ICET-GFZ Data Center Reports ETS 2013

Presentations included in this document:

Remarks on the status of the GGP database at GFZ Potsdam, *C. Förste*

New concepts for Semantic Web standards based geoscience data and information management , *B. Ritschel, F. Borchert, C. Förste, M. Abe, G. Neher, G. Kneitschel, S. Schildbach*

Status of GGP data processing at ICET, *J.P. Barriot, B. Ducarme, Y. Verschelle*

Survey of Status of GGP and SG Stations, *D. Crossley, J. Hinderer*

Responses to Survey by Question, *D. Crossley*

Remarks on the status of the GGP data base at GFZ Potsdam

The old interface at http://ggp.gfz-potsdam.de/ was closed end of march 2013

The new GGP data base interface is **http://isdc.gfz-potsdam.de/ggp**
→ part of our general ISDC (containing also satellite data like CHAMP and GRACE)

Characteristics of the new GGP data base interface:

- The modern ISDC distinguishes between **producers** (which upload data) and **users** (which download data)
- In the old GGP data base all products have to be uploaded individually. In contrast the **upload of the GGP data in the new modern ISDC can be done en-block via simple ftp** (using the corresponding producer account and password)
- The **metadata** for the data base ("DIF-files") will be created on our side. The data producers do not need to do this.
- It's possible (and we suggest that) to have **producer accounts for institutions**.
  → If you operate more than one instrument can upload their data of the different instruments by using one producer account. This should simplify the upload.
- The request of SG data for download by users must be done in the framework of our **general ISDC**
- The **rules of the data policy** will be kept unchanged in the modern ISDC.

Station registered at GGP data base	E-Mail contact	Status of the change to the new ISDC interface
Black Forrest	widmer@geophys.uni-stuttgart.de	
Bad Homburg	peter.wolf@bkg.bund.de,	
Concepcion	peter.wolf@bkg.bund.de	
Medicina	peter.wolf@bkg.bund.de	
Wettzell	peter.wolf@bkg.bund.de	
Hsinchu	cara0215@gmail.com	
Straßbourg	jjpboy@eost.u-strasbg.fr, Jacques.Hinderer@eost.u-strasbg.fr	
Metsahovi	heikki.virtanen@fgi.fi	
Sutherland	abe@gfz-potsdam.de	
Wuhan	chenxd@asch.whigg.ac.cn	
Brasimon	casula@ibogfs.df.unibo.it	
Bandung	fukuda@kugi.kyoto-u.ac (?), higashi@kugi.kyoto-u.ac.jp(?)	
Kyoto	fukuda@kugi.kyoto-u.ac (?),higashi@kugi.kyoto-u.ac.jp(?)	
Boulder	vicki.childers@noaa.gov	
Canberra	yoshiaki.tamura@nao.ac.jp	
Esashi	yoshiaki.tamura@nao.ac.jp	
Kamioka	yoshiaki.tamura@nao.ac.jp	
NY Alesund	yoshiaki.tamura@nao.ac.jp	
Syowa	shibuya@nipr.ac.jp	
Matsushiro	imanishi@eri.u-tokyo.ac.jp	
Onsala	hgs@chalmers.se	
Brussels	leslie@oma.be	
Membach	leslie@oma.be	
Sutherland	abe@gfz-potsdam.de	
Apache Point	crossley@eas.slu.edu	
Moxa	thomas.jahr@uni-jena.de,	
Cantley	Goran.Pavlic@nrcan.gc.ca	
Pecny	vojtech.palinkas@pecny.cz,	
Vienna	bruno.meurers@univie.ac.at	

The change to the new ISDC interface is:

- open
- finished
- successfully ongoing

GFZ POTSDAM

INFORMATION SYSTEMS AND DATA CENTER

Global Earth Science Data

International Association of Geodesy

Earth Tide Symposium 2013
15-19 April, 2013
Warsaw, Poland

17th International Symposium on Earth Tides
„Understand the Earth"

Fachhochschule Potsdam
University of Applied Sciences

New concepts for Semantic Web standards based geoscience data and information management

-What could the future GGP service look like?

B. Ritschel (rit@gfz-potsdam.de), **F. Borchert** (GFZ, WI),
Ch. Förste, **M. Abe** (GFZ, Department 1)
G. Neher, **G. Kneitschel**, **S. Schildbach**
(FHP, Faculty of Information Science),

GFZ Helmholtz Centre Potsdam

GGP

GWR INSTRUMENTS, INC.

GCMD

SPASE

EIONET GEMET Thesaurus

HELMHOLTZ ASSOCIATION

WWW => Semantic Web

- World Wide Web (1991*)
  - about documents
    - HTML pages
    - URL links
    - HTTP protocol

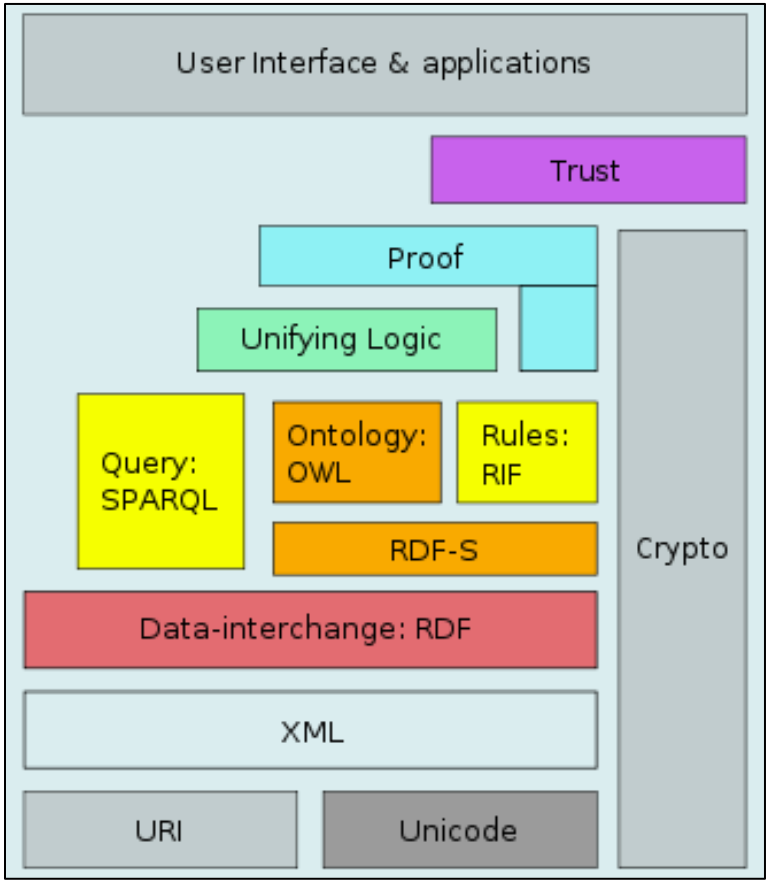
- Semantic Web (2001*)
  - about structured data

based on WWW

- URI (resource id)
- RDF triples

Actor	Query (URI)	Answer
Human	HTTP request	HTML page
Machine	HTTP request	RDF data

Semantic Web Stack
=> W3C standards



*Sir Tim Berners-Lee

http://de.wikipedia.org/wiki/Semantisches_Web

Challenges for the Use of SG-Data

- SG is very accurate gravity instrument (1 nanoGal)[1]

but =>

- depending on the research focus, different detailed information about governance/provenance + context of SG-data is necessary in order to know how to use the data:
  - Site and installation of the SG-stations
  - Meteorological and aquifer conditions at the site
  - Observation log of instruments and acquisition systems
  - Data preprocessing methods (filtering, step correction, …)
  - Experiences of involved persons and institutions
  - Collocated instruments and measurements (e.g. AG, …)
  - Further appropriate geophysical data and models
  - Documentations and publications

[1]Observatory Superconducting Gravimeter, GWR
http://catalog.gwrinstruments.com/Asset/OSG_Dual_Brochure_Rev_1.0.pdf

