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Mid-Miocene strike-slip in continental Greece

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► **To cite this version:**

Agathe Faucher, Frederic Gueydan, Marc Jolivet, M. Alsaif. Mid-Miocene strike-slip in continental Greece. European Geophysical Union General Assembly, Apr 2019, Viennes, Austria. insu-03066484

HAL Id: insu-03066484

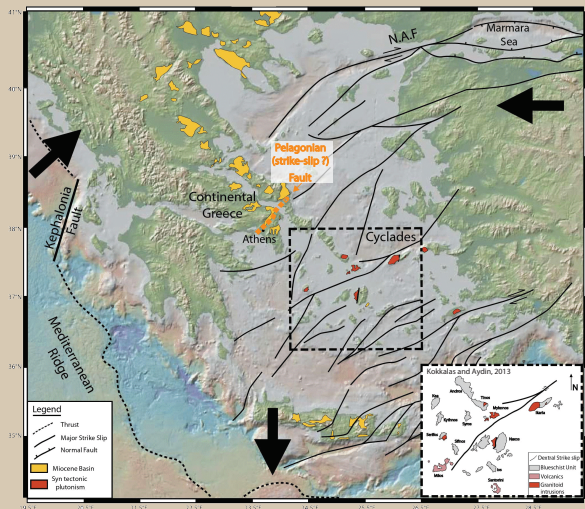
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Submitted on 7 Jan 2021

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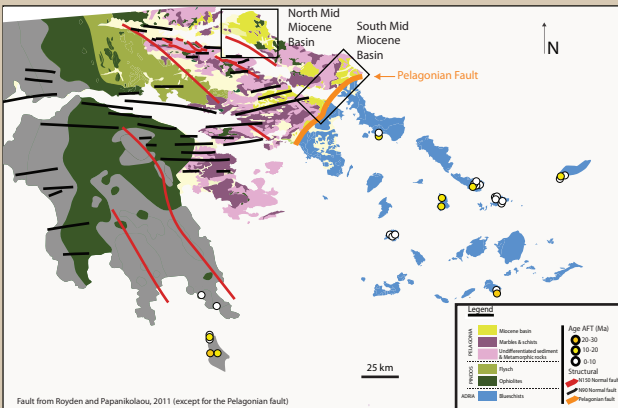
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1. Introduction



BUT

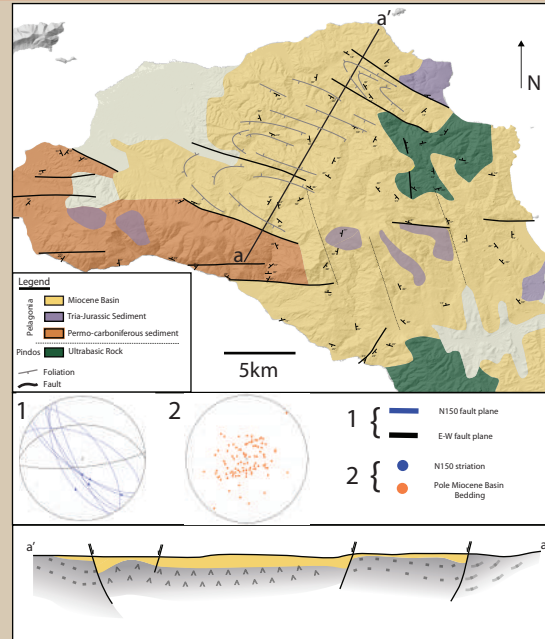
Some published structural data in the Cyclades show that N50 dextral strike-slip were already active during mid-Miocene time (Kokkalis and Aydin, 2013; Brun et al; 2016)



Constrain the potential activity of dextral strike slip faulting during Mid-Miocene in Continental Greece.

> Focus on Evvia and Attic to understand the tectonic context of the deposition of two mid-Miocene basins.

