SWAN
SIMULATION OF WAVES IN NEAR SHORE AREAS
VERSION NUMBER 41.20A

```
PROJECT '2018FemaAppeal' '1'
  '100-year Wind and Wave conditions'
! -- SET commands ------
SET DEPMIN=0.01 MAXMES=999 MAXERR=3 PWTAIL=4
SET LEVEL 0
SET CARTESIAN
! -- MODE commands -----
MODE STATIONARY ONED
!-- COORDINATES commands-----
COORDINATES CART
! -- computational (CGRID) grid commands ------
                              xlenc=length of grid in meters
! mxc = number of mesh cells (one less than number of grid points)
!CGRID REGular [xpc] [ypc] [alpc] [xlenc] [ylenc] [mxc] [myc] &
     [ CIRcle | SECtor[dir1] [dir2] ] [mdc] [flow] [fhigh] [msc]
             0 0 0
CGRID REGULAR
                                550
                                        0.
                                      0.03
                                             0.8
                                                    30
Resolution in sigma-space: df/f = 0.1157
! -- READgrid --- not used in 1-D mode -----
! -- INPgrid commands ------
!INPgrid BOTtom REGular [xpinp] [ypinp] [alpinp] [mxinp] [myinp] [dxinp] [dyinp]
INPGRID BOTTOM REGULAR 0
                           0
                                   0
                                         550 0
!READinp BOTtom [fac] 'fname1' [idla] [nhedf] [FREe|FORmat[form]|UNFormatted]
       BOTTOM -1. '../gridfiles/YK-73zmeters xmeters.grd'
! -- WIND [vel] [dir]
      25.1 0
WIND
! -- BOUnd SHAPespec
BOUND SHAPE JONSWAP 3.3 PEAK DSPR POWER
! -- BOUndspec
! BOU SIDE W CCW CON FILE 'swanspec.txt' 1
BOUN SIDE W CCW CONSTANT PAR 6.1588 14.8
!-- \ {\tt BOUndnest1} \ - \ {\tt optional} \ {\tt for} \ {\tt boundary} \ {\tt from} \ {\tt parent} \ {\tt run}
!-- BOUndnest2
!-- BOUndnest3
!-- INITial -- usest to specify initial values
```

```
!-- GEN1 [cf10] [cf20] [cf30] [cf40] [edm1pm] [cdrag] [umin] [cfpm]
!-- GEN2 [cf10] [cf20] [cf30] [cf40] [cf50] [cf60] [edm1pm] [cdrag] [umin] [cfpm]
    GEN3 KOMEN
  whitecapping ( on by default)
!-- WCAPping KOMen [cds2] [stpm] [powst] [delta] [powk]
    WCAP KOM
  quadruplet wave interactions
!-- QUADrupl [iquad] [lambda] [Cn14] [Csh1] [Csh2]
! -- BREaking CONstant [alpha] [gamma]
    BREAK
            CON
                    1.
!-- FRICtion JONswap CONstant [cfjon]
    FRIC
           JONSWAP CON
                          0.038
!-- TRIad [itriad] [trfac] [cutfr] [a] [b] [urcrit] [urslim]
! TRIAD
            1 0.65
                           2.5
                               0.95 -0.75 0.2 0.01
  TRIAD
!-- VEGEtation [height] [diamtr] [nstems] [drag]
!-- MUD [layer] [rhom] [viscm]
!- LIMiter [ursell] [qb] deactivates quadruplets with Ursell number exceeds ursell
!-- OBSTacle -- not in 1-D
!-- SETUP [supcor]
   SETUP
          Ω
! ----- N U M E R I C S -----
!-- PROP can use BBST or GSE instead of default
! -- NUMeric -- lots of options
     NUM ACCUR npnts=100. stat 30
    NUMeric STOPC
! -----O U T P U T ------
!OUTPut OPTIons "comment' (TABLE [field]) (BLOck [ndec] [len]) (SPEC [ndec])
 OUTPUT OPTIONS '%' TABLE 16
 $BLOCK 9 1000 SPEC 8
!CURve 'sname' [xp1] [yp1] <[int] [xp] [yp] >
 CURVE 'curve' 0
                 0
                        550 550 0
!TABLe 'sname' < HEADer NOHEADer INDexed > 'fname' <output parameters> (output time)
 Table 'curve'
               HEADER 'YK-73.dat' XP YP HSIGN TPS RTP TMM10 DIR &
 DSPR DEPTH SETUP
!QUANTITY XP hexp=99999
!-----
COMPUTE STATIONARY
              COMPUTATIONAL PART OF SWAN
_____
```

!----- P H Y S I C S -----

```
One-dimensional mode of SWAN is activated
Gridresolution
                    : MXC
                                      551 MYC
                                                           1
                     : MCGRD
                                      552
                                       31 MDC
                    : MSC
                                                          36
                    : MTC
                                        1
                    : NSTATC
                                        O TTERMX
                                                          50
Propagation flags
                    : ITFRE
                                        1 IREFR
                                                           1
                    : IBOT
Source term flags
                                        1 ISURF
                                                           1
                    : IWCAP
                                        1 IWIND
                                                           3
                    : ITRIAD
                                        1 IOUAD
                                                           2
                    : IVEG
                                        0 ITURBV
                    : IMUD
                              0.1000E+01 DY
Spatial step
                    : DX
                                                 0.1000E+01
Spectral bin
                    : df/f
                               0.1157E+00 DDIR
                                                 0.1000E+02
                  : GRAV
Physical constants
                               0.9810E+01 RHO
                                                 0.1025E+04
                              0.2510E+02 DIR
Wind input : WSPEED Tail parameters : E(f)
                    : WSPEED
                                                 0.0000E+00
                               0.4000E+01 E(k)
                                                 0.2500E+01
                    : A(f)
                               0.5000E+01 A(k)
                                                  0.3000E+01
Accuracy parameters : DREL