New Topics of SG-Data Research

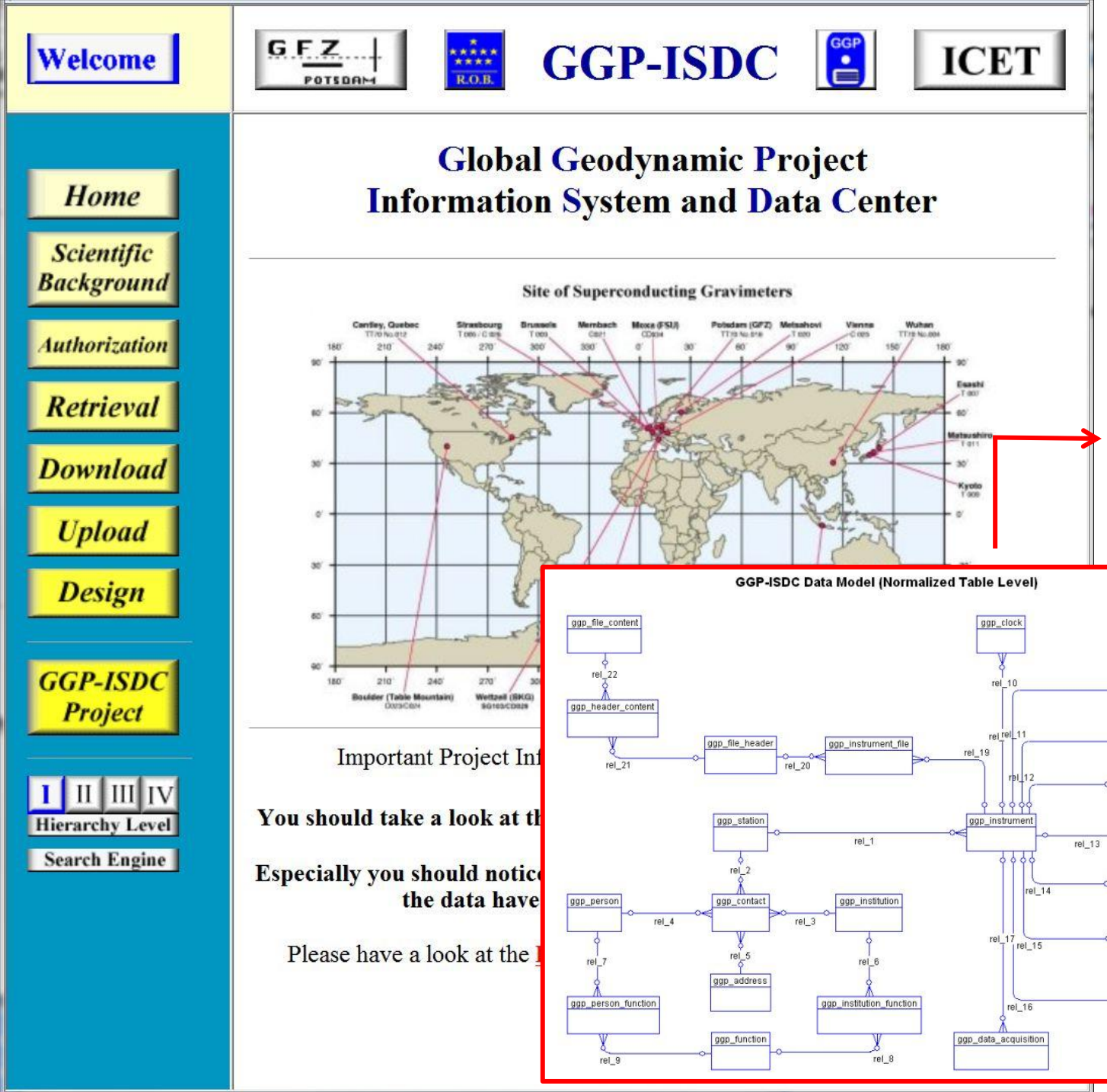
[1]Grand Challenges in Geodesy, UNEVCO report 2010

- [1]Grand Challenge 5: What physical processes control earthquakes?
  e.g. Episodic Tremor and Slip (ETS)
  - Talk EGU, April 2013, J. Neumeyer (presentation no. 12818)
  - Poster AGU, Dec. 2012, J. Neumeyer (Calgary University)
  - Poster AGU, Dec. 2012, Y. Imanishi (Tokyo University)
- [1]Grand Challenge 6: How does Earth's surface evolve?
  e.g. Ultra-high-resolution: 4-D imaging across Earth science
- [1]Grand Challenge 7: What are the mechanics of magmatic systems?
  - Battaglia, M., et al. 4D vulcano gravimetry
  - Williams-Jones, G., et al., Toward continuous 4D microgravity monitoring of volcanoes, Geophysics 2008

… back in time

GGP-ISDC

- Developed in 1990's
- Proprietary system
- Authorization and login
- Relational Database
- SG-data retrieval and download
- Context data retrieval
- SG-Data and context data visualization
- Data upload and metadata validation



… what do we have now

GGP-ISDC Portal

GFZ Helmholtz Centre Potsdam

INFORMATION SYSTEMS AND DATA CENTER
Global Earth Science Data

New to ISDC? Register and order free global satellite orbit, earth gravity field, geomagnetic and atmospheric data.

User name
User name
Password
Log in

Log in Problems?
New User? Sign Up!

Home

Information
Projects in ISDC
Product Types
Documents
Software
FAQ
Links
Education
Statistics

Data Access
How to get data

Collaboration
Forum
Contact

There are 1 registered user online.

You can log-in or register for a user account here.

Search

Report Bug

MyRetrieval (Get Data) | Newsletter | Documents

GGP Project - Stations

The GGP (Global Geodynamic Project) is a long term initiative in order to es
gravimeter (SG) stations by the voluntary consolidation of unique observa
project ran from July 1997 to July 2003, the second phase until 2007. Th
2011. The high accuracy gravity data are used for study of global motions
of local gravity effects caused by atmospheric pressure and groundwate
missions CHAMP and GRACE, the SG data got a new impact for the validati
GGP Project Homepage
GGP Japan Data Center
International Center of Earth Tides
International Gravity Field Service
GWR Instruments, Inc.

Information

GGP ISDC Homepage
Scientific Background
Data Product Types

Please use the SG station map link or click on the station map in order to open a new browser windo
Superconducting Gravimeter station map. To get more informations about the stations please use the

Stations
BFO-SG-OBS-BF
BKG-SG-OBS-BH
BKG-SG-OBS-MC
BKG-SG-OBS-WE
BKG_TIGO-SG-OB
COGG-SG-OBS-HS
EOST-SG-OBS-ST
FGI-SG-OBS-ME
GFZ-SG-OBS-PO
IGG-SG-OBS-WU
IGN-SG-OBS-YS
INGV-SG-OBS-BR
KUGI-SG-OBS-BA
KUGI-SG-OBS-KY

MyRetrieval (Get Data) | Newsletter | Documents

- Developed in 2000's
- Postnuke CMS system
- Authorization and login
- Relational database
- SG-data retrieval and download
- No context data retrieval
- No spatial retrieval
- No data visualization
- Access to div. GFZ data

Forum

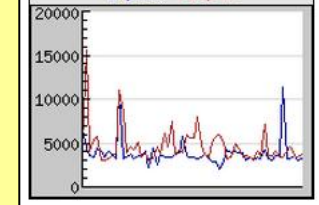
LAST FORUM POSTS
Grace GSM Weekly Dat... (0)
by kgresiak
on 26. Mar at 07:35
RE: General ISDC Dat... (1)
by vivienm
on 25. Mar at 12:20
[Access Forum]

FORUMS
ISDC
CHAMP
GRACE
GGP
GGOS
GGSP

Personal Block
You are not logged in.

