

## Instructions for downloading and installing BAYTAP-G

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### A. Download

1. The BAYTAP-G source code and sample data sets can be downloaded from the author's anonymous FTP site.

```
ftp b50a.miz.nao.ac.jp
Name: anonymous
Password: email address
```

Change directory into /pub/baytap/ and download the baytap.tar.gz file.

2. Create a directory on your machine in which to install BAYTAP-G, e.g.

```
/home/myname/strain .
```

3. Copy the tar file into this directory and uncompress and extract the files from the compressed tar file.

```
tar xzf baytap.tar.gz
```

You should now have the following files and directories

baytap	directory containing the code
baytap.tar.gz	original tar file
emanual.txt	English text manual
predict	tidal prediction directory
readme.1 <sup>st</sup>	readme file
sampleG	sample gravity data
sampleO	sample ocean tide data
sampleS	sample strain data

The readme.1<sup>st</sup> file contains useful information about program installation, configuration, and appropriate references for BAYTAP-G.

### B. Modification to the FORTRAN code baytap.f

1. Open file statements

The following lines need to be changed in baytap.f so the program knows where to open the files, GROUP31.DAT, GROUP32.DAT, GROUP41.DAT, GROUP42.DAT, TABLE3.DAT, TABLE4.DAT and TDMUT.DAT. In a UNIX or OS X environment the convention would be to rename these files in lower case, however this will not affect compilation or running of the code.

If you want to be able to run BAYTAP-G from anywhere put the full pathname to each of these files in the lines below. Be careful the line does not get too long. Fortran 77 expects only 73 characters per line.

In the above example the tar file was downloaded into the /home/myname/strain directory and when the tar file was extracted a baytap directory was created, hence the open statements would be,

Change

```
OPEN( 95, FILE = '/home/tamura/baytap/GROUP31.DAT',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/group31.dat',
```

change

```
OPEN( 95, FILE = '/home/tamura/baytap/GROUP32.DAT',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/group32.dat',
```

change

```
OPEN( 95, FILE = '/home/tamura/baytap/GROUP41.DAT',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/group41.dat',
```

change

```
OPEN( 95, FILE = '/home/tamura/baytap/GROUP42.DAT',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/group42.dat',
```

change

```
OPEN( 95, FILE = '/home/tamura/baytap/TABLE3.DAT',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/table3.dat',
```

change

```
OPEN( 95, FILE = '/home/tamura/baytap/TABLE4.DAT',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/table4.dat',
```

change

```
OPEN( 95, FILE = '/home/tamura/baytap/tdmut.dat',  
to  
OPEN( 95, FILE = '/home/myname/strain/baytap/tdmut.dat',
```

## 2. Parameter settings.

The default parameter settings in baytap.f are sufficient to process 3 years of 1-hour data with up to three associated data sets.

```
PARAMETER ( MAXH2 = 1500000, MAXDC = 80000, MAXOUT = 26000 )  
PARAMETER ( MAXGRP = 31, MAXGR2 = MAXGRP*2 )  
PARAMETER ( LBUFF = 13000 )  
PARAMETER ( MAXASC = 3 )
```

If larger data sets are going to be analyzed then Tamura suggests different parameters settings for various lengths of time series,

3 MONTH DATA WITH DRIFT ESTIMATION(SHIFT>0)  
1 YEAR DATA WITH DRIFT ESTIMATION(SHIFT>0)  
3 YEAR DATA WITH DRIFT ESTIMATION(SHIFT>0)  
3 YEAR DATA WITH DRIFT ESTIMATION(SHIFT>0)  
4 YEAR DATA WITH DRIFT ESTIMATION(SHIFT>0)  
11.4 YEAR (99999 HOURS) DATA WITH DRIFT ESTIMATION(SHIFT>0)

To change the set of parameters go to lines 230 to 276 of baytap.f and comment-out the default lines by placing a 'C' in the first character position of the line. Uncomment the lines you wish to use by removing the 'C' at the beginning of the line.

### C. Compilation

The program should compile using

g77 baytap.f  
or  
f77 baytap.f

depending on your compiler. Move the a.out file to baytap .

### D. Test Run

BAYTAP\_G expects the following input files,

input05.dat	control parameter file
input12.dat	tidal data set or associated data set
input13.dat	tidal data set or associated data set
input14.dat	tidal data set or associated data set
input15.dat	tidal data set or associated data set .

The output files are,

output06.dat	analysis result. new file will be created.
output16.dat	optional output .

The program is case sensitive and the default is that it expects to use these file names. The code will not run if an output06.dat file already exists as it will not overwrite the results file. The output06.dat file should be deleted or renamed before each run.

To test that the program has compiled correctly input some of the sample data provided by Tamura and compare the results.