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Revision of the Cambrian part of Russian general stratigraphic time scale and its correlation with the international geological time scale

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Standard stratigraphic time scales are necessary for almost all geological studies, and in particular, for geological surveys and exploration for mineral resources, especially oil and gas.

The Cambrian part of the General stratigraphic time scale (GSS) of Russia requires development. The current GSS is significantly different from current international stratigraphic time scales for the Cambrian. This work reports progress on updating the Russian GSS for the Cambrian, and includes three series, against the four series of international time scales (ISS). New units and a number of new subseries and stages are also suggested.

In the updated GSS of the Lower Cambrian it is proposed to bring in two subseries: Aldanian and Lenian, each one includes two stages. The Aldanian includes Tommotian and Atdabanian stages, Lenian includes Botomian and Toyonian stages. It is proposed to draw the lower boundary of the Cambrian system in the Russian GSS at the base of Tommotian stage according to first appearance datum (FAD) of *Aldanella attleborensis*. In the updated Russian GSS two subseries in the Middle Cambrian system are suggested; Amgan and Mayan, and 4 stages: Molodoan, Chayan, Tikhsian and Bulunian, two in each subseries. The lower boundary of the Middle Cambrian is drawn at the bottom of Molodoan stage in the foundation of the Ovatoryctocara Zone.

Two additional subseries: Kugorian and Tukhanian, and four stages: Omninan, Mokuteyan, Novotukalandian and Khantayan, two in each subseries are added. The lower boundary of the Upper Cambrian is drawn at the bottom of the *Glyptagnostus reticulatus* Zone. The upper boundary of the Cambrian system in the updated GSS is drawn by the FAD of conodont *Cordylodus proavus* Müller, which closely coincides with the FAD of trilobite *Eopatokephalus antiquus* Rosova.

Comparison of Russian GSS and ISS shows a smaller range of the Cambrian system in Russia. The lower boundary of the Cambrian system in the ISS is drawn stratigraphically lower than the one in GSS. Moreover, in recent years the lower boundary of the Cambrian System is being reconsidered. The upper boundary of the Cambrian in the ISS can't be traced in Russia, and so the boundary is drawn at a lower level in the GSS. The GSS Cambrian project of Russia inherits basic features of the existing GSS, taking into account a large amount of accumulated new data that will contribute to more effective geological surveys and more successful mineral exploration.

