
The International Chronostratigraphic Chart: Golden spikes or sticks in the mud?

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Abstract

The ICS chart is a truly global enterprise reflecting the labours of many hundreds of committed earth scientists in the development of a global language for stratigraphy. The process, first developing the context and need for a boundary, then possible signals to correlate it, precede the definition of the Global Stratotype Section and Point and its recognition by a ‘golden’ spike. The point defined in rock is a fact and much else is interpretation. The process generates huge amounts of new data and stimulates research on many aspects of the evolution of earth systems, including major biotic radiations and mass extinctions. Decisions are made following discussion and votes by relevant working groups, the ICS subcommissions and finally ratified by the International Union of Geological Sciences Executive Board. It is a rigorous and robust process but unfortunately necessarily a lengthy one. The first GSSP, for the base of the Devonian System, was defined in a rock section at Klonk in the Czech Republic in 1972. Some 50 years on, about 80 of the available Phanerozoic GSSPs have been defined and a handful of further proposals are in progress. There are challenges, particularly around the correlations of boundary stratotypes, but GSSPs remain the standard for the definition of chronostratigraphic units, the basis for correlation and the construction of geological timescales

Keywords: Chronostratigraphy, GSSPs, correlation, golden spike

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