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1 Visit to ICET - Minutes

From April 13-14, 2000 there was a visit to ICET / ROB by Bernd Ritschel (GFZ), Jacques Hinderer (IPG Strasbourg) and David Crossley (St. Louis U.) The purpose of the meeting was to discuss various aspects of the GGP operations, including the uploading of data, the processing of data by ICET and ROB and the status of the organization at ICET.

During the 2 days, discussion were also conducted with Veronique Dehant, Michel Van Camp and Paul Pâquet (Director of the Royal Observatory in Brussels). The minutes of these meetings are being circulated as a GGP Newsletter for the benefit of the GGP Membership.

1.1 Response to Questions

The Chair and Secretary had asked for clarification of a number of points to the ICET Administrator, Dr. B. Ducarme. These are the points and the response.

1.2 New ICET Corrected Files

ICET has requested 2 new data repair codes "21" and "22" to be used to denote data repair done by ICET (using the program TSOFT) on the 1 minute data sent by each group. These repair codes would in no way interfere in the ability of the SG groups to send their own repaired versions of their data (with codes "11" and "12"). We therefore have adopted these conventions from the present time.

ICET has stated that their philosophy of repairing the data is as follows:

1. if there is a gap of up to several hours, this gap is filled with a (synthetic tide + air pressure effect + a linear drift).
2. if there is a gap of about 1 day or longer, then no attempt is made to interpolate the data; a new data block is written.
3. the level at which offsets are corrected depends on the ambient noise; ICET generally will correct offsets only if they are large ($\gg 1$ microgal).
4. any dual sphere data (of which more and more is coming as new instruments are installed) is examined from both spheres to see if offsets occurring in one sphere are real.
5. the repairing procedure is able to catch problems arising from timing because an accurate synthetic tide is generated and subtracted from each station as part of the TSOFT program.
6. the absence of

.log

files for all the months is a problem, since it is in the log files one should find a description of the problems in instrument performance and data acquisition.

1.3 Data Available to Date

The ICET database has much more data now than at any time in the past. We are pleased to see that many stations have been doing a good job of sending their data on time. By this time (April 2000) the data base should contain:

All 1 minute files, for all stations but Syowa, from July 97 to March 99.

All 1 minute files, for the Syowa station, from July 97 to March 98.

According to the files received by ICET, the Database shows the following:

SG Group	Data Availability
BA	no data received
BE	all data received
BO	data missing from 1998-09-01 to 1999-03-31
BR	all data received
CA	all data received
CB	data missing from 1999-01-01 to 1999-03-31
ES	data missing from 1999-01-01 to 1999-03-31
KY	data missing from 1998-10-01 to 1999-03-31
MA	data missing from 1998-09-01 to 1999-03-31
MB	data missing from 1999-03-03 to 1999-03-31
ME	data missing from 1999-03-01 to 1999-03-31
PO	all data received (instrument stopped 1998-09-02)
ST	all data received
SY	no data received
VI	all data received
WE	all data received (instrument stopped 1998-09-27)
WU	all data received

In addition, we have no data yet from MO (Moxa), SU (Sutherland) and the new station in Ny Alesund (which has yet to be given a GGP name). Nevertheless, the ICET database now contains 1002 files and 1.4 GB of data.

We have noticed that at least one station has sent calibrated data (i.e. with the volts to microgal conversion already made). This is not the type of data requested and compromises the homogeneity of the data base. Steps are being taken to obtain the original data in volts.

We emphasize ONE MORE TIME that data sent to ICET should be raw data in volts, untreated IN ANY WAY, but decimated to 1 minute.

By 1 July 2000, we will be in a position to produce the 2nd annual CD of data for the period 1998-07-01 to 1999-06-30. The GGP groups should therefore make every effort to get their data to ICET by 1 July 2000. ICET will then be able to distribute this 2nd CD-ROM at the Mizusawa Symposium on Earth Tides.

1.4 Monthly Files with no Extensions

ICET has agreed to respect the GGP convention whereby each monthly file has only days belonging to this month. There will be no days added at the beginning or ending of a month. This change should not affect most members who correctly send their data correctly for each month.

1.5 Change of Calibrations Within a File

The correct way of reporting a change of calibration factor (either in amplitude or phase) is by a comment in the log file for that month.

1.6 Comments in the File Header

Alternatively (see previous point) the header for a

.ggp

file may contain a comment anywhere before the C***** line. The comment is placed in the form
this is a comment line inserted into a ggp file

1.7 Missing Data

There are 2 conventions in place for missing data:

1. replace the missing values with the value 99999.999 - this value will still be read correctly by a FORTRAN formatted read using the f10.6 field description
2. begin each block with a 77777777 and end each block with a 9999999; between blocks the date and time may be discontinuous.

Just for the record, we acknowledge that either method is acceptable to ICET. Perhaps the first method is better for short gaps and the second better for long ones.