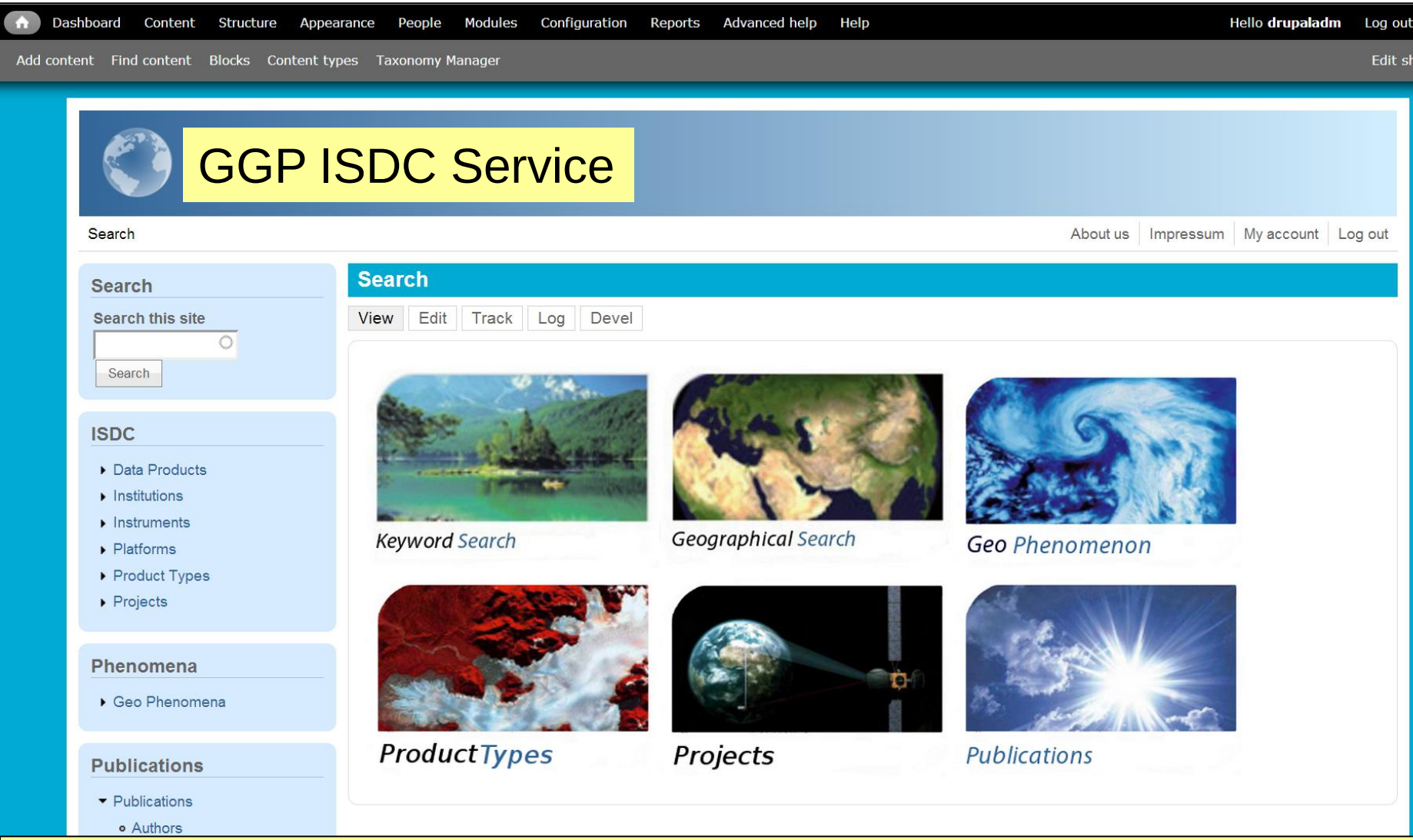
Request Limits (24h)
You are not logged in.

