

Figure 1: Map of the area including the sampled locations. See Table 1 for station list.

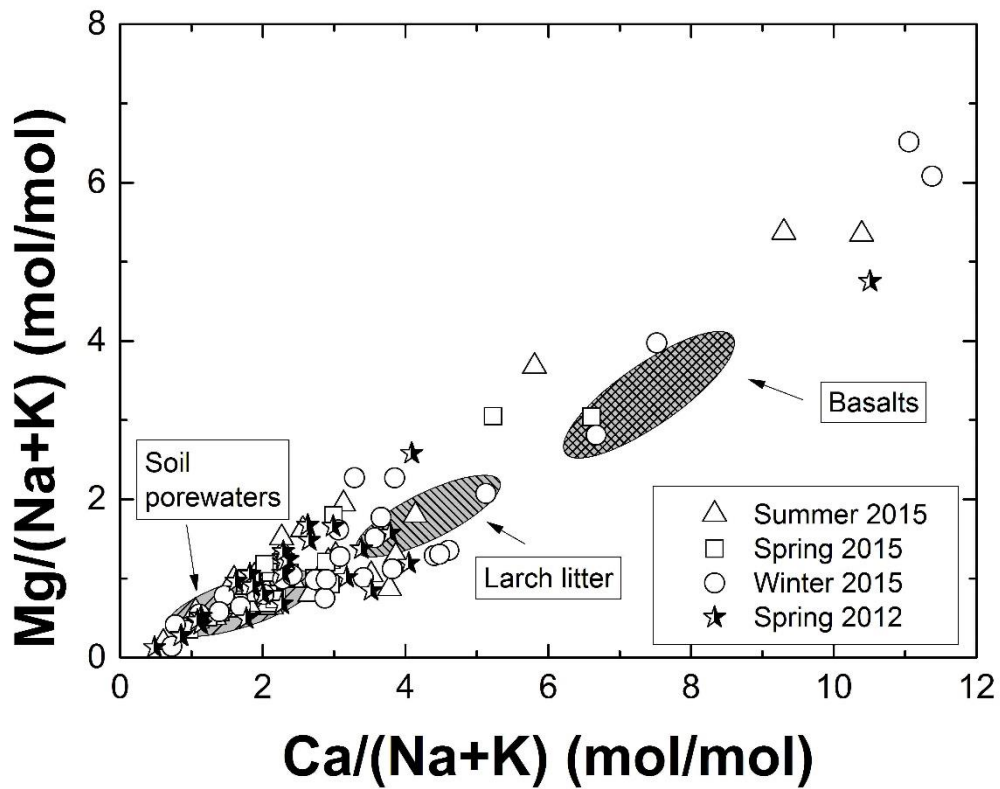


Figure 2: Binary molar diagram of Na + K normalized Ca vs. Mg concentrations in river water. The data in the open circles were taken from Mavromatis et al. (2016) and refer to Yenisey river tributary water samples collected in June of 2012. The data in shaded areas were taken from Pokrovsky et al. (2005). Analytical uncertainties are included in the symbol size.

