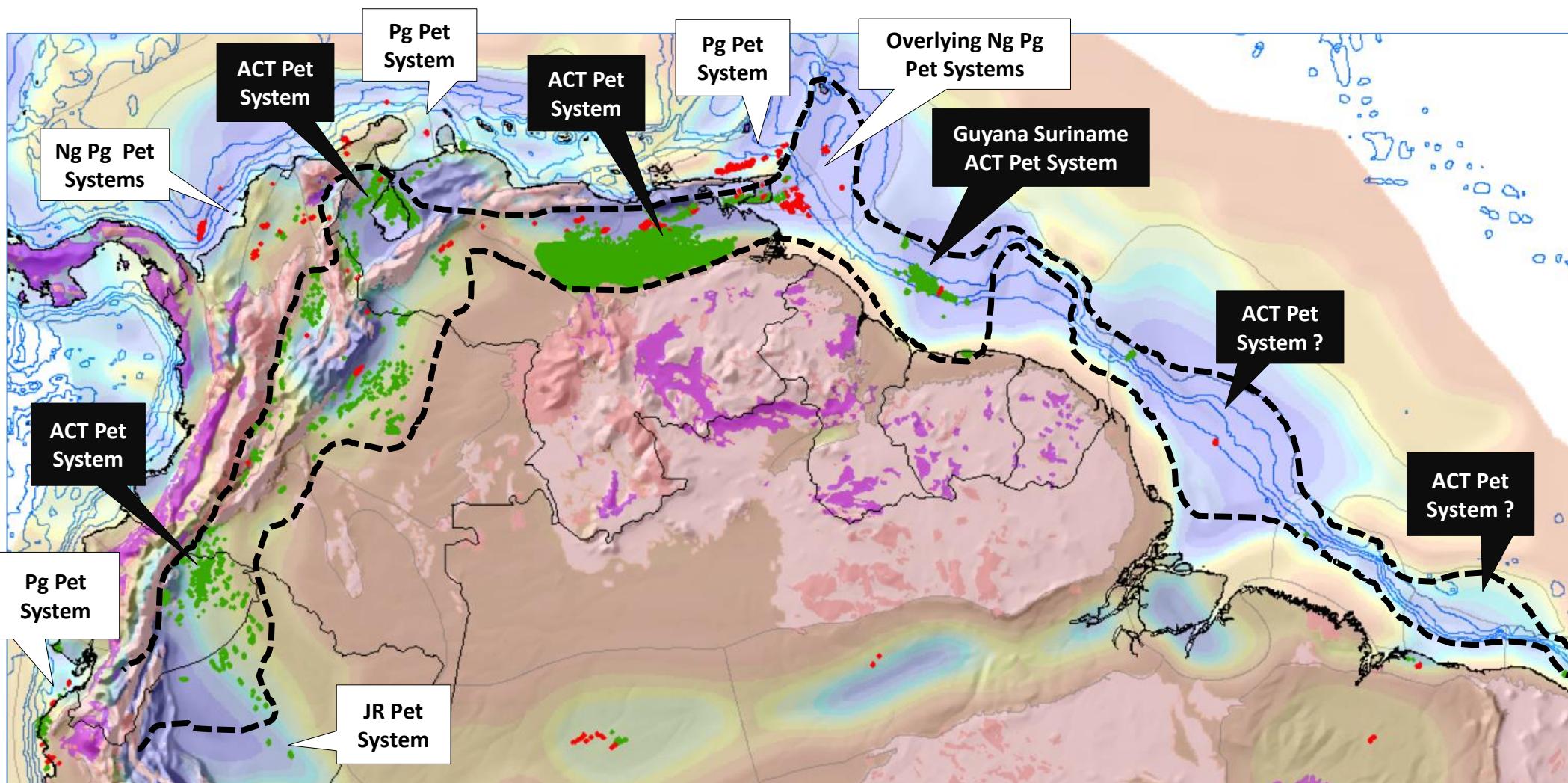


# Some Thoughts: N South America



**Est Discovered Reserves in the N South American ACT Petroleum System is quite impressive:**

Basin	BBOE
Llanos Barinas	11.3
M Magdalena	3.7
U Magdalena	1.0
Oriente	9.0

**TOTAL 372.8 BBOE**

Basin	BBOE
Maracaibo	52.1
E Venezuela	276.0 (250 Orinoco Hvy Oil)
Trinidad	4.7
Guyana Suriname	15.0

## Some Thoughts: Northern S America

(musings from the desk of a retired geologist)

The current "Hot" Exploration Area of Guyana-Suriname constitutes part of a very well known and prolific N South American arcuate belt. It stretches from N Peru through Ecuador, Colombia, Venezuela, Trinidad, Guyana, Suriname, Guiana to N offshore Brazil. The western part of the belt is bounded by a complex arc intruded oceanic-continent collisional belt, the northern part bounded by the translational S Caribbean Plate and the eastern part forms part of the Central Atlantic Transform Margin.

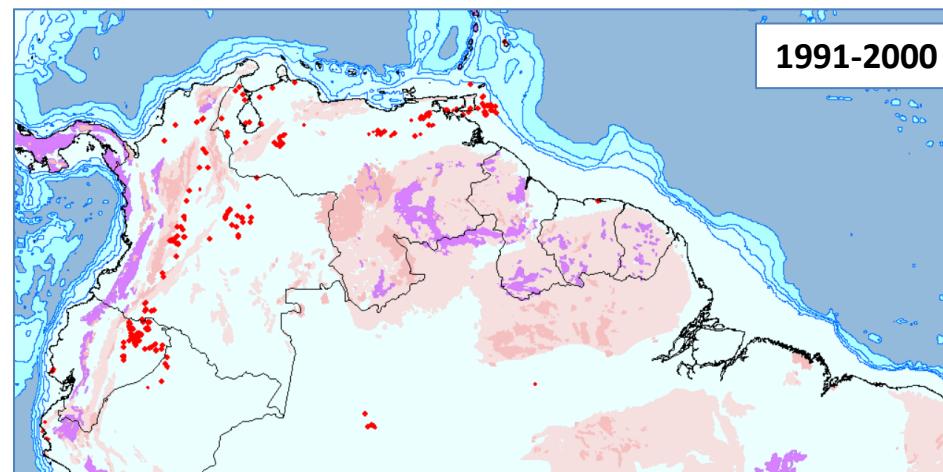
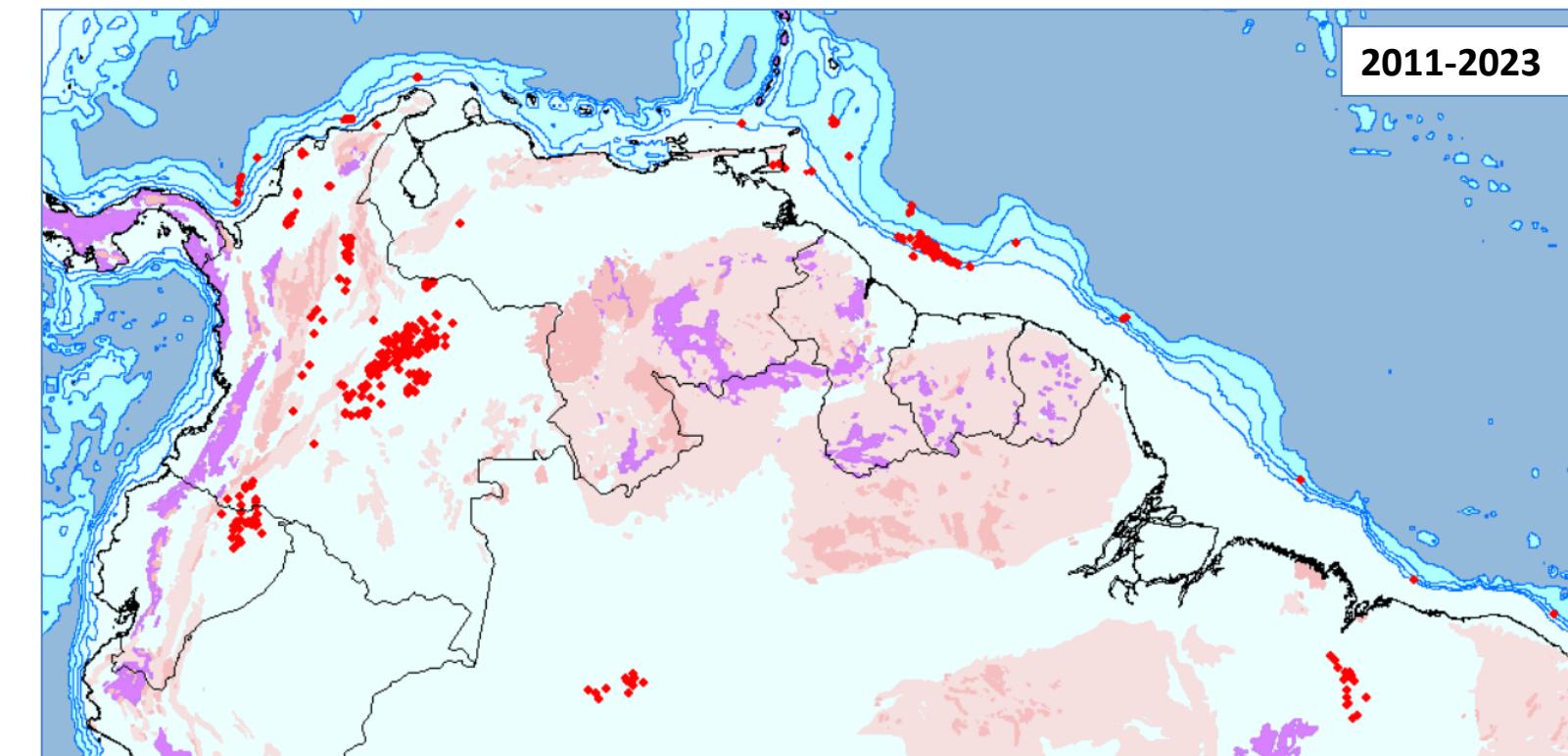
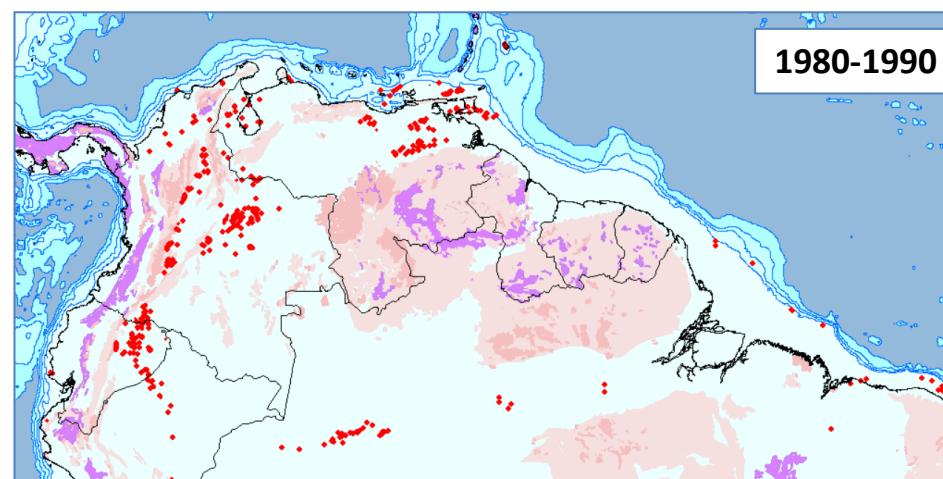
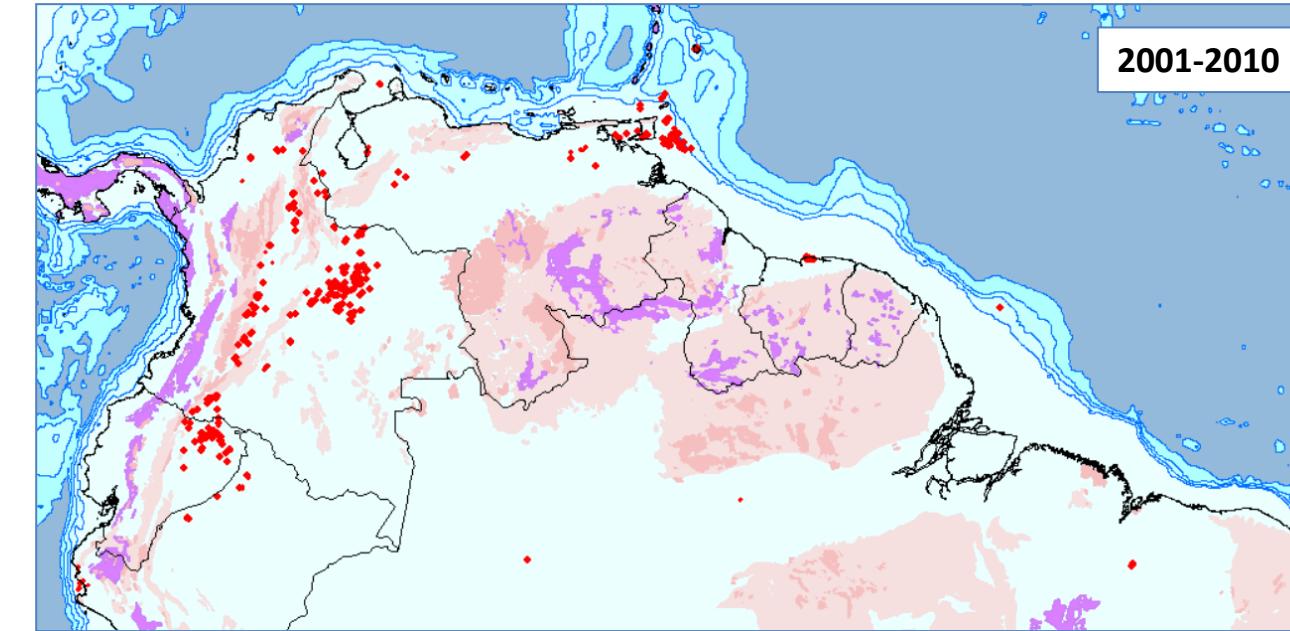
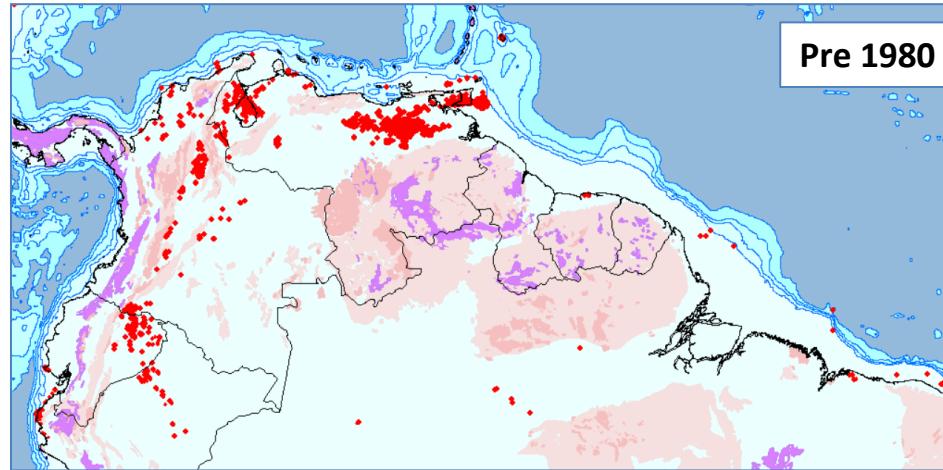
The primary SRKs are ACT marine shales and known plays are of Low Cret, Up Cret, Paleog and Neog in age. The first discoveries in the belt were made over a hundred years ago with exploration targeting mostly structural-strat traps. It wasn't until almost a decade ago that companies started to explore for exclusively stratigraphic turbidite plays in the deepwater that a major break through was made which resulted in the recent Guyana Suriname discoveries.

