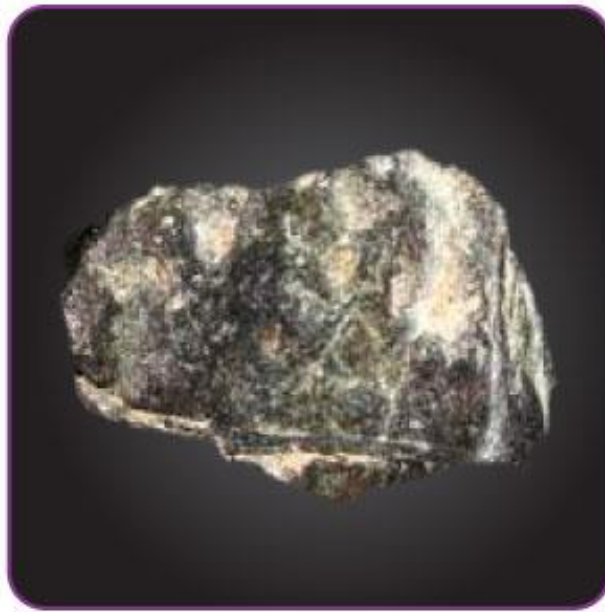


THORIUM DEPOSITS IN VENEZUELA

BIBIOGRAPHIC REFERENCES OF THORIUM DEPOSITS IN VENEZUELA THROUGH THE STRATIGRAPHIC CODE OF VENEZUELA, GEOREF, ASTER VNIR IMAGES, GOOGLE EARTH AND INTERNET

Mariato Castro Mora, 2022



La Lanthanum 138.9054	Ce Cerium 140.116	Pr Praseodymium 140.9076
89 Ac Actinium (227)	90 Th Thorium 232.038	91 Pa Protactinium 231.0358

Two main thorium deposits are known in Venezuela:

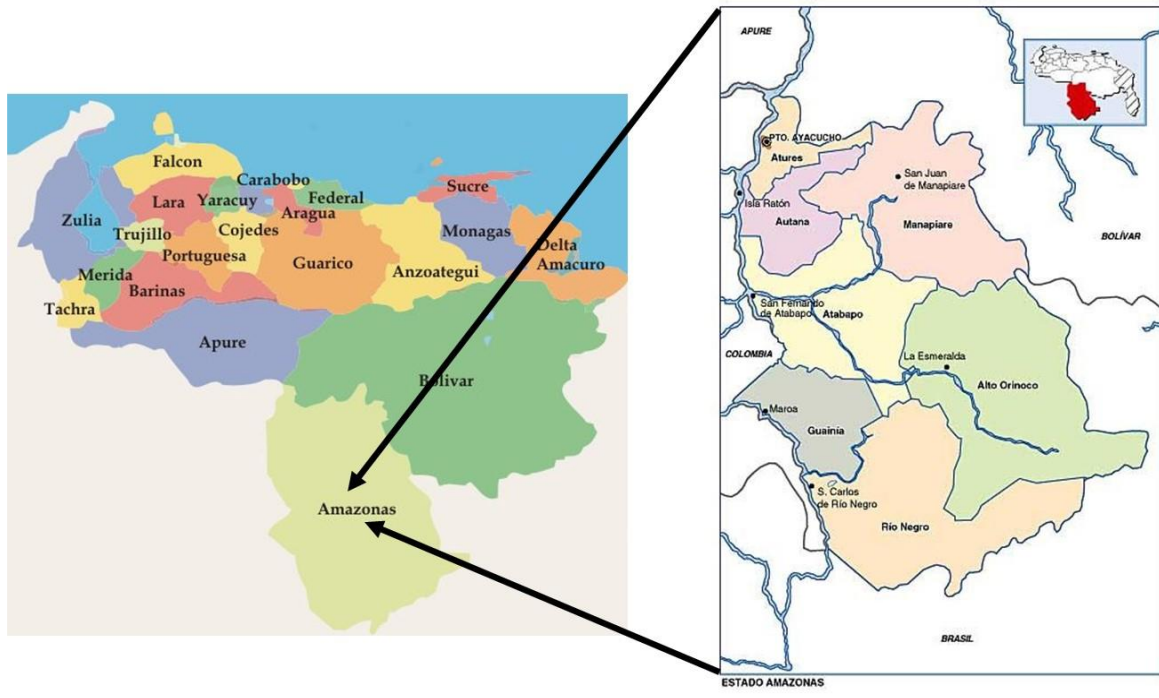
1. Cerro Impacto in the Amazonas State and
2. a smaller one in El Baúl, Cojedes State.

