IAGA Working Group V-DAT Business Meeting 24 August 2009, Pannonia, Sopron, 12:00-13:30

45 present

1. Update since last Meeting in Perugia, 2007

WGV.DAT website has been updated.

Three Task Forces formed and their reports were ready for presentation:

- **a.** Task Force for Criteria of Index endorsement by IAGA (Drs. Menvielle, Thomson, McCreadie, Lukianova, Stauning, Rajaram).
- **b.** Task Force for the Endorsement of PC as an IAGA index ((Drs. Menvielle, McCreadie, Lukianova, Stauning proposer)
- c. Task Force for IAGA Endorsement of the classification of rapid variations as SC (Drs. Menvielle, Thomson, Nose, Curto proposer)

2. Discussion Items related to IAGA indices:

a. Criteria for index endorsement (Dr. M. Menvielle)

The Task Force first met at GFZ during the SWARM Meeting (June 2009). After intense discussion at GFZ and through email a report was made and circulated. Drs. Iyemori, Monika Kotze and Kharin made valuable comments that have been incorporated in the report, presented by Dr. Menvielle, The document includes: Properties of an IAGA-endorsed geomagnetic activity index and Process according to which IAGA will consider endorsing a magnetic index.

The report was put to vote and finally adopted by a majority. The document will be published in IAGA News and posted at the WG web

b. Status of PC as an IAGA index (Dr. McCreadie)

Dr. McCreadie prepared a comprehensive report after going through published literature and also consulting Drs. Stauning and Troshichev. The report included a brief IAGA history of PC. The index is definitely useful. The definition of the Stauning's PCN index and AARI PCS index is unified and it definitely

has an affinity with the interplanetary merging electric field. It was noted that the procedures are not unified - the way the indices are computed is different. The current index is not yet at its final stage of development. The official PCN index is no longer compatible with the PCS index.

The WG recommends that a comprehensive report with details of all issues regarding the derivation of the coefficients and calculation of actual PC index values be written within one year. The report should be reviewed by the Task Force and be published e.g. at ISGI website in order to provide a basis for a final decision on endorsement by IAGA at the 2011 Meeting.

c. Endorsement of the classification of rapid variations as SC. (Drs. Curto and Thompson)

Dr. Curto presented his work and Dr. Thomson presented the view of the Task Force that it was ready to endorse it. This was put to vote and finally adopted by a majority.

d. Overview of use of New Indices (Dr. Lukianova)

Statistics of publications (last 5 years) using Indices reflect increasing number of papers essentially make use of geomagnetic indices in their investigations. The possible new indices include IHV, ULF wave index and PM index.

3. IAGA Index Status & Other Reports:

Following reports were presented:

Dst/AE/SYM Indices and WDC Kyoto (Dr. Nose, Kyoto)

K-index for BFE (Dr. Matzka, DMI)

Report on Bartels' Planetary Indices Kp, ap, Ap, Cp, C9 (Dr. Linthe, GFZ)

Report on aa, am indices (Dr. Menvielle, ISGI)

Although there are some problems with the K index at BFE, in general, all IAGA indices are in good health

Data Rescue report (Dr. N. Nagarajan)

ICSU-funded project 'Rescue - Archiving of old analogue magnetograms' by IAGA Task force was carried out 2003-2004. High-resolution digital Images of magnetograms of Colaba - Alibag, for 1901-1920 executed. The project has been successfully accomplished. Institutes like IIG and NGRI have continued to fund additional rescue data work. Several Observatories with long series of geomagnetic data have expressed interest in data rescue, as the old paper magnetograms will soon be in tatters! China, South Africa...have expressed such a need.

4. Resolutions

1. IAGA,

recognising

the importance of the list of storm sudden commencements (ssc), continuous since 1868, to the worldwide scientific community, and

appreciating

the efforts of Ebro magnetic observatory in regularly maintaining and circulating the up-to-date list of events, and

noting

that the definitions of storm commencements (sc), sudden impulses (si), and storm sudden commencements (ssc) have changed over time, reflecting better understanding of physical processes and changes in instruments and working practises, and

that a new method, relying on quantitative criteria for sc/ssc/si determination, has been proposed by the Ebro team, published in "*Evolution of the concept of Sudden Storm Commencements and their operative identification*" by J. J. Curto, T. Araki, and L. F. Alberca (*Earth Planets Space*, **59**, 463 – 471, 2007), and to be described in a revised IAGA Guide for Geomagnetic Indices, and

that this method is well defined and reproducible and that it produces data that are homogeneous with data produced using the existing method developed by P.N. Mayaud,

endorses

this new method as the basis for the future determination of sc/ssc/si, as contained in the list of events published by Ebro observatory .

2. IAGA,

recognising

the importance of endorsement of geomagnetic indices by IAGA as a guarantee of the quality of index data provided to the worldwide scientific community, and

noting

that there is no published definition of the properties of geomagnetic indices required for, and of the process of, endorsement of geomagnetic indices by IAGA; therefore

adopts

the "Index criteria" document, to be published in IAGA news; as the criteria for endorsement of proposed geomagnetic indices.

5. Proposed IAGA2011 Sessions

1. Geomagnetic products for space weather and space climate (Div. V and IV)

Convenor: Kalevi Mursula Co-convenor: Toshiko Iyemori

Use of existing and new geomagnetic indices data and its combination to analyse, to monitor, and to predict, space weather events and climate change at different time scales.

2. Seismological and Tectonic interpretation of geomagnetic data and earthquakes (IA)

Convenor: Dr. ME Purucker (IAGA) Co-convenor: Dr. J. Kayal (IASPEI), Dr. Walter Mooney?

Stress accumulated in the lithosphere is often released through major earthquakes and their aftershocks either through existing faults or rupturing the region; these fault zones can be identified through magnetic anomalies, gravity data, Magnetotelluric signatures and other geophysical data. Papers relating the seismic events with magnetic, electromagnetic and associated geophysical data are welcome.

3. Geophysical data rescue and application of historical time series for earth science (IA) Convenors: TBD

Historic data provide valuable insight into past processes; Several Geophysical Institutions have been collecting data in analogue form for over a century and there is an urgent need to restore these data. This applies to geomagnetism, seismology, oceanography and vulconology. (a)With modern technology the process of restoration has been streamlined. To discuss the methods of preserving, mining analogue data and to present the existing long term data networks

(b) To demonstrate the different kinds of data that can present a consistent picture of environmental change on varying scale-lengths

4. Networks, computation and definition of geomagnetic indices

Convenors: Heather McCreadie, Renata Lukianova, JJ Curto

This session aims at discussing:

- a) ability of indices to describe geophysical phenomenon and conditions
- b) Methods of calculation
- c) Elaboration of new indices
- d) Development of modern networks