Given the current above ground issues and political situation in some countries, there are still quite a lot of relatively unexplored areas and plays out there that merit a closer look at going forward if there is future acreage access in the area.

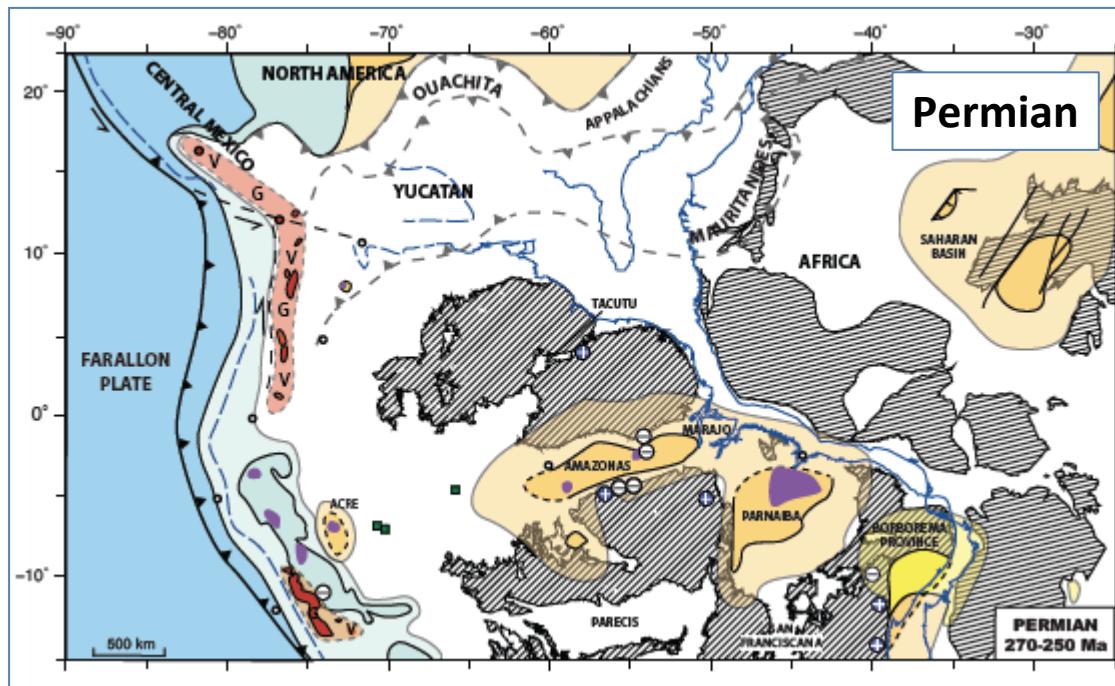
Don't forget that this ACT petroleum system is home to the 250 BBO Orinoco Hvy Oil belt !

By the way.... The reason for the presence of the huge Hvy Oil Belt in Orinoco is likely due to multiple thrust stacked ACT SRKs in the E Venezuela Fold Belt (much like multiple thrust stacked Devonian SRKs in W Canada resulting in the huge Athabasca Tar sand deposits). This makes other global SRK detachment level thrust belt foreland basins quite interesting.

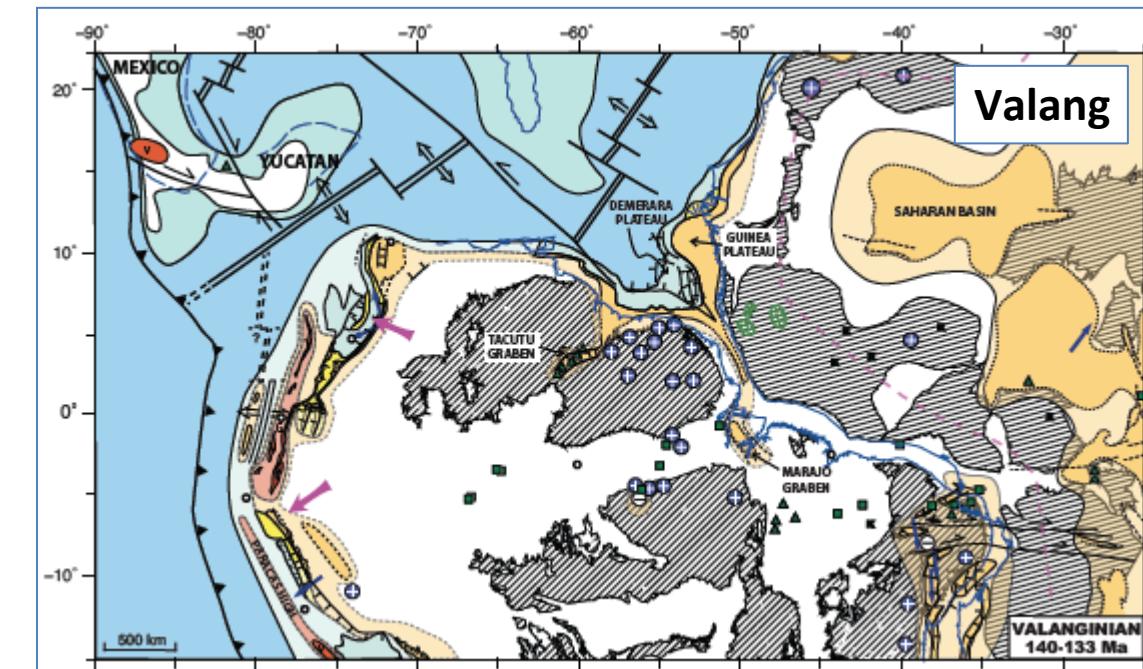
# Discovery History



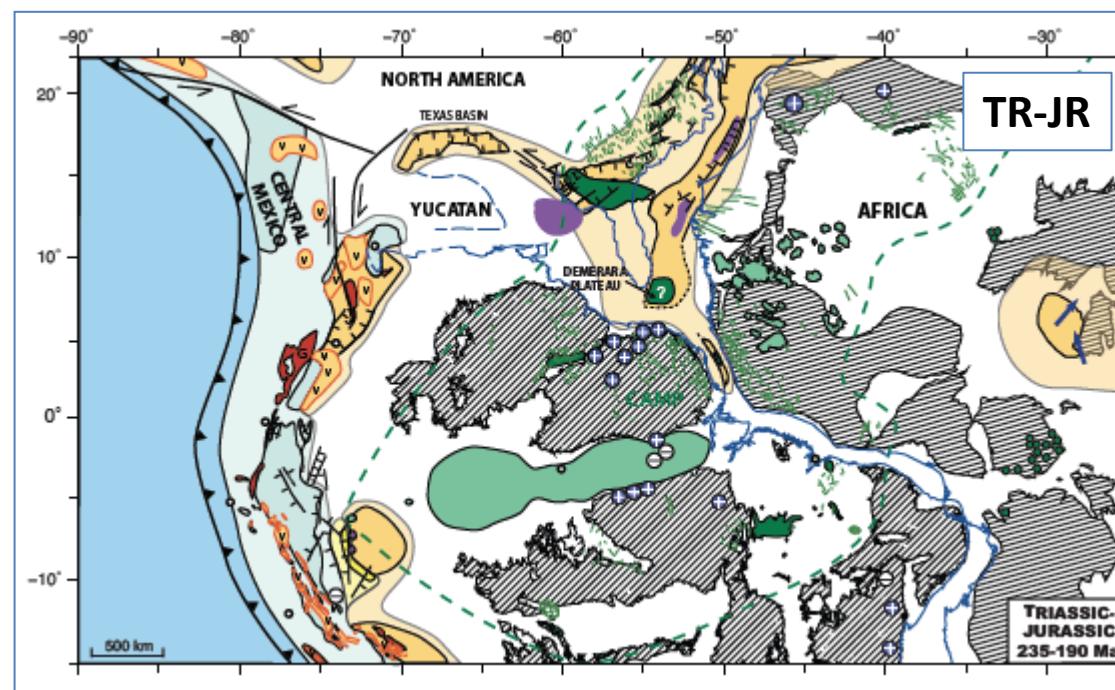
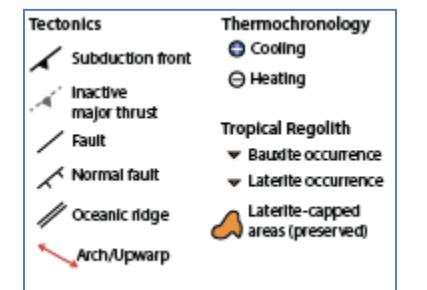
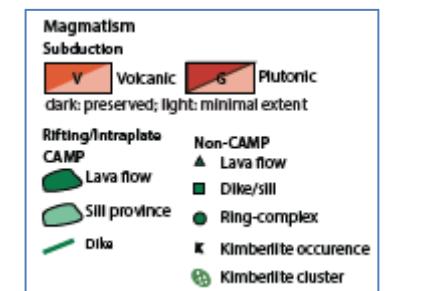
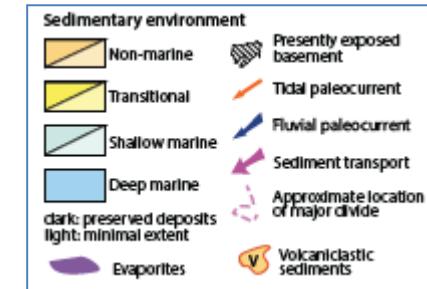
# Permian- Aptian Paleogeography (Bajolet, Chardon, Rouby, Dall'Asta, Loparev, Coueffe and Roig 2022)



