

CNR-IUGS-IGCP Italian Report

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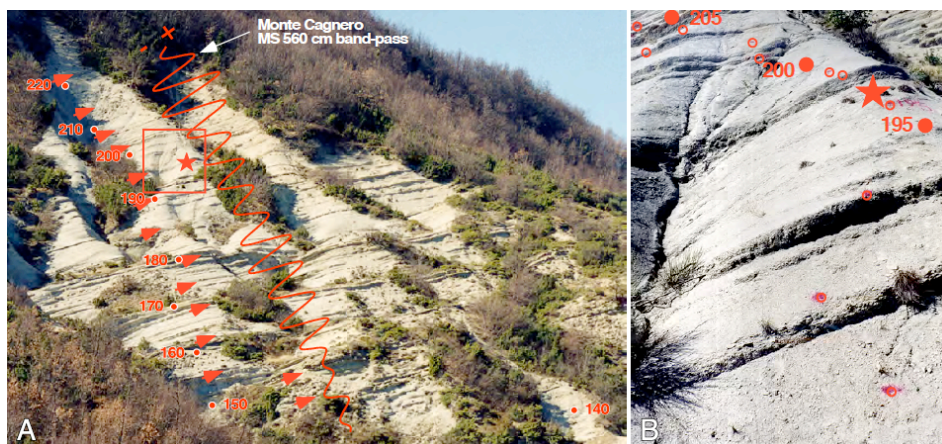
- Complete list of IGCP projects
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Chattian GSSP formally established by Italian researchers

The recently established Global Stratotype Section and Point (GSSP) for the base of the Chattian Stage (Oligocene Series) is in the Monte Cagnero section, Piobbico (Marche, Central Italy), at meter level 197 at the highest common occurrence of the planktonic foraminifer *Chiloguembelina cubensis*. The new GSSP was first voted by the IUGS International Commission of Stratigraphy (ICS) and then ratified by the IUGS Executive Committee.

Ten of the 18 researchers who advanced the proposal for ratification are Italian: Rodolfo Coccioni, Fabrizio Frontalini e Marianna Sideri from the University of Urbino, Alessandro Montanari (Coldigioco), Fabrizio Lirer e Mario Sprovieri from IAMC-CNR, Patrizia Maiorano (Univ. di Bari), Simonetta Monechi (Univ. di Firenze), Leonardo Sagnotti (INGV) e Fabio Tateo (IGG-CNR).

The Monte Cagnero section includes a complete and continuous succession of marly limestones, calcareous marls and marls rich in well-preserved planktonic foraminifera, calcareous nannofossils and dinoflagellate cysts with several intercalations of datable volcanoclastic layers, which enabled the development of an integrated stratigraphic framework for this epoch. In order to check the stratigraphic completeness of the section and constrain in time the critical interval for defining the Chattian Stage, high-resolution bio-, magneto-, and chemostratigraphic studies were performed, which accurately record calcareous plankton and dinoflagellate cyst biozones, magnetic reversals, seawater Sr, and C and O isotopic variations. Geochronologic results from intercalated biotite-rich volcanoclastic layers provided the means for an accurate and precise radiometric calibration of the Oligocene, and a reassessment of the accuracy of existing geochronologic time scales. In addition, the section was astrochronologically calibrated based on orbital tuning of high-resolution magnetic susceptibility data series. Accordingly, the astronomical age of the Rupelian-Chattian boundary at Monte Cagnero would be 27.82 Ma.



A) Panoramic view of the Monte Cagnero section with superimposed band-pass curve representing the long eccentricity cycle, and arrows indicating corresponding limestone layers bundles; B) Location of the proposed Rupelian–Chattian boundary at meter level, as indicated by the star.

Preface

This newsletter serves three purposes: (i) it reports to the IGCP Headquarters at UNESCO what is the current status of the Italian involvement in the IGCP, (ii) it reports to CNR and the IUGS Executive Committee what is the current status of the Italian involvement in the IUGS activities, and (iii) provides the Italian geological community with information on ongoing IUGS projects and activities, in order to promote participation and dissemination of information. For these reasons, the newsletter has wide distribution within the Italian geological community.

