International Association of Geodesy

International Gravity Field Service

IGFS Splinter Meeting at IAG/IASPEI, Kobe

August 2nd, 2017, 12:00-13:30

Room 402

Preliminary Agenda

1. Internal IGFS issues
    a. Cooperation among the Gravity Services
    b. The new structure of the IGFS web page
    c. Proposal for project to be developed by the Gravity Services
    d. The new COST-G service in IGFS

2. Connections/actions between IGFS and GGOS
    a. Cooperation with GGOS focus areas (particularly with focus area on IHRS/IHRF)
    b. Cooperation with IAG-Commission 2 (projects, JWG/JSG, meetings)

3. AOB
   Next IAG Com. 2 & IGFS meeting in Copenhagen, September 17-21, 2018

The 1st IGFS meeting for 2017 has been opened by Riccardo Barzaghi (**RB**), IGFS President, by welcoming all participants to this splinter meeting. RB mentioned that IGFS has gone a long way since the last meeting during GGHS2016 in Thessaloniki, with the main contributions between the new web front end and the establishment of an IGFS gravity metadata service. **RB** opened the meeting by referring to the general IGFS activities, cooperation between the services and the WGs and JWGs that IGFS either leads and/or participates to. RB asked for response from Directors of the Services. The goal is to send an e-mail to a more generic list by Oct. 2017.

George Vergos (**GV**), Director of the IGFS CB, then presented the new IGFS web front end, while emphasis was put on the gravity metadata service at (http://igfsapps.topo.auth.gr/). The various entry fields and their inter-operability has been presented. It was asked by the services Directors and especially BGI and IGETS to test proof the new metadata service and provide comments and feedback on improvements, corrections, additions needed, etc.

Sylvain Bonvalot (**SB**) mentioned that for the metadata service to be useful, it should be kept short and concise.

Dan Roman (**DR**) asked whether there is an automatic way to add the date to the file.

GV indicated that there will be two flavors of the service. A fundamental one with prerequisites needed for the xml file to be generated and an extended one, where the user will be able to complete as many fields as wished. The fundamental one will not be more that 1.5-2 pages long, containing only the absolutely necessary information for the gravity data specs, accuracy, type and author information.

The date is already added, but it will be case specific, e.g., it will not be a mandatory field, but if for example a BGI data file has this info, then it will be possible to add it.

Kevin Kelly (**KK**) director of IDEMS asked if a human readable version of the xml will be available.

GV commented that when the service is finalized, then two versions of the xml will be produced, on software and another human readable.

Then **RB** mentioned the new IGFS projects with the foremost being the re-establishment of IDEMS.

KK, the IDEMS Director, introduced the revived IDEMS service along with a short outline of the new webpage. He pointed out that the current status refers to a repository of links to data providers of DEM, bathymetry and other terrain related earth (and planetary) models. Future tasks will comprise an assessment of the various datums in the DEMs, data quality, gaps, as well as an investigation of the link between bathymetry data and the terrain in order to correct/smooth sea/land gaps and transition problems. Finally, a major goal is to collect available global and regional models as well as metadata, especially for bathymetry models. An example is GEBCO, which despite being available worldwide, has no datum related to it.

SB asked if there is any recommendation yet from GGOS regarding DEMs/DBMs.

RB replied that there is none for the time being.

KK pointed out that Esri, the host institution of IDEMS, is developing a common exchange format for any type of gridded geodetic data. This could include terrain and bathymetry data. The format will be built on netDCF and will be accompanied by open-source software to read and write data in the defined format. In that way, topography/bathymetry and other gridded geodetic related products will be delivered in a single format.

RB then announced the steps for the establishment of a gravity field model combination center as a continuation of the EGSIEM H2020 project. The IAG EC has discussed both in Vienna during EGU2017 and in Kobe during the present IAG2017 Assembly on the establishment of the COST-g service under IGFS and the proposal was to form it as a combination center. The proposal is to carry on the activities of EGSEIM as they presently are, i.e., to generate combined gravity field products (both static and time-varying).

Ulrich Meyer (**UM**) as a representative in the IGFS meeting of AIUB and EGSIEM, commented shortly on the project. It is an ongoing three year effort within a H2020 project ending soon, with the aim of developing combined gravity products by combining different solutions at the normal equation level. Currently, there are four European analysis centers participating and everyone is welcomed to contribute their normal equations in order to derive a combined solution.

RB mentioned that the proposal is for the transformation of EGSIEM to a COST-g combination center. IGFS is and will be in contact with Adrian Jäggi, scientific responsible of the project, so that the ToR of the new center will be fine-tuned and a final proposal will be presented to the IAG EC in EGU2018.

RB also pointed out that the current effort for the generation of gravity and geoid metadata is within the cooperation with and contribution to GGOS for gravity field related data and standards, also through the participation to the establishment of the IHRS and the realization of the ITRF.

Also, IGFS is participating through ISG to the Commission 2 Joint Working Group 2.4 on the "Integration and validation of local geoid estimates" with a dedicated geoid patching method. Finally, GEOMED-2 is an ongoing IGFS project with its main scope being the determination of a high-accuracy and high-resolution geoid model for the Mediterranean Sea employing land and marine gravity data and GOCE/GRACE based Global Geopotential Models (GGMs).

He also pointed out that the next Joint Commission 2 and IGFS meeting will be hosted in Copenhagen in the week between September 17-21, 2018.

Rene Forsberg (**RF**) commented that the venue hall is already booked and all preparations are well on schedule.

DR asked whether in the two-year time from now to the next IUGG meeting in Montreal there are any missed points that need to be discussed.

RB No, no at all.

At this point the IGFS meeting concluded with an adjourn.

List of participants:
R Barzaghi
GS Vergos
S Bonvalot
U Marti
V Childers
D Roman
M Kuhn
J Krynski
H Abd-Elmotaal
R Grebenitcharsky
Ch Voigt
K Kelly
J Mäkinen
I Oshchepkov
U Meyer
S Bruinsma
Larry Hothem
R Forsberg
C Tocho
G Guimarães
V Grigoriadis

I G F S

a/a	Name	Uni/Institute/Service	Signature
	BOUVALOT Sylvain	BGI	
	Urs Marti	swisstopo	
	Vicki Childers	NOAA/NGS	
	Dan Roman	NOAA/NGS	
	Michael Kuhn	Curtin Uni	
	Jan Krynski	Inst. of Geod. & Cart.	
	Hussein Abd-Elmotaal	Minia University	
	Rossen Grebenitcharsky	Geneve Commission SA	
	Christian Voigt	GFZ, IGETS	
	Kevin Kelly	Esri / IDEMS	
	JAAKKO MÄKINEN	FGI / NLS	
	Ilya Oshchepkov	Center of Geodesy, Cartography and SA	
	Ulrich Meyer	Uni Bern, CH	
	Sean Bruinsma	CNES (F)	
	LARRY HOTHEM	USGS - ISOTC211	
	René Forsberg	DTU Space, Denmark	
	CLAUDIA TOCHO	UNLP / ARG	
	GABRIEL GUIMARÃES	UFU	
	GRIGORIADIS VASSILIOS	AUTH-GravLab	
	George Vergor	GravLab / AUTH IGFS CB	