

SDR (Seaward Dipping Reflectors) mapping in the Amerasia Basin

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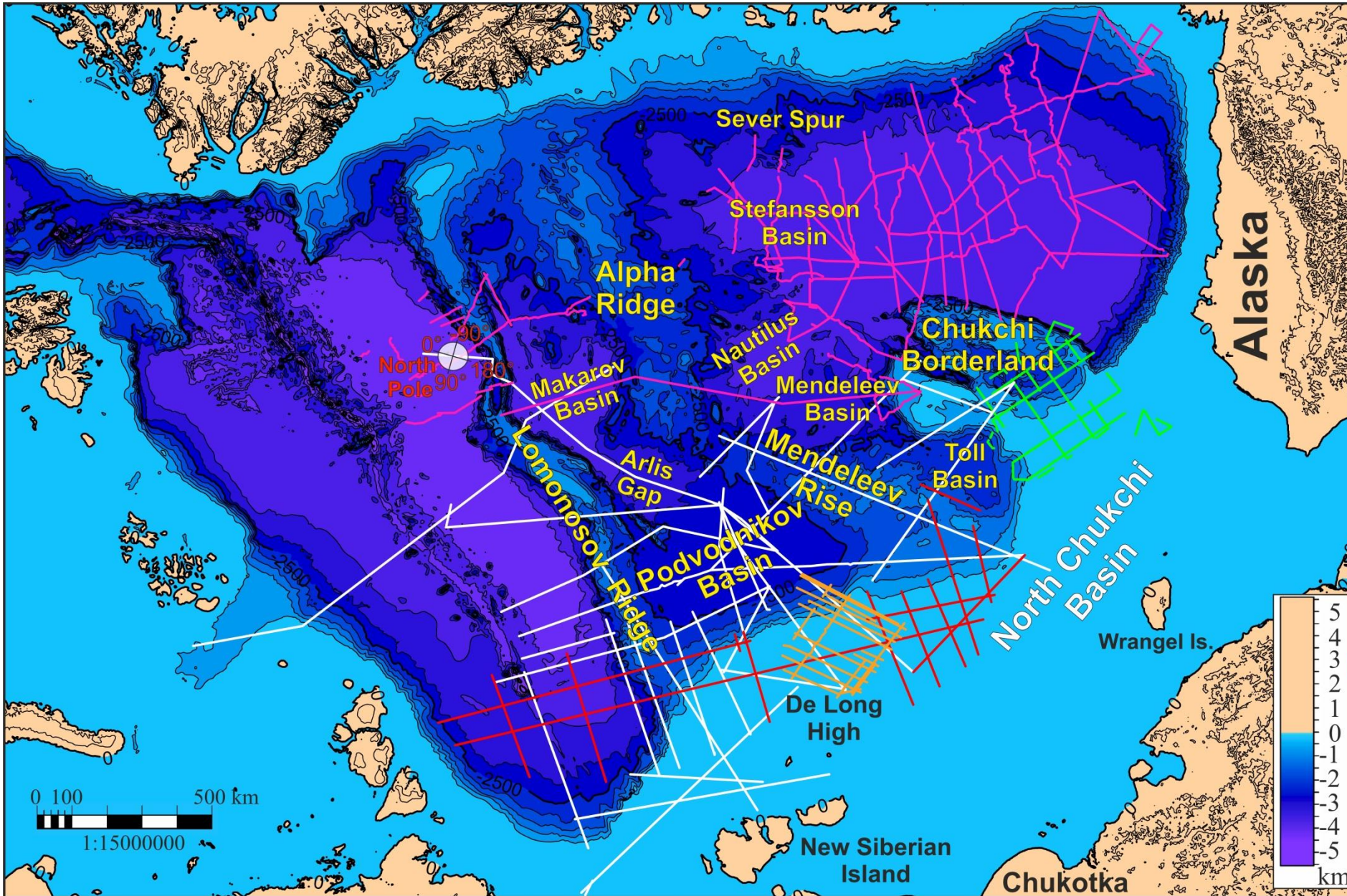
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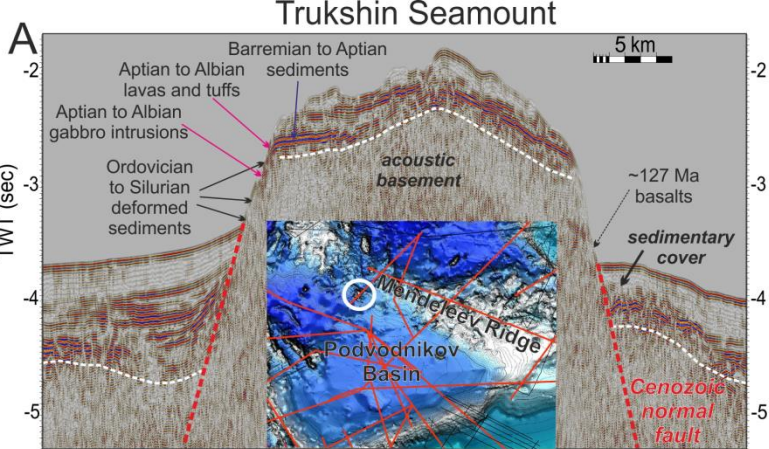
*Lomonosov Moscow State University
Geological Faculty*