This issue contains, among other items:

1. the Summary Report 2016 of the IGCP Italian National Committee;
2. the Summary Report 2016 of the IUGS Italian National Committee;
3. the complete list of IGCP projects, with links to the relevant webpages.

If you have suggestions for improving this newsletter do not hesitate to get in touch with Attilio Boriani (attilio.boriani@unimi.it).

IGCP and UNESCO Global Geoparks merge into IGGP

After 40+ years of IGCP (International Geoscience Programme), this highly successful cooperation program underwent a major overhaul. In an effort to strengthen the Earth Sciences in UNESCO, after a series of meetings between the International Union of Geological Sciences, some of UNESCO Member States, and the Global Geoparks Network (GGN), it was proposed that the IGCP and Global Geopark activities would come together under a new International Geoscience and Geoparks Programme (IGGP). During the 38th session of UNESCO's General Conference, Member States decided to endorse the statutes of the new international programme.

The 195 Member States of UNESCO have also ratified the creation of a new label, the UNESCO Global Geoparks. This expresses governmental recognition of the importance of managing outstanding geological sites and landscapes in a holistic manner. Together with World Heritage sites and Biosphere Reserves, UNESCO Global Geoparks form a complete range of sustainable development tools. IUGS is an active partner in the new initiative.

From now on the IGCP will be merged as the science wing of the International Geosciences and Geoparks Programme with UNESCO Global Geoparks. This also means the Statutes and Operational Guidelines of the IGCP have slightly changed. The IGCP will have a IGCP Council, consisting of 6 members (the 5 IGCP Theme Leaders and a chair person). Overall this is similar to the old situation, however, the selection process for the IGCP Council members is slightly different from the old situation.

IGCP Council Meeting

The IGCP Council meeting 2017 will take place at UNESCO headquarters in Paris with the following tentative schedule:

Monday 20 February –

Morning and afternoon reserved for IGCP Council project evaluation meeting (closed session for IGCP Theme leaders)

Tuesday 21 February –

Morning and afternoon reserved for IGCP Council project evaluation meeting (closed session for IGCP Theme leaders)

Wednesday 22 February –

2nd open session of the International Geoscience Programme (IGCP) Council and presentation of the new UNESCO Global Geoparks applicants

Program:

1. Welcome by the Director of the Ecological and Earth Sciences Division of UNESCO
2. Welcome by the President of the International Union of Geological Sciences (IUGS)
3. Welcome by the International Geoscience Programme (IGCP) Executive Secretary
4. Report on the Programme by the IGCP Executive Secretary
5. Overview of IGCP project assessments by the Chairperson and Rapporteur of the IGCP Board
6. UNESCO Permanent Delegations: Feedbacks regarding Theme summaries and discussion
7. IGCP National Committees: Reports and discussion
8. Gender equality in Earth Sciences
9. UNESCO Global Geoparks aspirants 2017
10. Any other business

Summary Report 2016 of the IGCP Italian National Committee

1. *Name, address, telephone, fax, e-mail address of the Chairperson of the National Committee:* see back cover.

2. *Members of the Committee:* see back cover.

3. *Projects led by Italian scientists during 2016:*

Project 641 - Deformation and fissuring caused by exploitation of subsurface fluids (2015-2019)

Co-leader: Pietro Teatini, Dept. of Civil, Environmental and Architectural Engineering, University of Padova, Via Trieste, 63, 35121 Padova, ITALY

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4. *Projects with active Italian Working Groups:*

During 2016 Italian geoscientists were active in at least eight other IGCP projects.

5. *IGCP meetings held in Italy in 2016*

None was reported.

Summary Report 2016 of the IUGS Italian National Committee

1. **Country:** Italy

2. **Name of IUGS Adhering Organization or National Committee:**

Consiglio Nazionale delle Ricerche (CNR).

