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Comment

# ***Interactive comment on “Multi-molecular tracers of terrestrial carbon transfer across the pan-Arctic – Part 1: Comparison of hydrolysable components with plant wax lipids and lignin phenols” by X. Feng et al.***

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Received and published: 27 May 2015

Feng et al. presented a study of organic biomarkers of the pan-Arctic sediments. The authors focused on using those biomarkers to trace the organic matter sources, and compared the distribution of hydrolysable components with plant wax lipids and lignin phenols among those sediments. The manuscript is well written, and the results and discussions are presented in detail. The information derived from this manuscript is interest. I have some minor comments regarding the methods and background data. 1. Page 4727, 2.2 Bulk analysis. Please show details about how the sediment samples

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were processed, e.g., were they ground? Besides, are all the OC% and N% data from the published papers? If some of them were measured in present study, please show how the N% were determined and the data quality control? 2. The authors compared different parameter (e.g., (Ad/Al)<sub>v</sub> in Fig. 5) with the wetland coverage in the drainage basin. However, there is a gap between the sampling year and the wetland coverage data presented, e.g., the Kalix sample was collected in 2005, however, the wetland coverage data is approximately 30 years ago (Hjort, 1971). I am not sure whether this would affect the results, however, it would be better to have data that close to the sampling period.

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Interactive comment on Biogeosciences Discuss., 12, 4721, 2015.

**BGD**

12, C2454–C2455, 2015

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