AN IMPORTANT REFERENCE CRITERION FOR THE SELECTION OF GSSP

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The present study reveals that some accepted GSSPs are selected at the base of the first widespread biozones above the first flooding surface (FFS) of the relevant third-order sequence. In this case, there is no serious divergent view. On the contrary, other GSSPs are chosen within the TST of the sequence, which is at least a biozone or a subzone higher than the FFS. These GSSPs usually cause serious debates that call for amendment of the definition of boundaries. The FFS of third-order sequences are usual global organic radiation or explosion event surfaces, and represent the beginning of new stages of organic evolution. GSSP should be taken at the point coincident with the base of the first widespread Leading Group biozone above the FFS. This not only conforms to the standards of GSSP, but also makes boundaries more readily recognizable and more accurately correlatable. We suggest that the FFS should be regarded as an important reference criterion for selection of GSSP.In any case, the first appearance datum of a Leading Group biozone chosen to define GSSP could not be lower than the FFS of the sequence. The FFS of a sequence bears distinct organic and physical markers, is readily distinguishable and easily operative in stratigraphic subdivision and correlation, and, theoretically, is globally isochronous in continuos depositional areas around the world. Therefore, the FFS of the sequences across the GSSP could be used as an important reference marker for the recognition and correlation of the chronostratigraphic boundaries.