Additionally, the geological and mineral bibliography mentions occurrences at Bolívar, Mérida and Táchira States.

Studies carried out, place Venezuela approximately in fifth place in terms of the largest reserves of thorium in the world. December 2019

Following is a summary of thorium locations in Venezuela mentioned in the geological and mining bibliography:

AMAZONAS STATE



Cerro Impacto Location:

Latitude & Longitude (WGS84): 5° 54' 43" North; 65° 13' 14" West

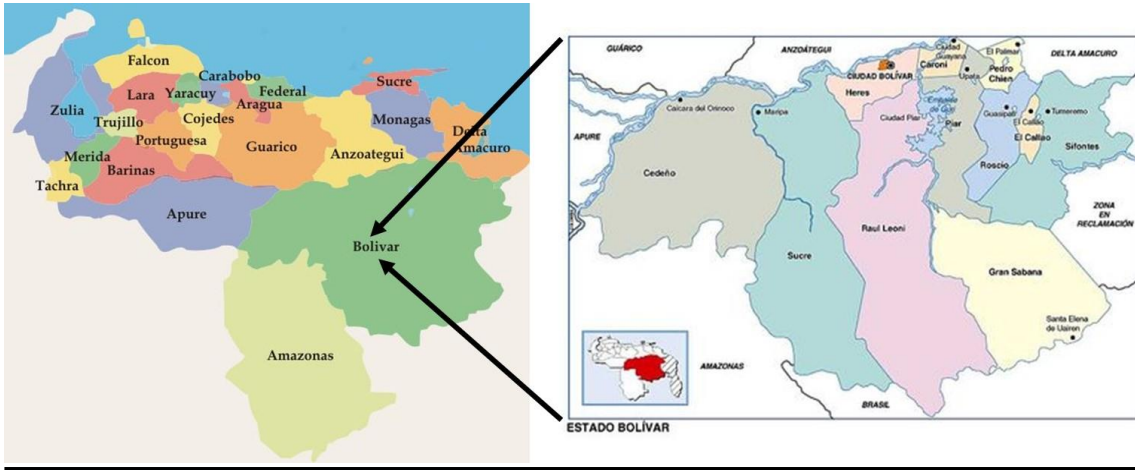
Latitude & Longitude (Decimal Degrees): 5.91194444444444; -65.2205555555556

Latitude & Longitude (Degrees plus Decimal Minutes): 5° 54.716666666667'; -65° 13.233333333333'



