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Editorial

Preface

This Special Issue was generated during the 19th Colloquium on African Geology (CAG19), held in El Jadida, Morocco, in March 2002. The first fifteen CAGs were held in Europe (1965–1990) while CAG16 and CAG17 were held in Africa (Swaziland and Zambia). The Geological Society of Africa then decided to alternate the biennial CAG between Europe and Africa. Thus, after the 18th CAG in Graz, Austria, the first CAG ever held in West Africa and in a African French-speaking country, took place at the Chouaib Doukkali University in El Jadida on the Atlantic coast of Morocco. The meeting was a great success with more than 350 participants from 28 countries, including 12 African countries. The conference was particularly memorable for its good organisation and the warm welcome given to delegates by our Moroccan colleagues and from the officials and general populace of El Jadida.

Delegates from North Africa were particularly well represented, indicating the positive role that holding the CAG in Africa can play. The broad range of topics and themes presented and the lively discussions that were generated during the colloquium convinced us that a Special Issue dedicated to the more innovative topics should be organized. This was decided by all delegates at a well-attended open business session of the Geological Society of Africa. We gained the enthusiastic support of Peter Bowden, Editor-in-Chief of the Journal of African Earth Sciences at the time and this has continued with the current Editors-in-Chief, Pat Eriksson and Henri Kampunzu. It was furthermore decided that participation at the colloquium was not a prerequisite for submitting a paper to the special JAES issue.

The scope of this special issue, that was named "*Key Points on African Geology*" (KPAG), was to highlight the current state-of-the-art knowledge of various topics in African Geology through a series of short, high quality papers that present important new data or ideas that enhance our knowledge of the geology of Africa and to stimulate discussion and research on a wide series of fronts. The success of the venture can be measured in the 114 manuscripts that were submitted to KPAG, of which the 55 papers that passed peer review are published here.

The passion shown for this special issue has been probably generated by the successful new system of alternation of the CAG, between Europe and Africa. Furthermore, as you will see, in the papers submitted and published there is a strong focus on the geology of West Africa (37 papers out of the 55 published). This regional bias was also reflected at the colloquium itself, as a direct consequence of the venue of CAG19 in Morocco. This situation led to a great number of formal and informal lively and constructive discussions, with West African researchers being well above the "critical mass". We feel also that this colloquium did much to break the barriers between African researchers and teams from elsewhere working in the same or similar areas. There is no doubt that when the CAG moves to another part of Africa, the focus will shift to that region, hopefully also with the invaluable participation and views of colleagues working outside the area concerned. Another positive development from the CAG19 meeting was the revival of African-based IGCP projects led by African geologists. In central Africa, IGCP-470 led by Felix Toteu of Cameroon was just approved by the IGCP Board and, during the past two years, field trips have been organized north of the Congo craton and the next one is planned west of the same craton in the Democratic Republic of Congo (Valentin Kanda) in December 2004. A-post CAG19 excursion to the Anti-Atlas Orogen of southern Morocco, gave opportunity for first discussions to institute another IGCP project on the West African Craton and its boundaries. This idea was taken forward to formal submission to the IGCP board which ratified the project in 2004 as IGCP-485 and is led by Nasser Ennih from El Jadida, Morocco and Jean-Paul Liégeois from Tervuren, Belgium. Subsequent meetings will be organised each year in West Africa by African geologists in Morocco (Nasser Ennih again), Mauritania (Khalidou Lô), Mali

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(Samba Sacko) and Algeria (Khadidja Ouzegane). These IGCP projects offer good prospects for the development of African geology during the next years.

The only negative consequence of the large number of submissions for the KPAG issue was that the review and editing process inevitably took a long time. We apologize for this delay and thank the 438 authors for their patience and the 197 reviewers for their help.