Data Flow (last 60d)
Input / Output



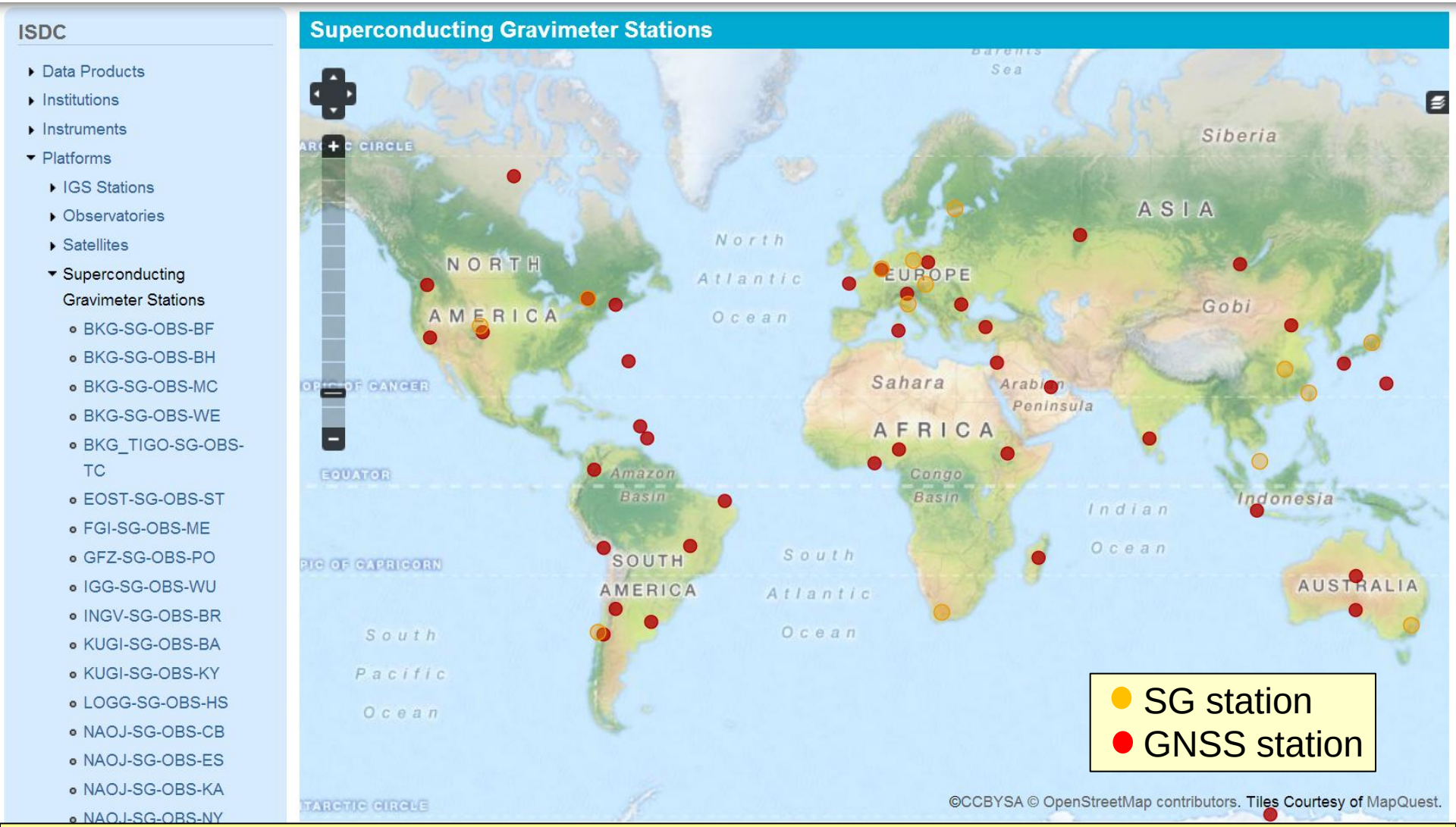
… how the future could look like

Semantic Web based GGP-ISDC Portal
- Proof of Concept -



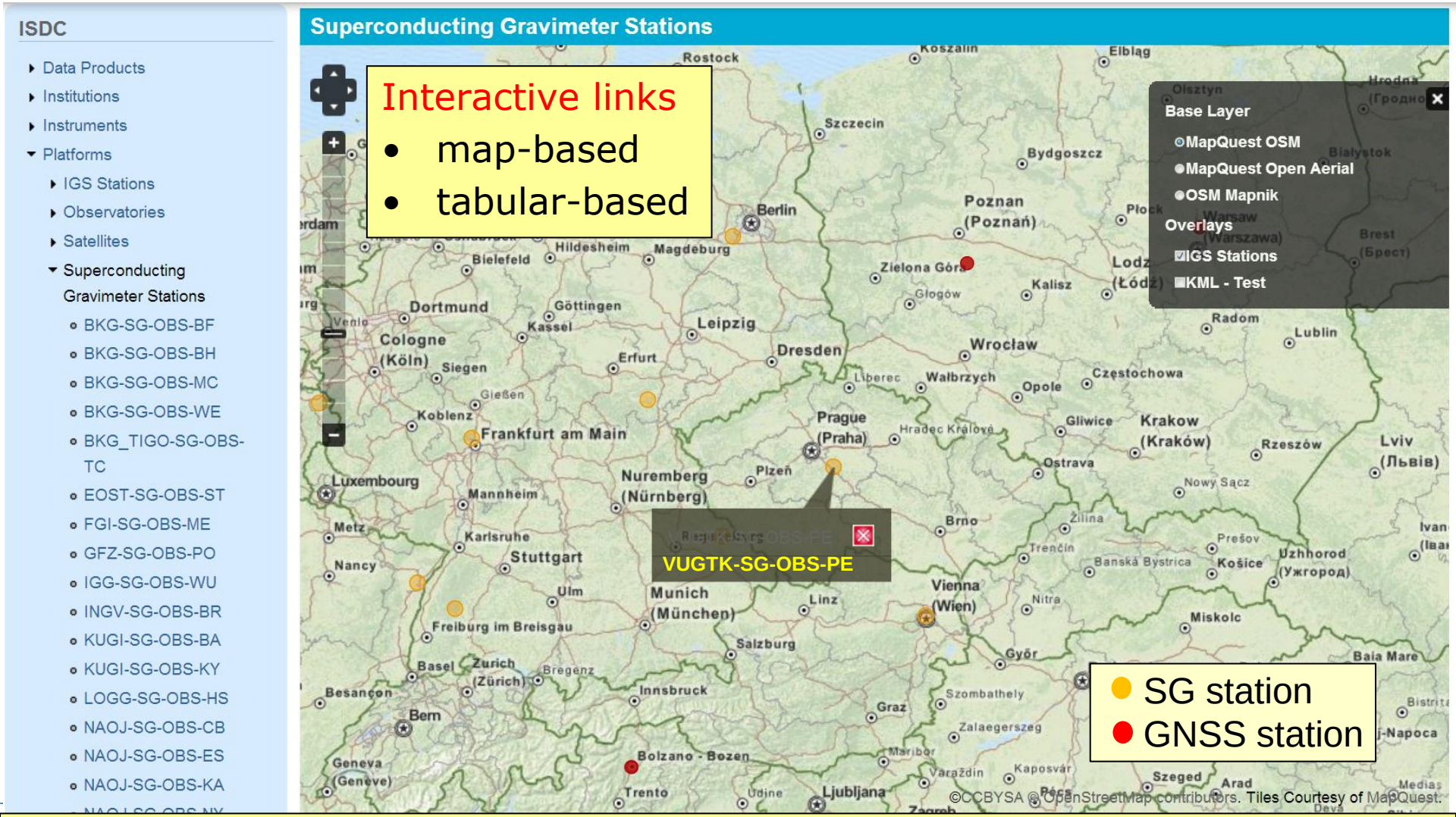
Based on ISDC ontology network and RDF resources
Technical implementation via Drupal CMS and Virtuoso RDF DBMS

SG Stations Map (OSM MapQuest) with Overlay of IGS GNSS Station Layer



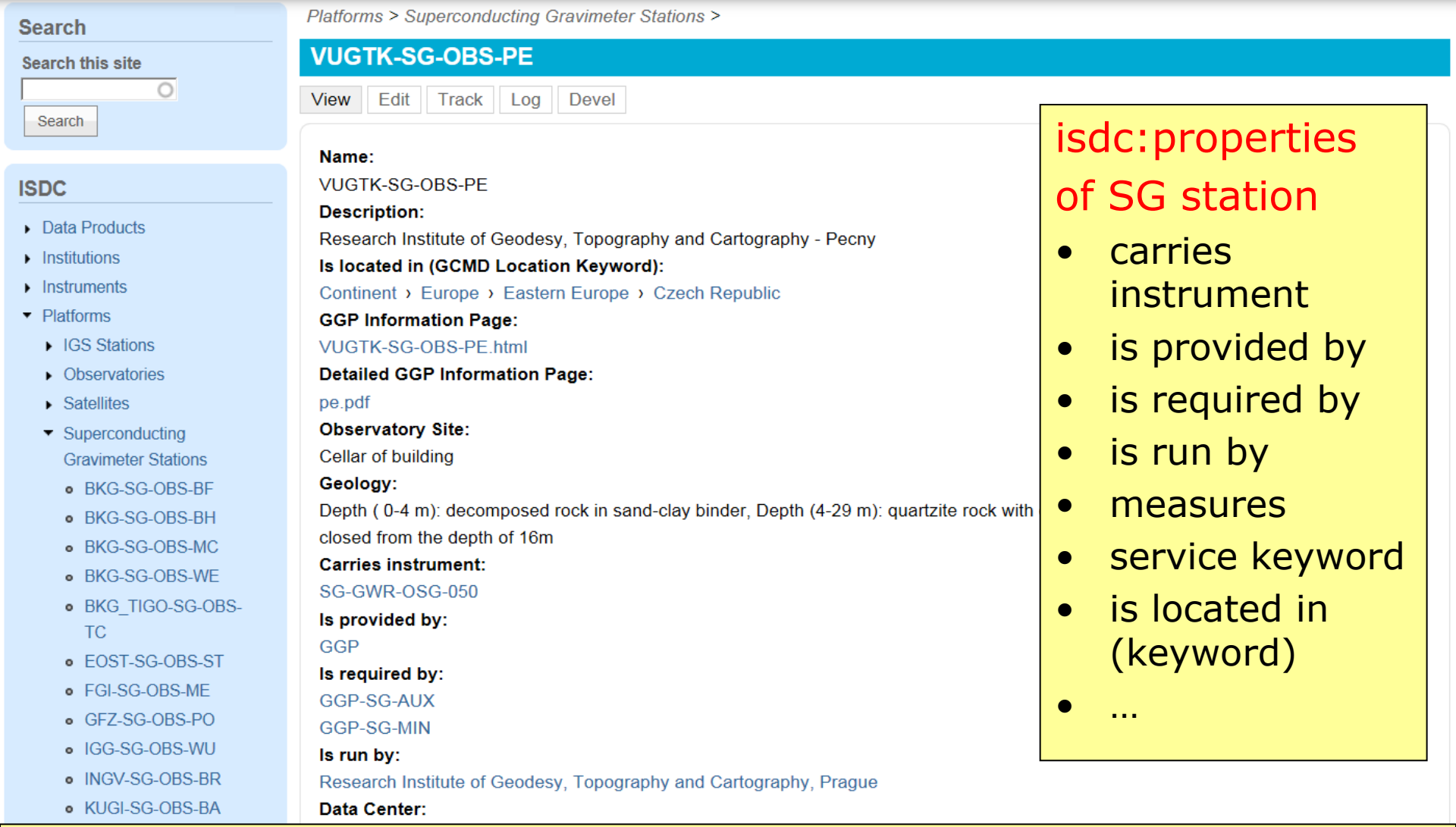
Zoom-variable SG station map:
Hyperlinks to SG and appropriate GNSS stations (overlay-map)

Zoomed SG Station Map (OSM MapQuest) with Overlay of IGS GNSS Station Layer



Zoom-variable SG station map:
Hyperlinks to SG and appropriate GNSS stations (overlay)