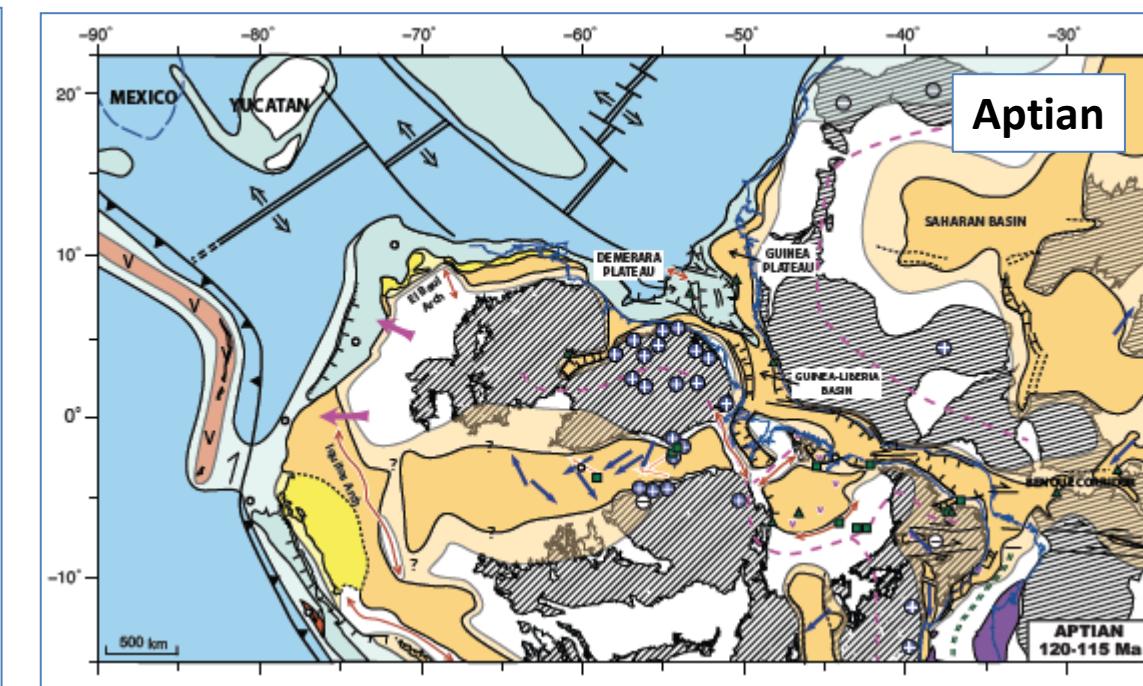
F Bajolet et al 2022



F Bajolet et al 2022

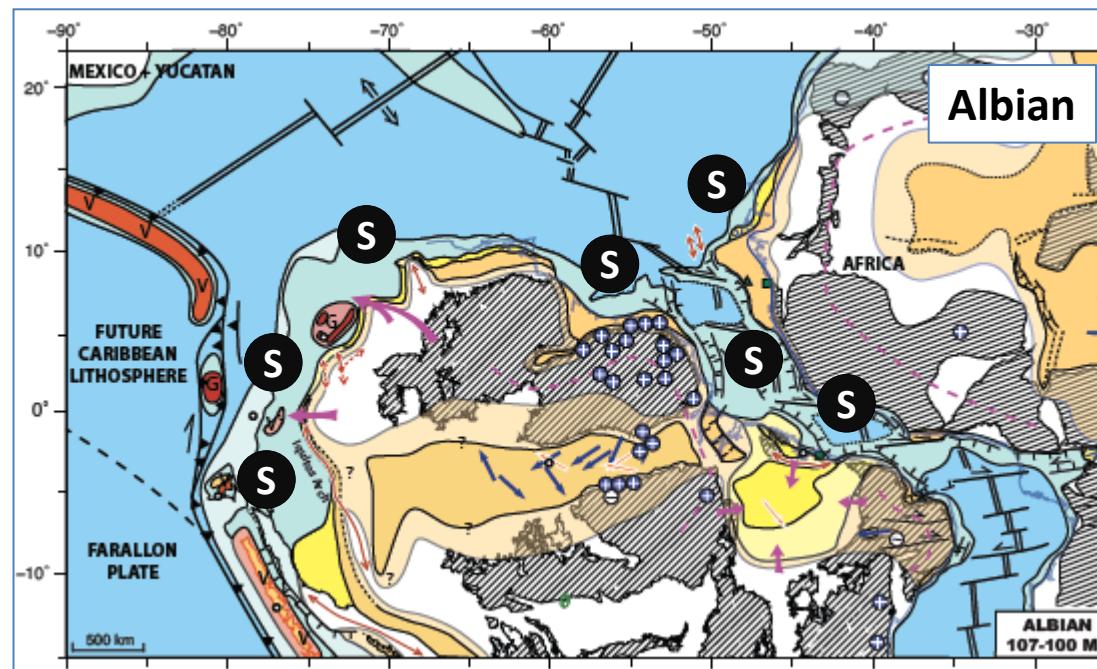


F Bajolet et al 2022

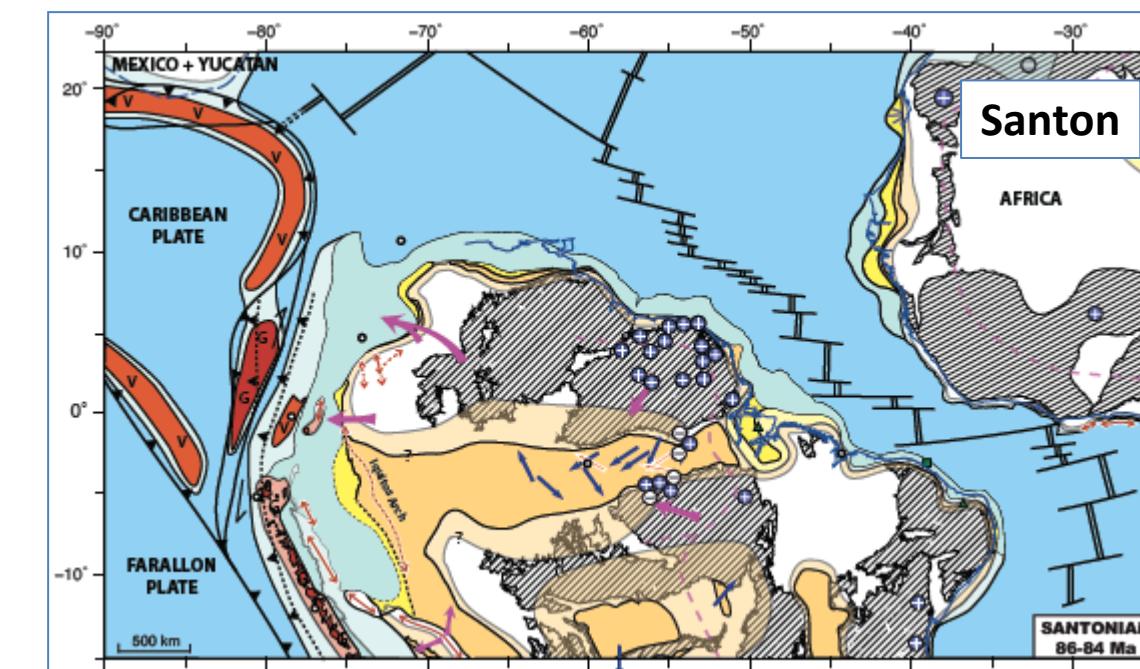


F Bajolet et al 2022

# Albian- Maastrichtian Paleogeography (Bajolet, Chardon, Rouby, Dall'Asta, Loparev, Coueffe and Roig 2022)



F Bajolet et al 2022



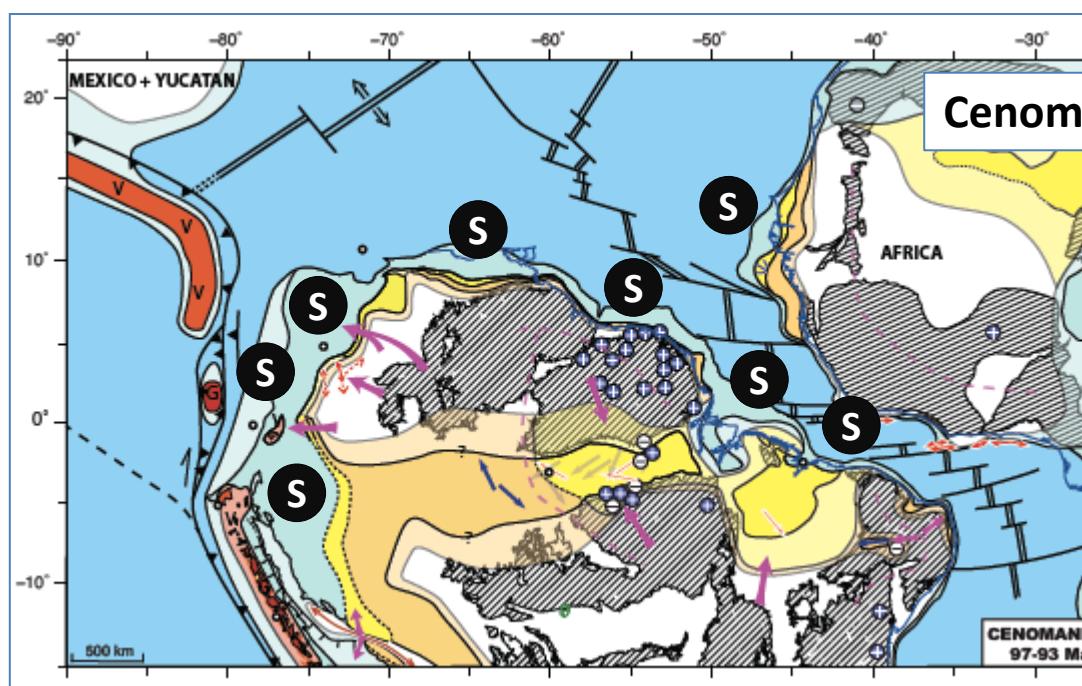
F Bajolet et al 2022

Sedimentary environment		
Non-marine	Presently exposed basement	
Transitional	Tidal paleocurrent	
Shallow marine	Fluvial paleocurrent	
Deep marine	Sediment transport	
	Approximate location of major divide	
dark: preserved deposits	light: minimal extent	
Evaporites		
Volcaniclastic sediments		

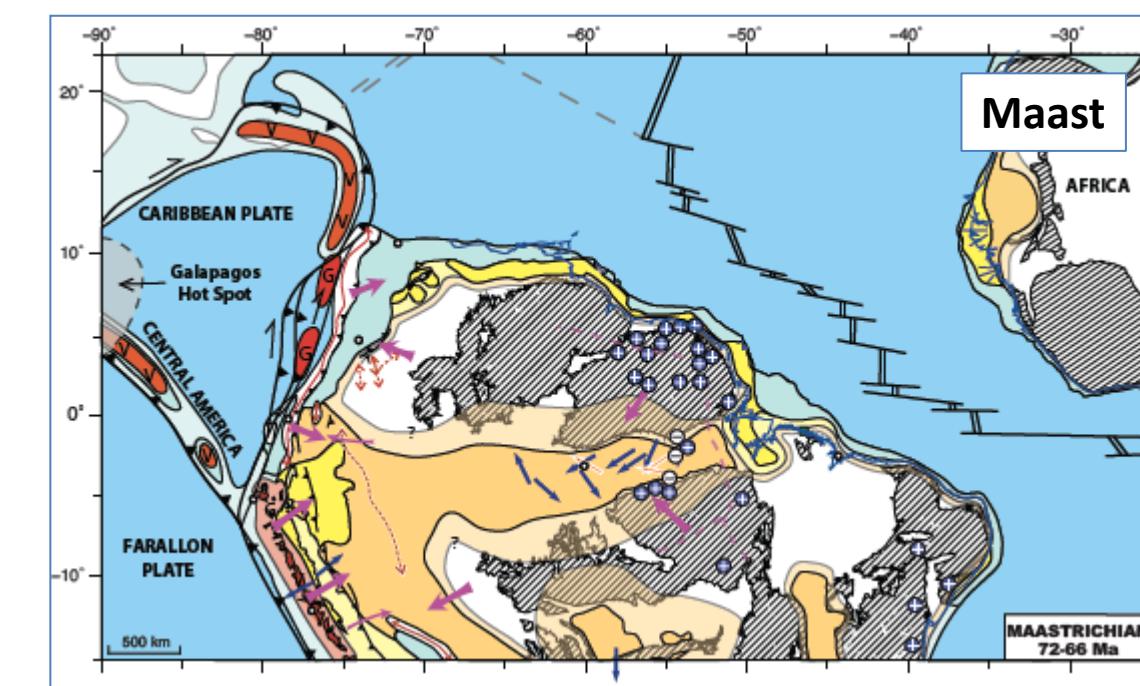
Magmatism		
Subduction	Volcanic	Plutonic
	dark: preserved; light: minimal extent	
Rifting/Intraplate		
CAMP	Non-CAMP	Lava flow
Lava flow		Dike/still
Sill province		Ring-complex
Dike		Kimberlite occurrence
		Kimberlite cluster

Tectonics		
Subduction front	Cooling	Thermochronology
Inactive major thrust	Heating	
Fault		
Normal fault		
Oceanic ridge		
Arch/Upwarp		
Baude occurrence		Tropical Regolith
Laterite occurrence		
Laterite-capped areas (preserved)		

**S** ACT Source Rocks

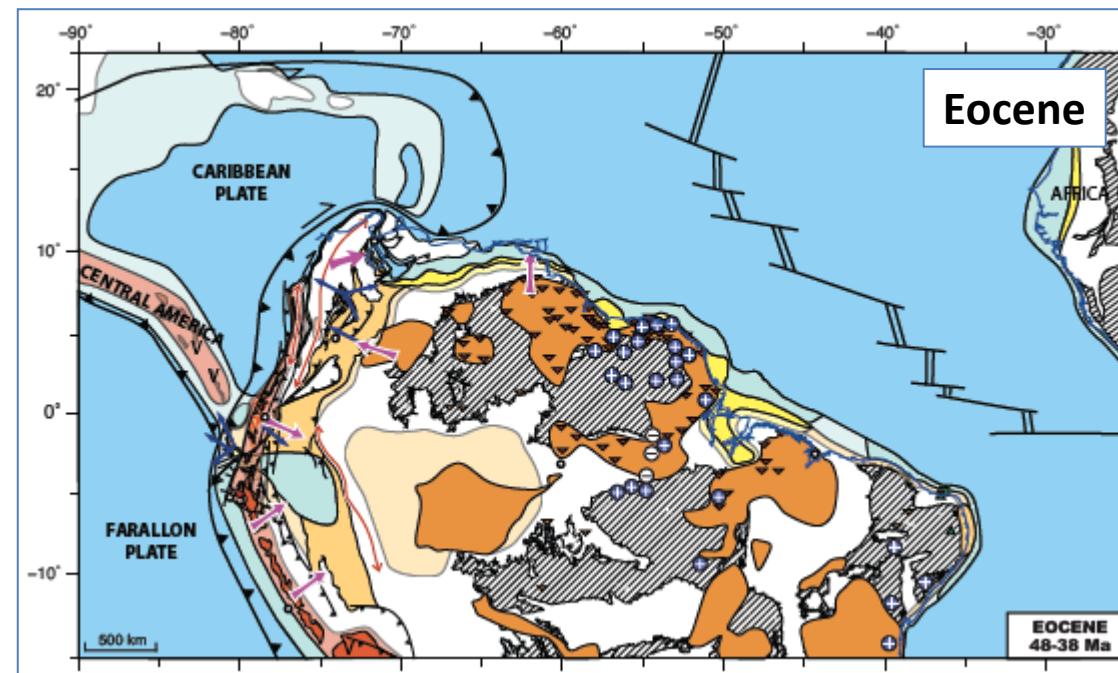


F Bajolet et al 2022

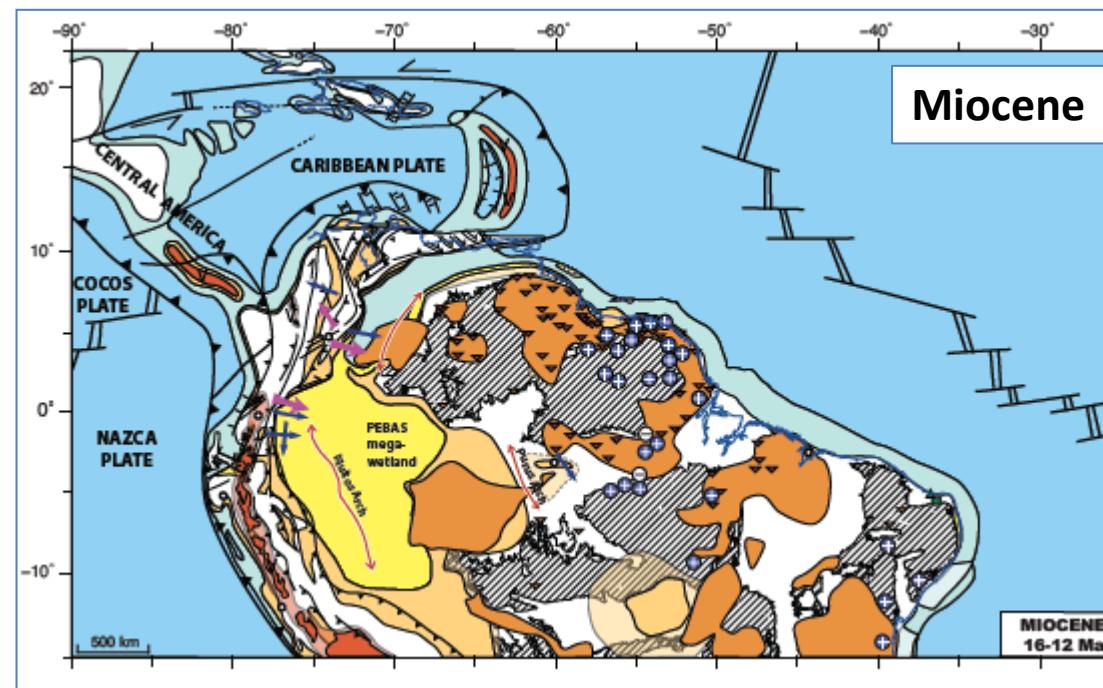


F Bajolet et al 2022

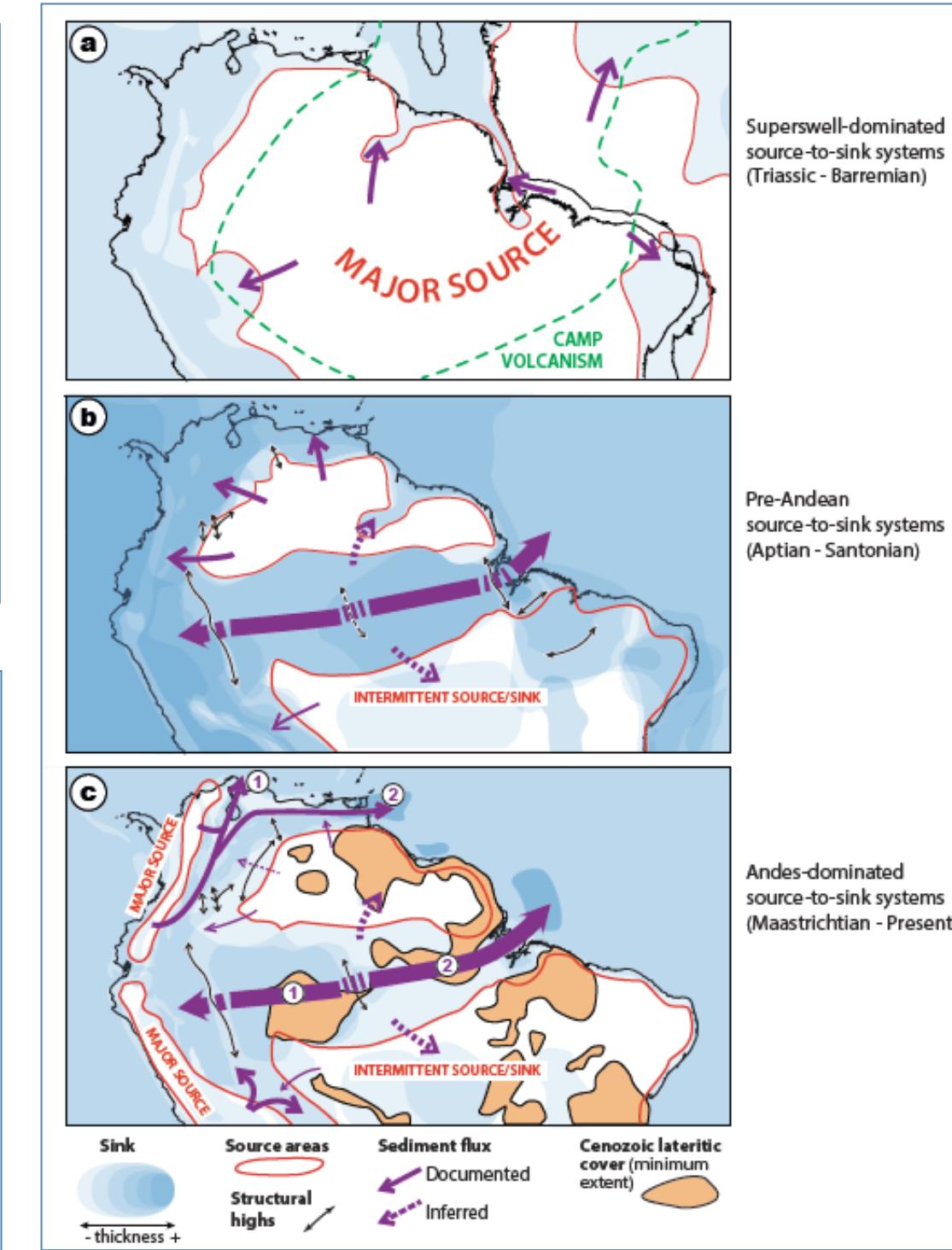
# Eocene- Miocene Paleogeography (Bajolet, Chardon, Rouby, Dall'Asta, Loparev, Coueffe and Roig 2022)



