

SUBCOMMISSION ON NEOGENE STRATIGRAPHY

ANNUAL REPORT 2017

1. TITLE OF CONSTITUENT BODY and NAME OF REPORTER

Subcommission on Neogene Stratigraphy (SNS)

Isabella RAFFI, chair SNS (from 2012)

Università "G. d'Annunzio" di Chieti-Pescara

Dipartimento di Ingegneria e Geologia (InGeo), Via dei Vestini 31, 66013 Chieti Scalo, Italy.

email: isabella.raffi@unich.it

2. OVERALL OBJECTIVES, AND FIT WITHIN IUGS SCIENCE POLICY

The SNS is the primary body responsible for providing optimum clarity and stability in the Neogene Chronostratigraphic Scale by selecting and defining Global Stratotype Sections and Points (GSSPs) for Series and Stages.

3. ORGANISATION - interface with other international projects / groups

The SNS is a subcommission of the ICS, founded in 1971. Reference is made to the annual report of 1995 for a brief historical resume of the SNS. The subcommission has four regional committees (Mediterranean, Pacific, Atlantic and Nordic) and keeps close contacts with the Russian Neogene Commission chaired by Prof. Yuri B. Gladenkov. Apart from the executive bureau, the SNS has 22 voting members and 24 corresponding members (*see Appendix for full list of officers and voting and corresponding members*). The SNS has presently one active working group for defining the GSSP remaining for the Langhian and Burdigalian chaired by Frits Hilgen, with 11 active members (listed in the *Appendix*). The SNS web site (www.sns.unipr.it) is used for news release and contains the following sections: Home, News, Board, Members, Newsletters, GSSP's, and Links.

3a. Nominated Officers for 2016-2020

Chair: Isabella Raffi, Dipartimento di Ingegneria e Geologia, Università degli Studi "G. d'Annunzio" di Chieti-Pescara, Campus Universitario, Via dei Vestini 31, 66013 Chieti Scalo, Italy. E-mail: isabella.raffi@unich.it,

Vice Chair: Kenneth Miller. Department of Earth and Planetary Sciences, Rutgers University, State University of New Jersey, 610 Taylor Rd., Piscataway, NY 08854-8066, USA. E-mail: kgm@rci.rutgers.edu

Secretary: Elena Turco, Dipartimento di Scienze Chimiche, della Vita e Sostenibilità Ambientale, Università degli Studi di Parma, Parco Area delle Scienze 157A, 43124, Parma, Italia. Email: elena.turco@unipr.it

4. EXTENT OF NATIONAL/REGIONAL/GLOBAL SUPPORT FROM SOURCES OTHER THAN IUGS

Support for the SNS comes from the Chair's Institution in Italy (Università degli Studi "G. d'Annunzio di Chieti-Pescara). The Secretary's Institution in Parma (Università degli Studi di Parma) hosts the SNS web-site.

5. CHIEF ACCOMPLISHMENTS AND PRODUCTS in 2017

- Documents about the debate about "formal and informal stratigraphic units, sub-epoch/sub-series" (arisen during the ICS open assembly held in the STRATI 2015 Congress in Graz and developed between a group supporting formalization and a group favoring informal status, both including members of the SQS, SNS, ISPS) documents have been published on Episodes, together with a summary document by the ICS Officers (Finney and Bown, 2017).
- The SNS chair and some voting members supported different position regarding "formal and informal sub-epoch/sub-series" and were co-authors of the two different opinions:

P.N. Pearson, B.S. Wade, J. Backman, I. Raffi, S. Monechi (2017). Sub-series and sub-epochs are informal units and should continue to be omitted from the International Chronostratigraphic Chart. Episodes, 40, 5-7.

M. J. Head, MP. Aubry, M. Walker, K. G. Miller, B. R. Pratt (2017). A case for formalizing subseries (subepochs) of the Cenozoic Era. Episodes, 40, 22-27.

- Discussion within some members of the Langhian and Burdigalian GSSP Working Group (chair: Frits Hilgen) pointed out the option of having the Langhian GSSP defined at the top of C5Cn in the La Vedova section in Italy (Turco et al., 2016), while having an auxiliary boundary stratotype defined at the equivalent level in an (I)ODP core in the Pacific, to incorporate the open ocean benthic isotope record and low-latitude calcareous plankton events. Moreover, it was highlighted the problem of the taxonomic issues related to the *Praeorbulina* datum, and the uncertainty related to what calcareous plankton event is associated with the top of C5Cn and, hence, the Langhian base at low-latitudes.

6. SUMMARY OF EXPENDITURE IN 2017:

Credit on Nov 2016	Euro	3894,74
No expenses in 2017		
Credit on Nov 2017	Euro	3894,74

7. SUMMARY OF INCOME IN 2016:

No income

8. BUDGET FROM ICS IN 2016: Euro 0,0

9. WORK PLAN, CRITICAL MILESTONES, ANTICIPATED RESULTS AND COMMUNICATIONS TO BE ACHIEVED NEXT YEAR:

The major plan is to finally reach an agreement for a Langhian GSSP proposal, that is on a reliable/reproducible guiding criterium, complemented by additional criteria useful for correlation, and reach a decision on the GSSP section.

