



## International Commission on Stratigraphy

### SUMMARY REPORT 2017-2020

#### 1. Ratification of GSSPs (boundary stratotypes) created (in stratigraphical order)

- i. Bases of the Greenlandian, Northgrippian and Meghalayan stages (Holocene), the first two in NGRIP ice cores, central Greenland and the third in a Mawmluh Cave speleothem, Meghalaya, India. 2018
- ii. Base of the Chibanian (Pleistocene), Chiba, Japan. 2019
- iii. Base of the Chattian (Oligocene) Italy. 2017
- iv. Base of the Priabonian (Eocene) Italy. 2020
- v. Base of the Hauterivian (Cretaceous) France. 2019
- vi. Base of the Sakmarian (Permian) Siberia, Russia. 2018
- vii. Base of the Wuliuan Stage (formerly provisional Stage 5) and the Miaolingian Series (formerly provisional Series 3) (Cambrian) Miaoling Mountains, eastern Guizhou, China. 2018

#### 2. Other updates to the ICS International Chronostratigraphic Chart

- i. Bases of the Lower/Early, Middle/Mid-, and Upper/Late Holocene Subseries/Subepochs at the same GSSPs as the stages (above i). 2018
- ii. Bases of the Lower/Early, Middle/Mid-, and Upper/Late Pleistocene Subseries/Subepochs at the same GSSPs as the Pleistocene stages (above ii; and the previously defined Gelasian Stage GSSP, i.e. base Pleistocene/Quaternary, and the marker base of the Late Pleistocene stage yet to be defined). 2019
- iii. Voting by the ISSC on the adoption of the Subseries and Subepochs as formal divisions to be adopted at the discretion of the individual system/period subcommissions. 2019
- iv. Voting on a proposal to ISSC to adopt astrochronozones and unit-stratotypes for the Cenozoic Erathem/Era. Proposal was withdrawn by the proposer after ISSC voting resulted in rejection of the unit-stratotype proposal. 2018
- v. The term Precambrian was recognised as informal since this name for the oldest division of Earth history is commonly in use and therefore should not be abolished. The formal nomenclature for the Precambrian Eons/Eonothems are: Hadean, Archean, and Proterozoic. These Eons/Eonothems correspond in stratigraphical status to the Phanerozoic Eon/Eonothems. 2019

#### 3. GSSP dedication ceremonies

- i. Holocene Meghalayan Stage GSSP – speleothem to be displayed and unveiled at the International Geological Congress in Delhi, India, March 2020.
- ii. The GSSP for the base of the Chattian Stage (Oligocene Series) has been placed at a ceremony on the Monte Cagnero section, (Urbania, Central Italy) 13 May 2017.

#### 4. ICS Business

- i. 2020 ICS International Stratigraphic Chart: produced for distribution to all registered participants of the 36<sup>th</sup> International Geological Congress, Delhi, India.
- ii. Several versions of the ICS International Stratigraphic Chart have been produced over the four-year period, to include the latest developments in the ICS definitions and absolute dates where available.
- iii. The chart has now been translated from English into 20 other languages, emphasising the international reach of the Commission.
- iv. Several authors, university professors and other educators, and professional societies were granted permission to use and reproduce the ICS International Chronostratigraphic Chart in their productions.
- v. New Subcommittee on Precambrian Stratigraphy established 2018.
- vi. Collaboration with national stratigraphic committees of Russia, Italy, France, Austria, United Kingdom, United States, China and Canada.
- vii. The ICS is a founding member of the Deep-time Digital Earth (DDE) project and is represented by D. Harper on the Governing Council.
- viii. Participation of ICS Subcommittees with a large number of international projects (including a number of IGCP programmes) and initiatives has continued, as outlined in ICS Annual Reports for the period 2017-19.
- ix. Formal linkage established between ICS and the Geobiodiversity Database at the Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing, China
- x. Sponsored STRATI 2019, the 5<sup>th</sup> International Congress on Stratigraphy, Milano, Italy, July 2019. The attraction of Italy, its scientific contributions to stratigraphy, and its varied stratigraphic successions for field excursions generated great interest and attendance and established the International Congress on Stratigraphy as the premier, international venue for meetings of stratigraphers. The meeting was attended by 400 participants and was heralded a major success.
- xi. The Digby McLaren Medal was awarded to Prof. Phil Gibbard and the ICS Medal to Prof. Shuzhong Shen.
- xii. An ICS business meeting was held during the STRATI 2019 Congress on 5th July to discuss progress and new directions of investigation. The meeting was attended by some 20 ICS officers.
- xiii. The location of the 6<sup>th</sup> International Congress on Stratigraphy, STRATI 2023 has yet to be decided but there have been three informal proposals.
- xiv. The ICS Chair (D. Harper) and Secretary-General (P. Gibbard) have been interviewed by journalists of several different publications and television regarding consideration of the 'Anthropocene Epoch' by ICS following publication of the Holocene divisions in 2018/2019
- xv. Establishment of the new Subcommittee on Timescale Calibration. The Subcommittee will begin its work following the IGC in India in March 2020.
- xvi. Considerable publicity occurred in response to the definition of the Holocene subdivisions in 2018, and more recently to the definition of the Pleistocene Chibanian Stage GSSP in Japan 2019.

- xvii. 2020. Awarded grant for additional activities by IUGS under their Special Funding Programme scheme. "*Regenerating the Time Lords: towards the completion, calibration, digitation and outreach of the geological timescale*" will be funded at the level requested - US\$50,000 over two years.

## 5. Noteworthy products.

- i. Publication in *Nature* on Anthropocene: Edwards, L.E., Harper, D.A.T., Gibbard, P.L. 2017. Anthropocene: keep communication clear. Correspondence, *Nature* 541, 464.
- ii. Publication in *Acta Geologica Sinica* on the concept and history of GSSPs: Harper, D.A.T. 2019. The Golden Spike Still Glitters: The (Re)construction of a Global Chronostratigraphy. *Acta Geologica Sinica* 93 (supplement) (S3): 24-27.
- iii. Considerable activity on a variety of fronts by the Anthropocene Working Group, under the leadership of Professors J. Zalasiewicz and C. Waters. This has resulted in annual discussion meetings on topics including various impacts and implications of the concepts of human interference and modification of natural systems. It has also generated substantial media interest. Zalasiewicz, J., Waters, C.N., Williams, M., and Summerhayes, C. (Eds.), *The Anthropocene as a Geological Time Unit. A Guide to the Scientific Evidence and Current Debate*. Cambridge University Press, Cambridge, U.K. 391 pp.: ISBN 9781108475235. Published 26 February, 2019. Editors and most contributors are members of the Anthropocene Working Group.

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