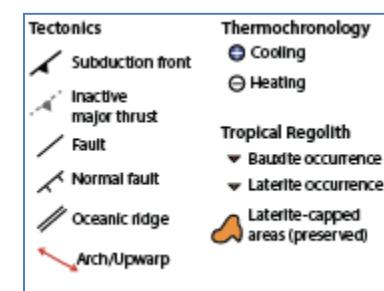
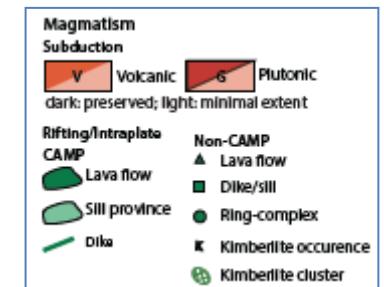
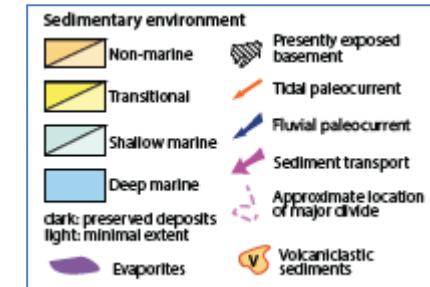
F Bajolet et al 2022



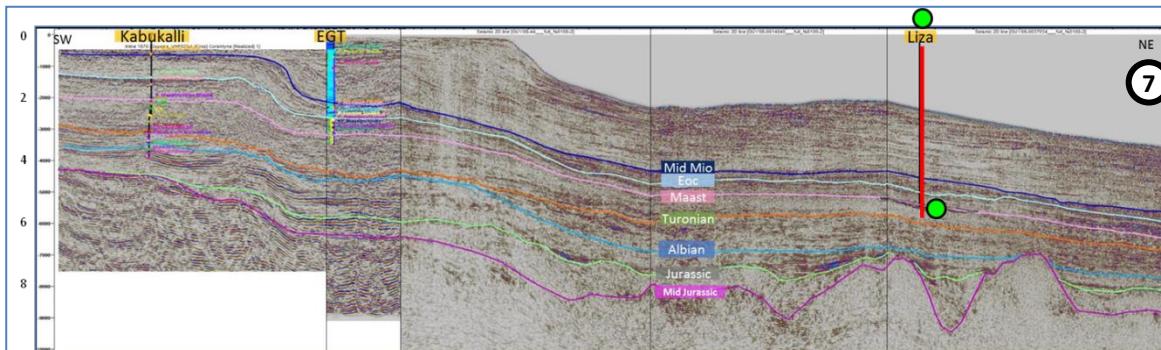
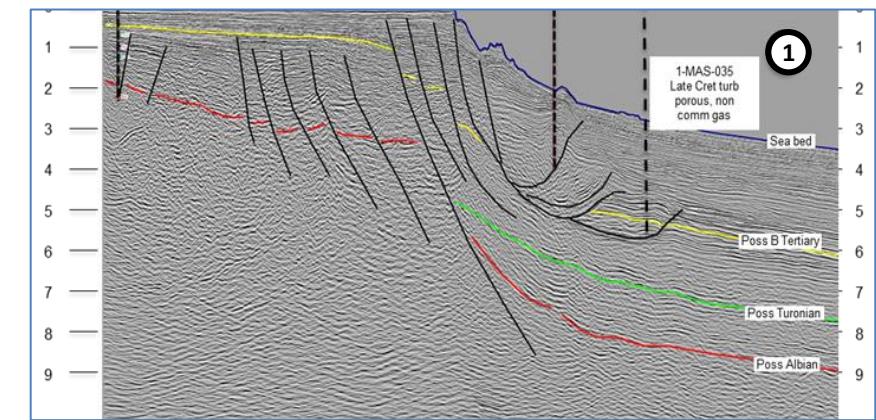
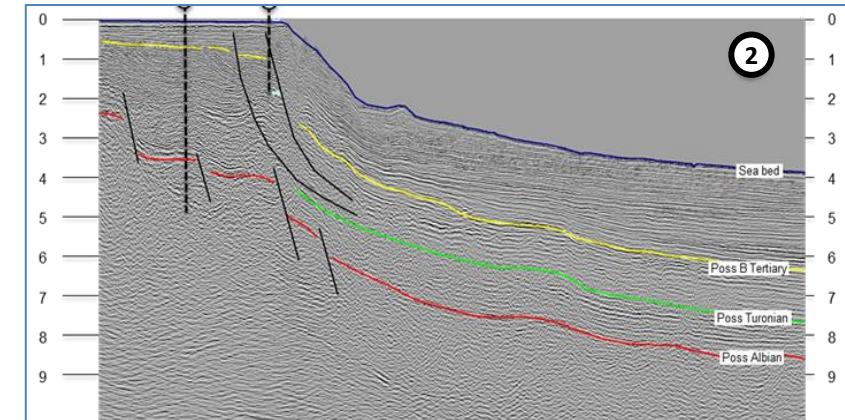
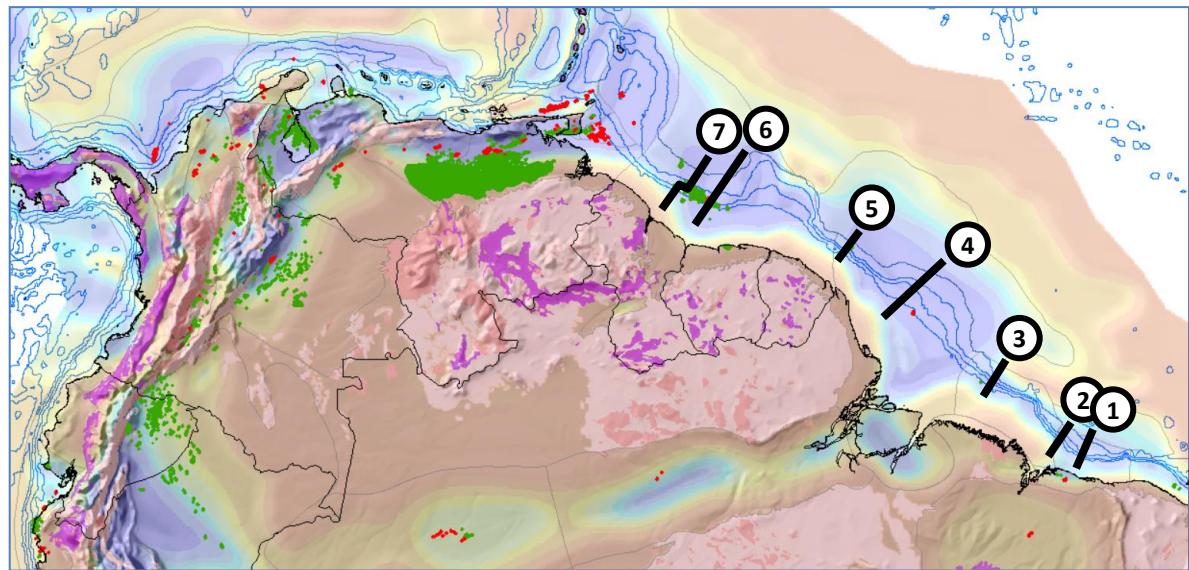
F Bajolet et al 2022



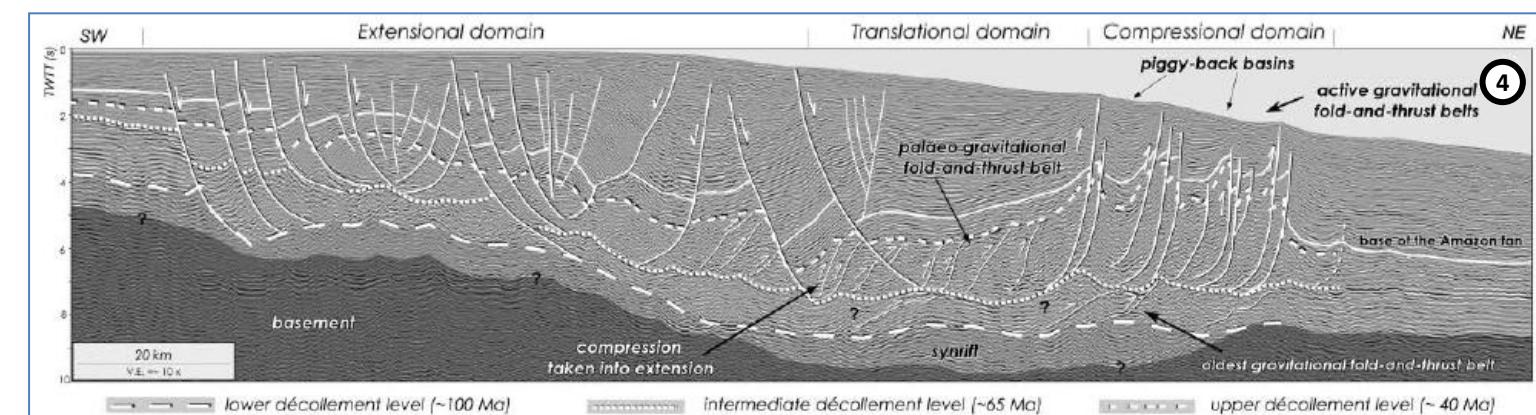
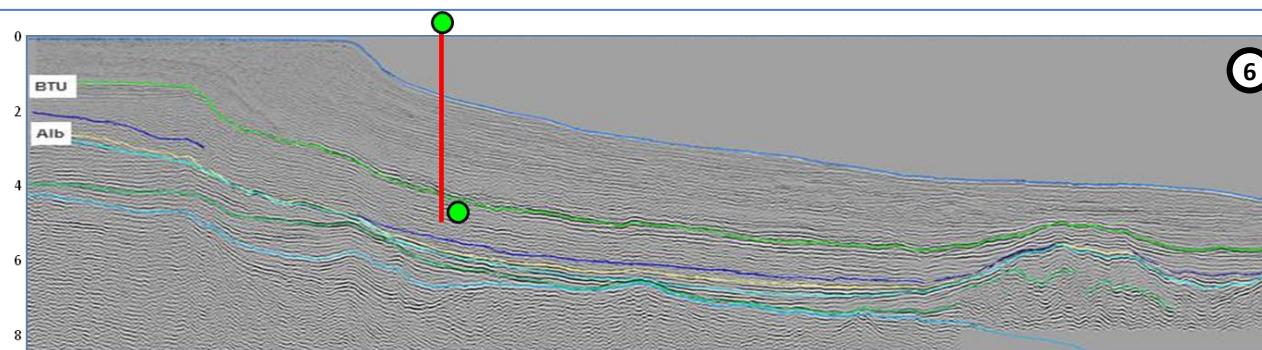
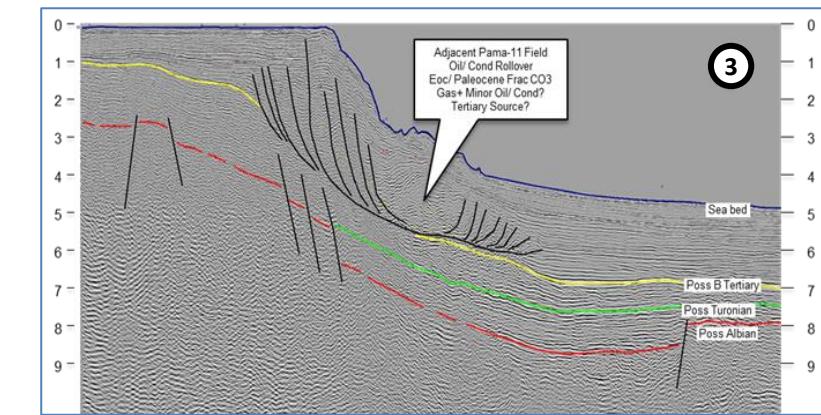
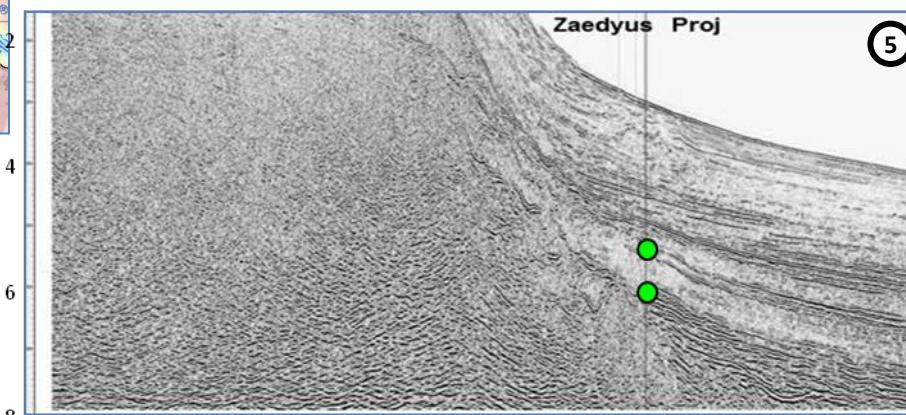
F Bajolet et al 2022