Place of work and Data

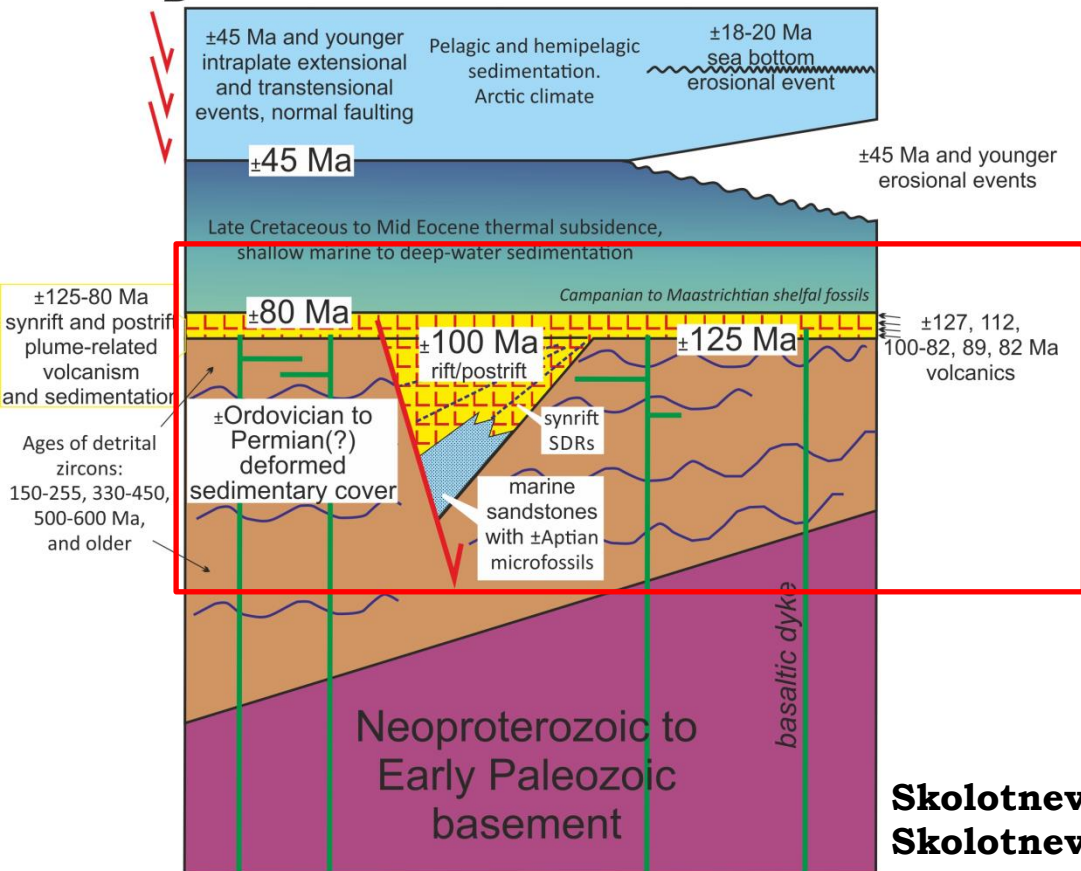
Map of topography and bathymetry of the Arctic region (Jakobsson et al., 2012, 2020) with location of seismic profiles.

White lines correspond to the profiles from the **expeditions Arctic-2011, 2012 and 2014**; **red lines** correspond to profiles from the **Arctic 2020 expedition**. **Orange lines** correspond to profiles from the **MAGE-2016 expedition**. **Green lines** are seismic profiles published by **Ilhan and Coakley (2018)**. **Pink lines** are seismic profiles presented by **Shimeld et al. (2021)**.





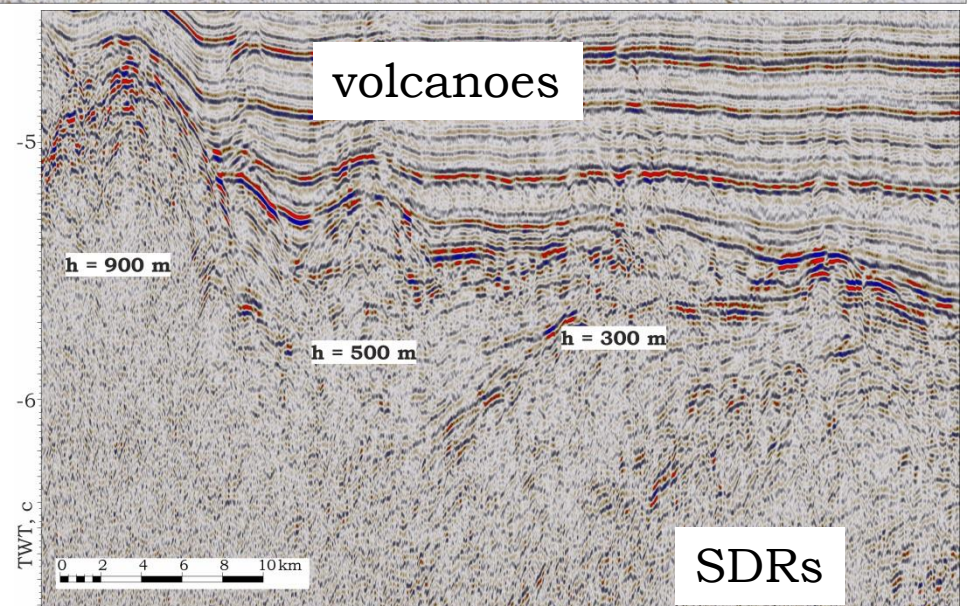
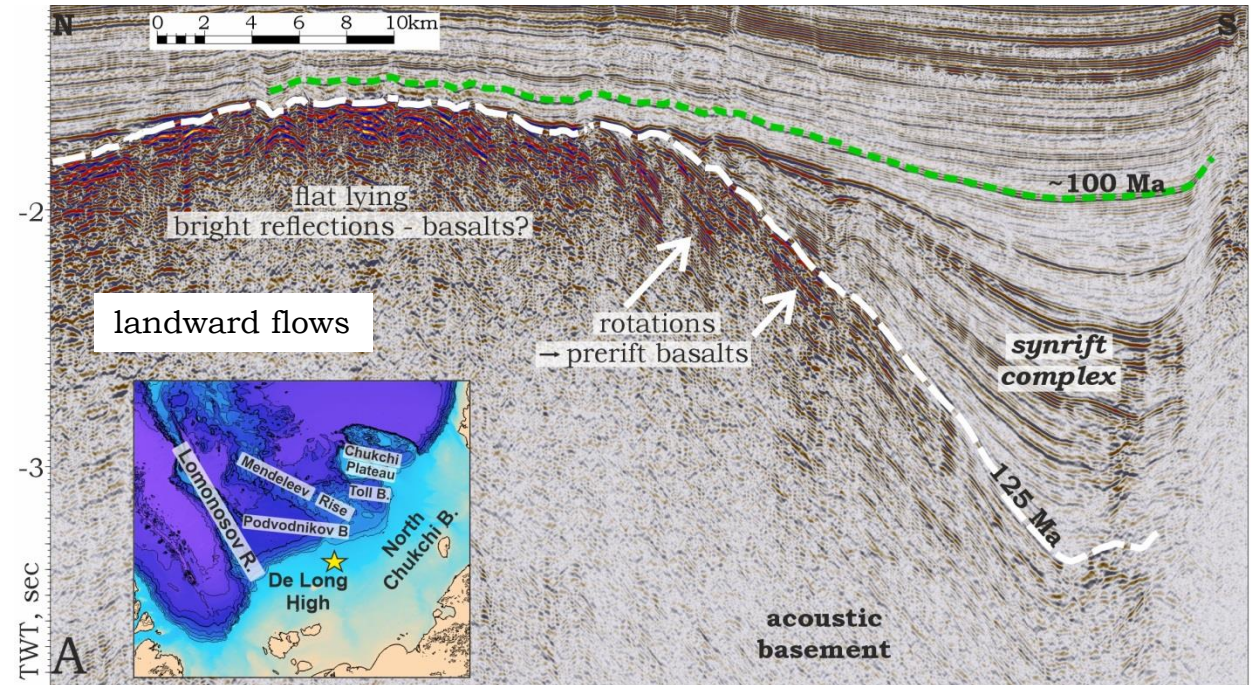
B Tectonostratigraphic chart of Mendeleev Rise



