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_____
PART 5: RUNUP2

        for transect: CM-139-1

Station locations shifted by: -0.44 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input


_____RUNUP2 INPUT CONVERSIONS_____
        for transect: CM-139-1

Incident significant wave height: 8.30 feet

Peak wave period: 9.90 seconds

Mean wave height: 5.20 feet

Local Depth below SWEL: 65.57 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 = 65.57
    Period, T = 8.42
    Waveheight, H = 5.20
Deep water wavelength, L0 (ft)
    L0 = g*T*T/twopi
    L0 = 32.17*8.42*8.42/6.28 = 362.87
Deep water wave celerity, C0 (ft/s)
    C0 = L0/T
    C0 = 362.87/8.42 = 43.11
Angular frequency, sigma (rad/s)
    sigma = twopi/T
    sigma = 6.28/8.42 = 0.75
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
    y = sigma.*sigma.*D./g
    y = 0.75*0.75*65.57/32.17 = 1.14
    C1H = sqrt( g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)) )
    C1H = 37.27
Shoaling Coefficient KsH
    KsH = sqrt(C0/C1H)
    KsH = sqrt(43.11/37.27) = 1.08
Deepwater Wave Height H0_H (ft)
    H0_H = H/KsH
    H0_H = 5.20/1.08 = 4.83

Deepwater mean wave height: 4.83 feet

_____END RUNUP2 CONVERSIONS_____

_____RUNUP2 RESULTS_____
        for transect: CM-139-1

RUNUP2 SWEL:
8.80
8.80
8.80
8.80
```

```
8.80
8.80
8.80
8.80
8.80

RUNUP2 deepwater mean wave heights:
4.59
4.59
4.59
4.83
4.83
4.83
5.08
5.08
5.08

RUNUP2 mean wave periods:
8.00
8.42
8.84
8.00
8.42
8.84
8.00
8.42
8.84

RUNUP2 runup above SWEL:
6.02
6.41
6.83
6.24
6.65
7.07
6.46
6.91
7.32

RUNUP2 Mean runup height above SWEL: 6.66 feet

RUNUP2 2-percent runup height above SWEL: 14.64 feet

RUNUP2 2-percent runup elevation: 23.44 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____


_____ACES BEACH RUNUP_____

Incident significant wave height: 8.30 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 6.77 feet

Peak wave period: 9.90 seconds

Average beach Slope: 1:6.88 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 14.77 feet

ACES Beach 2-percent runup elevation: 23.57 feet-NAVD88

ACES BEACH RUNUP is valid
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_____END ACES BEACH RESULTS_____

PART 5 COMPLETE_____