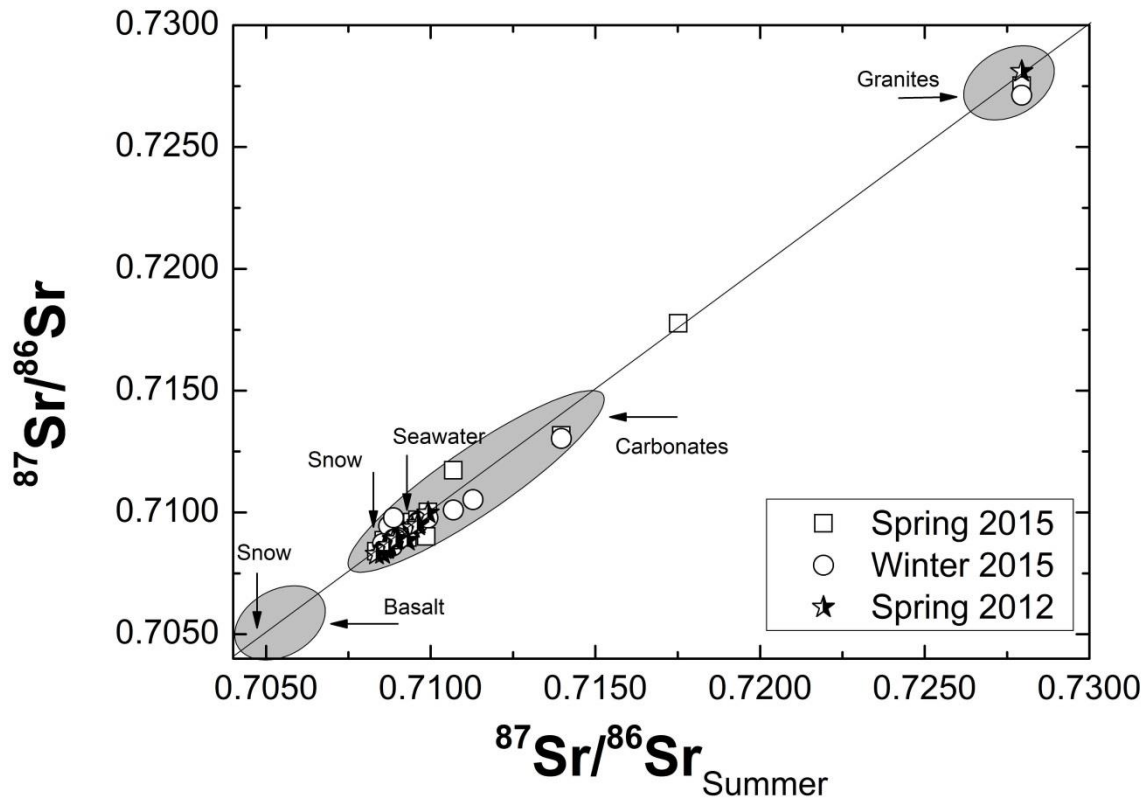


Figure 3: Cross-plot of the $^{87}\text{Sr}/^{86}\text{Sr}$ isotope composition of Yenisey and its tributaries in riverine water samples. Summer values has been used because they represent riverine baseflow and they reflect the maximum impact of vegetation on the chemical and isotopic composition of riverine waters. Snow and basalt values were reproduced from Bagard et al. (2011), seawater from Pearce et al (2015), granites from Mavromatis et al. (2016) and carbonates from Pokrovsky et al. (2011). The line represent a 1:1 ratio. Analytical uncertainties are included in the symbol size.

