

NOTATIONS

a	-	Wave Amplitude = $H/2$
a_j	-	Amplitude of j^{th} wave
A	-	Height of the Highest Crest in the Given Record Above SWL
b	-	Distance between Two Orthogonals after Refraction
b_1, b_2, a_1, a_2	-	Functioning of H, T, d
b^n, a^n	-	Unknown functions of H, T, d
b_0	-	Distance Between Two Orthogonals in Deep Water
B	-	Height of the Second Highest Crest Above SWL
B_{ij}	-	Unknown function of kd
c	-	Celerity
C	-	Depth of the Lowest Trough below SWL/Wave Speed in Intermediate Water depth
C_g	-	Group Velocity
C_i	-	Unknown Function of kd
C_0	-	Wave Celerity in Deep water
C_s	-	Wave Celerity in Shallow water
d	-	Water Depth
d_b	-	Depth of Water at the Breaking Point
D	-	d/dx / Depth of the Second Lowest Trough below SWL
E	-	Total Energy Per Unit Plan Area
f	-	Coriolis Parameter
F	-	Fetch of Wind
FFT	-	Fast Fourier * Transform
H	-	Wave Height / Individual Wave Heights
H_1	-	$A+C$
H_{10}	-	Average Wave Height of 10% of Largest Waves in a Random
H_2	-	$B+D$

H_i	-	Height of i^{th} Wave of Random Wave Series / Incident Wave Height
H_m	-	Mean Wave Height
H_{ney}	-	Maximum Wave Height
H_0	-	Wave Height in Deep Water
H_{rms}	-	Root Means Square Wave Height
H_s	-	Significant Wave Height / Mean Significant Wave Height
H_{is}	-	Midpoint H_s value corresponding to i^{th} row of (H_s, T_z)
ΔH_s	-	Class Width of H_s in the (H_s, T_z) Scatter diagram
k_j	-	Wave number of j^{th} Wave
K	-	Wave number
K'	-	Modified Wave number
K_r	-	Refraction Coefficient
K_s	-	Shoaling Coefficient
L	-	Wave Length
L_0	-	Deep Water Wave Length
m	-	Seabed slope
m_i	-	I^{th} Moment of Spectrum
M	-	Order of Expansion in Stream Function Theory / Number of Linear Waves added together
M^*	-	Corresponds to Limiting Value of H_s at the Site Say Due to
N	-	Total Number Of Observed η_j Value
N_z	-	Total number of Zero up-crosses in the Record
P	-	Wave Power
ΔP	-	Normal Pressure (= 760 mm of mercury) at Hurricane Center
$P()$	-	Cumulative Distribution Function of ()
$P(H)_{\text{LT}}$	-	Long Term Distribution of Individual Wave Height
R	-	Radius of Maximum Wind during Cyclone
$R_\eta(\tau)$	-	Auto Correction Function
R_L	-	Correction factor

R_p	-	Run up
R_s	-	Run up produced by a Regular Significant Wave of Height H_s
s	-	Source Function
S	-	$d+z/d$
ΔS	-	Total Set up at Shoe
$S_\eta(f)$	-	Spectral Density Function
$S_\eta(\omega_j)$	-	Spectral Density Fraction corresponding to the Frequency ω_j
S_b	-	Set down at the Breaking Zone
S_{ds}	-	Wave Energy Dissipation Due to Bottom Friction and
S_{in}	-	Wind Energy Input
S_{ud}	-	Wave Energy Input transferred from One Wave Frequency
t	-	Time instant
t_{min}	-	Minimum Deviation of Wind blow for particular $H_s \times T_s$ for
T	-	Wave period
T_i	-	Period of i^{th} Wave of Random Wave Series
T_s	-	Significant Wave Period
T_z	-	Average Zero Crossing Period
T_{zj}	-	T_z value corresponding to the j^{th} Column of (H_s , T_z)
u	-	Wind Speed
u, v, w	-	The component of Fluid Velocity Along x,y,z Directions
U_{10}	-	Wind Speed at the height of 10 m above Ground Level
U_C	-	Corrected Wind Speed
U_F	-	Wind Speed along the forward direction of hurricane
U_L	-	Wind Speed over Land
U_{max}	-	Maximum Gradient Wind Speed at 10 m above MSL
U_R	-	Wind Speed at Radius Corresponding to Maximum Wind
U_w	-	Characteristic Wind Speed
w	-	Angular Speed of Earth Rotation
w_x, w_y, w_z	-	Rotation of Fluid element about x,y,z axis

W_i	-	$P(H_{is} + 0.5\Delta H_s) - P(H_{is} - 0.5\Delta H_s)$ Obtained from the
W_{ij}	-	Total Number of Occurrences of H_s values in the (i,j) Interval
ΔW	-	Energy in the Interval df
X	-	$(x-ct)/L$
X, Z, T	-	Unknown functions of x , z and t
α	-	Angle of Crelkine of refracted Wave
α, β	-	Philip's Conton
α_0	-	Angle of Crediline of Incident Wave
ε	-	Spectral Width Panel
ϕ	-	Velocity Potential
ϕ_i	-	Function of i^{th} Order of Stokes Waves Theory
γ	-	Specific Weight of Sea Water
η	-	Surface Elevations
$\eta(t)$	-	Sea Surface Elevation at Time t
$\eta(t + \tau)$	-	Sea Surface Elevation at Time $(t + \tau)$
$\eta(x, t)$	-	Sea Surface Elevation at x Distance from Reference Origin
η_j	-	j^{th} value of the Sea Surface Elevation
η_k	-	Complex Conjugate of η_k
η_r	-	Surface Elevation of Reflecting Wave
ρ	-	Fluid Mass Density
ψ	-	Stream Function
ω	-	Circular Wave Frequency
ω_j	-	Angular Wave Frequency of j^{th} Wave
ω_k	-	Circular Frequency of k^{th} wave
$\Delta\omega$	-	Frequency Step
ξ	-	Particle Displacement Along x direction
ζ	-	Particle Displacement Along y direction
θ	-	Phase Angle / Log N_z

θ	-	Angle of Reflection of Bed slope
θ_j	-	Phase of j^{th} wave
τ	-	Time Lag
ξ	-	Surf Similarity
φ	-	Complex Velocity Potential of Transmitted Wave