# Regional Structural Profiles

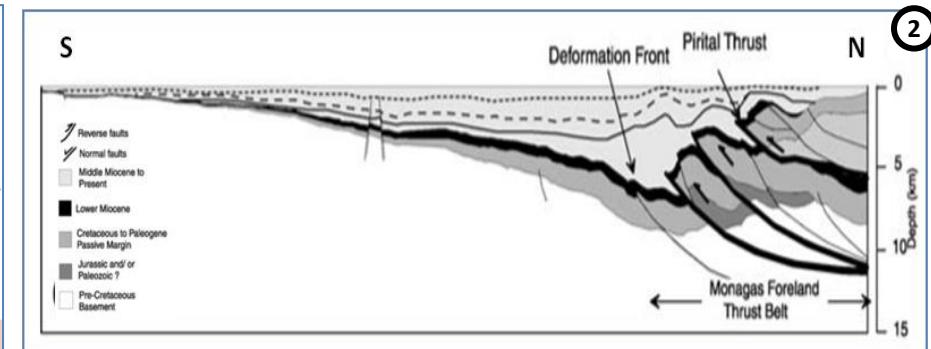
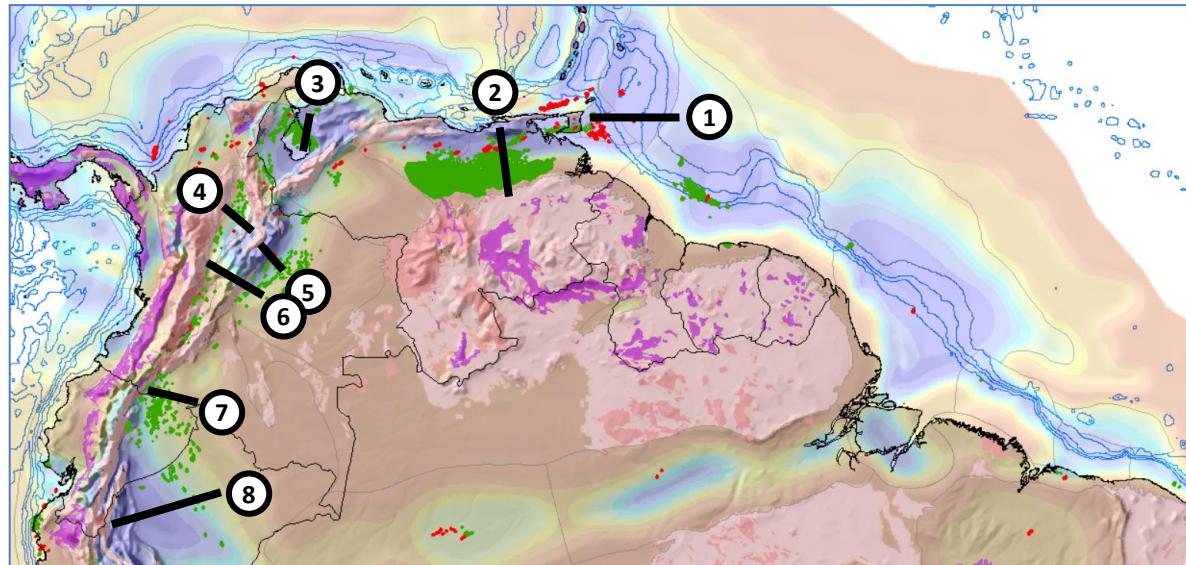