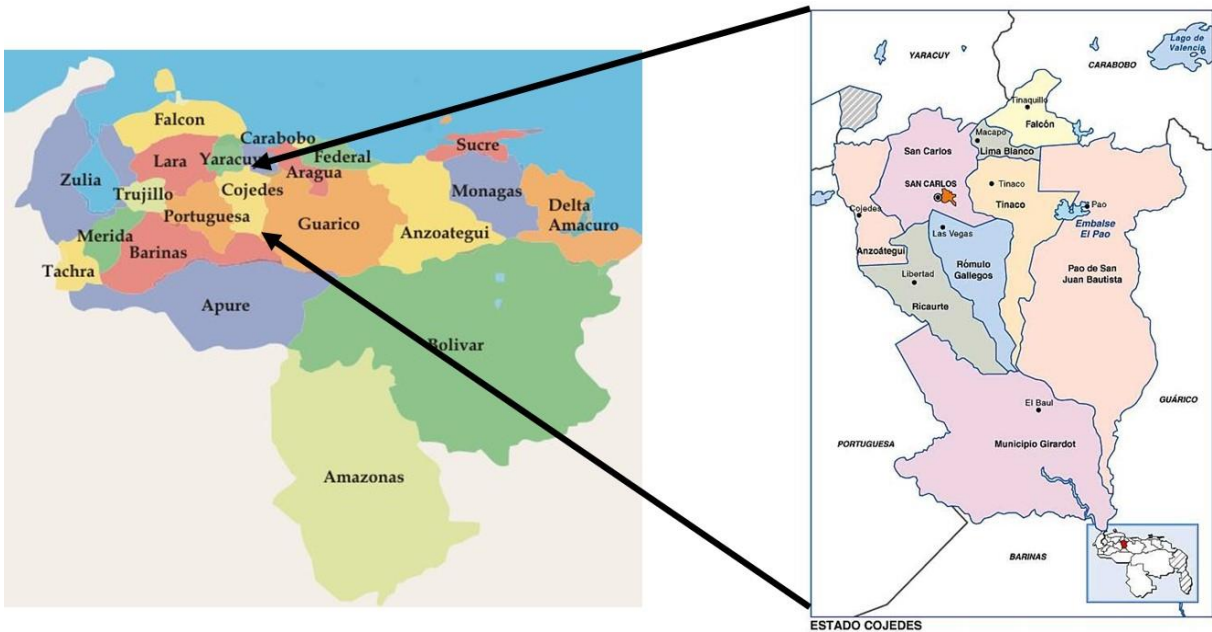
State	Location	Location Relative	Coordinates	Age	Group	Formation	Values	Deposit Type	Host Rock Type
	Churuata			Precambrian	Roraima			Laterite	Sandstone
Amazonas	La Churuata	(Uranium anomaly)	3° 33' 26" N / 65° 29' 19" W	Proterozoic	Roraima		1 to 165 ppm	Sedimentary	Sandstone
	Caño Aguamena			Precambrian		Granito del Parguaza			
State	Location	Location Relative	Coordinates	Age	Group	Formation	Values	Deposit Type	Host Rock Type

BOLIVAR STATE



State	District	Location	Location Relative	Coordinates	Age	Formation	Deposit Type	Host Rock Type
Bolivar		Caño Aguamena			Precambrian	Granito del Parguaza		
		Cerro Impacto		5° 54' 39" N / 65° 13' 17" W	Precambrian or younger		Laterite, carbonatite	Carbonatite
		Santa Elena de Uairén	Anomalous radioactivity	5° 15' 00" N / 61° 07' 30" W	Proterozoic			Sandstone
	Cedeño	Los Pijiguaos		6° 35' 19" N / 66° 44' 50" W				
State	District	Location	Location Relative	Coordinates	Age	Formation	Deposit Type	Host Rock Type

COJEDES STATE



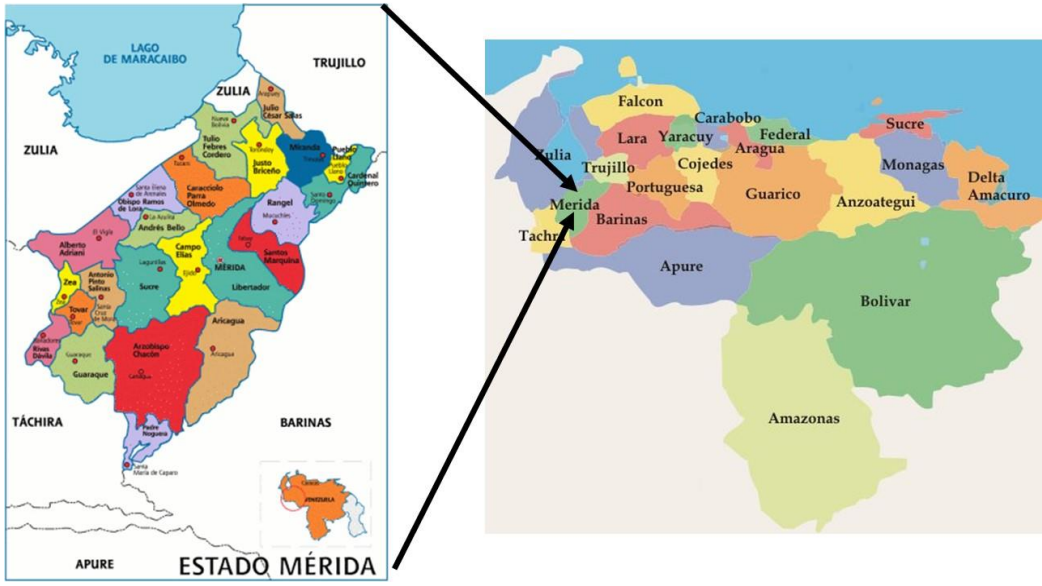


El Baul Location:

