PART 5: RUNUP2

for transect: CM-129-1

Station locations shifted by: -0.32 feet from their
original location to set the shoreline to
elevation 0 for RUNUP2 input

RUNUP2 INPUT CONVERSIONS
for transect: CM-129-1

Incident significant wave height: 5.27 feet

Peak wave period: 12.31 seconds

Mean wave height: 3.30 feet

Local Depth below SWEL: 25.76 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 = 25.76
Period, T = 10.46
Waveheight, H = 3.30
Deep water wavelength, L0 (ft)
L0 = g*T*T/twopi
L0 = 32.17*10.46*10.46/6.28 = 560.67
Deep water wave celerity, C0 (ft/s)
C0 = L0/T
C0 = 560.67/10.46 = 53.58
Angular frequency, sigma (rad/s)
sigma = twopi/T
sigma = 6.28/10.46 = 0.60
Hunts (1979) approximation for Celerity C1H (ft/s) at Depth D (ft)
y = sigma.*sigma.*D./g
y = 0.60*0.60*25.76/32.17 = 0.29
C1H = sqrt(g.*D./(y+1./(1 + 0.6522.*y + 0.4622.*y.^2 + 0.0864.*y.^4 +0.0675.*y.^5)))
C1H = 27.41
Shoaling Coefficient KsH
KsH = sqrt(C0/C1H)
KsH = sqrt(53.58/27.41) = 1.40
Deepwater Wave Height H0_H (ft)
H0_H = H/KsH
H0_H = 3.30/1.40 = 2.36

Deepwater mean wave height: 2.36 feet

END RUNUP2 CONVERSIONS

RUNUP2 RESULTS
for transect: CM-129-1

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:
2.24
2.24
2.24
2.36
2.36
2.36
2.48
2.48
2.48

RUNUP2 mean wave periods:
9.94
10.46
10.99
9.94
10.46
10.99
9.94
10.46
10.99

RUNUP2 runup above SWEL:
0.36
0.40
0.41
0.38
0.40
0.42
0.39
0.42
0.45

RUNUP2 Mean runup height above SWEL: 0.40 feet

RUNUP2 2-percent runup height above SWEL: 0.89 feet

RUNUP2 2-percent runup elevation: 9.69 feet-NAVD88

RUNUP2 Messages:
No Messages

_____END RUNUP2 RESULTS_____

_____ACES BEACH RUNUP_____

Incident significant wave height: 5.27 feet

Significant wave height deshoaled using Hunt equation

Deepwater significant wave height: 3.30 feet

Peak wave period: 12.31 seconds

Average beach Slope: 1:30.98 (H:V)

ACES RUNUP CALCULATED USING 'Aces_Beach_Runup.m'

ACES Beach 2-percent runup height above SWEL: 3.73 feet

ACES Beach 2-percent runup elevation: 12.53 feet-NAVD88

ACES BEACH RUNUP is valid

______________END ACES BEACH RESULTS______________________

PART 5 COMPLETE____