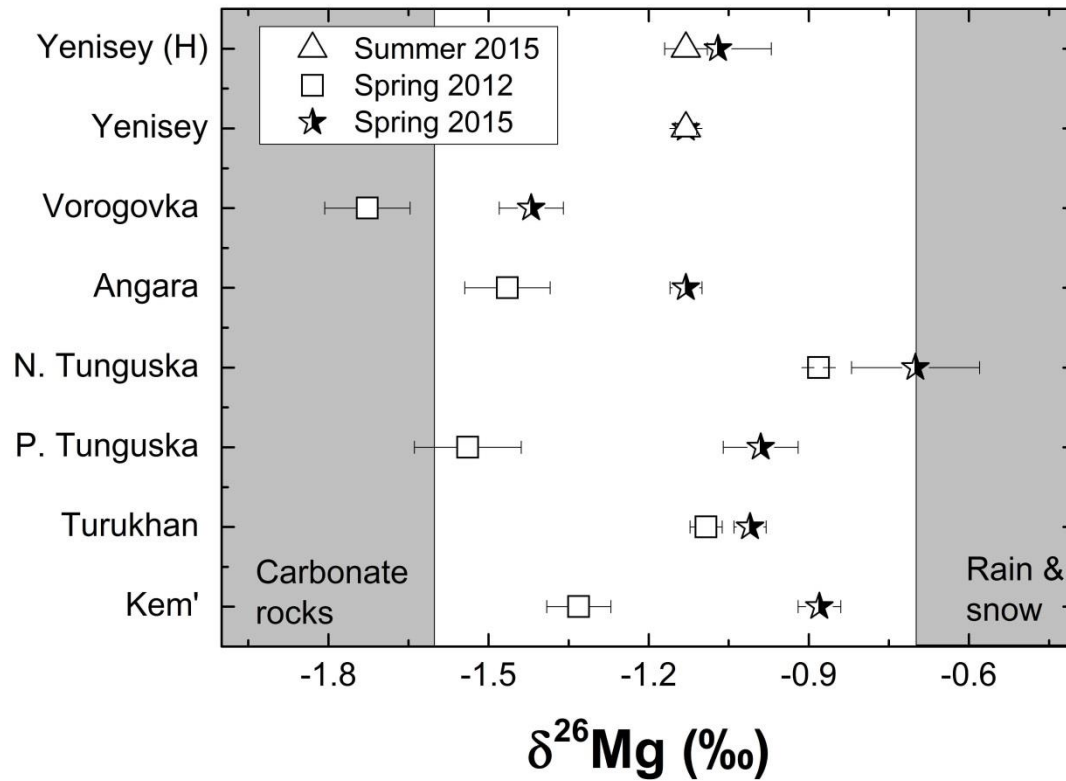


Figure 4: Comparison of Mg isotope composition of riverine waters of selected tributaries between the sampling campaigns of Spring 2012 (June; end of spring flood) and Spring 2015 (May; peak of spring flood). The Yenisey values represent samples taken at 66.5°N and represent ~98% of the Yenisey river watershed and are in excellent agreement with the values reported by Hindshaw et al. (2019) displayed here as Yenisey-H. Note that the samples of the latter study used in this plot are referring to sampling at the end of June and November. The range of isotopic compositions of carbonate rocks reported in Pokrovsky et al. (2011) and that of rain and snow in Mavromatis et al. (2014).