3. **Name and address of person preparing form:**

Prof. Attilio Boriani

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4. Status of the IUGS National Committee:

The IUGS Italian National Committee is an official committee of C.N.R. (Consiglio Nazionale delle Ricerche), a public agency whose duty is to carry out, promote, spread, transfer, and improve research activities in the main sectors of knowledge growth and of its applications for the scientific, technological, economic and social development of the country. C.N.R. is also the organization representing Italy in all major international scientific organizations and unions.

5. Number of people on Committee or body for IUGS:

The members of the Committee are: Dr. Marco Amanti, Dr. Carlo Baroni, Prof. Attilio Boriani (Chair), Dr. Daniela Di Bucci, Prof. Carlo Doglioni, Prof. Massimo Frezzotti, Dr. Biagio Giaccio, Dr. Antonello Provenzale, Prof. Isabella Raffi, Dr. Fabio Trincardi, Dr. Gianluca Valensise [Prof. William Cavazza, IUGS Liaison] (see back cover for details).

6. Number of meetings during the year:

Two official meetings were held at the CNR Headquarters in Rome, with particular emphasis on the organization of the Italian participation in the XXXVth International Geological Congress in Cape Town. Informal meetings of the members of the IUGS Italian National Committee were held at national meetings and other gatherings.

7. Major IUGS-related scientific activities which took place in Italy:

International Conference on Atmospheric Dust (Castellaneta Marina; 12-17 June 2016) – Sponsored by the IUGS Commission on Geoscience for Environmental Management.

8. Main outreach activities, e.g. primary-secondary-tertiary education, community, media, etc.

The Commission itself did not directly produce outreach activities during 2016. Nonetheless, individual members of the Commission participated in the organization of the 2016 edition of the “Settimana del Pianeta Terra” (Week of Planet Earth; 16-23 October), a series of event promoting geological awareness for the general public. The last edition of the Week included more than 200 events with the participation of about 80,000 people.

9. Main publications (scientific, other):

The IUGS Italian National Committee publishes in electronic format a yearly report on the International Geoscience Programme (IGCP) which is distributed to the entire Italian Earth sciences community through the Geological Society of Italy. The report reaches over 2,000 geoscientists.

10. Major initiatives currently underway:

The Commission is committed to a new drive to stimulate the participation of Italian geoscientists in the International Geoscience Programme (IGCP) and IUGS activities at large.

11. Important activities of other geology-related academic organization(s):

The current governmental budget squeeze makes investments in new initiatives rather difficult.

12. Activities/achievements reported or to be reported in Episodes and/or in the IUGS website

None.

13. Leadership by Italian geoscientists of IUGS bodies, programmes, joint-initiatives, or other IUGS activities:

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14. Activities related to the next IGC

For the time being, the IUGS Italian National Committee is not yet contemplating activities related to the IGC New Dehli in 2020.

15. Website

http://www.cnr.it/sitocnr/IICNR/Attivita/Attivitainternazionali/Mobilita_file/OSIview.html?id=39



Outgoing and newly elected IUGS officers after the handover meeting held during the XXXVth International Geological Congress (Cape Town). Top row: Hiroshi Kitazato (new Treasurer), Yildirim Dilek (outgoing vice-President), Dong Shuwen (outgoing Treasurer), Amel Barich (continuing Councillor), Katarine Asch (new vice-President), Qiuming Chen (new President). Roland Oberhaensli (outgoing President), Stan Finney (new Secretary General), Stephen Johnston (continuing Councillor), Hassina Mouri (outgoing Councillor), Yukiyo Ogawa (outgoing Councillor), Edmund Nickless (elected Councillor), Silvia Peppoloni (elected Councillor). Bottom row: Jose-Pedro Calvo (outgoing Secretary General), Marko Komac (outgoing vice-President), William Cavazza (new vice-President).

Active IGCP Projects

The Programme is supporting work on the following five themes:

1. Earth Resources: Sustaining our Society

Knowledge on natural resources - including minerals, hydrocarbons, geothermal energy, and water - and their management is the frontline of the struggle for more sustainable and equitable development. The environmentally responsible exploitation of these resources is a challenge for geoscience research. The progress of technological development is equally bound to this premise.

