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PART 5: RUNUP2

        for transect: YK-76

Station locations shifted by: -35.00 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input


_____RUNUP2 INPUT CONVERSIONS_____
        for transect: YK-76

Incident significant wave height: 18.61 feet

Peak wave period: 14.03 seconds

Mean wave height: 11.65 feet

Local Depth below SWEL: 31.40 feet

Mean wave height deshoaled using Hunt approximation for
celerity assuming constant wave energy flux.
 References: R.G. Dean and R.A. Dalrymple. 2000.  Water

           Wave Mechanics for Engineers and Scientists. World
           Scientific Publishing Company, River Edge New Jersy

           USACE (1985), Direct Methods for Calculating Wavelength, CETN-1-17
           US Army Engineer Waterways Experiment Station Coastel Engineering
           Research Center, Vicksburg, MS

           also see Coastal Engineering Manual Part II-3
           for discussion of shoaling coefficient

    Depth, D = 31.40
    Period, T = 11.93
    Waveheight, H = 11.65
Deep water wavelength, L0 (ft)
    L0 = g*T*T/twopi
    L0 = 32.17*11.93*11.93/6.28 = 728.24
Deep water wave celerity, C0 (ft/s)
    C0 = L0/T
    C0 = 728.24/11.93 = 61.07
Angular frequency, sigma (rad/s)
    sigma = twopi/T
    sigma = 6.28/11.93 = 0.53
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
    y = sigma.*sigma.*D./g
    y = 0.53*0.53*31.40/32.17 = 0.27
    C1H = sqrt( g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)) )
    C1H = 30.35
Shoaling Coefficient KsH
    KsH = sqrt(C0/C1H)
    KsH = sqrt(61.07/30.35) = 1.42
Deepwater Wave Height H0_H (ft)
    H0_H = H/KsH
    H0_H = 11.65/1.42 = 8.21

Deepwater mean wave height: 8.21 feet

_____END RUNUP2 CONVERSIONS_____

_____RUNUP2 RESULTS_____
        for transect: YK-76

RUNUP2 SWEL:
8.90
8.90
8.90
8.90
```

```
8.90
8.90
8.90
8.90
8.90

RUNUP2 deepwater mean wave heights:
7.80
7.80
7.80
8.21
8.21
8.21
8.62
8.62
8.62

RUNUP2 mean wave periods:
11.33
11.93
12.52
11.33
11.93
12.52
11.33
11.93
12.52

RUNUP2 runup above SWEL:
1.48
1.48
1.56
1.48
1.56
1.56
1.55
1.72
1.72

RUNUP2 Mean runup height above SWEL: 1.57 feet

RUNUP2 2-percent runup height above SWEL: 3.45 feet

RUNUP2 2-percent runup elevation: 12.35 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____


_____ACES BEACH RUNUP_____

Incident significant wave height: 18.61 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 11.50 feet

Peak wave period: 14.03 seconds

Average beach Slope: 1:47.47 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 6.75 feet

ACES Beach 2-percent runup elevation: 15.65 feet-NAVD88

ACES BEACH RUNUP is valid
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_____END ACES BEACH RESULTS_____

PART 5 COMPLETE_____