Platform => SG Stations => VUGTK-SG-OBS-PE

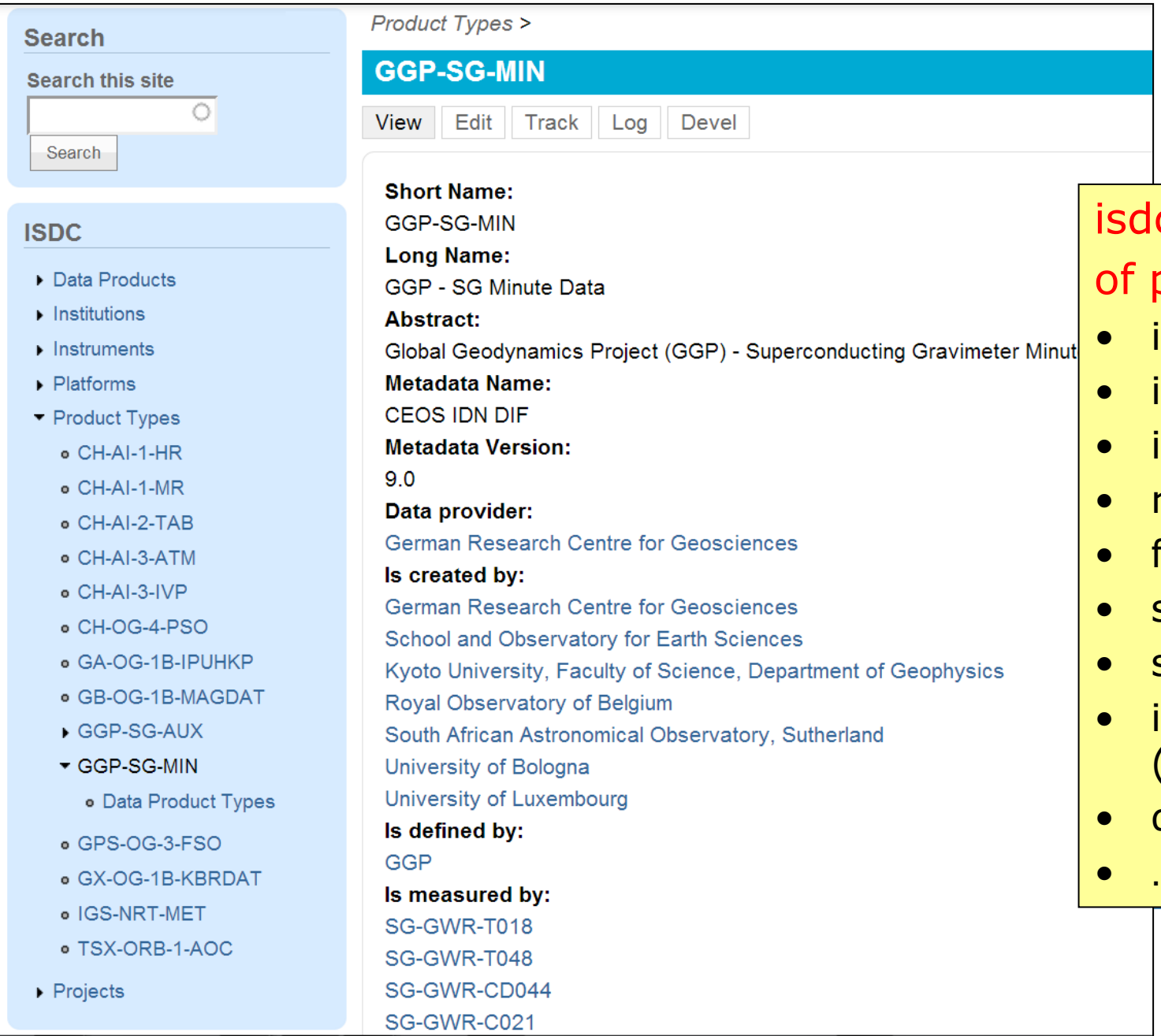


isdc:properties of SG station

- carries instrument
- is provided by
- is required by
- is run by
- measures
- service keyword
- is located in (keyword)
- …

VUGTK-SG-OBS-PE SG station description:
Hyperlinks to projects, instruments, product types, further observations, …

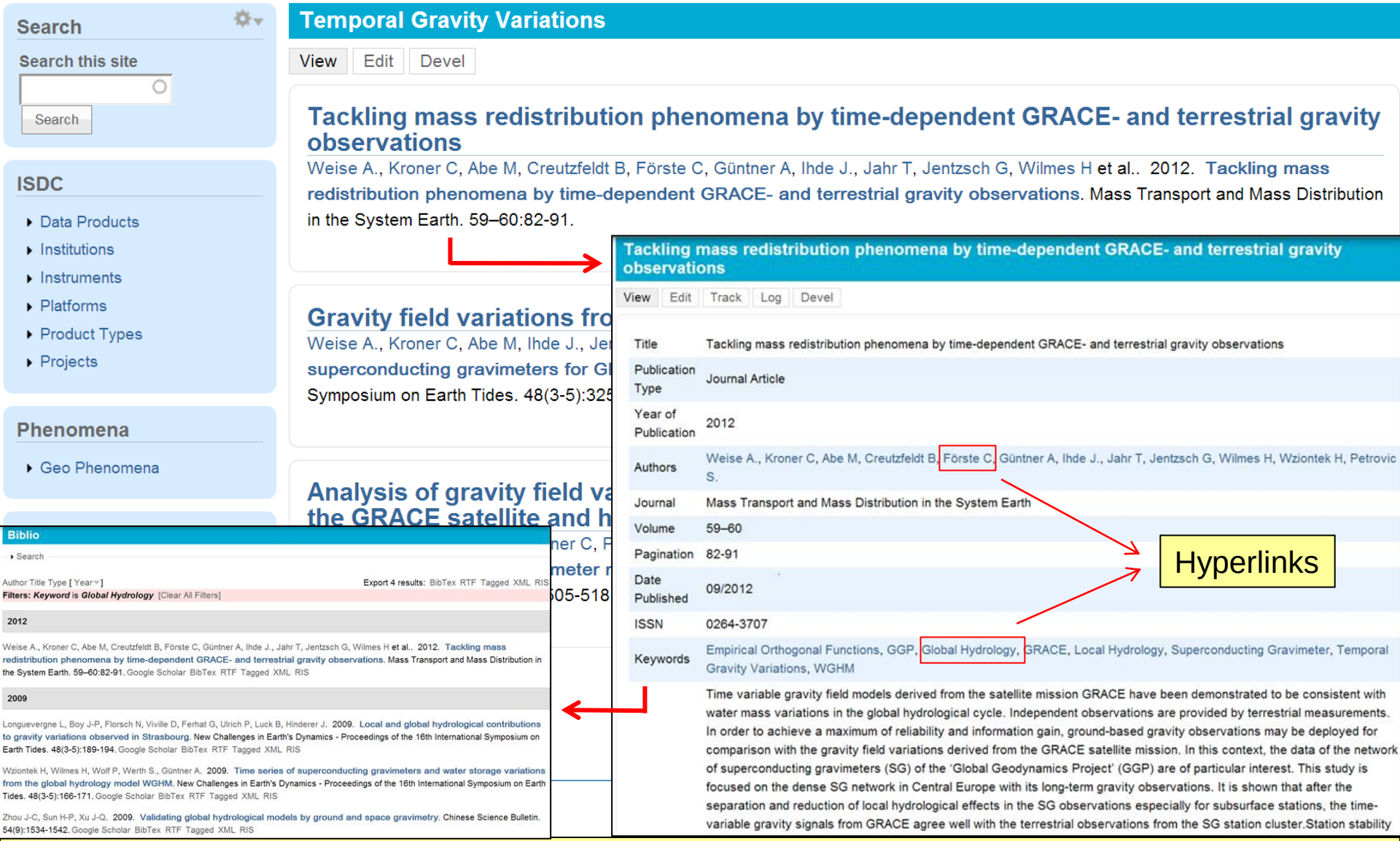
Product Types => GGP-SG-MIN



isdc:properties of product type

- is created by
- is defined by
- is measured by
- requires
- free keyword
- science keyword
- service keyword
- is located in (keyword)
- data display
- …