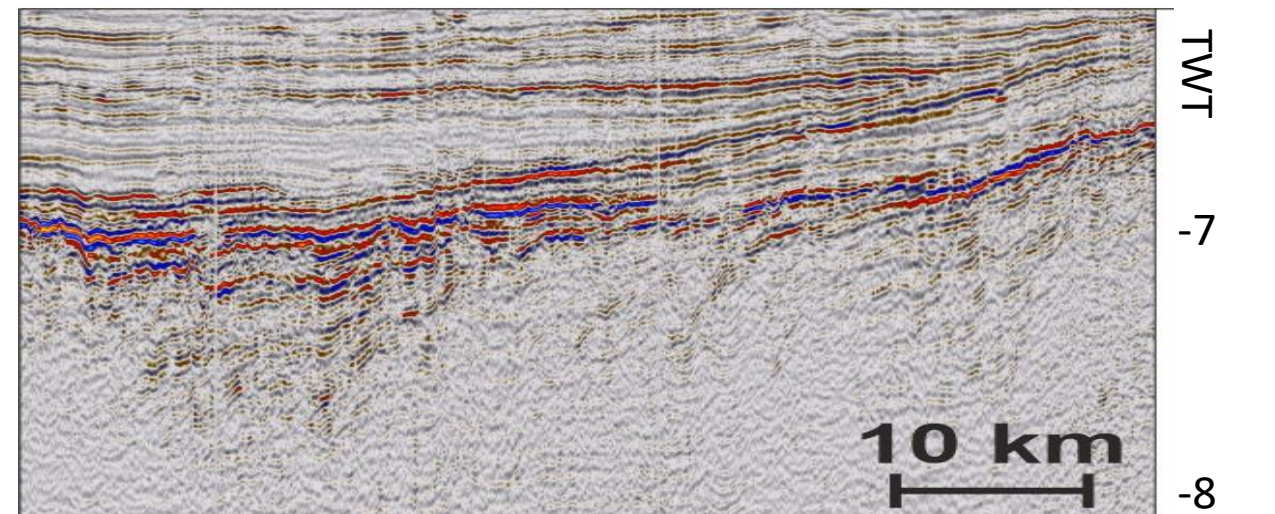
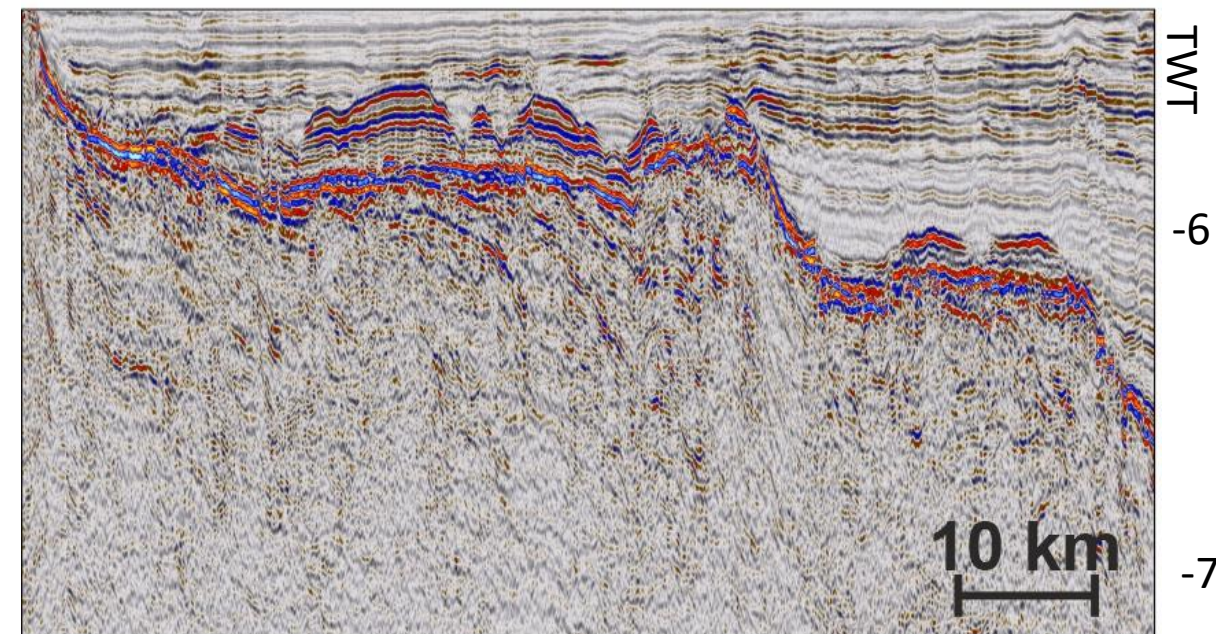
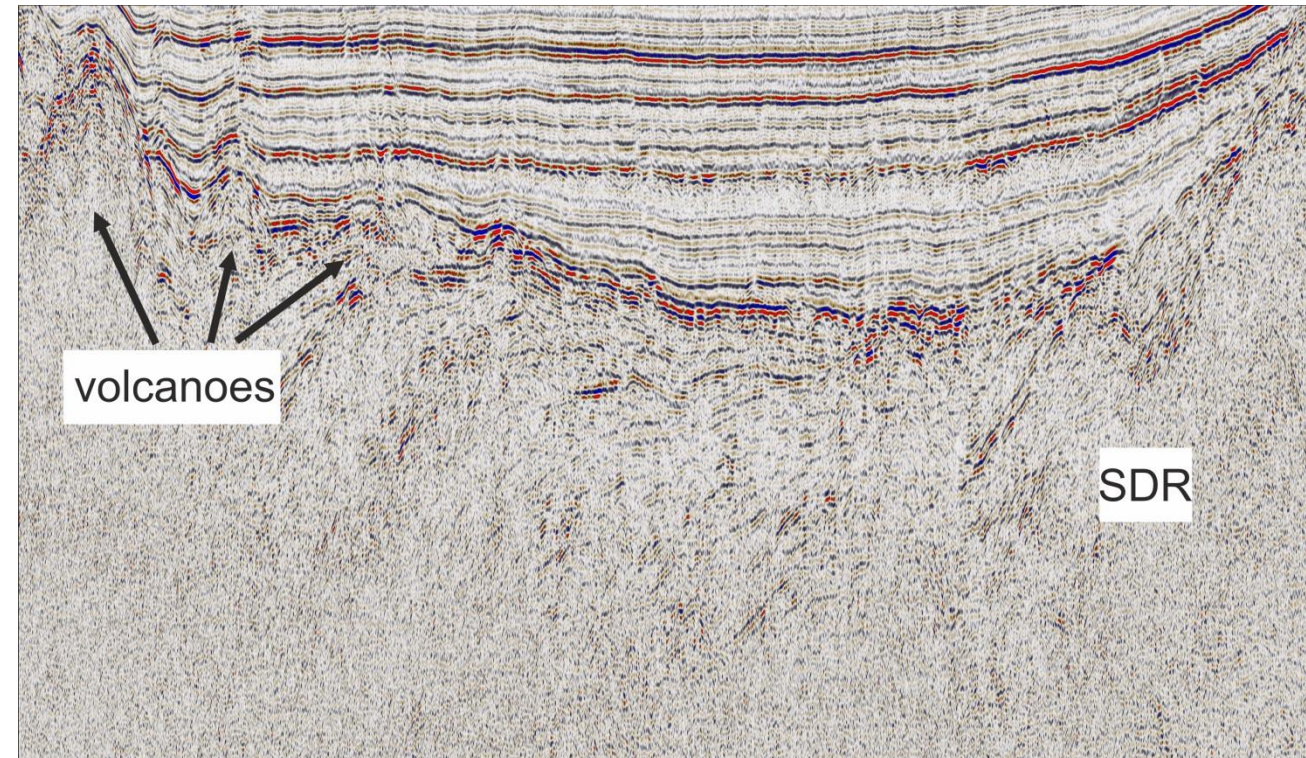
