Mid-Miocene strike-slip in continental Greece
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1. Introduction

Classical view of the geodynamic evolution of Greece: 1/ Classical back-arc extension with N50 normal faults 2/ followed by mainly N50 dextral strike-slip faults (Gulf of Evvia and Corinth) since 5 Ma marking the impact of the NAF in the tectonic system.

BUT

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

2. Structural Data - North Basin

- Mid-Miocene basin does not extend beyond Pelagonian Fault \(\implies\) predates the functioning of the fault
- Miocene bedding in the basin are sub-horizontal, even close the fault \(\implies\) deposition after the fault activity
- Faults and folds analysis demonstrates the existence of a major dextral slip kinematical domain

3. Structural Data - South Basin

- Dextral strike slip activity of the Pelagonian fault during mid-Miocene time
- 2 family faults:
  - N150 faults associated with larger amount of sedimentation indicating syn-kinematical filling of the basin \(\implies\) Mid-Miocene activity
  - E-W faults \(\implies\) associated to Plio-Quaternary 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 15 Ma.

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 Pelagonian fault activity

3. Plio-Pleistocene: Activity of E-W normal fault

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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.