CNPC RIPED

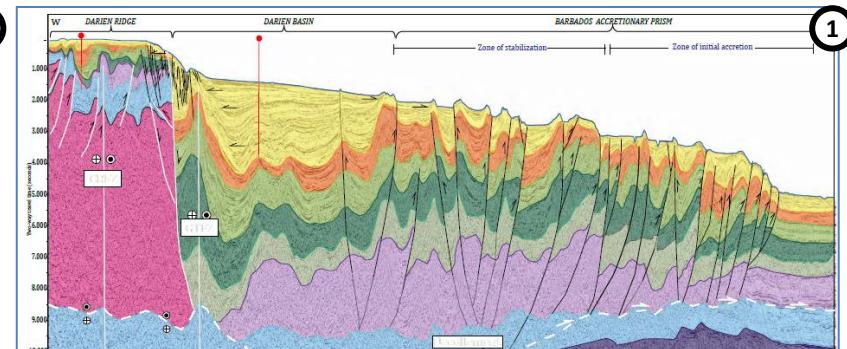


Reis et al 2010

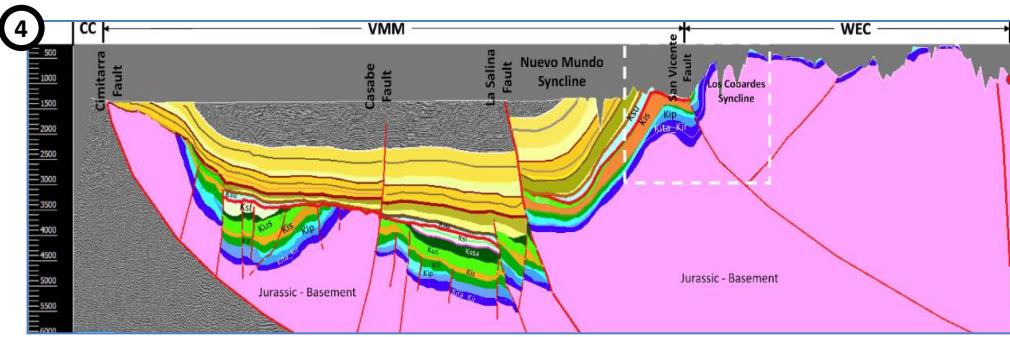
# Regional Structural Profiles



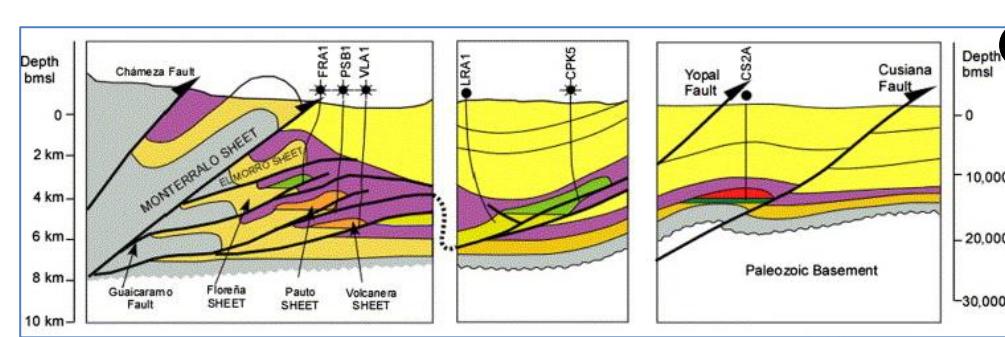
Jacome et al 2003



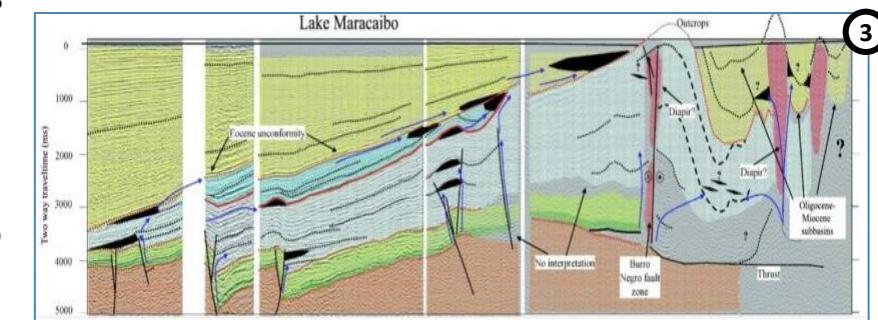
1



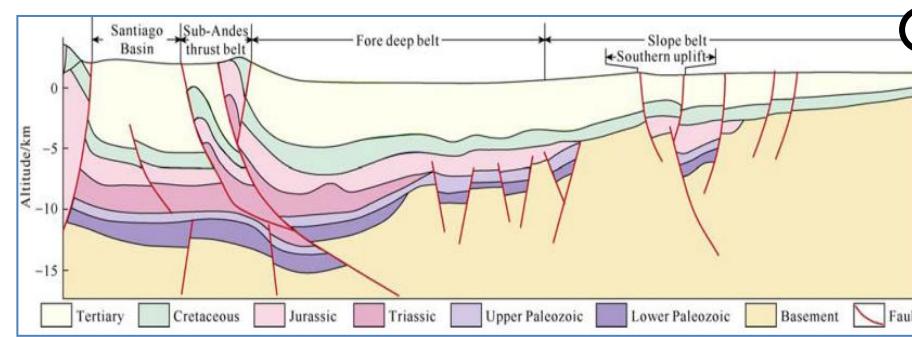
Guerrero et al 2021



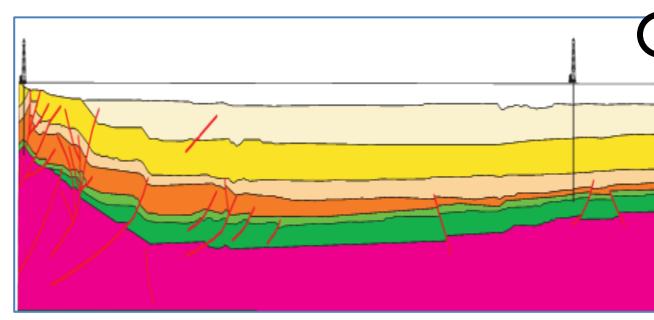
Martinez 2006



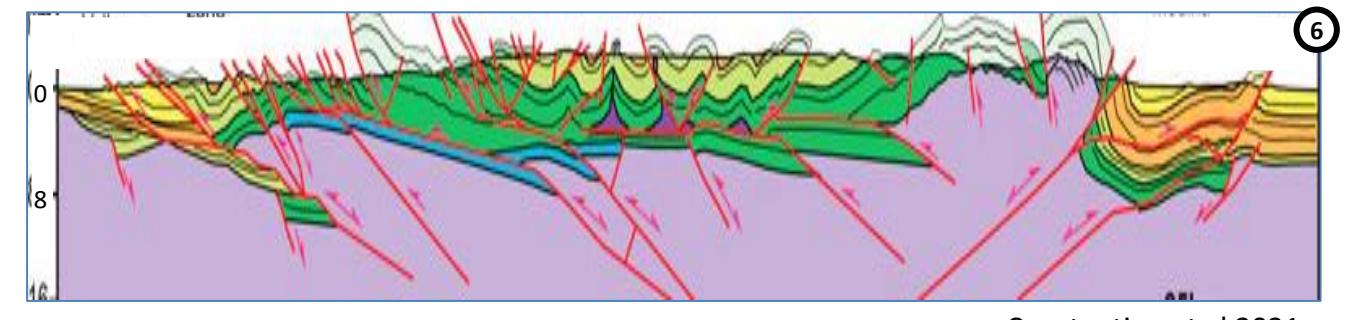
Escalona n Mann 2006



Zhongzhen et al 2017



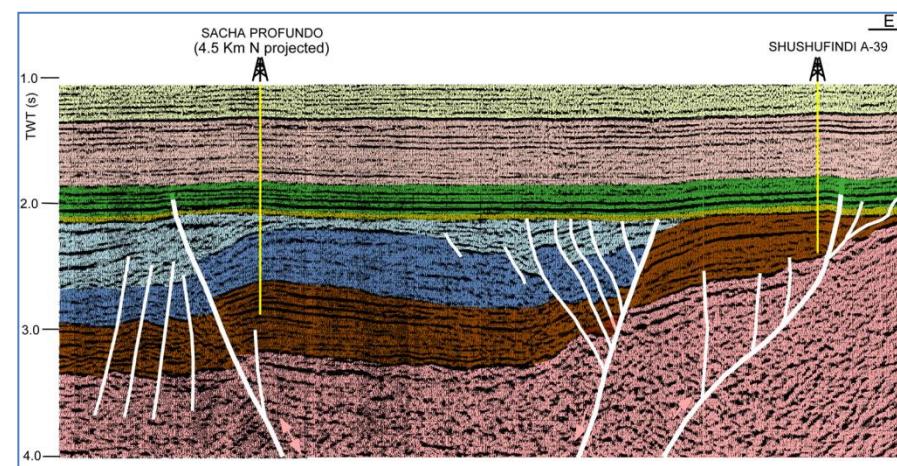
Martinez et al 2014



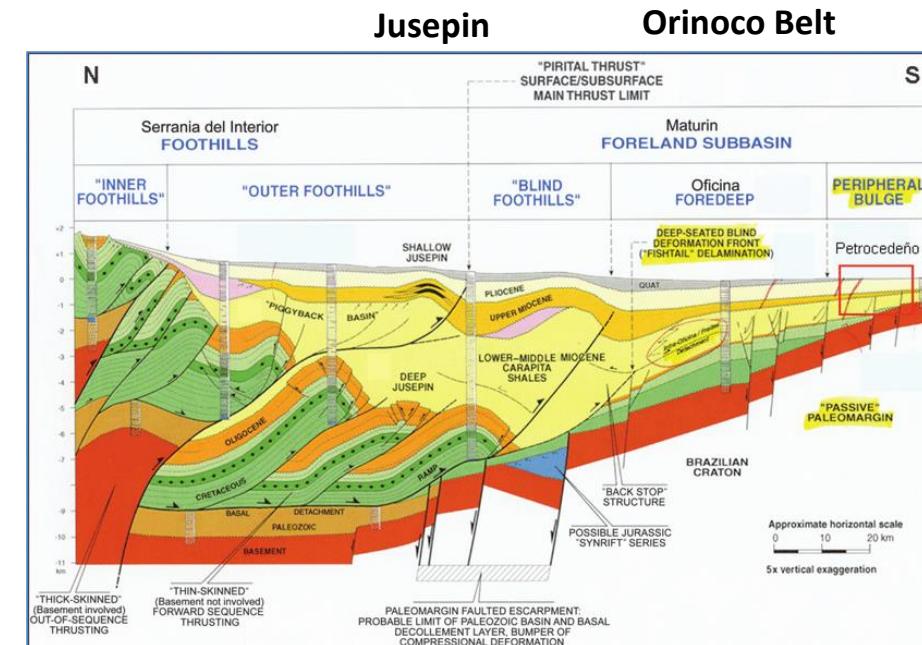
Constantino et al 2021

# Some of the largest Fields on the ACT Belt

Sacha

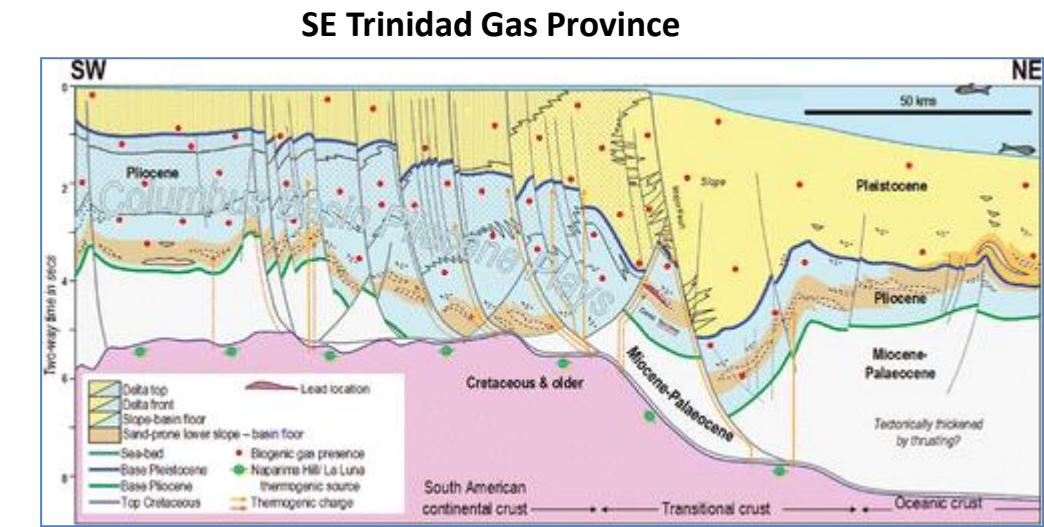


Shushufindi



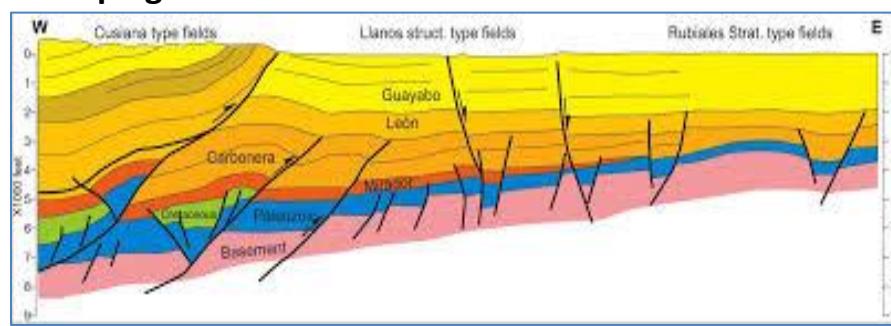
Jusepin

Orinoco Belt



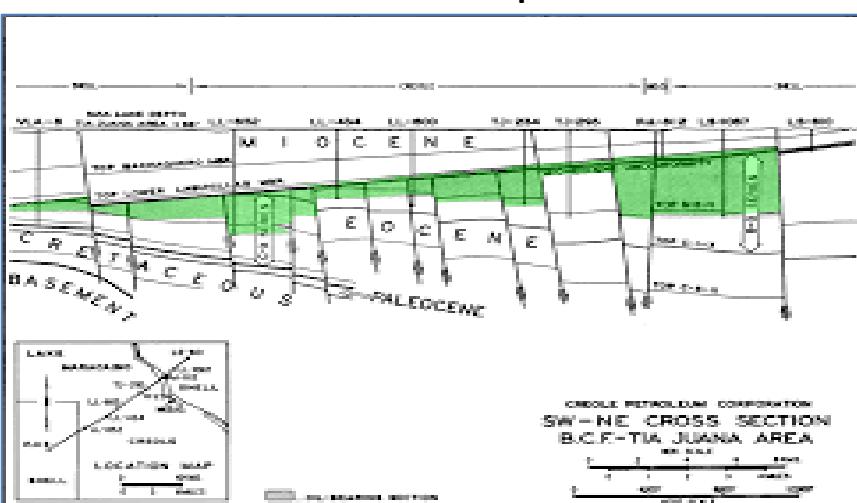