1.8 Convention for the Calendar Date

ICET and the Database will adopt the internationally recognized date convention putting the year, then month, then day. For today it is therefore 2000-04-17, which may be abbreviated 00-04-17. Use of the slash (/) is commonly substituted for the hyphen (-) so one may also write 00/04/17, but this is less recommended by ISO. The important thing is not to confuse the month and day.

1.9 Auxiliary Files

There was a bug in the plotting of the auxiliary files using PLOTDATA - this has now been fixed. Please note also that there is a change in the specification of the header and the values included in auxiliary files. You may now include several parameters in one file

```
Filename : ST970910.AUX
Station   :           Strasbourg, France
Instrument :           GWR C026
Calibration (m/v) :      1.0200   0.0100           estimated
Author    :   (jhinderer@eost.u-strasbg.fr)
yyyymmdd hhmms  groundwater(V) rainfall (mm)
C*****
77777777
19970901 000000  5.170252  0.312000
...
```

1.10 Log Files

Participants should note that the header for log files is even simpler than for .aux files. For the benefit of the Database software it is important that **at least one entry appear in each log file** in addition we have already stated that **a log file must be sent for every month**, even though there was nothing to

report. For example, a 'null' log file might appear as:

```
Filename : ST970910.LOG
Station : Strasbourg, France
Instrument : GWR C026
Author : (jhinderer@eost.u-strasbg.fr)
yyyymmdd hhmss comment
C*****
77777777
19990730 000000 no events this month
99999999
```

1.11 File Permissions

The full 1-year delay will be respected for data sent from the stations. That is if a station sends data earlier than the 1 year delay, that data will not be released to other GGP members until the 1 year deadline and will not be made accessible to all scientists until a full 2 years has passed.

In this way, SG groups may be encouraged to send data ahead of time without the fear it will be released early. It is therefore convenient to use the ICET database to store data as soon as it has been processed.

1.12 Updating Older Files

Users may replace older files if they have access to newer data, simply by re-sending the files to ICET. This is not meant to indicate that unprocessed files (code 00) should be changed. This will mostly apply to user-corrected files (codes 11 and 12).

1.13 Terminology for Database

The correct term for the software that ICET has for processing the GGP data is a **database** (1 word). If you need to refer to the physically stored files, they are in a **data archive** (2 words). The term "data bank" will no longer be used in connection with the GGP.

1.14 Number of Visible Files

When using the database it may appear as though the number of files visible at one time is limited to (say) 100. Please note that this number may be set by the user at a box at the end of the page listing available files. The maximum number of files may be increased arbitrarily.

1.15 Downloading Multiple Files

When retrieving data it is true that one cannot select more than one file at a time (e.g. by using common Windows shortcuts to select files by group). However, one may start multiple download sessions by beginning the download of one file, then clicking another etc.. while the first is in progress. This way you can start many file downloads and get a cup of coffee without having to wait to start each in sequence.

1.16 Browser Color Conventions

When selecting files to download, you may notice that some of the links change color when they have been previously selected and some don't. Due to the nature of the database this is difficult to correct at the

moment and will not be changed immediately.

1.17 Time Delay or Phase Lag?

We have stated previously that when giving the instrument phase characteristics, we would prefer this as a **Time Delay in s** instead of a phase lag in deg / cpd. Please correct your headers to reflect this change.

1.18 Reference Height of Instrument

As more people use GPS to locate their instruments, you are encouraged to change the height above mean sea level to the GPS height, i.e. the height of the station above the reference ellipsoid.

1.19 ETERNA

GGP members should note that the current (and last possible) version of ETERNA is 3.40. This version correctly analyzes 1 minute data and gives the right noise statistics (unlike Version 3.3). Please contact ICET if you need a version of this program. There is also a small problem with the mass conservation correction for one of the Ocean Load models. If you run into problems, please contact Olivier Francis.

1.20 File Specifications for Dual Sphere Instruments

As indicated at the Munsbach Workshop, the filenames for dual sphere instruments are to be modified to specify which of the two spheres is giving the data. Each sphere is assumed to act like a different instrument. Because of this the importance of the two letter code prefix for a station in the database will be reduced.

Example. - Wettzell

Station Wettzell (WE) has been a single-instrument site with data at GGP from 1996-07-28 to 1998-09-27. Now there is a dual sphere instrument in place, the filenames for data for this January (as an example) will be

W1000100.GGP

W2000100.GGP

where the '1' signifies the upper sphere and the '2' the lower sphere. For the moment the single letter 'W' is enough to identify the site as Wettzell. In future in the ICET database, people will have the choice of clicking on a single sensor (e.g. '**WE**' or '**W1**') for specific data, or clicking on '**Wettzell**' for all the data for all the sensors at that station. For the purpose of identifying stations on maps etc. the letters 'WE' will continue to locate 'Wettzell' in a geographic sense.