10. KEY OBJECTIVES AND WORK PLAN FOR NEXT 4 YEARS (2016-2020)

- Proposal(s) for the Langhian GSSP will be submitted and published, with the purpose of reaching a final decision within the WG and subsequently within the SNS Subcommission.
- The recurrent problem related to definition of Burdigalian GSSP is still wide open. The difficulty lies the absence of having the GSSP defined in an astronomically tuned deep marine section, possibly in the Mediterranean, that would guarantees the stratigraphic contiguity with the other GSSP sections. Till now no good candidate section is available and search for suitable sections and/or cores for defining the Burdigalian GSSP will continue. In absence of suitable Mediterranean sections for defining the Burdigalian GSSP, the option to formally designate this boundary in an (I)ODP core will be seriously considered within SNS and discussion within the WG will involve voting and corresponding members.
- I. Raffi, asked by Felix Gradstein to take care of the Neogene chapter for the next GTS2020, has start working on the project with co-authors Bridget Wade and Heiko Pälike.

APPENDIX

Nominated Officers

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Vice Chair: Kenneth Miller. Department of Earth and Planetary Sciences, Rutgers University, State University of New Jersey, 610 Taylor Rd., Piscataway, NY 08854-8066, USA. E-mail: kgm@rci.rutgers.edu

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Voting Members

Aubry, M.P., USA, aubry@rci.rutgers.edu
Backman, J., Sweden, backman@geo.su.se
Berggren, W. A., USA, wberggren@whoi.edu
Bernor, R., USA, rbernor@howard.edu
Beu, A. G., New Zealand, a.beu@gns.cri.nz
Gladenkov, Y. B., Russia, gladenkov@ginras.ru
Hilgen, F. J., The Netherlands, f.j.hilgen@uu.nl
Hodell, D., UK, dah73@cam.ac.uk
Iaccarino, S. M., Italy, iaccarin@unipr.it
Kent, D. V., USA, dvk@rci.rutgers.edu
Miller, K. G., USA, kgm@rci.rutgers.edu
Nishi, H., Japan, hnishi@m.tohoku.ac.jp
Pälike, H., Germany, hpaelike@marum.de
Pearson, P., UK, PearsonP@cardiff.ac.uk
Piller, W. E., Austria, Werner.piller@uni-graz.at
Raffi, I., Italy, isabella.raffi@unich.it
Rook, L., Italy, lorenzo.rook@unifi.it
Sierro, F. J., Spain, sierro@usal.es
Tian, J., China, tianjun@tongji.edu.cn
Turco, E., Italy, elena.turco@unipr.it
Vai, G. B., Italy, giambattista.vai@unibo.it
Van Couvering, J., USA, vancia@gmail.com

Corresponding Members

Barron J., USA, jbarron@usgs.gov
Beltran C., France, catherine.beltran@upmc.fr
Billups K., USA, kbillups@udel.edu
Cahuzac, B., France, b.cahuzac@ufr-termer.u-bordeaux1.fr
Di Stefano A., Italy, distefan@unict.it
Drinia H., Greece, cntrinia@geol.uoa.gr
Edwards L. E., USA, leedward@usgs.gov
Foresi L. M., Italy, luca.foresi@unisi.it
Holbourn A., Germany, ah@gpi.uni-kiel.de
Hudackova, N., Slovakia, hudackova@nic.fns.uniba.sk
Janssen, A. W., Malta, ajanssen@go.net.mt
Janssen, R., Germany, Ronald.Janssen@senckenberg.de
Kovac, M., Slovakia, kovacm@fns.uniba.sk
Mein, P., France, mein@univ-lyon1.fr
Montanari, A., Italy, sandro.ogc@fastnet.it
Mudie, P., Canada, Peta.Mudie@nrcan-rncan.cg.ca
Nagyvarosy, A., Hungary, gtorfo@ludens.elte.hu
Pichezzi, R., Italy, rita.pichezzi@apat.it
Raymo, M. E., USA, raymo@ldeo.columbia.edu

Rio, D., Italy, domenico.rio@unipd.it
Roveri, M., Italy, marco.roveri@unipr.it
Smolka, P. P., Germany, smolka@uni-muenster.de
Stoykova, K., Bulgaria, stoykova@geology.bas.bg
Thunell, R., USA, thunell@geol.sc.edu

Working Group on Langhian and Burdigalian GSSPs members

Hilgen, F. (Chair), The Netherlands, f.j.hilgen@uu.nl
Berggren, W. A., USA, wberggren@whoi.edu
Channell, J. E., USA, jetc@ufl.edu
Di Stefano, A., Italy, distefan@unict.it
Foresi, L. M., Italy, luca.foresi@unisi.it
Holbourn, A., Germany, ah@gpi.uni-kiel.de
Iaccarino, S. M., Italy, iaccarin@unipr.it
Lirer, F., Italy, fabrizio.lirer@iamc.cnr.it
Miller, K. G., USA, kgm@rci.rutgers.edu
Pearson, P., UK, PearsonP@cardiff.ac.uk
Raffi, I., Italy, raffi@unich.it
Turco, E., Italy, elena.turco@unipr.it