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PART 5: RUNUP2

        for transect: CM-139

Station locations shifted by: -0.04 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input


_____RUNUP2 INPUT CONVERSIONS_____
        for transect: CM-139

Incident significant wave height: 5.61 feet

Peak wave period: 10.45 seconds

Mean wave height: 3.51 feet

Local Depth below SWEL: 32.88 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 = 32.88
    Period, T = 8.88
    Waveheight, H = 3.51
Deep water wavelength, L0 (ft)
    L0 = g*T*T/twopi
    L0 = 32.17*8.88*8.88/6.28 = 403.69
Deep water wave celerity, C0 (ft/s)
    C0 = L0/T
    C0 = 403.69/8.88 = 45.47
Angular frequency, sigma (rad/s)
    sigma = twopi/T
    sigma = 6.28/8.88 = 0.71
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
    y = sigma.*sigma.*D./g
    y = 0.71*0.71*32.88/32.17 = 0.51
    C1H = sqrt( g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)) )
    C1H = 29.75
Shoaling Coefficient KsH
    KsH = sqrt(C0/C1H)
    KsH = sqrt(45.47/29.75) = 1.24
Deepwater Wave Height H0_H (ft)
    H0_H = H/KsH
    H0_H = 3.51/1.24 = 2.84

Deepwater mean wave height: 2.84 feet

_____END RUNUP2 CONVERSIONS_____

_____RUNUP2 RESULTS_____
        for transect: CM-139

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:
2.70
2.70
2.70
2.84
2.84
2.84
2.98
2.98
2.98

RUNUP2 mean wave periods:
8.43
8.88
9.32
8.43
8.88
9.32
8.43
8.88
9.32

RUNUP2 runup above SWEL:
3.59
3.69
3.87
3.67
3.83
3.94
3.75
3.92
4.06

RUNUP2 Mean runup height above SWEL: 3.81 feet

RUNUP2 2-percent runup height above SWEL: 8.39 feet

RUNUP2 2-percent runup elevation: 17.19 feet-NAVD88

RUNUP2 Messages:
Nonfatal Error, Check Output

_____END RUNUP2 RESULTS_____


_____ACES BEACH RUNUP_____

Incident significant wave height: 5.61 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 3.98 feet

Peak wave period: 10.45 seconds

Average beach Slope: 1:13.57 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 6.72 feet

ACES Beach 2-percent runup elevation: 15.52 feet-NAVD88

ACES BEACH RUNUP is valid
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_____END ACES BEACH RESULTS_____

PART 5 COMPLETE_____