Dear authors,

I really enjoyed reading your revised manuscript! Your observation that the fault systems behaved similarly during inversion and later normal reactivation is intriguing. My only suggestions regarding the content of your paper are these:

1. Could you elaborate a bit more on the role of the Carboniferous faults? You cite a literature source for the observation that "large" strike-slip faults are often associated with lithospheric strength contrasts. I guess that is because they juxtapose different types of lithosphere. The Gruitrode Lineament is probably not large enough to do that (or is it?). The fact that it is only present in the footwall of the FFS and abuts the NW-SE-striking faults would suggest to me that its displacement cannot be too large. Are these faults associated with substantial thickness variations of the Carboniferous strata? Or through what other process could they control mechanical strength?
2. I feel that your claim of similar strain but different mechanical strength for the two segments is somewhat contradictory. If strength or rheology somehow relates stress to strain rate, then a weaker region should deform faster and accumulate more strain, provided the stress is similar. Could we argue instead that the southern segment had fewer but weaker faults (and if so, understand why)? If there was a "speed limit" to faults in the northern segment, then more of them were needed to achieve the same strain rate.

I am aware that this amounts to an invitation to speculate, but I think that´s ok as long as it is presented as such.

Two technical things:

In Figs. 3 and 6, the right-hand side must be labeled ENE, not WNW.
l. 83 should read "...activity of synsedimentary normal faults with NW-SE to E-W strikes".

Best regards,

Jonas

Dear Dr. Kley,

Many thanks for your comments on our manuscript! We fully agree with your remarks.

The latest Carboniferous lineaments/faults have fold amplitudes of about 500 m. We have added this in chapter 2.1 on geological background. We agree that this might be too small to consider them as large intra-plate fault systems. It then becomes uncertain if these lineaments coincide with changes in lithospheric strength, which undermines our theory that changes in lithospheric strength are also the cause for the changes in Late Cretaceous and Cenozoic strain distribution in the FFS. Also other mechanisms than changes in lithospheric strengths, such as underlying changes of lithology (for example thickness changes of Early Carboniferous shales that locally represent décollement surfaces) may explain the differences in strain distribution.

Therefore, we have removed the discussion on the lithospheric strength as a possible mechanism. Instead, we limit our discussion to the observation that the change in geometry and strain distribution coincides with underlying pre-existing lineaments. What caused these lineaments is out of the scope of our article but is an intriguing aspect for future research. We have marked the textual changes in yellow shading.

Also thanks for the mentioning of the mistakes on the figures. We have now corrected them.

Best regards,

Jef Deckers, Bernd Rombaut, Koen Van Noten and Kris Vanneste