Benfield et al 2017

Cupiagua Cusiana



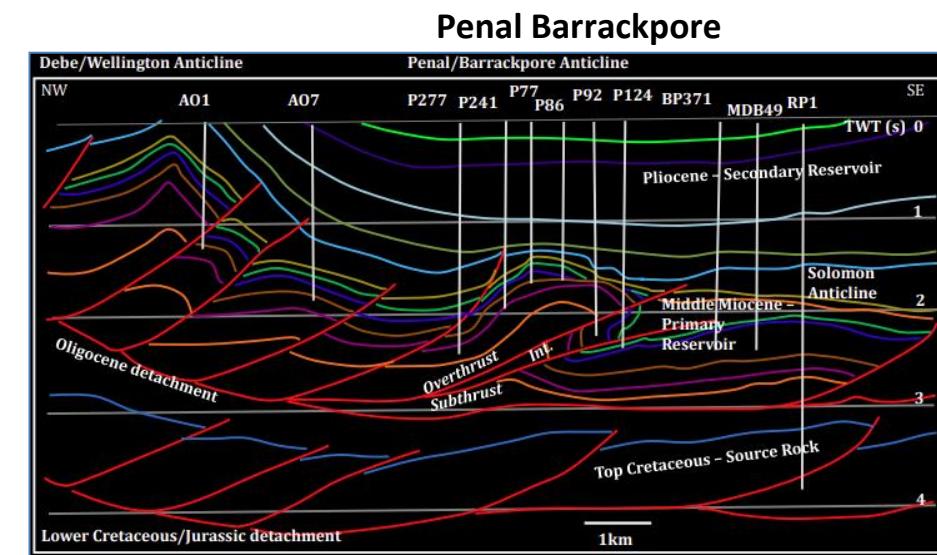
Dasilva et al 2014

Bolivar Coastal Complex



Borger n Lenert 1959

Martinius et al 2013



Moonan 2011

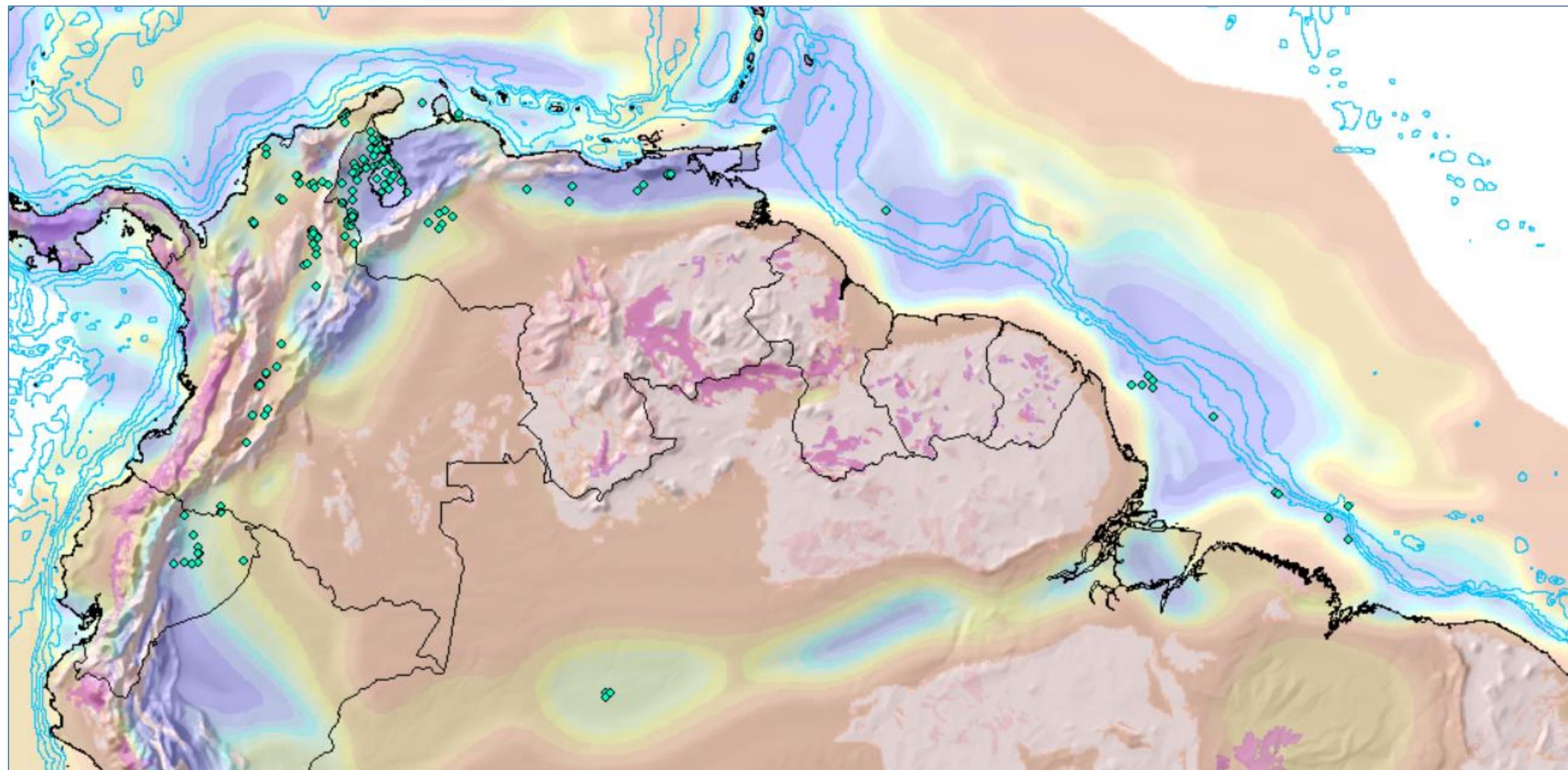
Liza



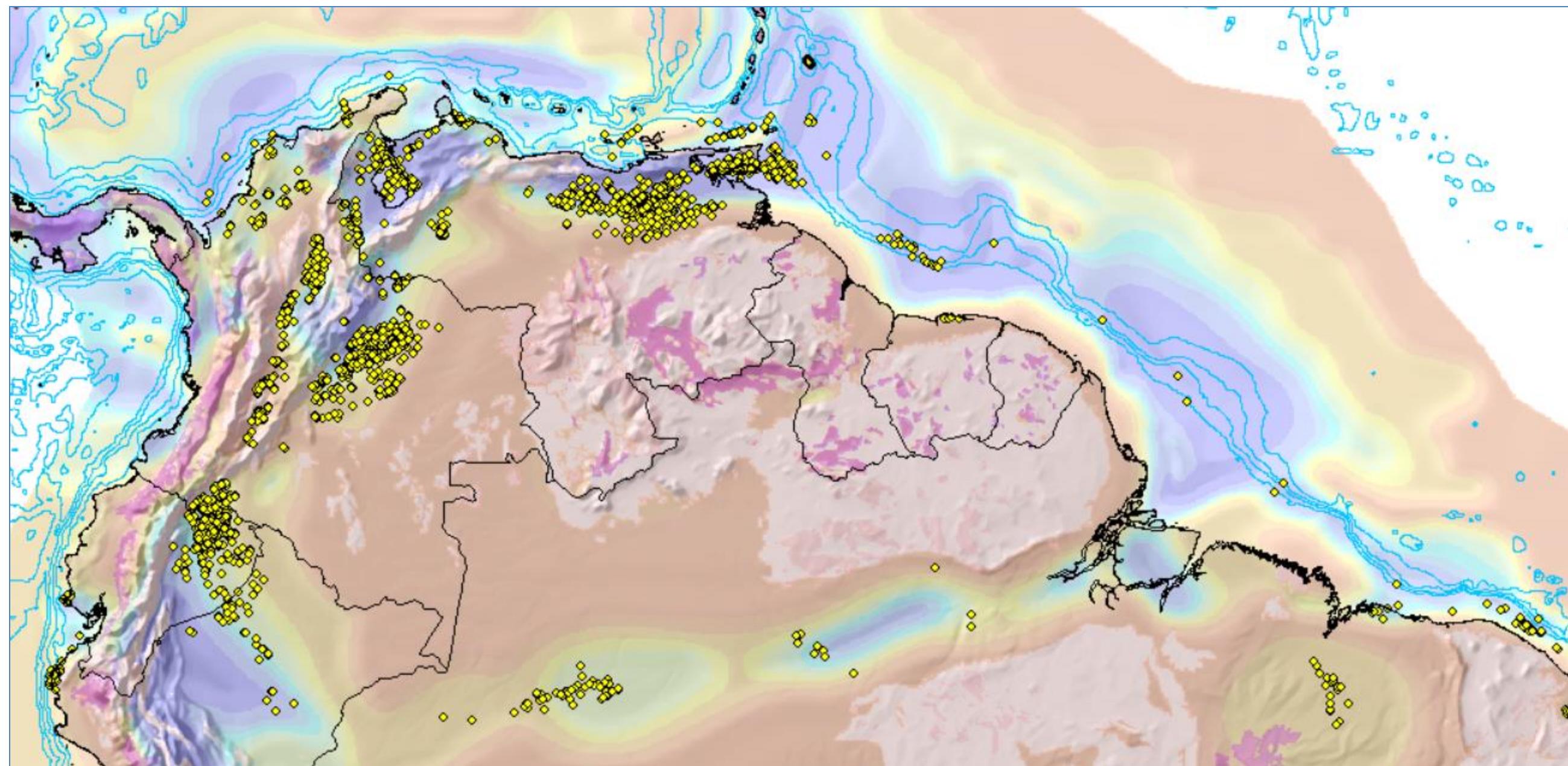
L Price et al 2021

Eddy Ong 2024  
Posted on LinkedIn

# Carbonate Reservoirs

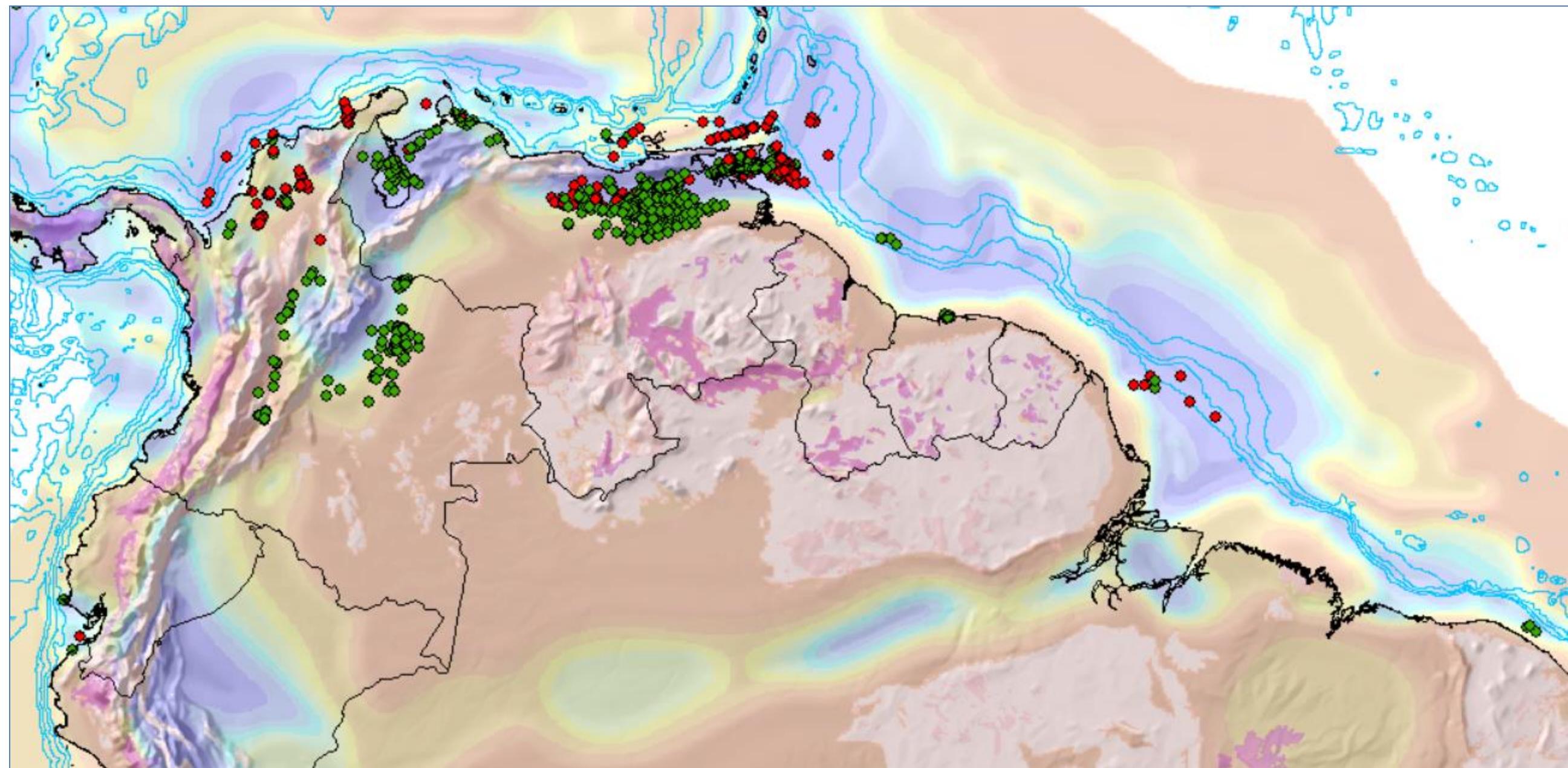


# Silici Clastic Reservoirs



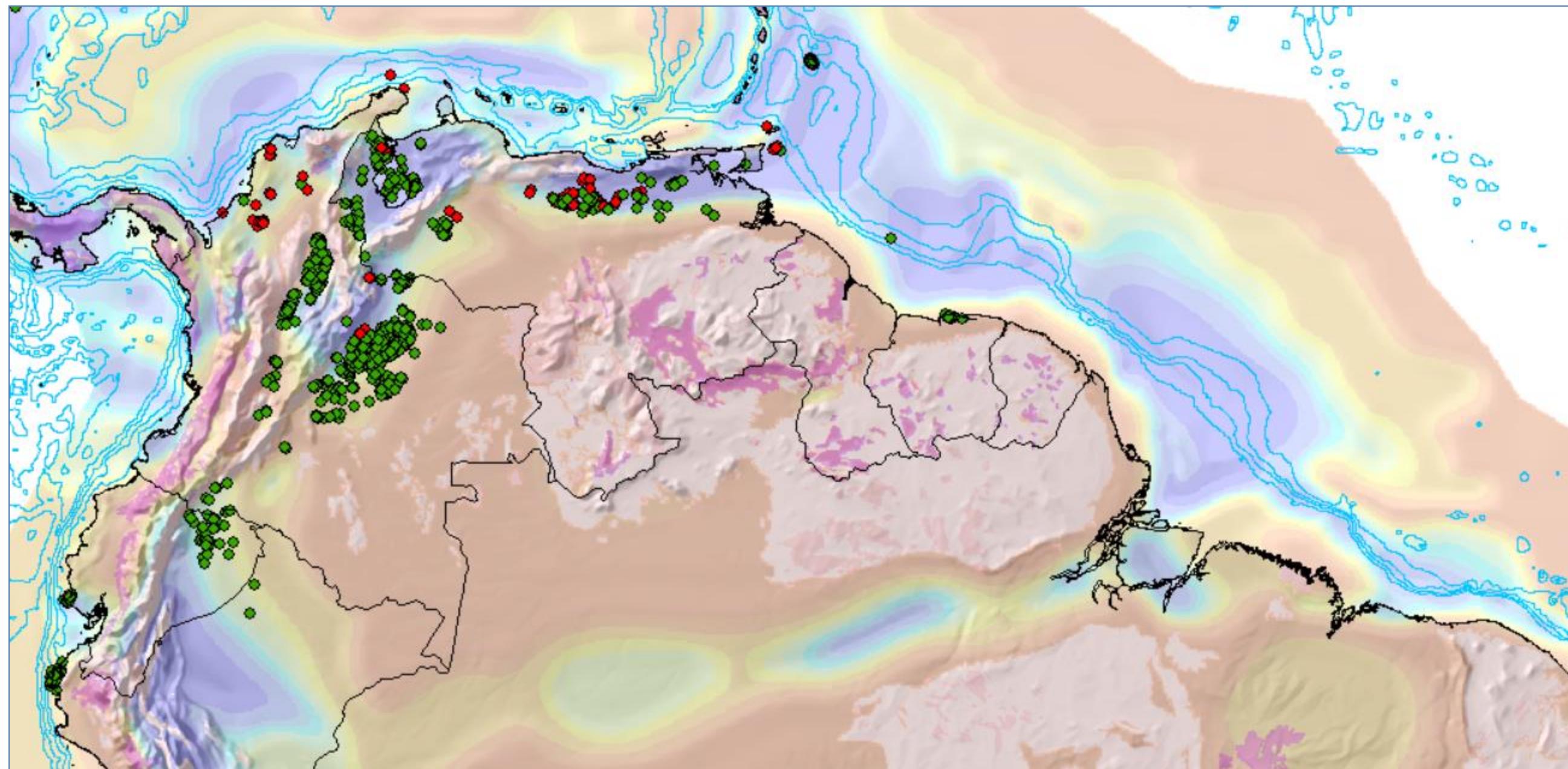
# Neogene Reservoirs

Play extension Ideas ?



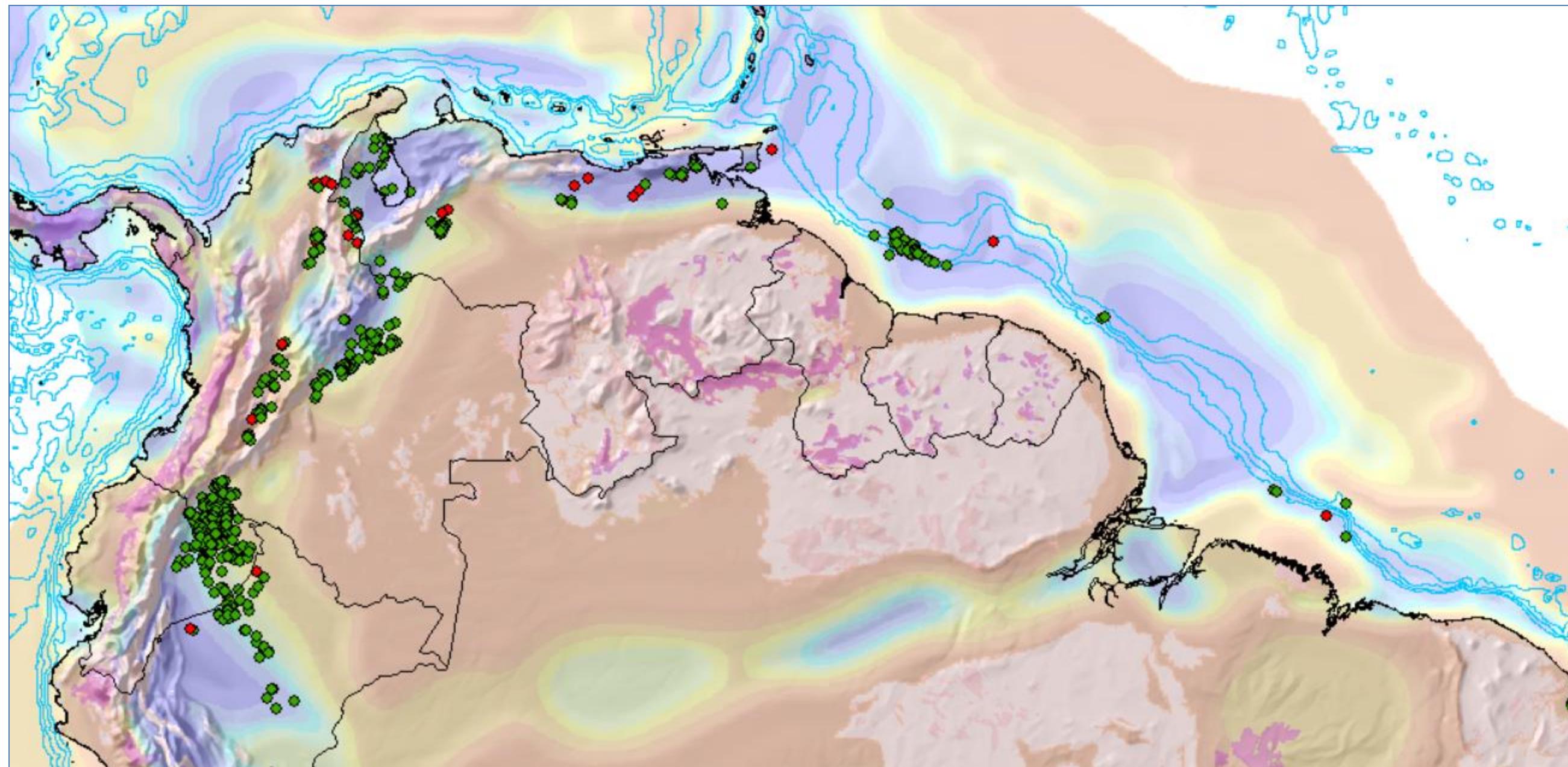
# Paleogene Reservoirs

Play extension Ideas ?



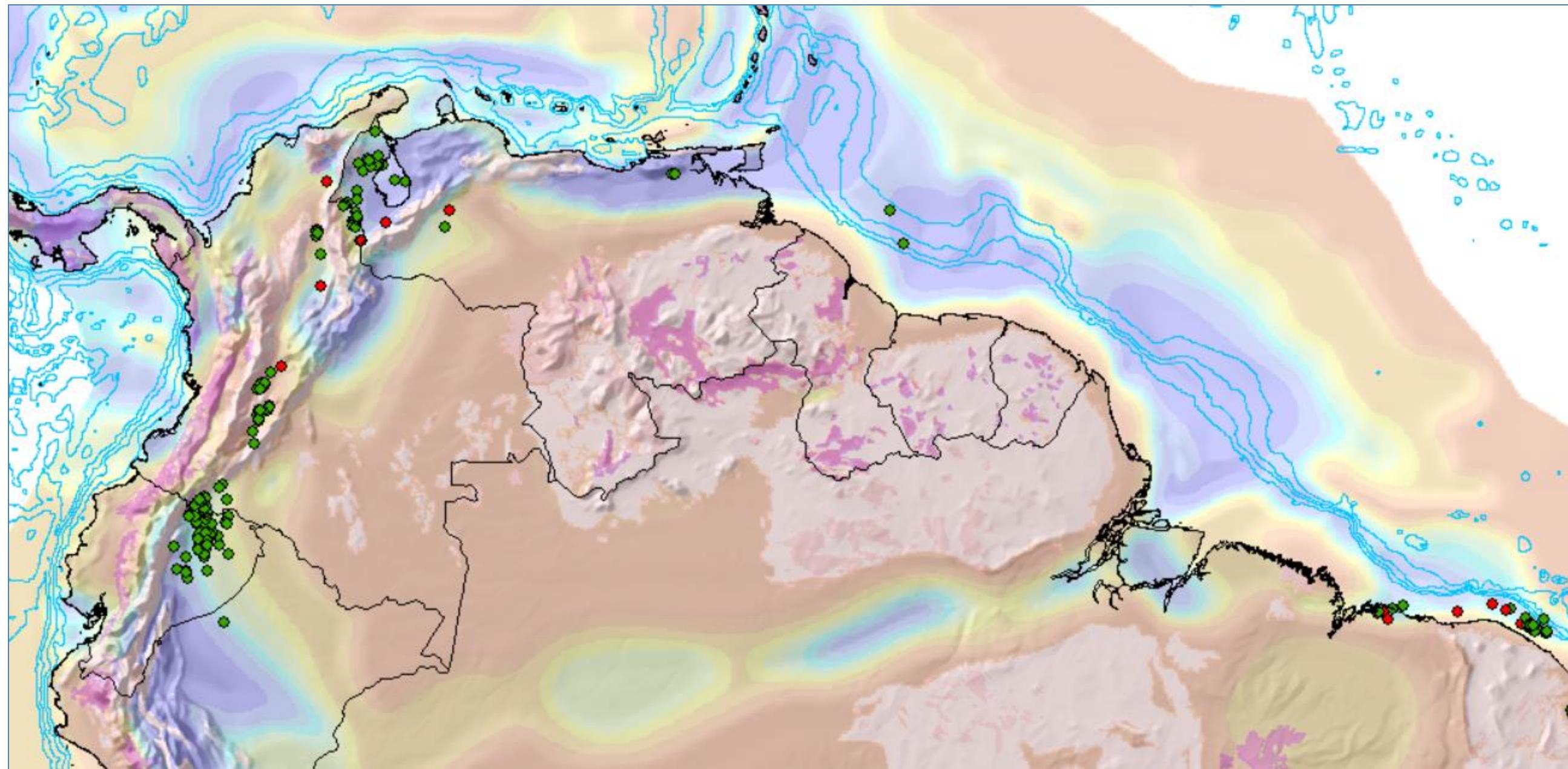
# Upper Cretaceous Reservoirs

Play extension Ideas ?

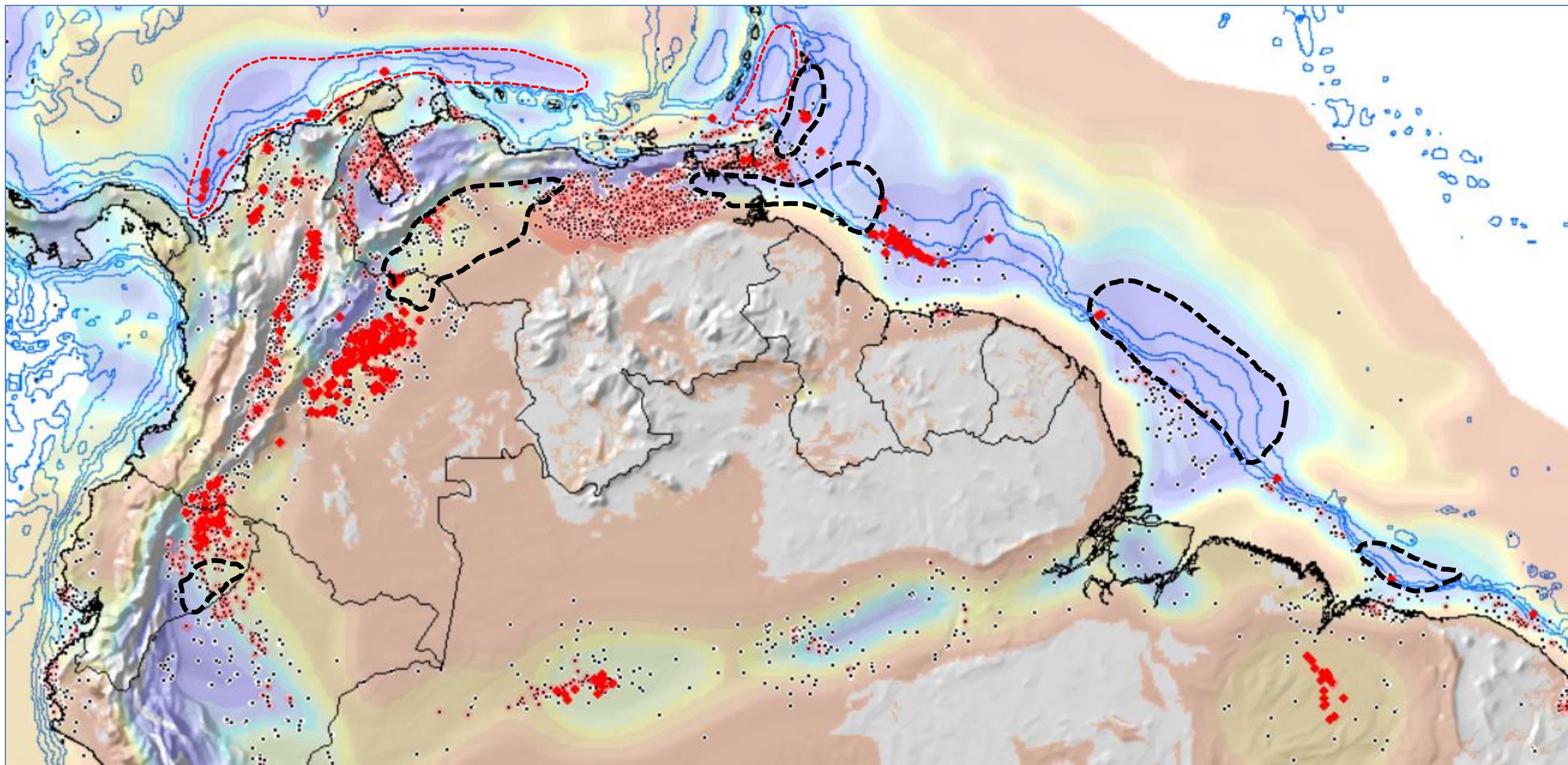


# Lower Cretaceous Reservoirs

Play extension Ideas ?