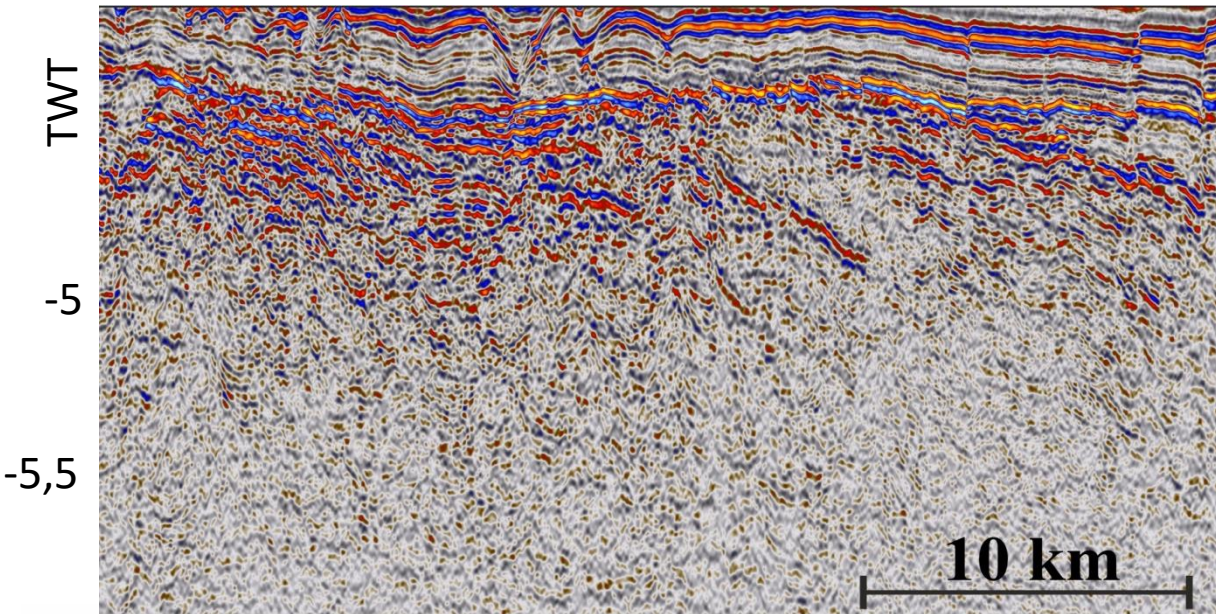
Skolotnev et al., 2019;
Skolotnev et al., 2022;
Nikishin et al., 2021a, b

