Navio	51	South coast / Bay of Pigs

Source: Alfredo and local fisherman in Playa Larga



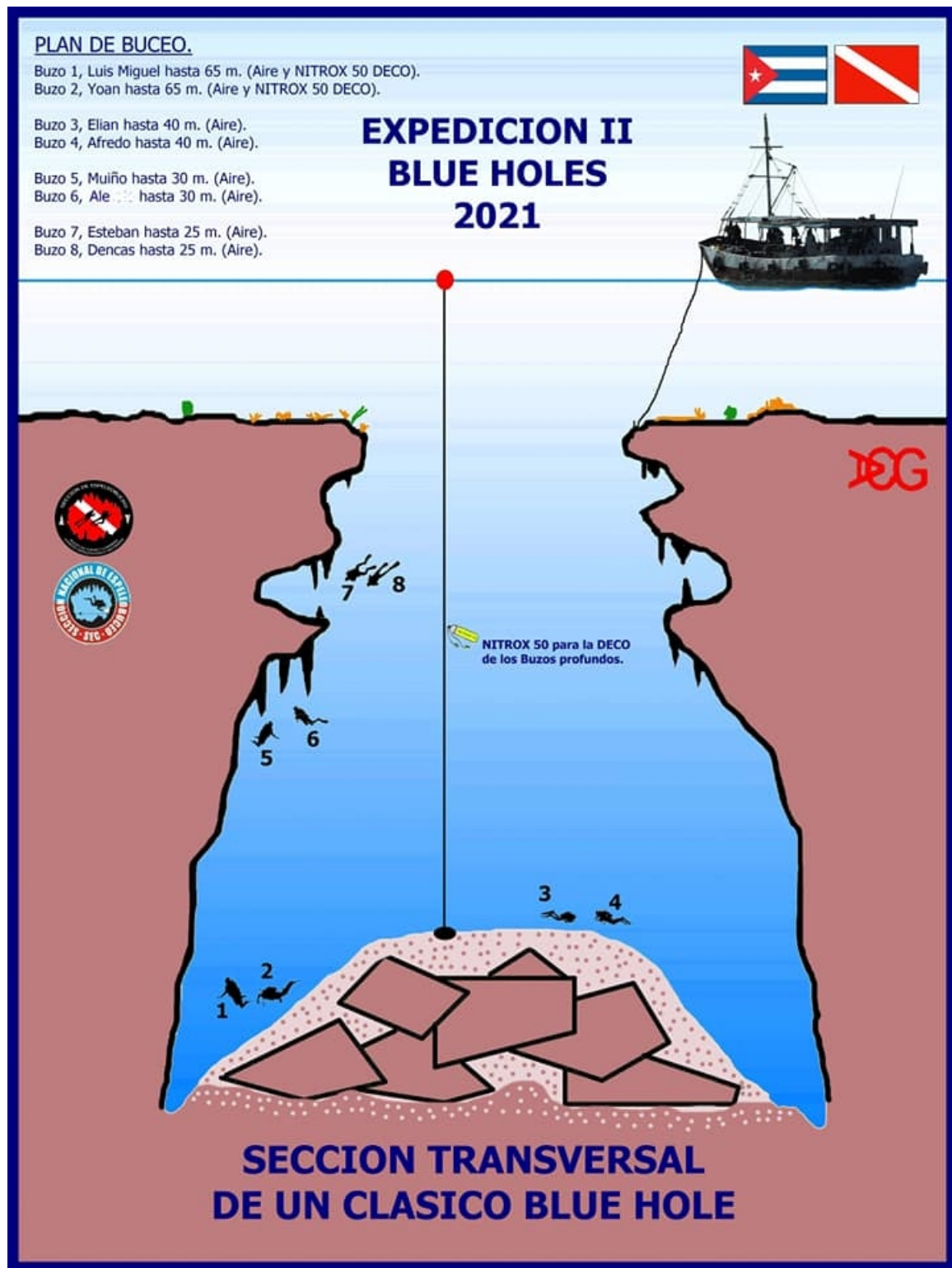
Summary:

The genesis of anchialine caves and ocean blue holes is very similar, involving the dissolution of limestone and collapses during periods of low sea level. Nevertheless their hydrology, chemistry and biology is totally different. Ocean blue holes have no meteoric water layer and will be far more influenced by wind and tidal fluctuations. Their fauna is typical local marine life.

Inland Sinkholes and anchialine caves have different water layers and nearly no overturning and mixing of their water column. These caves are like meromictic lakes (incomplete vertical mixing) and their layers are created by differences in salinity and temperature. They are a very special habitat for cave fauna, like Remipedia and other crustacean taxa.

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Source: Alfredo Contreras @ cavedivingcuba 8337

Comment: Ocean Blue Holes are located below the piezometric surface. As sea level rose after the last ice age, these caves were flooded and became submerged.

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