8.9600° N, 68.2952° W

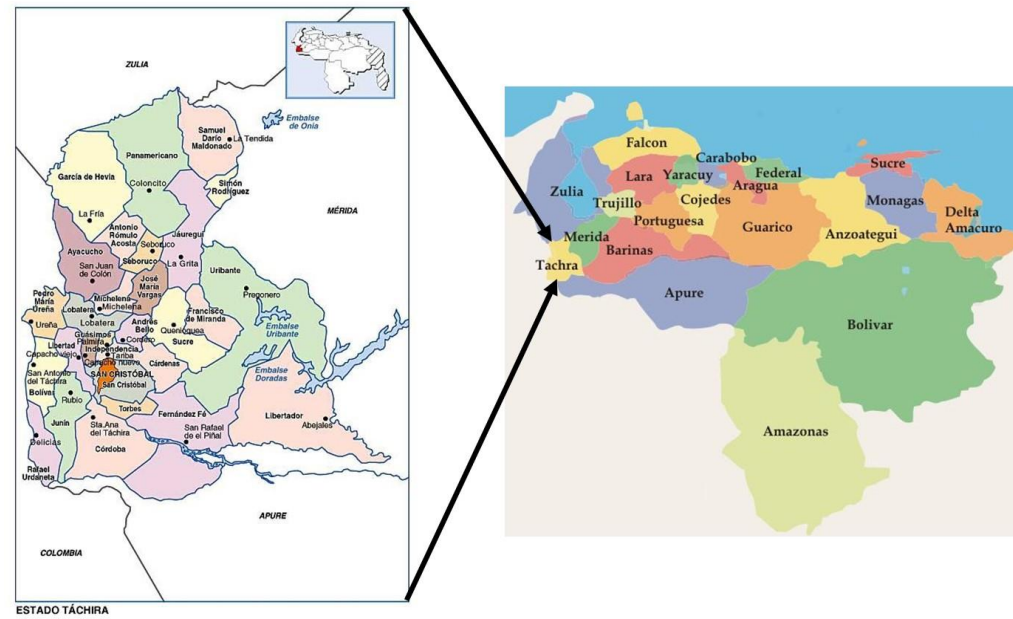
State	Location	Coordinates	Age	Formation	Host Rock Type
Cojedes	Macizo de El Baúl	8° 58' 05" N / 68° 17' 54" W	Paleozoic	Granito Alcalino de El Baúl	Granite
State	Location	Coordinates	Age	Formation	Host Rock Type

MÉRIDA STATE



State	Location	Coordinates
Mérida	El Carmen	8° 38' N / 71° 06' W
State	Location	Coordinates