4 volcanic facies:

landward flows (plateau basalts), SDRs (seaward dipping reflectors), volcanoes, dykes

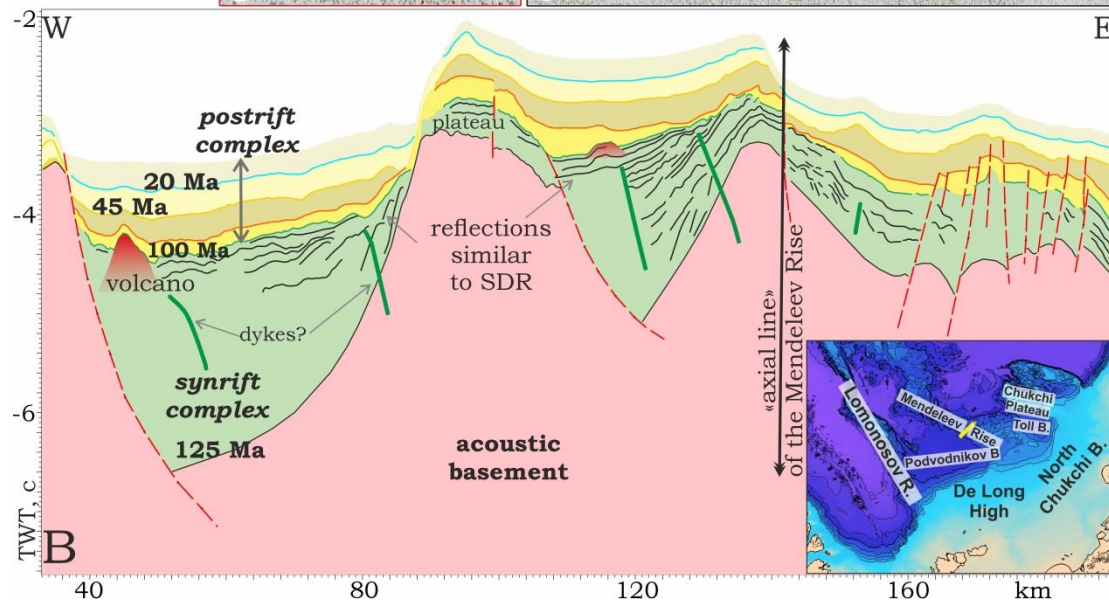
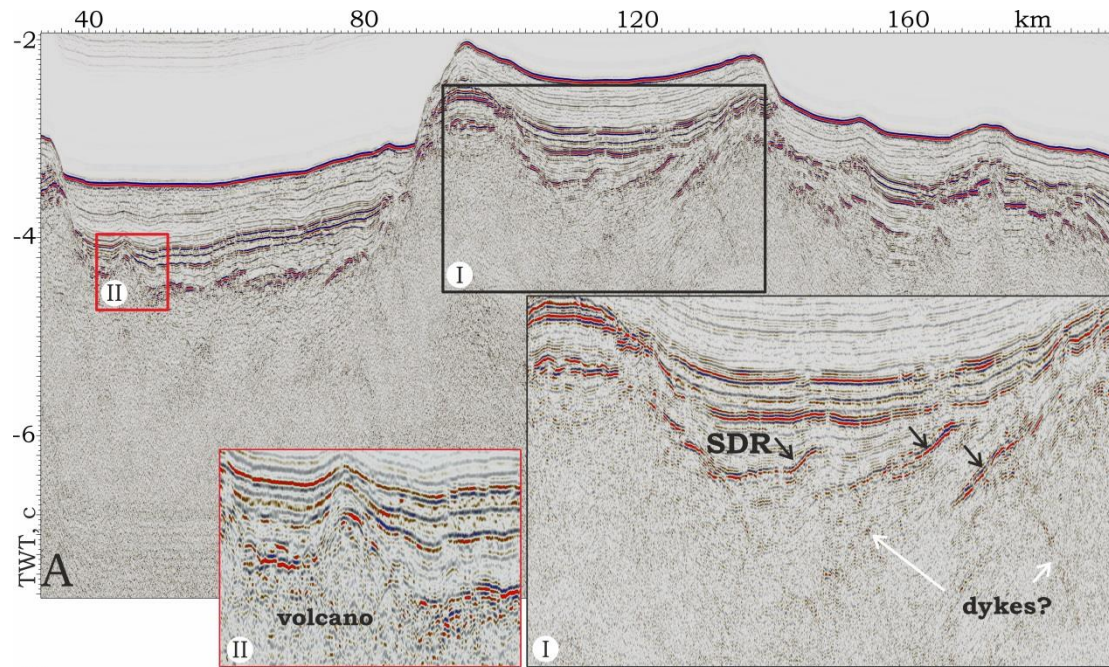


