



PERMIAN MAGMATIC ARC RELATED TO THE OUACHITA SUTURE ZONE IN CHIHUAHUA

By

Franco-Rubio, M., Caballero-Miranda, C.I., Alva-Valdivia, L.M., Oviedo, A., Urrutia-Fucugauchi, J., Martínez-Reyes, F., Torres-Knight, R., Riggs, N.R., González-León, C.M., López-Santillán, R.

Presentation:

A preliminary report is presented about the Permian magmatic arc related to the Ouachita Suture Zone in Chihuahua, Mexico

Three institutions are converged to develop a research project financially supported by Conacyt:
Universidad Autónoma de Chihuahua
Universidad Nacional Autónoma de México
Northern Arizona University

The Ouachita System



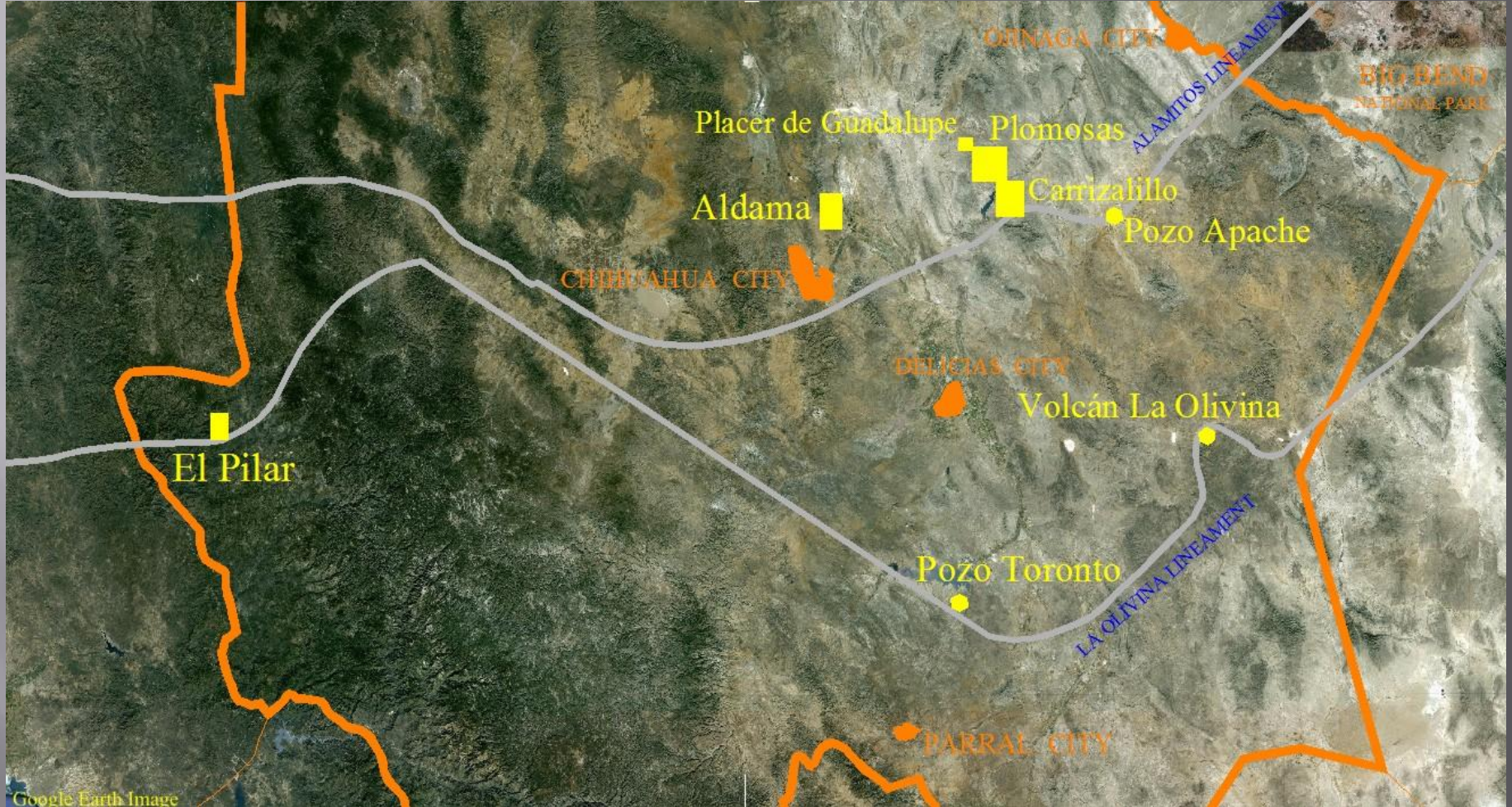
The Ouachita System extends southwest from where it joins the Appalachian orogeny near the Black Warrior Basin in Alabama, westward through Mississippi, Arkansas, and southwest Oklahoma, and continues through the Llano Uplift and Big Bend regions of Texas

