Standard Auxiliary Boundary Stratotype (SABS) approved to support the Global boundary Stratotype Section and Point (GSSP)

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Abstract

Auxiliary stratotypes have demonstrated value in extending the correlative potential of a Global boundary Stratotype Section and Point (GSSP) between continents, biogeographic provinces, climatic zones, depositional facies and preservational states, and numerous such stratotypes have been proposed over the past 30 years or more to support GSSPs (Head et al., 2022a). Until now the Auxiliary Stratotype Point has been the only such formally recognised means to support a GSSP. However, it relies on the incorrect assumption that a designated point in an auxiliary stratotype can precisely align with the supported GSSP, when in reality the GSSP represents a unique instant in geological time at a specific unique geographical locality. As a means to resolve this problem, the Standard Auxiliary Boundary Stratotype (SABS) was approved by the International Commission on Stratigraphy (ICS) on October 27, 2022 as a formal replacement for the Auxiliary Stratotype Point to support a GSSP. The SABS provides a detailed complementary expression of the boundary interval without designating a specific point. More than one SABS may support a single GSSP and each will be subordinate to the GSSP. SABSs extend the correlative potential of a GSSP between continents, biogeographic provinces, climatic zones, depositional facies and preservational states. Requirements for SABSs broadly follow ICS guidelines for GSSPs, and will require approval by their respective ICS subcommission. Following such approval, each SABS will be listed on the ICS website as well as that of the respective subcommission, and future SABSs will be accompanied by an announcement published in the International Union of Geological Sciences journal Episodes. Requirements for the designation and approval of a SABS are as follows:
1) The SABS serves as a formal replacement for the Auxiliary Stratotype Point, providing a detailed complementary expression of the boundary interval without designating a specific point. The boundary interval must be clearly indicated.

2) Requirements for SABSs broadly follow ICS guidelines for GSSPs but can be applied with greater flexibility.

3) More than one SABS may be designated to support a single GSSP, but restraint must be exercised, and each will always be subordinate to the GSSP itself.

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4) Each future SABS must be approved by the voting membership of the respective ICS subcommission following statutory voting procedures. One or more SABSs may be proposed simultaneously with a GSSP proposal (with the GSSP and SABSs all voted upon separately) or SABSs may be proposed subsequently.

5) If a GSSP is retired, its supporting SABS(s) retire by default. Any such SABSs might later be reinstated if desired, following approval by the respective subcommission.

6) Any Auxiliary Stratotype Point or Auxiliary Stratotype Section already approved by its respective ICS subcommission to support a GSSP will be known as a SABS. If such an Auxiliary Stratotype Point or Auxiliary Stratotype Section had been approved only by a task (working) group of the respective ICS subcommission, that subcommission must endorse this approval for it to be recognised as a SABS. All other such proposed or suggested Auxiliary Stratotype Points or Auxiliary Stratotype Sections (table 3 in Head et al., 2022a) would need to meet the requirements for a new SABS.

7) Following approval by the respective ICS subcommission, each Standard Auxiliary Boundary Stratotype will be listed on the ICS web- site as well as that of the respective subcommission, and an announcement published in the International Union of Geological Sciences journal Episodes.

8) An informative monument or plaque will be erected at the stratotype if possible and desired.

References:

Head, M.J., Aubry, M.-P., Piller, W.E., and Walker, M., 2022a. The Standard Auxiliary Boundary Stratotype: a replacement for the Auxiliary Stratotype Point in supporting a Global boundary Stratotype Section and Point (GSSP). *Episodes* online, p. 1–12. https://doi.org/10.18814/epiiugs/2022/022012
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