SDRs (Seaward Dipping Reflectors)



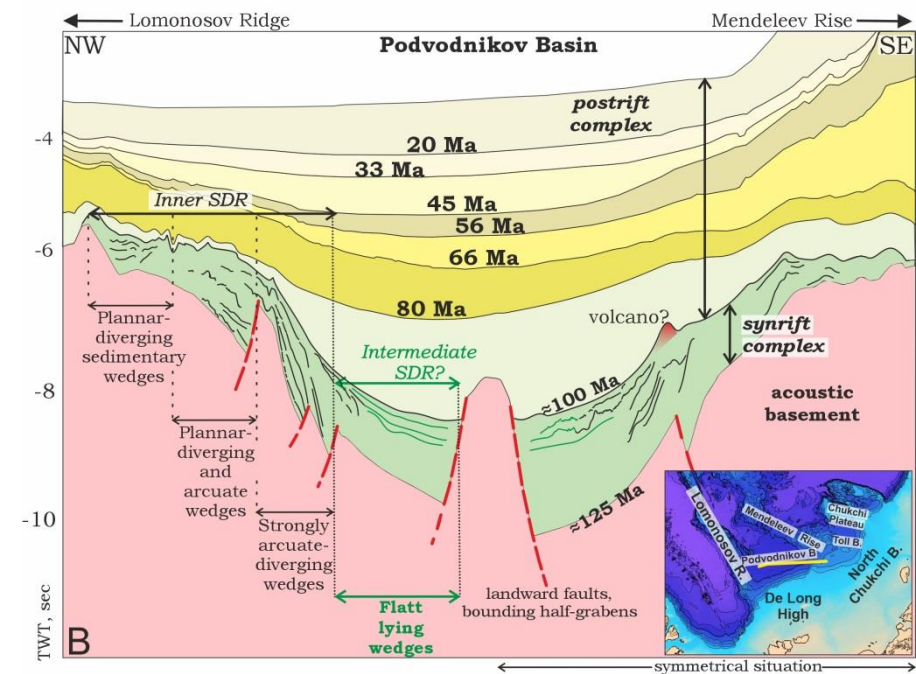
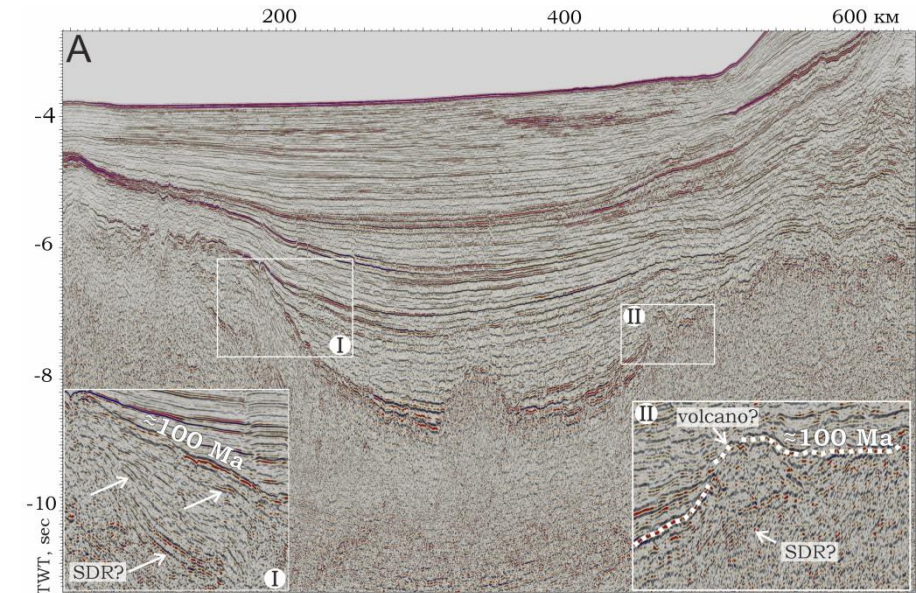
Mendelev Rise

SDRs type-1 (located in half-grabens, which are separated from each other by uplifts)