Projects => GGP => Publications => Temporal Gravity Variations

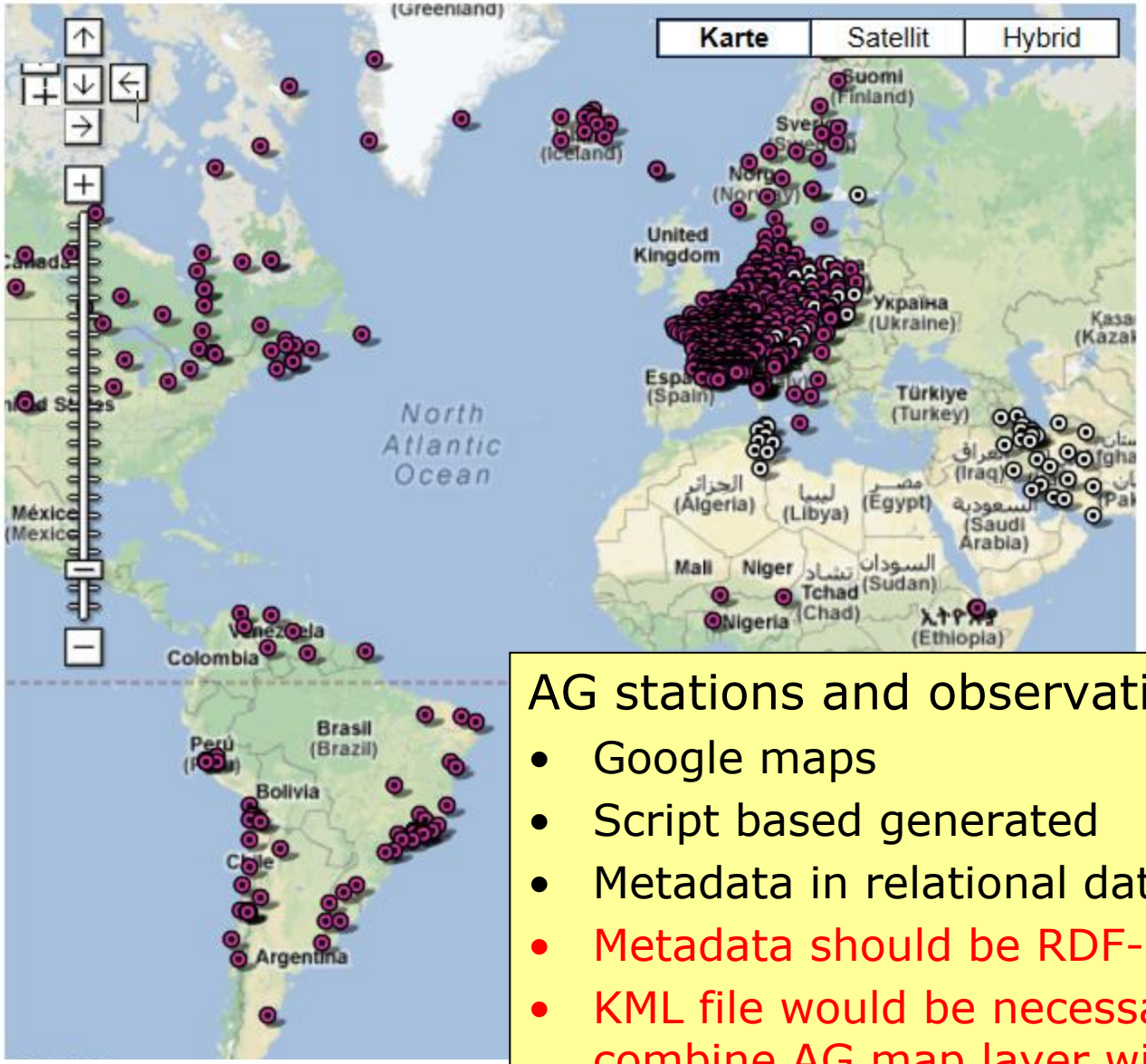


„Temporal Gravity Variations“ results from GGP publications tag cloud

AGrav: Absolute Gravity Database - Meta-Data

Map
Meters
Stations
Observations
Institutions
Full Access (login required)
Mirror at BGI
Legal and Privacy

agrav@bkg.bund.de
bgi@cnes.fr



Legend:

Station with meta data (station location) Station with gravity information

AG stations and observations

- Google maps
- Script based generated
- Metadata in relational database
- Metadata should be RDF-conform
- KML file would be necessary to combine AG map layer with OSM

An IAG GGP service should be …

- based on GGP data provider/user requirements
  - Sustainable SG-data management services
  - Providing necessary context data and value added (Web) services for a successful use of SG-data
- based on requirements of geodetic community
  - [1]… cyberinfrastructure, for dissemination of data … to stimulate the broadest possible spectrum of innovative science … for both satellite and groundbased observations
  - [1]… integration of geodetic data types will lead to discoveries in a wide range of (geoscientific) areas
- based on W[3]C standards (no proprietary system)
  - Semantic Web (URI, XML, RDF, RDFS, SPARQL)
  - Domain + terminological ontologies (OWL, SKOS)

[1]Grand Challenges in Geodesy, UNEVCO report 2011

I am prepared to provide my expertise and to take responsibility!

Status of GGP data processing at ICET
(Earth Tides Meeting, Warsaw, April 2013)

Jean-Pierre Barriot[1], Bernard Ducarme[2] and Youri Verschelle[1]
[1] *Observatoire Géodésique de Tahiti, Université de la Polynésie française*
[2] *Catholic University of Louvain, Georges Lemaître Centre for Earth and Climate Research*

INTRODUCTION

GGP raw minute data (GGP-SG-MIN) are preprocessed and validated at ICET, in order to provide reliable hourly data sets for tidal analysis. In a first step, gaps and spikes in the monthly raw data files are corrected using the T-soft software. The corrected minute data (GGP-SG-CORMIN) are then uploaded on the Information System and Data Center (ISDC at isdc.gdz-postdam.de) with repair codes 12 or 22. The corrected minute data are decimated to one hour sampling and submitted to tidal analysis. The hourly data are also uploaded as one-year blocks (GGP-SG-HOUR, code h2) on the same site. We summarize the current status of our processing for all the GGP station.

We want to summarize in Table 1 the preprocessing and analysis work performed at ICET in the framework of the Global Geodynamics Program (GGP). In most of the 17 regularly cooperating stations we processed 18 months of additional data since the presentation at the IUGG General Assembly in 2011. Twenty superconducting gravimeters (SGs) and 325 monthly files are concerned. Additional raw data have been uploaded since our last processing as the data base is permanently in evolution. The instruments or stations marked with a star are no more operating. Two stations (AP and CO) are operating on a regular basis since 2009 and 2007 respectively but raw minute data are not yet available from ISDC, although the hourly data have been provided to ICET. Table 1 (column N) and Figure 1 provide also a global overview of the SG data available at GGP and ICET, including records previous to the beginning of the official GGP cooperation (1997/07/01). In some stations the end of the data had to be rejected from the global analysis due to degraded signal to noise ratio (last column of Table 1). Seventeen SG individual series reach a length of 8 years (3000 days), twelve 4000 days and five 5000 days. In stations where several instruments operated sequentially the total length reach 4000 days for BH and SU and 5000 days for WE. If the signal to noise ratio is good enough it is easy to separate the waves deriving from W_3^1 and W_3^2 potential with a data length of 3000 days (Ducarme 2012). For the nodal waves 4000 days is normally sufficient (Ducarme, 2011).
The standard deviation STD computed with ETERNA (ANALYZE) are given in Table 1 and Figure 2. As the stability of the sensitivity of the superconducting gravimeters is better than 0.1%, the STD is a measure of the signal to noise ratio in the station. For 22 series the STD is lower than 1nm/s^2. When the STD is larger than 2nm/s^2 the data set is not suitable for a precise determination of the fine tidal spectrum.

REFERENCES

Ducarme B., 2011. The K1 triplet: can Lunar nodal waves contribute to the study of the Free Core Nutation (FCN)? Bull .Inf. Marées Terrestres, 147, 11891-11902.
*Ducarme B., 2012. Determination of the main Lunar waves generated by the third degree tidal potential and validity of the corresponding body tides models. Journal of Geodesy, **86, 1, 65-75** DOI: 10.1007/s00190-011-0492-9*

Table 1: Status of preprocessed and analyzed GGP data on April 2013
n: number of preprocessed months since 2011
N: number of days effectively used in the global tidal analysis
STD: standard deviation of the global analysis (ETERNA)

Code	Location	SG Instr.	ICET Code	RAW	Corrected	n (months)	N (days)	STD (nm/s^2)	remarks
AP	Apache Point, USA	SG046	00466090				734	1.208	
BA*	Bandung, Indonesia	T008	00084100	030600	030622		1104	2.938	
BE*	Brussels, Belgium	T003	07790200	000900	000901		¶6692	1.641	
BF	Black Forest, Germany	CD056_L	01560716	121200	120522	27	693	0.598	
		CD056_H	02560716	121200	120522	27	693	0.657	
BH	Bad Homburg,	(T001)					¶1005	0.950	
	Germany	CD030_L	01300734	070400	070422*		2222	0.783	
		CD030_U	02300734	070400	070422*		2218	0.835	
		SG044	00440734	121200	120422	15	1874	0.599	
BO*	Boulder, USA	C024	00246085	031000	031022		1850	1.109	
BR*	Brasimone, Italy	T015	00150515	991200	991222		1428	2.954	
CA	Cantley, Canada	T012	00126824	121100	120222	14	5006	1.259	
							¶6572	1.268	
CB	Canberra, Australia	C031	00314204	120100	110722	16	4933	0.762	
CO	Conrad	C025	00250699				1877	0.565	
ES	Esashi, Japan	T007	00072849	081200	081222?		2274	1.491	→20040225
HS	Hsinchu, Taiwan	T048	00482695	120800	081222		898	2.249	
KA	Kamioka, Japan	T016	00162828	120100	110722	16	2356	1.271	
KY*	Kyoto, Japan	T009	00092823	030600	030622		1533	3.691	→20020731
MA*	Matsushiro, Japan	T011	00112834	080600	080622		3954	1.008	
MB	Membach, Belgium	C021	00210243	120900	111222	19	5907	0.705	
MC	Medicina,Italy	C023	00230506	121200	120122	12	5047	0.871	
ME	Metsahovi, Finland	T020	00200892	120700	120722	19	5199	1.183	
							¶5744	1.159	
MO	Moxa, Germany	CD034_L	01340770	121200	120622	14	4357	0.599	
		CD034_U	02340770	121200	120622	14	4423	0.549	
NY	Ny Alesund, Norway	C039	00390005	120100	120122	22	3776	2.687	
PE	Pecny,CZ	OSG050	00500930	121100	120622	22	1860	0.540	
PO*	Potsdam, Germany	T018	00180765	980900	980912		2250	0.856	
ST	Strasbourg, France	(T005)					¶3272	2.265	
		C026	00230306	120500	120522	13	5342	0.773	
SU	Sutherland, South	CD037_L	01373806	121200	120622	18	3561	0.821	
	Africa	CD037_U	02373806	121200	120622	18	3398	0.748	
		SG052	00523806	121200	120622	18	1375	0.831	
SY	Syowa, Antarctic	T016	00169960	030100	030122*		1279	1.387	→20001231
TC	Tigo, Concepcion, Chile	RT038	00387621	121200	120922	21	2692	1.108	
VI*	Vienna, Austria	C025	00250698	061200	061222		3402	0.525	
							¶4278	0.463	
WE	Wettzell, Germany	(SG103)	01030731	980900	980921*		¶726	2.639	
		CD029_L	01290731	101000	101022*		4264	0.579	
		CD029_U	02290731	101000	101022*		4226	0.597	
		CD030_L	01300731	121200					
		CD030_U	02300731	121200					
WU	Wuhan, China	T004	00322647	120700	120712•		3722	0.937	
					TOTAL	325			