Prolongation into Mexico



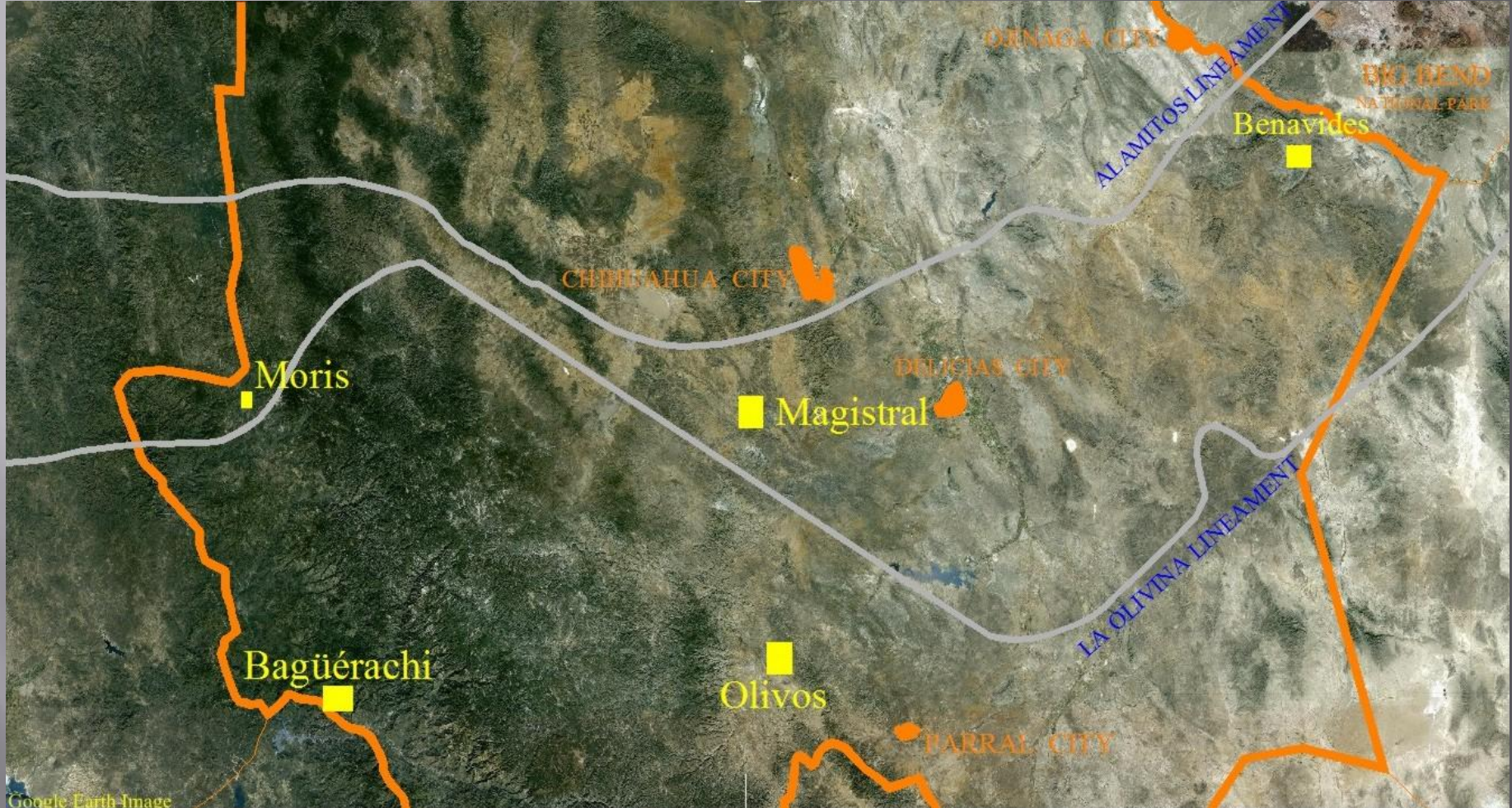
Poole *et al.*, 2005, extend the Ouachita suture into Mexico from Marathon, Tx. to Sonora, based on Permian turbidites identified between the Sonora and Chihuahua Mexican states

Oceanic Turbidites in Chihuahua



In Chihuahua there are known to exist oceanic turbidites at Carrizalillo, Plomosas, Placer de Guadalupe, Aldama and El Pilar de Moris since the middle of the last century

New outcrops



Recently, new turbidity rock sequences have been discovered at Benavides, Magistral, Olivos and Bagüerachi

Bagüérachi is an andesitic volcanic field of the Lower Volcanic Complex with lots of gigantic floated (limestone and turbidite) blocks.

