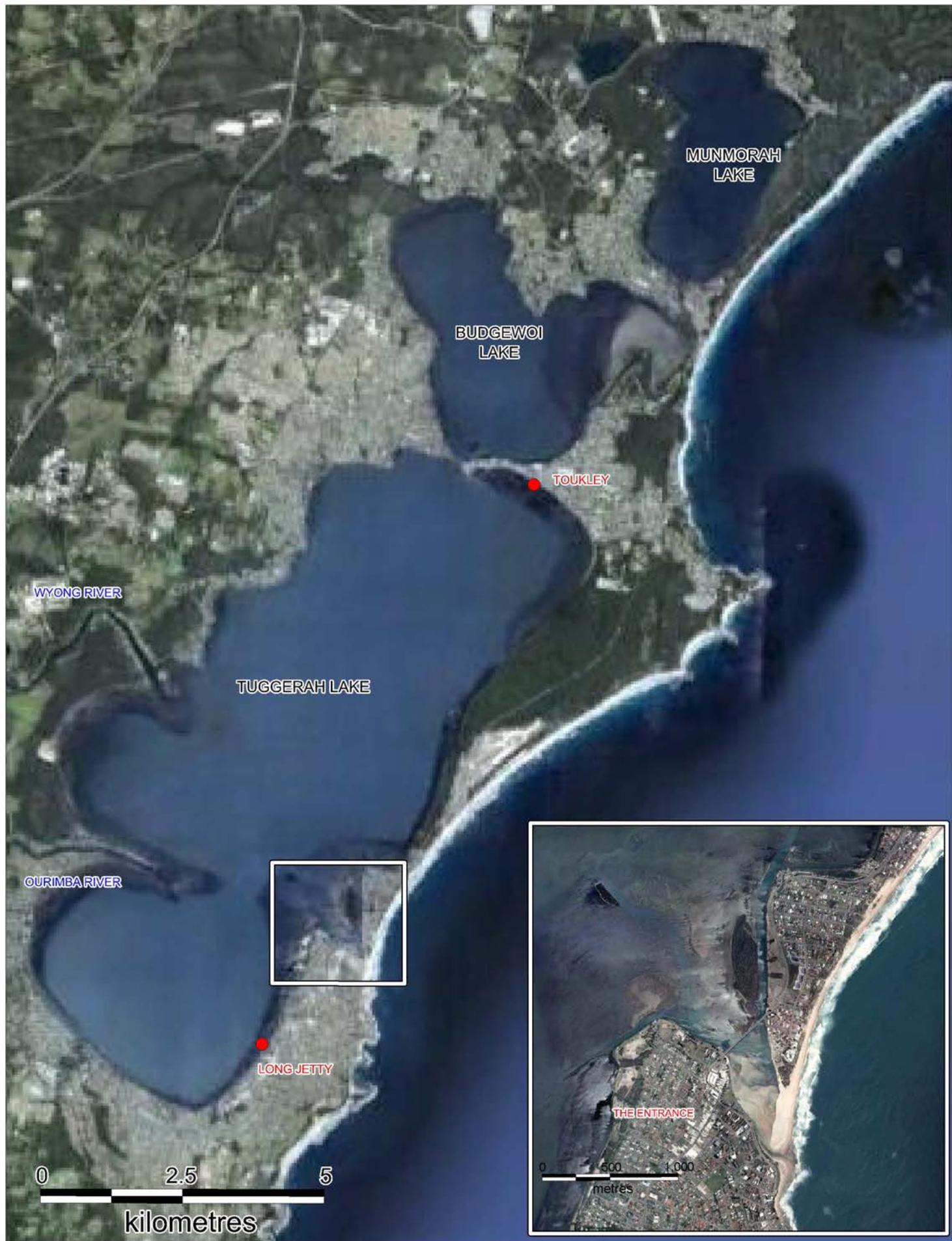


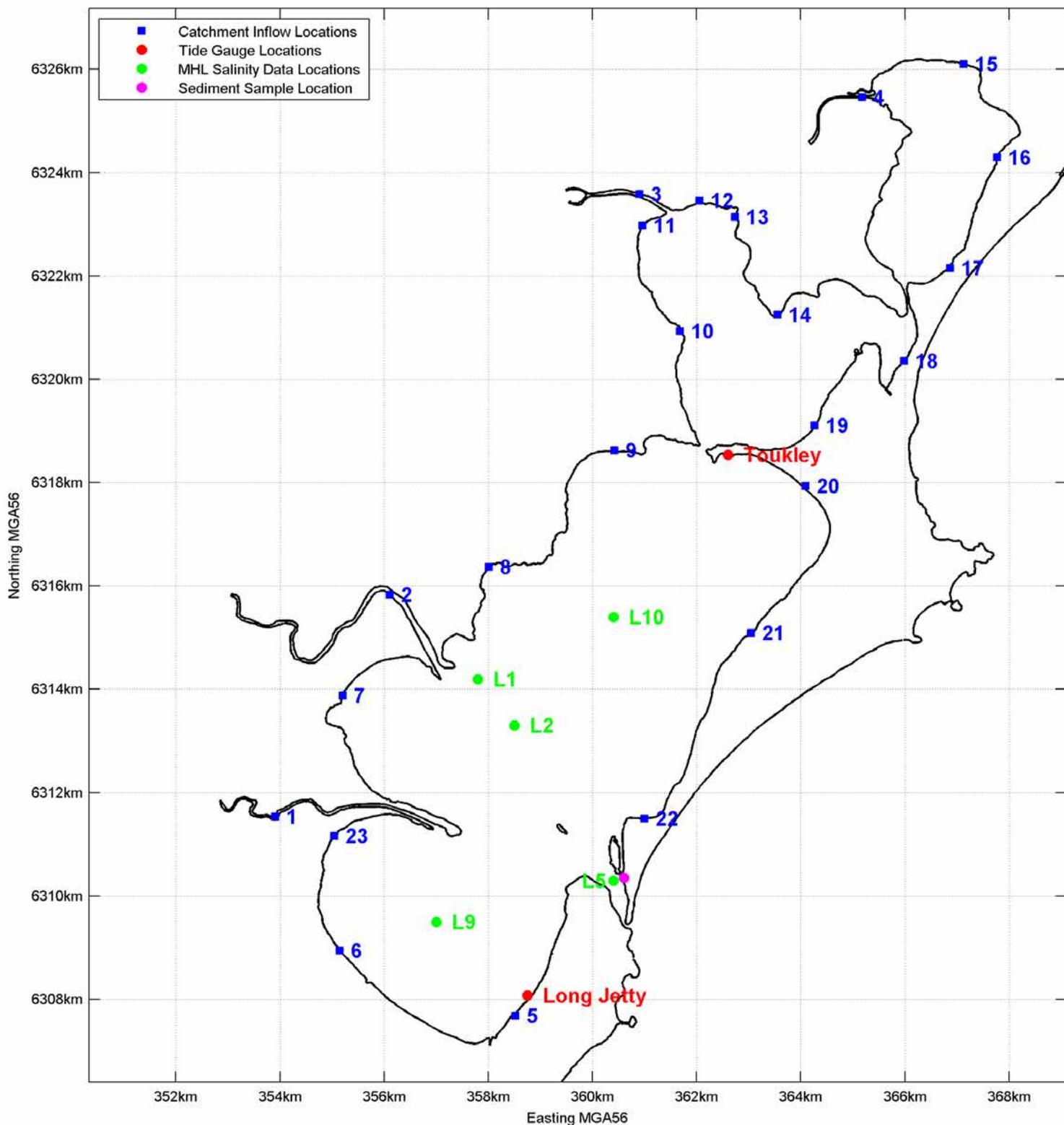
