

Environmental Hydraulics Institute of the University of Cantabria "IHCantabria"

MUSCLE-Beach project

Field works: MUSCLE-Beach2016 (04/may/2016)

MUSCLE-Beach2017 (19/sep/2017 and 21/sep/2017)

Content:

- Beach profiles
- Wave and beach processed parameters
- Wave spectra
- Reflection coefficient
- Timestacks

References:

- Lat Lon references: WGS84
- Z references: Mean sea level at Alicante (MSL Santander = MSL Alicante -0.38m)
- Time Zone: Madrid Summer (02 UTC)

See field site and profiles position in figure "MUSCLE_Map.png"

BEACH PROFILES: MUSCLEYYYY_MM_DD_profileX .dat (X = profile name)

Format: [Lon Lat Z]

WAVE AND BEACH PARAMETERS: MUSCLEYYYY_MM_DD_profileX .dat (X = profile name)

Format: [YYYY MM DD HH mm ss R2%(m) Set(m) Stt(m) Sinc(m) Sig(m) Hs80(m) L80(m) Tp(s) tan β D50(mm)]

R2% = wave runup exceeded by 2% of the waves

Set = static setup (10min average of runup series)

Stt = total swash

Sinc = incident swash ($0.05\text{Hz} < f < 0.5\text{Hz}$)

Sig = infragravity swash ($0.005\text{Hz} < f < 0.05\text{Hz}$)

Hs80 = significant wave height reverse shoaled to 80m depth

tan β = foreshore slope

D50 = median grain size

REFLECTION COEFFICIENT: MUSCLEYYYY_MM_DD_Kr_X .dat (X = profile name)

Format: [YYYY MM DD HH mm ss Kr²]

Kr²: Reflection coefficient (method: Kubota et al, 1990)

WAVE SPECTRA:

MUSCLE2016:

spec_X_2016.dat (X = profile name)

Format: [f spect1 spect2 spect3 ...]

Time file: tspec_X_2016.dat

Format time file: [t1; t2; t3 ...]

Position file: sensors_position_2016.dat

Format position file: [Profile Lat Lon]

See sensors position and beach profile in Fig1.png

MUSCLE2017:

Spectra file: spec_X_2017_09_DD.dat (X = sensor)

Format spectra file: [f spect1 spect2 spect3 ...]

Time file: tspec_X_2017_09_DD.dat

Format time file: [t1; t2; t3 ...]

Position file: sensors_position_2017_09_DD.dat

Format position file: [Sensor Lat Lon]

See sensors position in Figures "Fig2.png" and "Fig3.png"

TIMESTACKS: X_YYYY_MM_DD_HH_mm_00_UTC_04Hz_2397.mat (X=profile name)

MUSCLE2016:

- Timestack every 20min
- Time in UTC 00 (Madrid Summer – 2h)
- Measurement frequency: 4 Hz
- Wave data obtained from the ADCP series (h=25m)
- Timestacks were rectified at the current tidal level

MUSCLE2017:

- Timestack every 10min
- Time in UTC00 (Madrid Summer - 2h)
- Measurement frequency: 4Hz
- Wave data obtained from the ADCP series (h=25m)
- Timestacks were rectified at the current tidal level