TACHIRA STATE

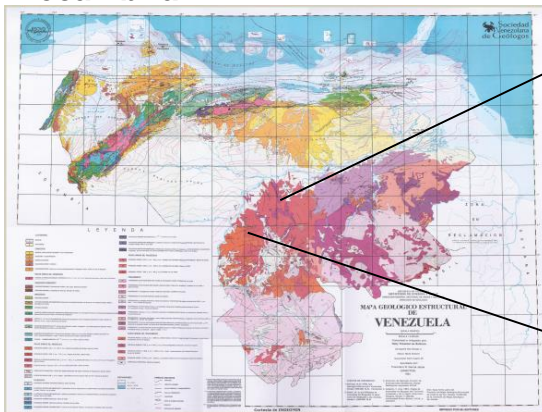


State	Location
Tachira	El Corozo
State	Location

STRATIGRAPHIC UNITS

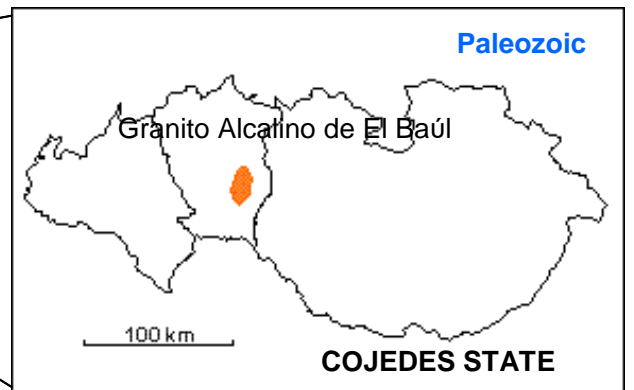
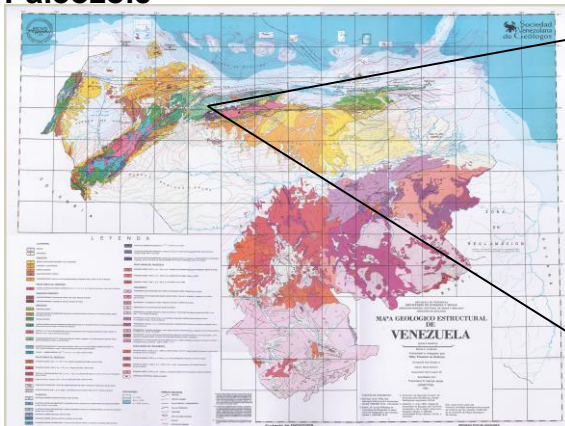
GRANITO DEL PARGUAZA

Precambrian



GRANITO ALCALINO DE EL BAUL

Paleozoic



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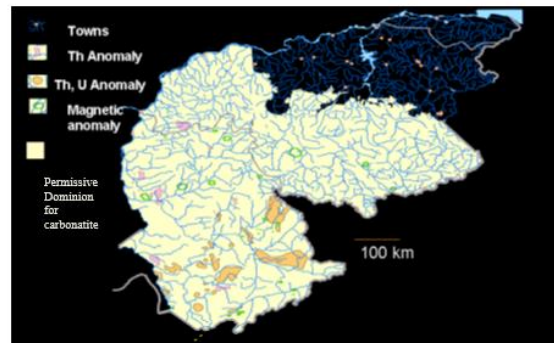


Figura 1: Mapa de ubicación de las principales anomalías de torio en el escudo de Guayana y el dominio permisivo para encontrar otras Carbonatitas en la región (USGS et al. 1993; MANRIQUE et al. 2013)

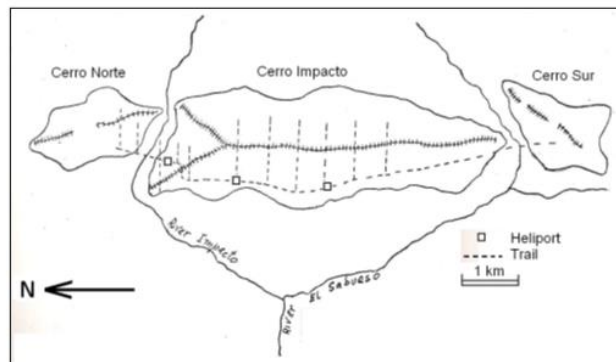


Figura 2: Mapa de ubicación del depósito de Cerro Impacto y los ríos que lo circundan (SIFONTES 1975)