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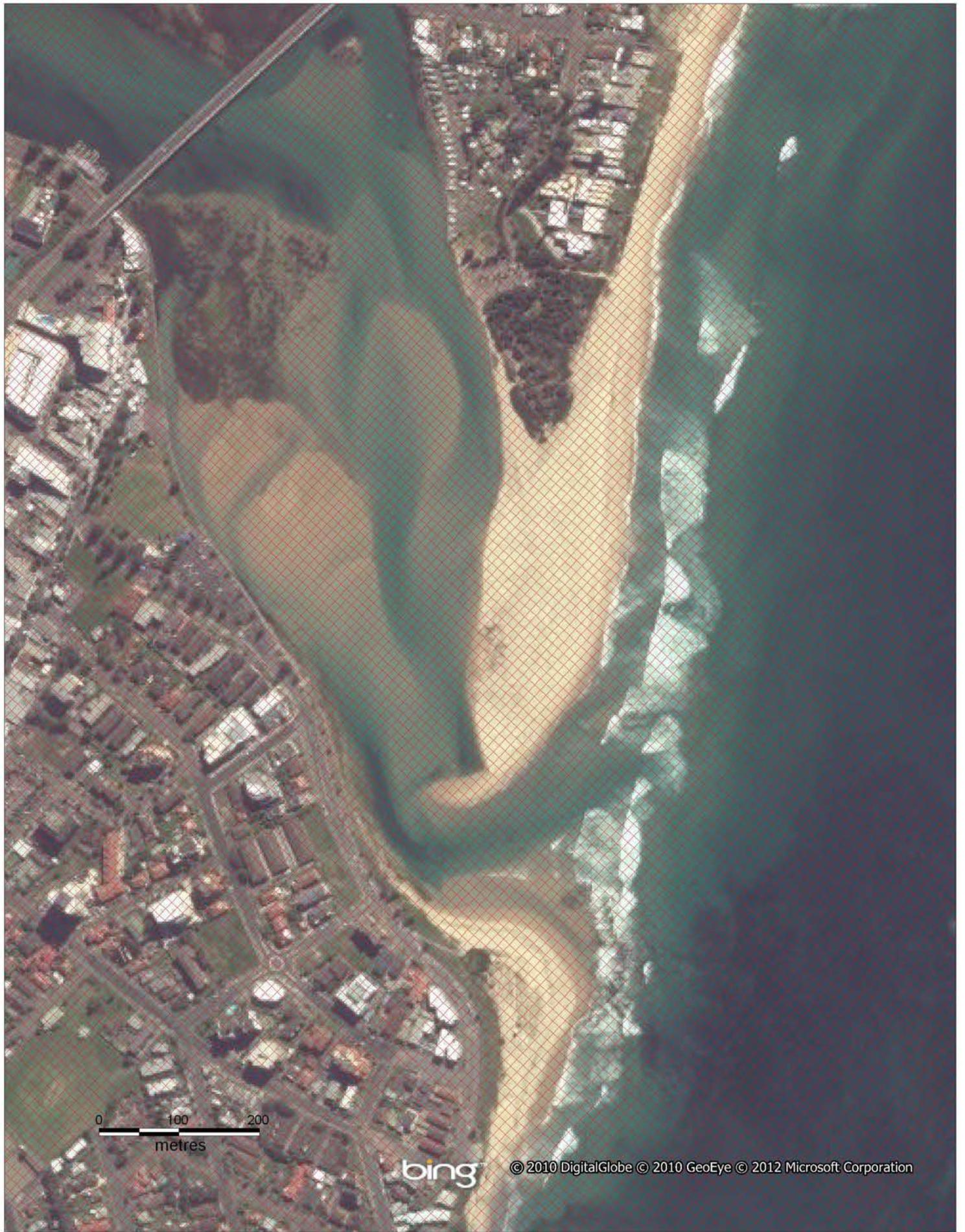
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