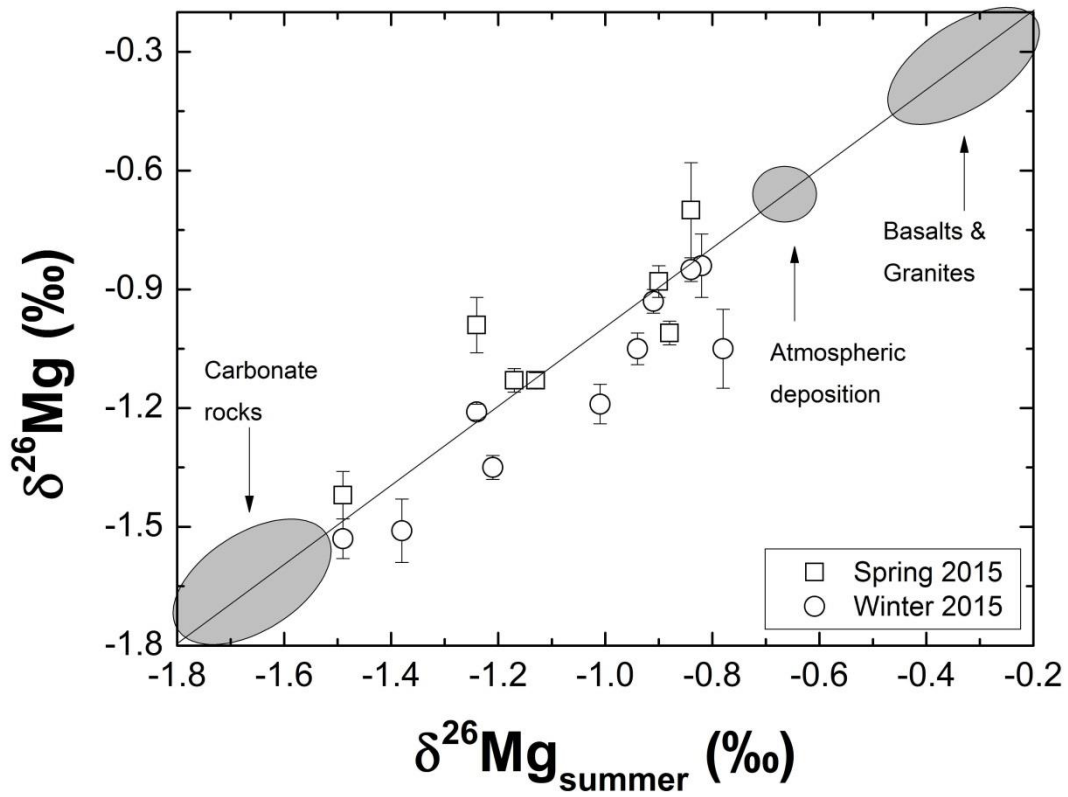


Figure 5: Cross-plot of the Mg isotope composition of Yenisey tributaries riverine water samples collected in spring and against those collected in summer of 2015. The line represent a 1:1 ratio.

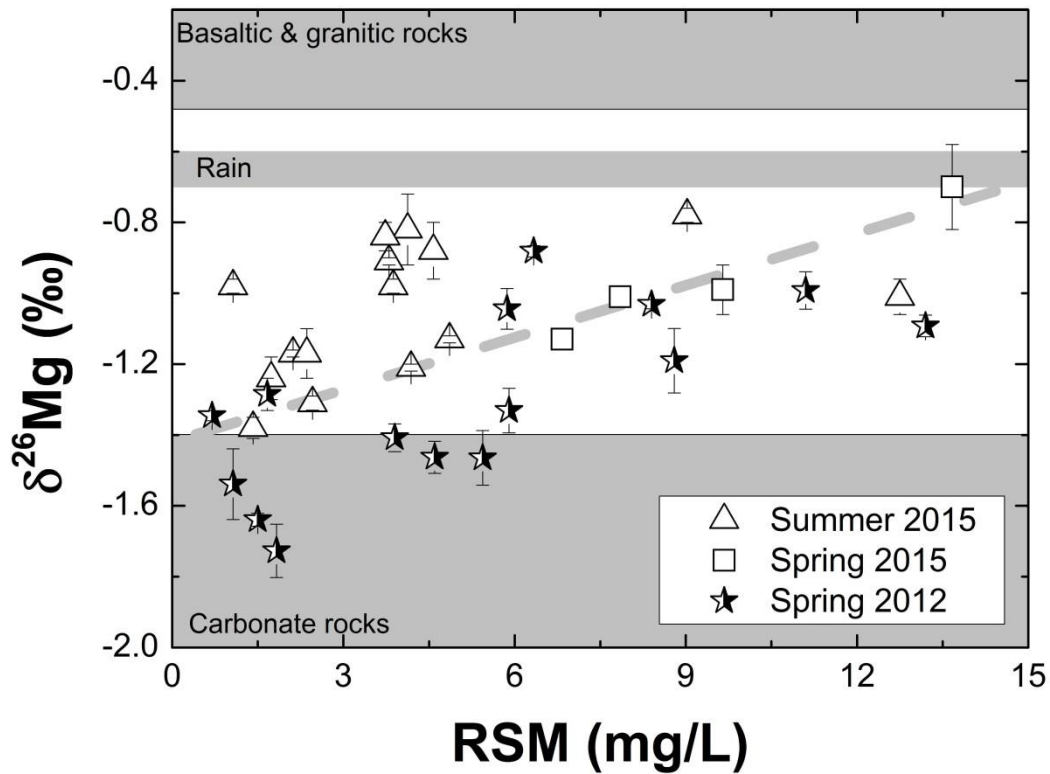


Figure 6: Plot of $\delta^{26}\text{Mg}$ vs. river suspended matter (RSM) in river water samples for spring (May) and summer (August) periods together with samples from the spring 2012 (June) campaign reported in Mavromatis et al. (2016). The range of isotopic compositions of carbonate rocks reported in Pokrovsky et al. (2011), the isotopic composition of basalts and granites in Mavromatis et al. (2014) together with the isotopic composition of rain and snow.