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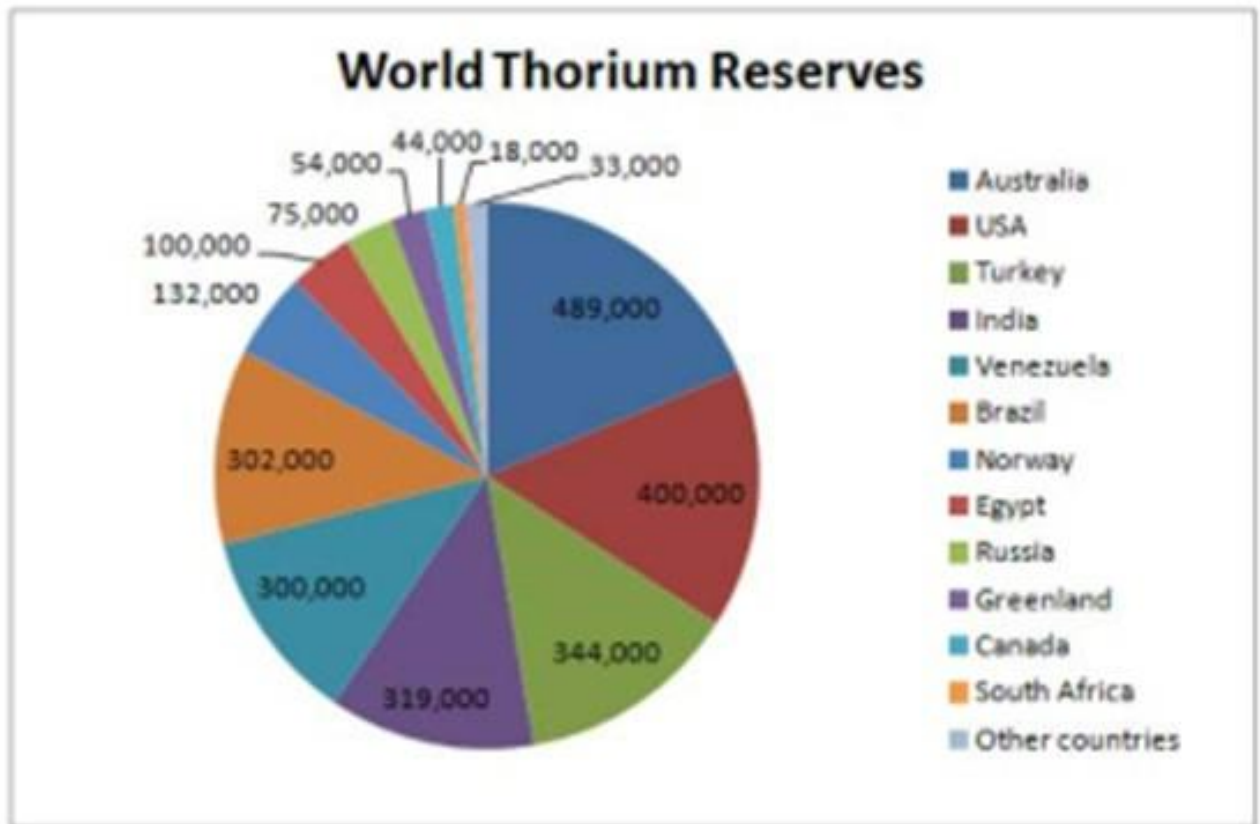
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Resource estimates for major countries N+S America,

Country	Total resources of Th (1000 t Th)	of which are RAR <USD80/kg Th
Brazil	632*	172
United States	595	122
Venezuela	300**	NA
Canada	172**	NA
Others (Peru,Uruguay, Argentina) *Est. author, papers. ** Not updated	24	NA
Total AMERICA	1 722	> 294