The focus on West Africa alluded to above has highlighted some particular aspects of current research, such as the interplay between cratons and neighbouring mobile belts and a large part of the issue is dedicated to this important topic. Environmental issues and current geological processes are also well represented from throughout the continent. Due to the large number of papers accepted, we felt that grouping the papers in chapters and subchapters following the main themes tackled would be the most useful way to portray the current state-of-the-art thinking in African Geology, especially from a West African point of view. Consequently, the three main chapters are (1) *Relations between old cratons, younger orogenies and sedimentary basins* (22 papers); (2) *The Phanerozoic geological record* (17 papers); and (3) *Environment, geological risks, soils, hydrogeology and modern sedimentary processes* (16 papers).

The first chapter was subdivided into five subchapters: *1.1. The interplay between Archaean and Palaeoproterozoic events in the large cratons*, with three papers concerning the West African craton (Thiéblemont et al.; Lerouge et al.; Kahoui and Mahjdoub) and one paper on the Kalahari craton (Bumby et al.); *2.2. The Mesoproterozoic interlude* only contains two papers (Duchesne et al.; Liati et al.) as a direct consequence of the absence of Mesoproterozoic events in West Africa; The last three subchapters concern *the interplay between old cratons and the Pan-African orogeny; in the southern and eastern parts of Africa (1.3)* with one paper each on Cameroun (Penaye et al.), Tanzania (Reddy et al.) and Ethiopia (Tadesse and Allen); *in the Trans-Saharan belt (1.4)* with two papers on Algeria (Bendaoud et al.; Zetoutou et al.), one on Benin (Attoh and Morgan) and one on Nigeria (Sakoma and Martin); *in the Anti-Atlas and Ougarta (1.5)* with eight papers from Morocco (Thomas et al.; Bouougri and Saquaque; Barbey et al.; Soulaimani and Piqué; Gasquet et al.; Inglis et al.; Berraaouz et al.; Benchekroun and Jettane) and one from Algeria (Seddiki et al.).

The second chapter was subdivided in three subchapters. The first two concern West Africa alone: *2.1. The transition from Neoproterozoic to Phanerozoic*: the Taoudeni basin and the High Atlas, with six papers on Morocco (El Archi et al.; Arboleya et al.; Chacrone et al.; Chafiki et al.; El Hariri and Bachnou; Daoudi, and one on both Morocco and Mauritania (Waters and Schofield); *2.2. The Variscan and Alpine orogenic domain of Northern Africa* with five papers on Morocco (Bennouna et al.; Essaifi et al.; Haissen et al.; Le Roy et al.; El Arabi et al.); In contrast, in the third subchapter, there are no papers dealing with West Africa: *2.3 "Anorogenic Africa"* refers to the geological processes that are not directly the consequence of orogeny, even if some of them can be considered as the remote effects of distant orogenic activity. Five papers are presented, two from Egypt (El-Ayyat and Kassab; Kassab et al.), and one each from Egypt-Sudan (Thurmond et al.), Ethiopia (Mazzarini et al.) and Cameroun (Nono et al.).

The third and last chapter is concerned with the last million years of Earth history in Africa but it is nevertheless very varied in content. We have not subdivided this chapter because several of the various themes mentioned in the chapter title (Environment, geological risks, soils, hydrogeology and modern sedimentary processes) are often contained in any one paper. Nevertheless, some papers focus mainly on soils sensu lato (Ayonghe et al.; Lahlou et al.; Tematio et al.; Khiri et al.; Lavaud et al.) with the effect of human activities on them (Maanan et al.; Ibno Namr et al.) The remaining papers deal with geological risks (De Waele et al.; Di Gregorio et al.), the problems of aquifers (De Waele et al., Nyambe et al.; Chofqi et al.) and of coastal geology (Abuodha; El Bouzidi et al.; Brenon et al.; Idrissi et al.; Bussert and Aberhan). We close this KPAG Special Issue with a paper detailing a computer program for use by palaeontologists (Bachnou).

In conclusion, we believe that this KPAG Special Issue shows the ongoing dynamic nature of geological studies being carried out in Africa. In addition, it is clear that the leadership roles in Earth Science research are slowly but surely, increasingly being taken by African geologists and we are very happy with this state of affairs.

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