* instrument stopped
? status unknown
• preprocessed by data owner
( ) not included in GGP
¶ with data before 1997/07
→ end of the global analysis

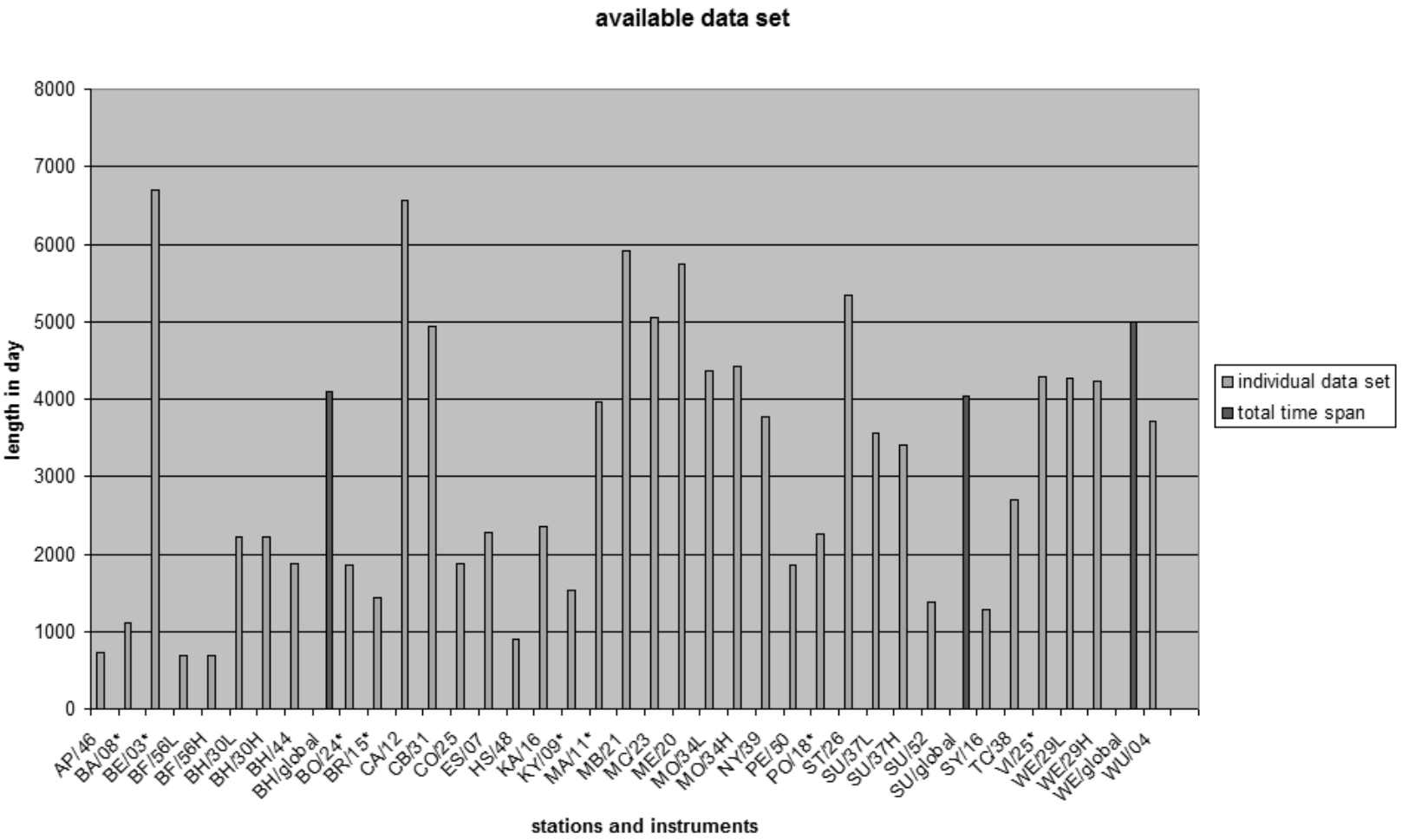


Figure 1: Length of the different data set

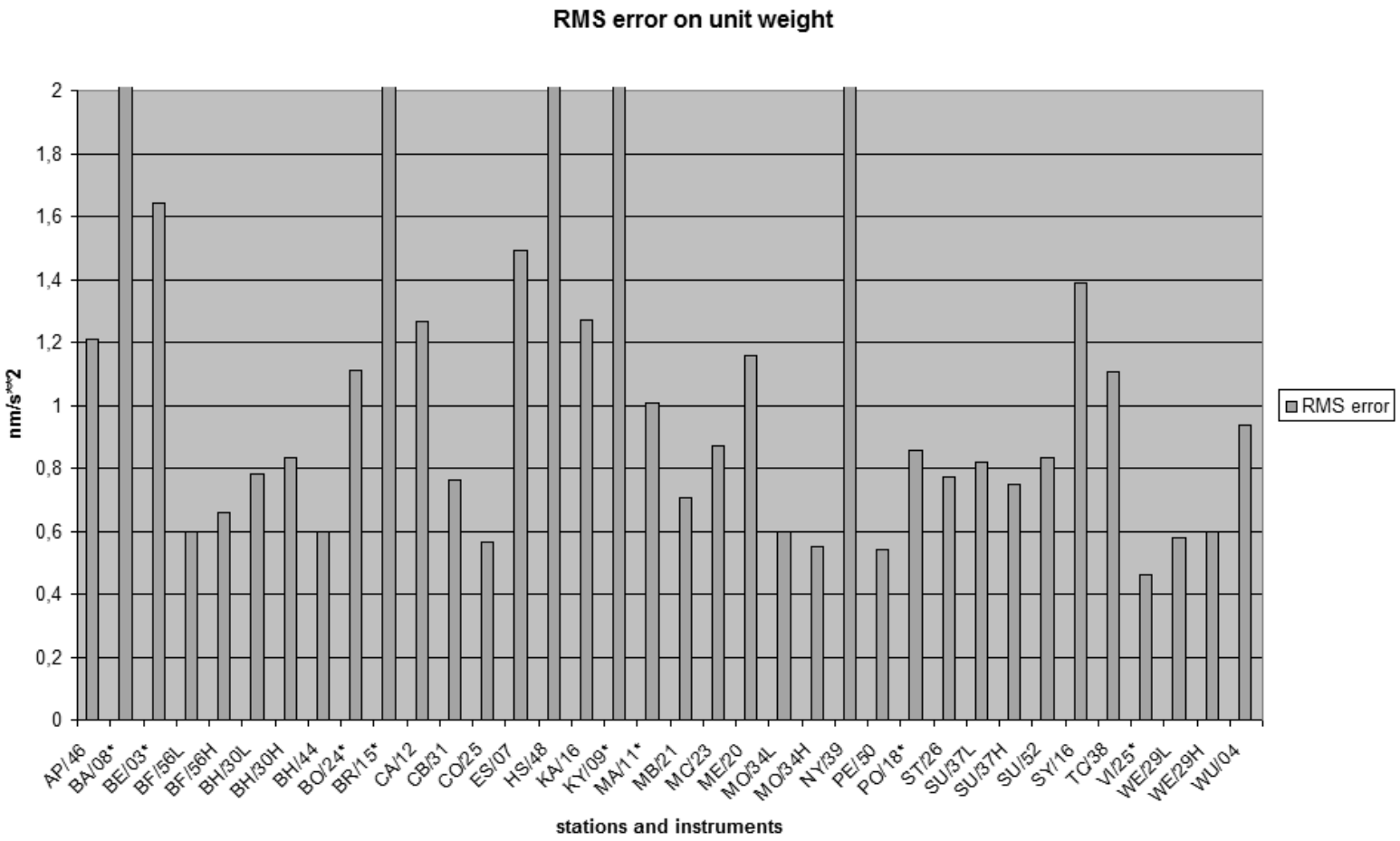


Figure 2: RMS error on the unit weight of the different data set

Survey of Status of GGP and SG Stations
April 1-5, 2013

In preparation for the upcoming ETS2013 Symposium, GGP requests that all SG groups leaders to respond the following questions. **It is particularly important to have your input if your group will not be represented in person, in Warsaw.** There will be some changes to the functioning of GGP and the database, to be discussed at the meeting.

Your Name:
Institution:
Stations under your control (2-letter code):

Question 1:
Do you currently upload GGP 1 minute data to ICET/ISDC on a regular basis? Yes/No:

If No,
(a) please give a reason:
(b) would still want to be included in the future as a GGP station? Yes/No:

Question 2:
Have you had any difficulties uploading/downloading data from ISDC?
Yes/No:
If Yes, please describe:

Question 3:
We are proposing that most stations move to a model which gives immediate release of the data once it has been placed in the database for the benefit of all scientists. Would you support such a move? Yes/No:

If No, please give a reason:

Question 4:
IAG now suggests that GGP operate as an IAG Service to archive current and future processed global relative gravity data. At the present time there is no requirement for stations to provide corrected residual time series, though this

is under discussion and development. The connection with the current ICET Service will be discussed at ETS2013.

Would your station be contributing to such a service?
Yes/No/Comments:

Question 5:
At the Business Meeting the status of the ICET/ISDC data files will be reviewed, and station reports will be requested.

Please upload all files for previous months during the next week (April 1-5), so an accurate count of files and stations can be made.

If you **will be** at the meeting, please be prepared to make a short presentation (oral, or by slides) for your station(s).

If you **will not be** at the meeting, please provide a short Status of your SG station(s) **here** - operational/being fixed/etc:

Please return by Friday April 5.

Thank You,
David Crossley/Jacques Hinderer
March 29, 2013.

code	location	responsibility		returned?		Q1	Q2	Q3	Q4
						upload?	problem?	immed release?	new service?
AP	Apache point, USA	Murphy/Crossley		yes	1	1	1	1	1
BF	Black Forest Observatory	Rudi Widmer-Schnidrig		yes	1	1	0	1	0
BG	Gujurat, India	B. K. Rastogi	replaces Gupta		0				
BH	Bad Homburg	Herbert Wilmes		yes	1	1	0	1	1
BO	TMGO, Colorado	Mark Eckel		yes	1	0	0	1	1
CA	Cantley, Canada	Joe Henton		yes	1	1	0	1	1
CI	Cibinong, Indonesia	Yoichi Fukuda		yes	1	0	0	1	1
CO	Conrad, Austria	Bruno Meurers		yes	1	0	0	1	1
DJ	Djougou, Benin	Jacques Hinderer		yes	1	1	0	1	1
GE	Wuhan GETOC, China	Li Hui			0				
HS	Hsinchu, Taiwan	Cheinway Hwang		yes	1	0	0	1	1
KA	Kamioka, Japan	Yoshiaki Tamura			0				
LH	Lhasa, Tibet	Heping Sun			1	0	0	1	1
LZ	Larzac, Montpelier	Nicolas Le Moigne		yes	1	0	0	1	1
MA	Matsushiro	Yuichi Imanishi	email refused		0				
MB	Membach, Belgium	Michel Van Camp			0				
MC	Medicina	Herbert Wilmes		yes	1	1	0	1	1
ME	Metsahovi	Heikki Virtanen		yes	1	1	0	1	1
MO	Moxa	Thomas Jahr		yes	1	1	0	1	1
MZ	Mizusawa, Japan	Yoshiaki Tamura			0				
NY	Ny-Alesund	Ove Omang		yes	1	1	0	1	1
OS	Onsala, Sweden	Hans-Georg Scherneck		yes	1	0	1	1	1
PE	Pecny, Czech	Vojtech Palinkas		yes	1	1	0	1	1
SI	Sidney, VI, Canada	JW Kim/Ricky Kao		yes	1	0	1	1	1
ST	Strasbourg, France	Jacques Hinderer		yes	1	1	0	1	1
