

### ERRATA

Page 18, line 15 should read: " $c^2 = g'H$  is the long baroclinic gravity wave speed squared".

Page 26, line 3: the equation in this line should be: " $c_r = \beta c^2 / f^2$ ".

Page 30, line 2 should read: "quasi-geostrophic vorticity equation (2.6)".

DESCRIPTION OF BT DATA FILES (BILLY KESSLER)

-----

The data are BT data collected and edited from the archives of the NODC, the Noumea ship of opportunity program (SOP), and the Japanese Far Seas Fisheries Research Laboratory (FSFRL). The profiles have been tested for positions on land and unrealistic temperatures and linearly interpolated to a standard depth increment of 10 m. The editing process is described in Kessler (1989). A total of 168,833 profiles passed all checks in the region 110E-American coast, 30S-30N, 1970-87. Of these, 105,766 were north of 10N, 41282 were between 10S and 10N, and 21,785 were south of 10S.

19 files are provided: 1 large file (~34K blocks) which contains the entire set, and 18 files which contain all data within 10N-10S, sorted into 18 groups by year during the period 1970 through 1987. (7850 blocks total). The number of profiles in each year set are:

Year	# BTs
1970	2893
71	3847
72	3470
73	3559
74	2857
75	1739
76	1633
77	2096
78	1650
79	2581
80	3120
81	2023
82	2216
83	1633
84	1017
85	2586
86	1486
87	809
-----	
Total	41282

The data files are in BETA::DISK3:[KESSLER.BTDAT], and are named CLEANALL3.DAT (the entire set) and BT\_nn.DAT, where nn includes all integers from 70 through 87, referring to years. All files are UNFORMATTED. The following program reads the files and identifies the variables. All profiles have been linearly interpolated to a standard depth increment of 10 m, with the first value at the surface, extending to a maximum of 400 m (41 points).

```
INTEGER*2 MO2, ID2, IY2, IYLA2, IXLO2, NI2, ISO2, NP2, IT(46)
```

```
DIMENSION T(46), Z(46)
```

```
C.....Open data file.
```

```
OPEN(20, FILE='BETA::DISK3:[KESSLER.BTDAT]filename.DAT',
      STATUS='OLD', FORM='UNFORMATTED', READONLY)
```

```
DO 100 I=1, 999999
```

```
READ(20, END=196) MO2, ID2, IY2, IYLA2, IXLO2, NP2, NI2, ISO2, ISEQ,
      (IT(N), N=1, NP2)
```

```
MON=MO2
```

```
! month (1-12)
```

```
IDAY=ID2           ! day of month
IYR=IY2           ! year (70 through 87)
YLAT=REAL(IYLA2)/100. ! decimal latitude pos north
XLON=REAL(IXLO2)/100. ! decimal longitude pos east
NPTS=NP2         ! number of obs this profile (max 41)
```

```
DO 105 N=1,NPTS
T(N)=REAL(IT(N))/100. ! convert temperatures to deg C
105 Z(N)=REAL(N-1)*10. ! make array of depths (meters)
```

```
C.....NI2 indicates the instrument type: 1=XBT, 2=MBT.
C.....ISO2 indicates the data source: 1=NODC, 2=FSFRL, 3=SOP.
C.....ISEQ is a sequence number in the original data (ignore).
```

```
100 CONTINUE
```

```
196 CONTINUE
```

```
STOP
END
```