2. Structural Data - North Basin



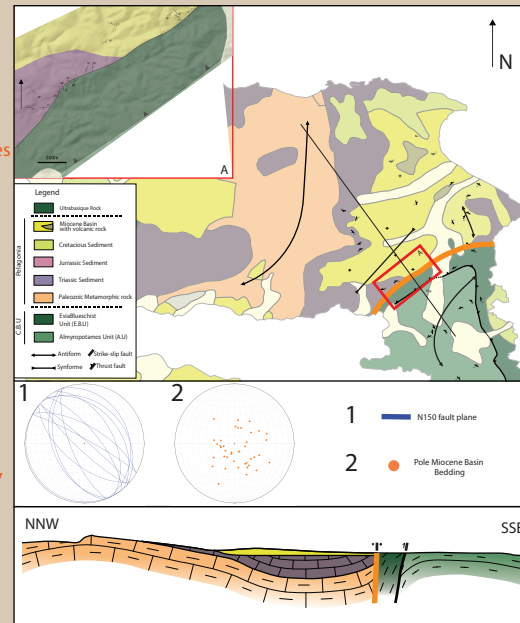
3. Structural Data - South Basin

- Mid-Miocene basin does not extend beyond Pelagionan Fault → predates the functioning of the fault

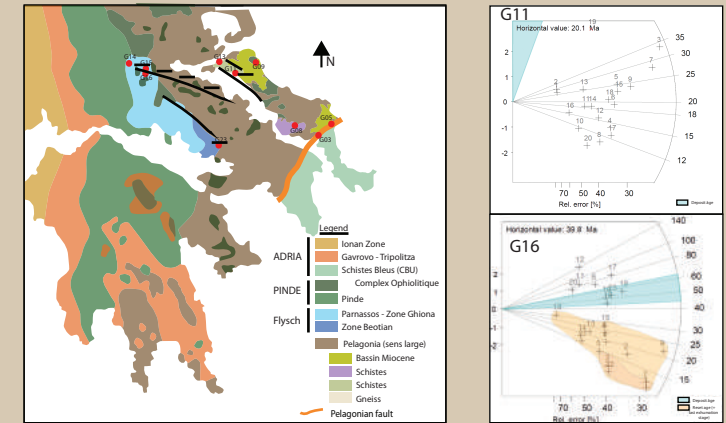
- Miocene bedding in the basin are sub-horizontal, even close the fault → deposition after the fault activity

- Faults and folds analysis demonstrates the existence of a major dextral slip kinematic

⇒ Dextral strike slip activity of the Pelagionan fault during mid-Miocene time.

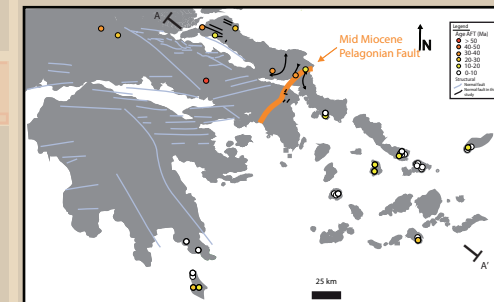


4. Apatite Fission Track Data



10 AFT ages show a phase of generalized Eo-Oligocene extension. Two ages (G11-G16) located on the roof of N150 faults have a last phase of exhumation at 15Ma.

5. Conclusion



1. Eo-Oligocene: A generalized extension over the entire Aegean domain

2. Mid-Miocene time: implying the coeval activity of N50 dextral strike slip and N150 normal faults. AFT show Mid Miocene Pelagionan fault activity

1 > 2 Interplay between the extension related to the retreat of the slab and the onset at around 15 Ma of westward extrusion of Anatolia

3. Plio-Pleistocene: Activity of E-W normal fault
 → Interplay between NAF and back arc extension and formation of the Corinth and Evvia rifts system

Acknowledgements: This project has received funding from the European Union's EU Framework Programme for Research and Innovation Horizon 2020 under Grant Agreement No 674899.

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