# Potential areas to Check out if accesible?



Potential ACT areas of Interest

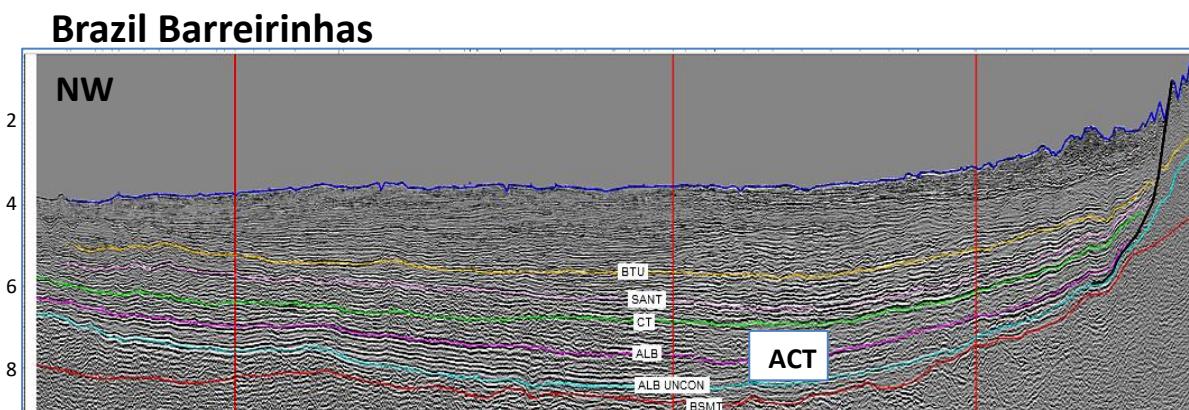
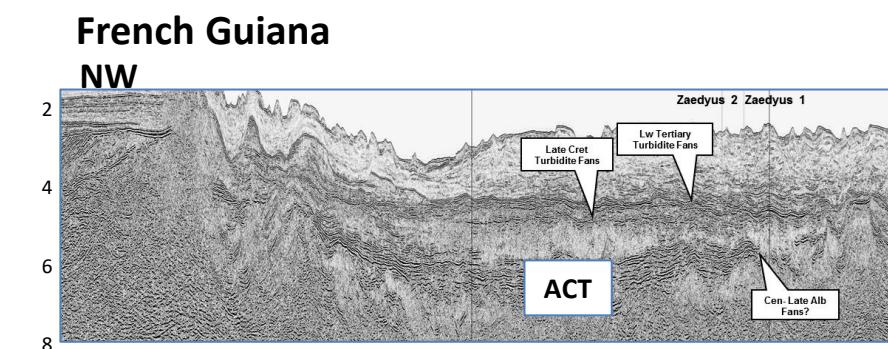
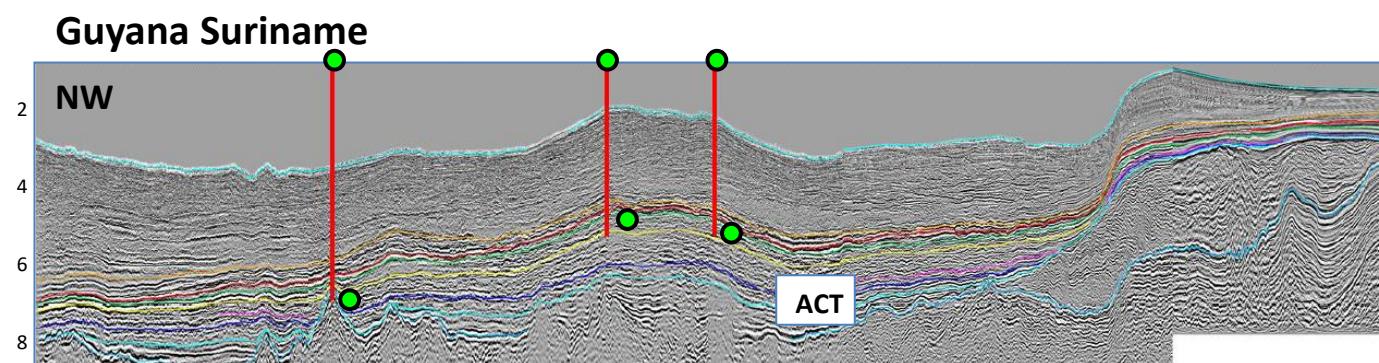
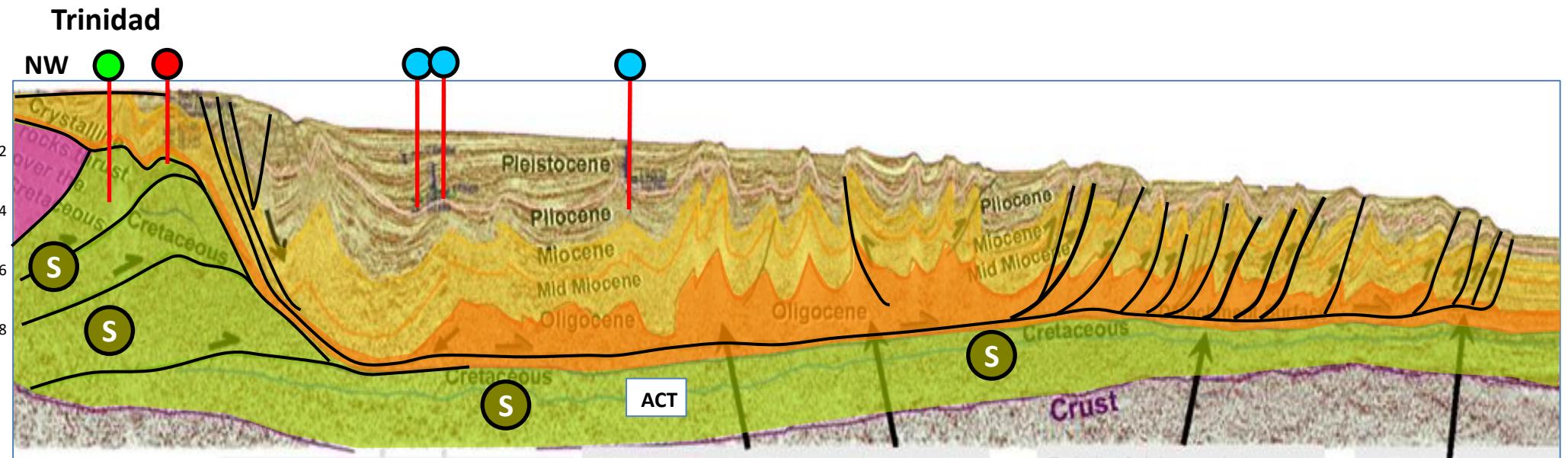


Potential non ACT Gas areas of Interest

● 2011-2023 Disc

● Pre 2011 Disc

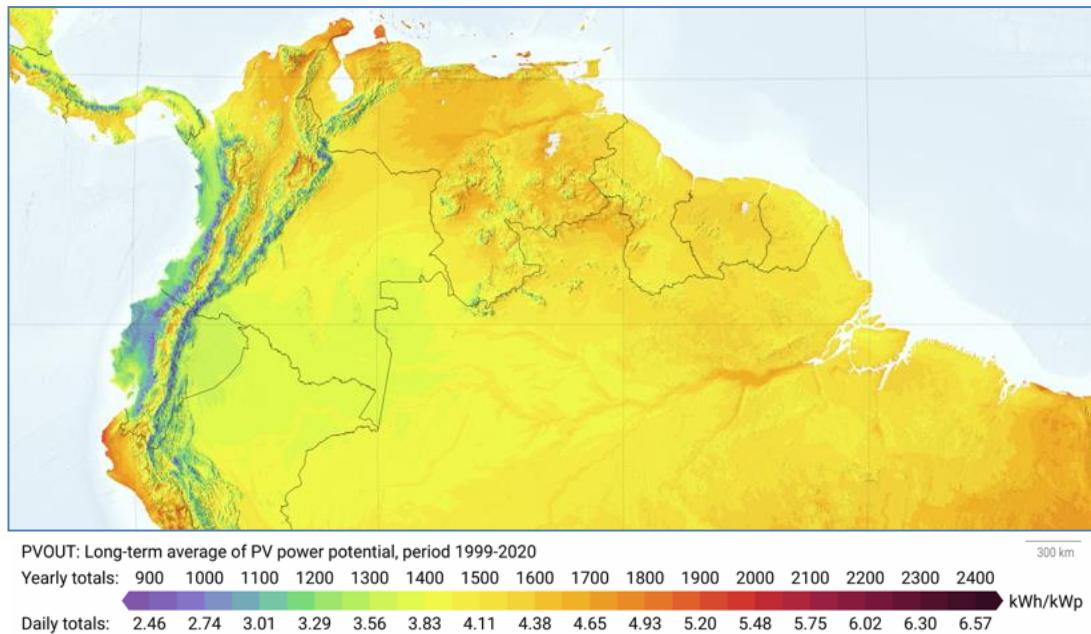
# Some Interesting NW- SE Line Comparisons along the Atlantic Margin



# Renewable Potential

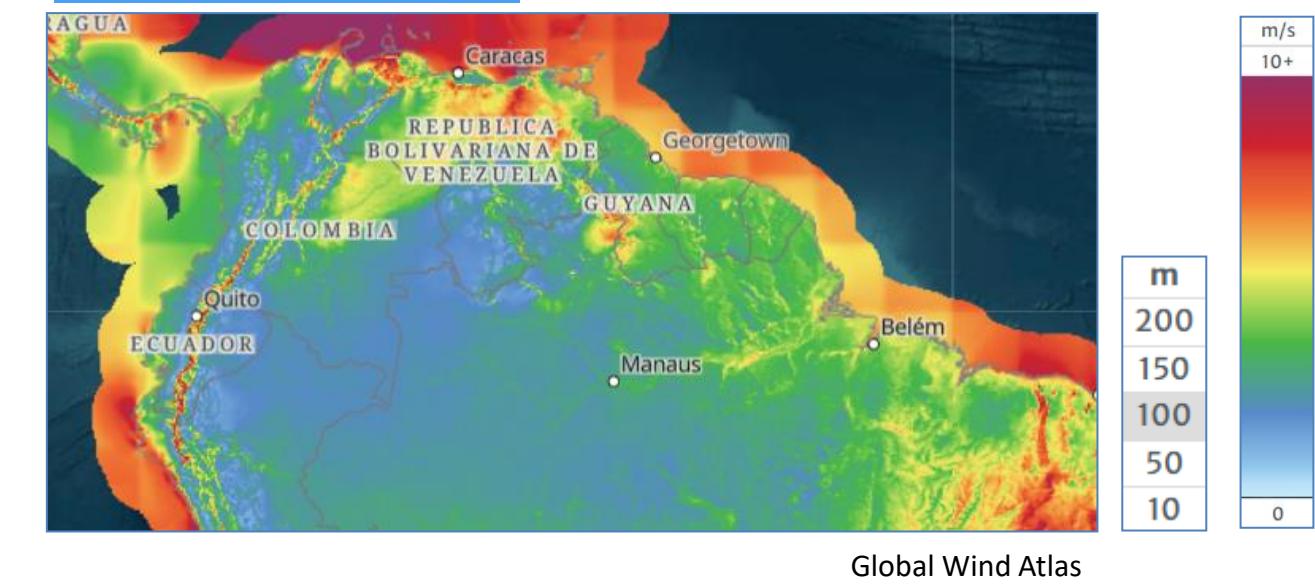
PHOTOVOLTAIC POWER PRODUCTION | SOUTH AMERICA

SOLARGIS



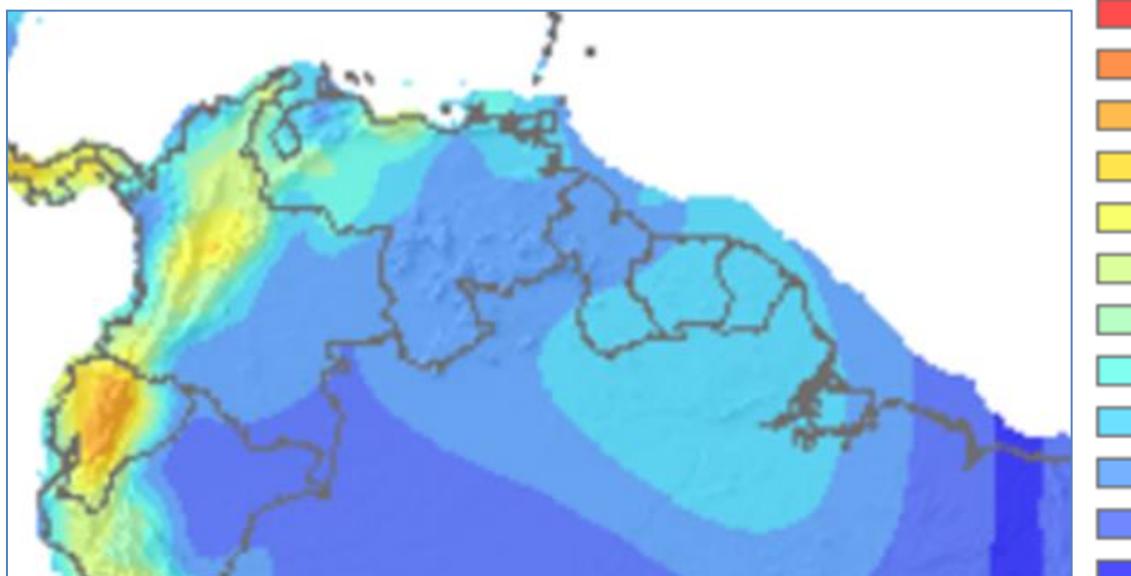
SolarGIS

GLOBAL WIND ATLAS  
GLOBAL SOLAR ATLAS | ENERGYDATA.INFO



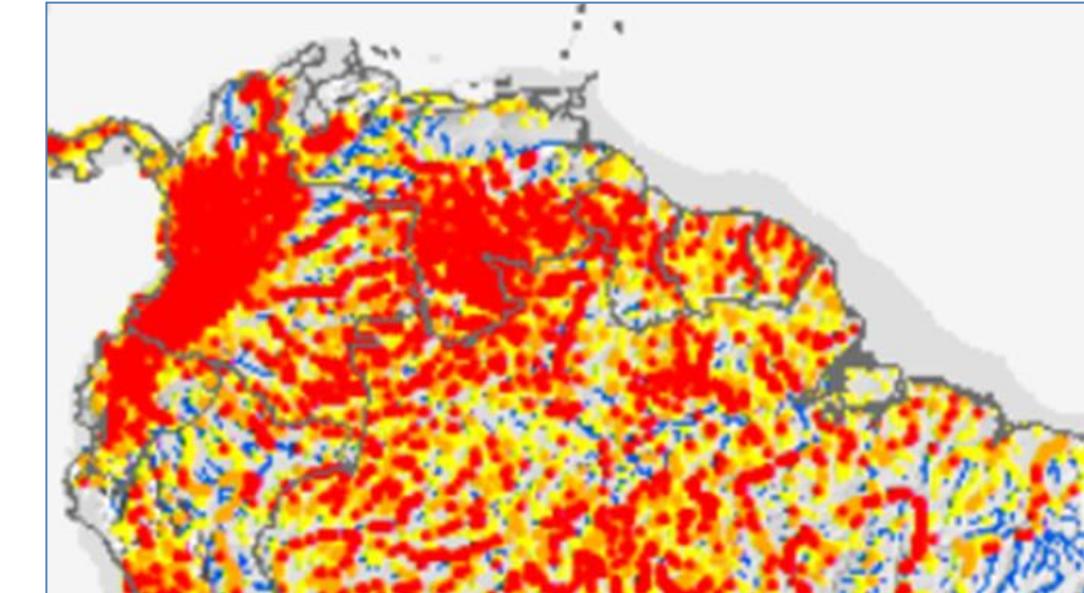
Global Wind Atlas

Geothermal Suitability



Coro and Trumpy 2020

Hydro Power Potential



TU Delft (Hydro Data)

- 15-50 GWh/year
- 50-100 GWh/year
- > 100 GWh/year