- [IGCP 636-Characterization and sustainable exploitation of geothermal resources](#)
- [IGCP 637-Heritage Stone Designation](#)
- [IGCP 638-Paleoproterozoic Birimian geology for sustainable development](#)

2. Global Change and the Evolution of Life: Evidence from the geological record

Changes in the Earth's climate and of life on Earth are preserved in the geologic record. Ice and dust records, terrestrial and ocean sediments, and sequences of fossil plant and animal assemblages all tell the story of our Planet which holds important lessons about present-day environmental challenges and the ways to mitigate and manage environmental damage.

- [IGCP 587-The Ediacaran \(Vendian\) Puzzle](#)
- [IGCP 591-The Early to Middle Palaeozoic Revolution](#)
- [IGCP 596-Climate Change and Biodiversity Patterns](#)
- [IGCP 608-Asia-Pacific Cretaceous Ecosystems](#)
- [IGCP 609-Cretaceous Sea-Level Changes](#)
- [IGCP 610-From the Caspian to Mediterranean: Environmental Change and Human Response during the Quaternary](#)
- [IGCP 624-OneGeology](#)
- [IGCP 630-Permian-Triassic Climatic and Environmental Extremes and biotic responses](#)
- [IGCP 632-Continental Crisis of the Jurassic](#)
- [IGCP 639-Sea level Changes from minutes to millenia](#)
- [IGCP 650-3rd Pamir High Elevation International Geophysical Expedition](#)
- [IGCP 653-The onset of the Great Ordovician Biodiversification Event](#)

3. Geohazards: Mitigating the risks

Geohazards include earthquakes, volcanic activity, landslides, tsunamis, floods, meteorite impacts and the health hazards of geologic materials, and can range from local events such as a rock slide or coastal erosion to events that threaten humankind such as a supervolcano or meteorite impact. Earth scientists undertake research to better understand these hazards and contribute to risk management policies related to social and technical issues associated with geohazards as well as disaster mitigation.

- [IGCP 640-S4LIDE \(Significance of Modern and Ancient Submarine Slope LandSLIDES\)](#)
- [IGCP 641-Deformation and fissuring caused by exploitation of subsurface fluids](#)

4. Hydrogeology: Geoscience of the water cycle

Life on Earth depends on water, and its sustainable use is crucial for continued human activities. Earth's water cycle involves studying, understanding, and managing groundwater systems, hydrogeology, as well as sources, contamination and vulnerability of water systems.

- [IGCP 618-Paleoclimate information obtained from past-recharged groundwater](#)
- [IGCP 643-Water Resources in Wet Tropics of West-Central Africa](#)

5. Geodynamic: Control our environment

Our habitable environment at the Earth's surface is linked and controlled by processes occurring deep within the Earth. Earth scientists use, inter alia, geophysical techniques to study deep Earth processes ranging from changes in the Earth's magnetic field to plate tectonics to understand better the Earth as a dynamic planet. Those processes are also relevant to natural resource exploration, distribution and management of groundwater resources and the study and mitigation of natural hazards such as earthquakes.

- [IGCP 589-Development of the Asian Tethyan Realm](#)
- [IGCP 592-Continental Construction in Central Asia](#)
- [IGCP 646-Dynamic Interaction in Tropical Africa](#)
- [IGCP 648-Supercontinent Cycles and Global Geodynamics](#)
- [IGCP 649-Diamonds and Recycled Mantle](#)

You are invited to visit the UNESCO webpage listing all active IGCP projects. All Italian colleagues interested in joining the projects or just wishing to receive additional information are invited to visit the relevant webpages and/or get in touch with the project leader(s).

CNR-IUGS-IGCP Italian Report

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CNR-IUGS-IGCP Italian National Committee

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A Reminder:

If you participate in an IGCP Project or other IUGS-related activities do not forget to submit a short report by December 15th, 2017, to be included in the next issue of this publication. The report should be <1,500 words long and should include the following information:

- number, title and duration of project;
- leader(s) and affiliation(s);
- name and affiliation of Italian correspondent;
- description of Italian involvement in the project during the year 2017 (including research interests and results, participation and organization of meetings, etc.);
- publications authored by Italian participants during the year 2017.