SU	Sutherland	Christoph Foerste		yes	1	1	0	1	1
SY	Syowa, Antarctica	Kazuo Shibuya		yes	1	0	1	0	1

TC	Tigo Concepcion	Herbert Wilmes		yes	1	1	0	1	1
WA	Walferdange	Olivier Francis			0				
WE	Wettzell	Herbert Wilmes		yes	1	1	0	1	1
WG	Ghuttu	Naresh Kumar	replaces Arora		0				
WU	Wuhan, China	Heping Sun		yes	1	1	0	1	1
YM	Mt. Yangming, Taiwan	Cheinway Hwang		yes	1	0	0	1	1
YS	Yebes, Spain	Jose Serna		yes	1	0	1	1	1

	# returned	or yes		26	15	5	25	25
	# not returned	or no		8	11	21	1	1
	% returned			**76**	**58**	19	**96**	**96**

Individual Responses to Questions from Survey

Question 1:
Do you currently upload GGP 1 minute data to ICET/ISDC on a regular basis?

SI: No, we just moved iGrav to the test side at Sidney 10 months ago and checked the quality of residual gravity. I want to be included in the future if we can find the project to support next stage.
SY: We don't know how to upload our data to ICET/ISDC regularly. Currently, we release our SG data from our web site at http://polaris.nipr.ac.jp/~open-sg/
YS: we'll do it as soon as possible, we didn't have the permissions yet
WU: Yes for WU/But Not for LH due to a calibration problem

Question 2:
Have you had any difficulties uploading/downloading data from ISDC? Yes/No: If Yes, please describe.

AP: Had a file header problem for a while, until fixed by Vivien Mende. Cannot download recent data (less than a year)
SI: No, the website is very clear. But I need the User name and Password to do this.

Question 3:
We are proposing that most stations move to a model which gives immediate release of the data once it has been placed in the database for the benefit of all scientists. Would you support such a move? Yes/No: If No, please give a reason.

OS: Yes. You can obtain data from an http-server: http://holt.oso.chalmers.se/hgs/4GGP and this will be filled with more data types.
SY: May be Yes, but we do not know about the model and may not understand it correctly.

Question 4:
IAG now suggests that GGP operate as an IAG Service to archive current and future processed global relative gravity data. At the present time there is no requirement for stations to provide corrected residual time series, though this is under discussion and development. The connection with the current ICET Service will be discussed at ETS2013. Would your station be contributing to such a service? Yes/No/Comments.

BF: No, we will not provide corrected residual time series. The decisions to be made when correcting residual time series depend on the scientific question to be answered with the data. Hence the end user should correct the data, not the station operator.

CA: Conditional Yes- Depending on the feasibility of implementing the quality control and quality assurance requirements requested by the IAG and the standard type of corrections adopted. We support that GGP operate as an IAG Service.

CO: I suggest providing gravity time series corrected for known steps and with instrumental disturbances replaced by gaps. Corrections are “black boxes”, the user does not know the models behind.
HS: Yes. In fact, we have developed locally an optimized ocean loading & station hydrology correction model so it is in our proposal that residual time series corrected by different models are to be offered simultaneously. If 1Hz data is appreciable, we are willing to offer 1Hz data of our sites.
MO: YES, but it depends on the details and on the result of the discussion.
PE: Yes, we are ready to provide several types of corrected time series (incl. drift-free or local hydrology free) for the PE station. I guess that if these kinds of data are used by any scientist, an appropriate reference should be provided.
SI: I am glad to obey the decision of GGP.