                               0.1000E-01 NPNTS 0.9950E+02
                    : DHABS
                               0.0000E+00 CURVAT 0.5000E-02
                    : GRWMX
                               0.1000E+00
                    : LEVEL
                               0.0000E+00 DEPMIN 0.1000E-01
Drying/flooding
The Cartesian convention for wind and wave directions is used
Scheme for geographic propagation is SORDUP
Scheme geogr. space : PROPSC
                                  2 ICMAX
                               0.5000E+00 CDD
Scheme spectral space: CSS
                                                  0.5000E+00
Current is off
Quadruplets
                    : IQUAD
                    : LAMBDA 0.2500E+00 CNL4
                                                  0.3000E+08
                               0.5500E+01 CSH2
                    : CSH1
                                                  0.8330E+00
                    : CSH3
                              -0.1250E+01
                              0.1000E+01
Maximum Ursell nr for Snl4:
                                        1 TRFAC
                                                0.8000E+00
Triads
                    : ITRIAD
                    : CUTFR
                               0.2500E+01 URCRI 0.2000E+00
                               0.1000E-01
Minimum Ursell nr for Snl3 :
JONSWAP ('73)
                    : GAMMA
                             0.3800E-01
Vegetation is off
Turbulence is off
Fluid mud is off
                   : EMPCOF (CDS2):
: APM (STPM) :
: POWST :
W-cap Komen ('84)
                                      0.2360E-04
W-cap Komen ('84)
                                       0.3020E-02
                    : POWST
W-cap Komen ('84)
                                       0.2000E+01
W-cap Komen ('84)
                    : DELTA
                                       0.1000E+01
W-cap Komen ('84)
                    : POWK
                                  : 0.1000E+01
Wind drag is fit
Snyder/Komen wind input
Battjes&Janssen ('78): ALPHA
                               0.1000E+01 GAMMA 0.7300E+00
                   : SUPCOR 0.0000E+00
Set-up
Diffraction is off
Janssen ('89,'90)
Janssen ('89,'90)
                    : ALPHA
                               0.1000E-01 KAPPA 0.4100E+00
                    : RHOA
                               0.1280E+01 RHOW
                                                  0.1025E+04
1st and 2nd gen. wind: CF10
                               0.1880E+03 CF20
                                                 0.5900E+00
                    : CF30
                               0.1200E+00 CF40
                                                 0.2500E+03
                    : CF50
                               0.2300E-02 CF60
                                                 -0.2230E+00
                               0.0000E+00 CF80
                                               -0.5600E+00
                    : CF70
                               0.1249E-02 EDMLPM 0.3600E-02
                    : RHOAW
                    : CDRAG
                               0.1230E-02 UMIN
                    : LIM_PM
                              0.1300E+00
 First guess by 2nd generation model flags for first iteration:
                        0.1000E+23 ALFA
0 IQUAD 0
 ITER 1 GRWMX
 IWIND
            2 IWCAP
        1 IBOT 1 ISURF
0 ITURBV 0 IMUD
 ITRIAD
                        1 ISURF
                                     1
                                     0
 IVEG
 -----
iteration 1; sweep 1
          1; sweep 2
1; sweep 3
iteration
iteration
          1; sweep 4
iteration
not possible to compute, first iteration
 Options given by user are activated for proceeding calculation:
       2 GRWMX 0.1000E+00 ALFA
                                        0.0000E+00
 ITER
            3 IWCAP
 IWIND
                        1 IQUAD
                                     2
 ITRIAD
           1 IBOT
                        1 ISURF
                                     1
                       0 IMUD
 IVEG
          0 ITURBV
                                     0
 _____
iteration 2; sweep 1
iteration
            2; sweep 2
iteration
            2; sweep 3
            2; sweep 4
iteration
accuracy OK in 17.61 % of wet grid points ( 99.50 % required)
iteration
            3; sweep 1
            3; sweep 2
iteration
iteration
            3; sweep 3
```

```
iteration \, 3; sweep 4 accuracy OK in \, 0.19 % of wet grid points ( 99.50 % required)
              4; sweep 1
iteration
iteration
             4; sweep 2
            4; sweep 3
iteration
              4; sweep 4
iteration
accuracy OK in 22.15 % of wet grid points (99.50 % required)
iteration
              5; sweep 1
              5; sweep 2
iteration
           5; sweep 3
5; sweep 4
iteration
iteration
accuracy OK in 58.26 % of wet grid points ( 99.50 % required)
iteration
             6; sweep 1
iteration
             6; sweep 2
iteration
             6; sweep 3
iteration
              6; sweep 4
accuracy OK in 95.65 % of wet grid points (99.50 % required)
iteration
             7; sweep 1
iteration
              7; sweep 2
iteration
             7; sweep 3
             7; sweep 4
iteration
accuracy OK in 98.01 % of wet grid points (99.50 % required)
iteration
              8; sweep 1
iteration
              8; sweep 2
iteration
             8; sweep 3
iteration 8; sweep 4 accuracy OK in 99.46 % of wet grid points (99.50 % required)
iteration
              9; sweep 1
             9; sweep 2
iteration
            9; sweep 3
iteration
iteration 9; sweep 4
accuracy OK in 99.64 % of wet grid points (99.50 % required)
```

STOP