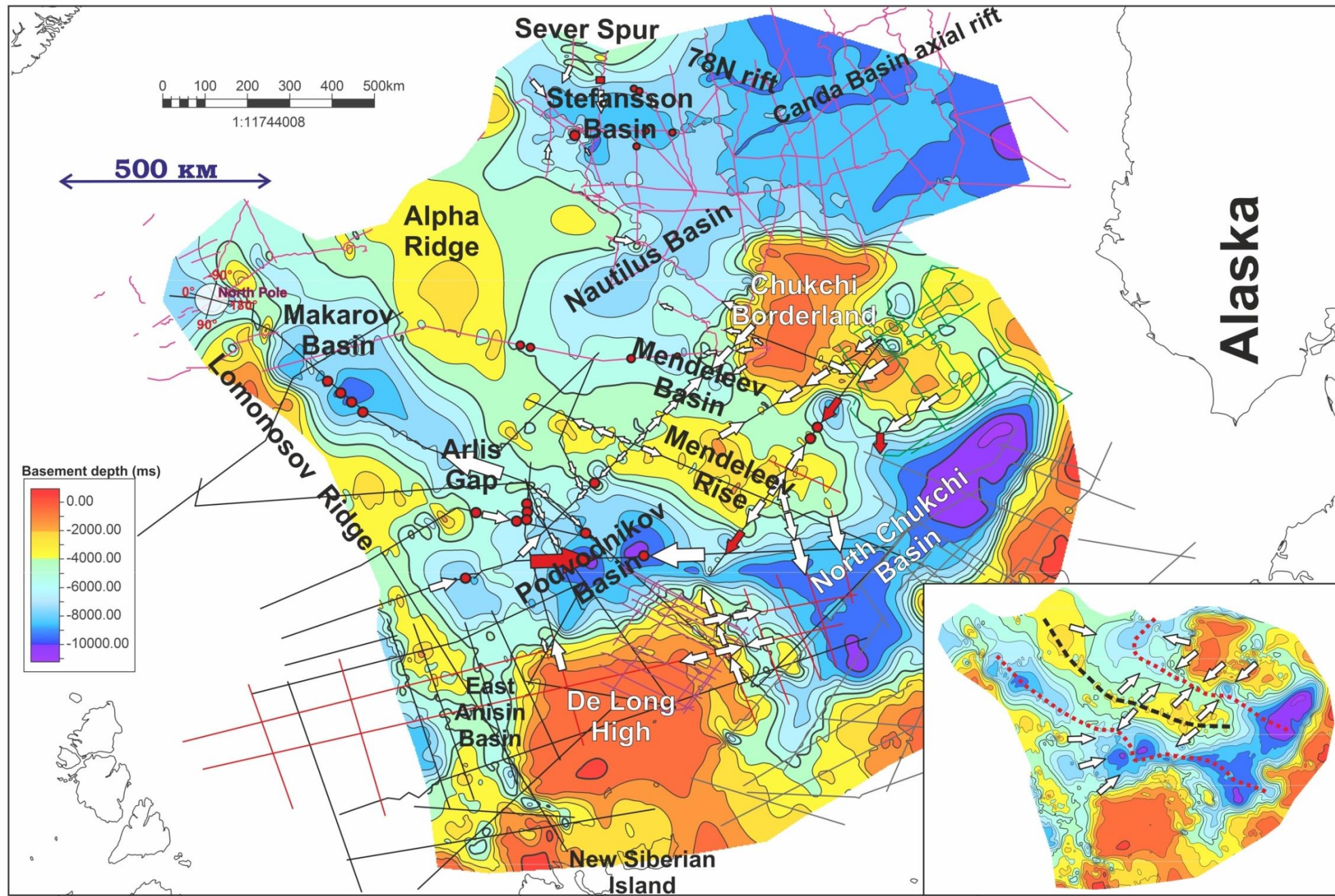
Podvodnikov Basin

SDRs type-2 (inner SDRs)