Igneous volcanic and intrusive rocks of presumed Permian age were emplaced on and within turbidity-sequence rocks that crop out in the Carrizalillo, Plomosas, Placer de Guadalupe, Aldama, Magistral and Olivos regions of Chihuahua.

Bagüérachi and Olivos



Bagüérachi and Olivos turbidite outcrops are suggesting the Ouachita Suture Zone is prolonged into Sonora following this new trend

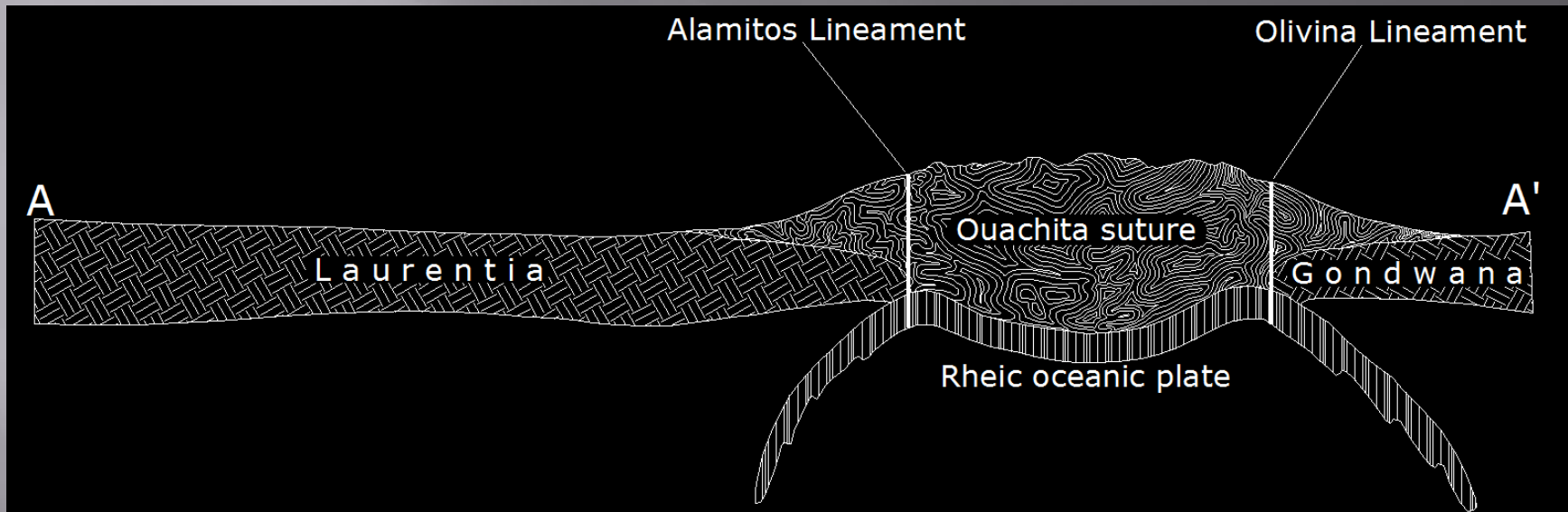
Ouachita trend in Mexico

(Proposal modified from Poole *et al.*, 2005)



Concerning distribution of the Ouachita Suture Zone in Mexico, we propose a modified trend

Structural section



A magmatic-volcanic arc was developed by this suture event under the Rheic Oceanic Plate subduction regime beneath both, the Gondwana and the Laurentia continental plates

**Thank you very much for your
attention**

Geological Society of America

Cordilleran Section - 108th Annual Meeting (29–31 March 2012)

Oral Session No. 19

**Convergent Margin of Western Pangea: Triassic-Jurassic Magmatism,
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**Hotel Misión Juriquilla: Goyesco 1 08:30-12:50, Friday, 30 March 2012
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