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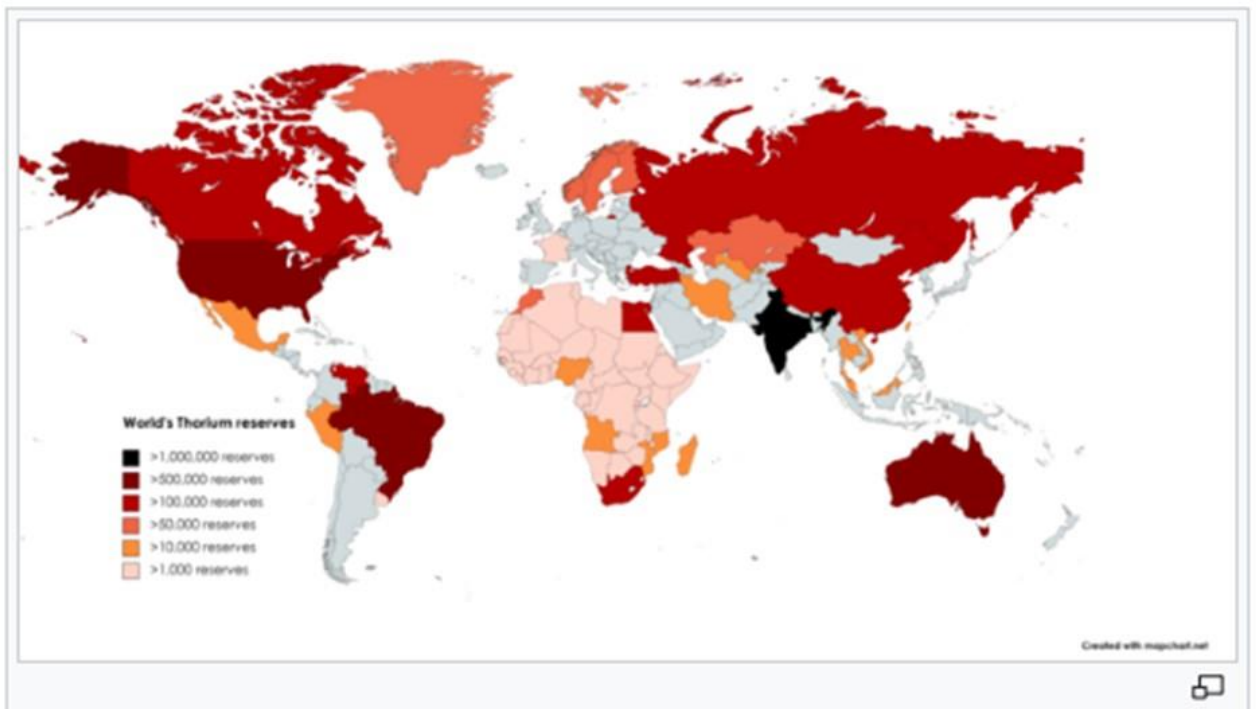


(Thorium Reactor Technology, 2012)