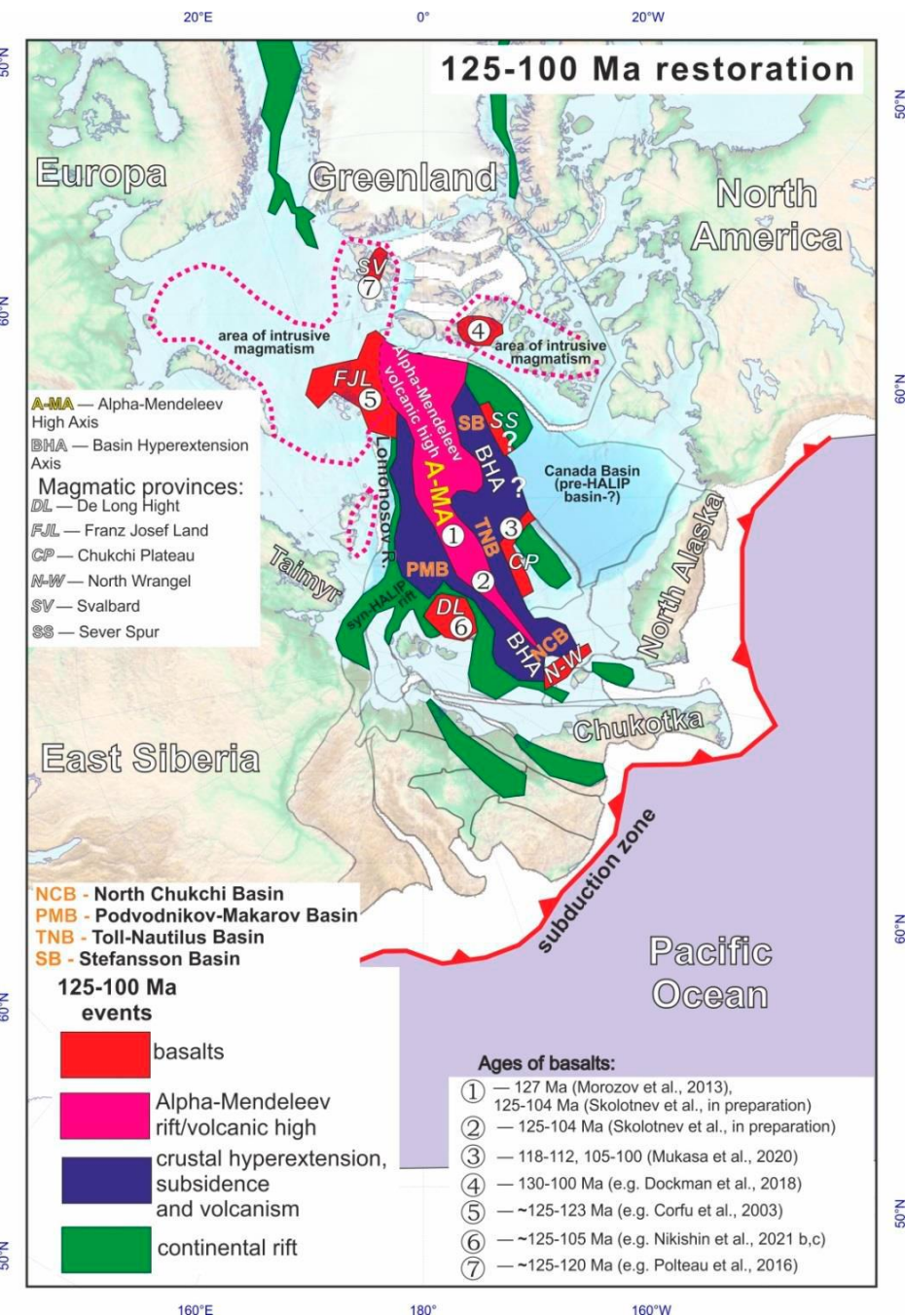
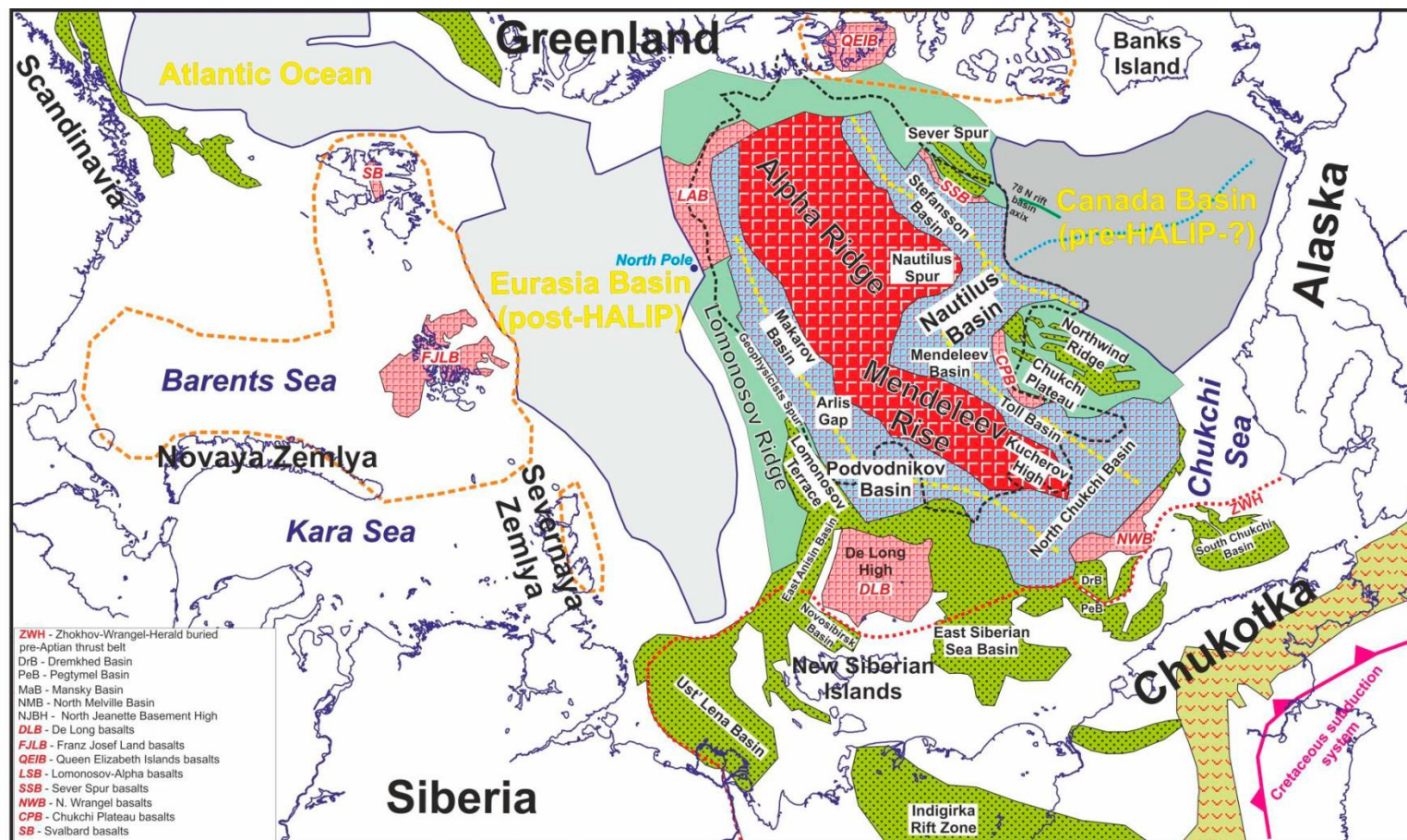


Orientation of SDRs like units within half-grabens

Nikishin et al., 2022 (in press)



Seismic facies and paleotectonic restoration for Aptian-Albian (125-100 Ma) time.



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Skolotnev, S., Aleksandrova, G., Isakova, T., Tolmacheva, T., Kurilenko, A., Raevskaya, E., Rozhnov, S., Petrov, E., Korniychuk, A., 2019. Fossils from seabed bedrocks: Implications for the nature of the acoustic basement of the Mendeleev Rise (Arctic Ocean). Mar. Geol. 407, 148–163. <https://doi.org/10.1016/j.margeo.2018.11.002>

Skolotnev, S.G., Freiman, S.I., Khisamutdinova, A. I., Ermolaev, B.V., Okina, O.I., Skolotneva, T.S. 2022. Sedimentary Rocks in the Basement of the Alpha–Mendeleev Rise, Arctic Ocean. Lithology and Mineral Resources, Vol. 57, No. 2, pp. 121–142. <https://doi.org/10.1134/S0024490222020079>

Nikishin A.M., Rodina Elizaveta A., Startseva Ksenia F., Gillian Foulger R., Posamentier Henry W., Afanasenkov Alexander P., Beziazykov Alexey V., Chernykh Andrey A., Malyshev Nikolay A., Petrov Eugene I., Skolotnev Sergey G., Verzhbitsky Vladimir E., Yakovenko Ilya V. Alpha-Mendeleev Rise, Arctic Ocean: A double volcanic passive margin // Gondwana Research. 2022 (in press).



Thank you for attention!