Global Reserve Maps

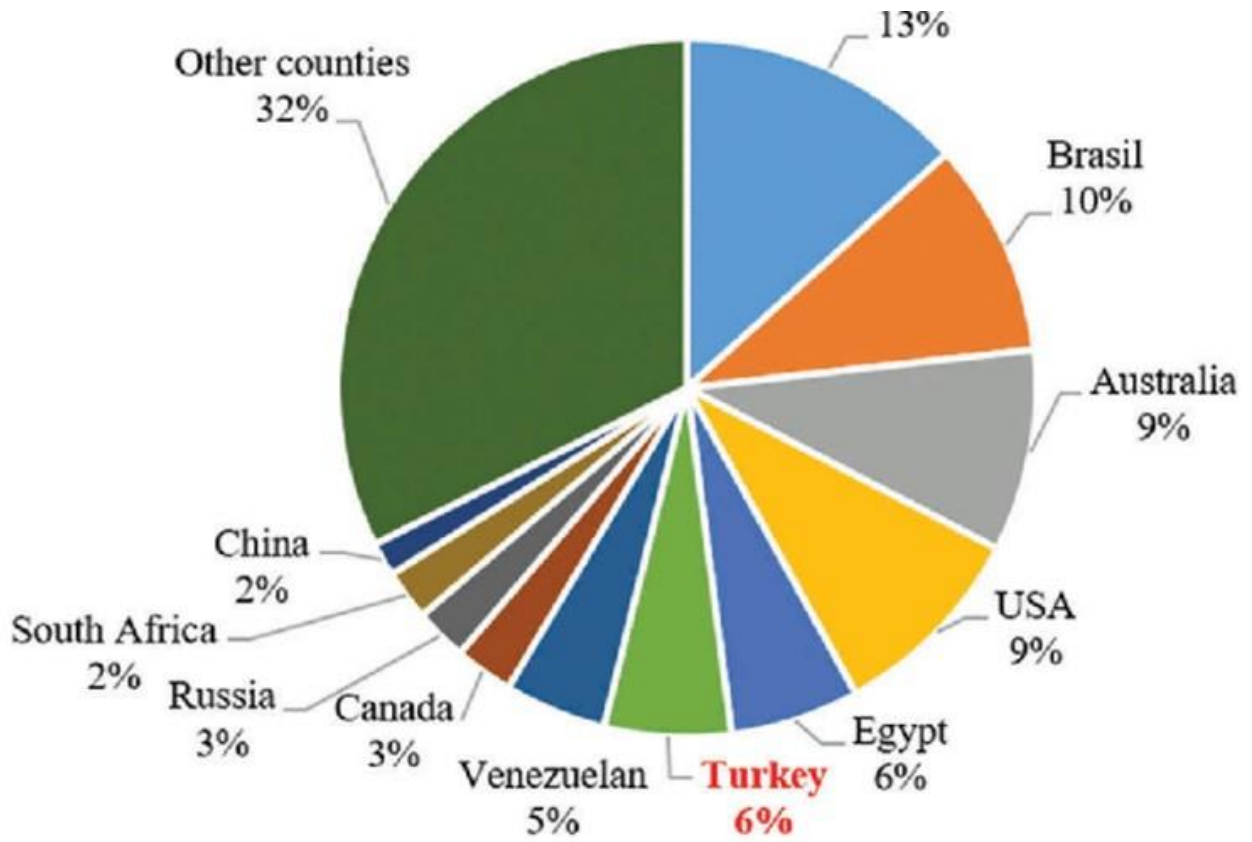
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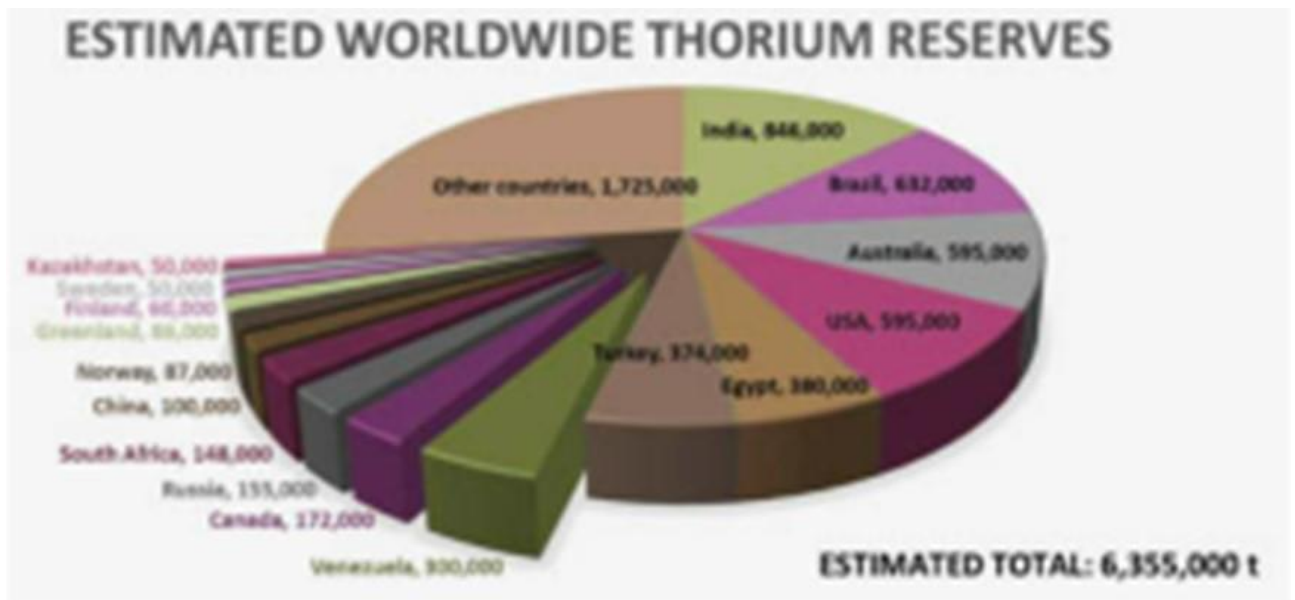
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Fuente: Estimated global thorium reserves by country (Data source: IAEA Red Book, 2014).

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