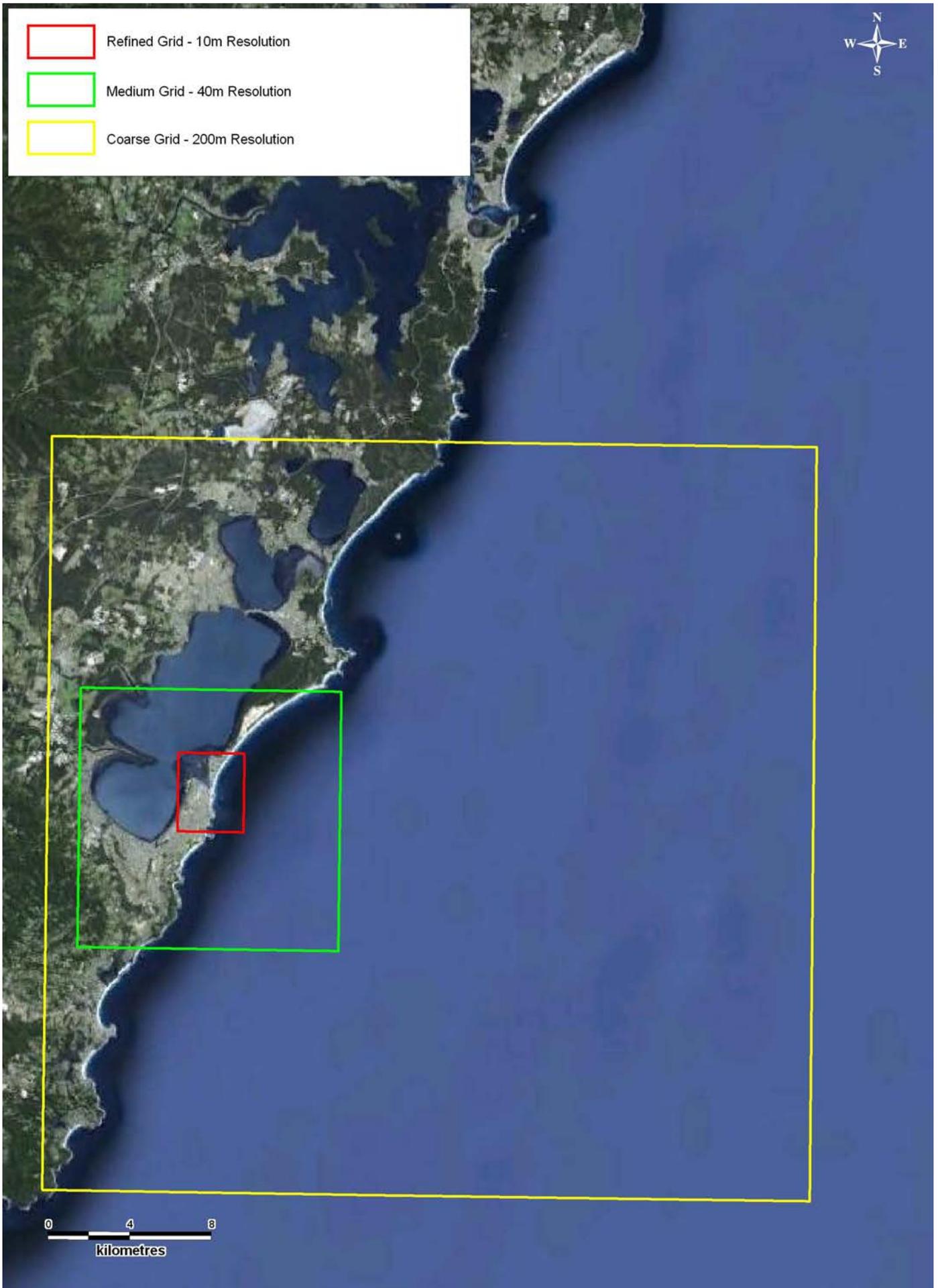
Figures



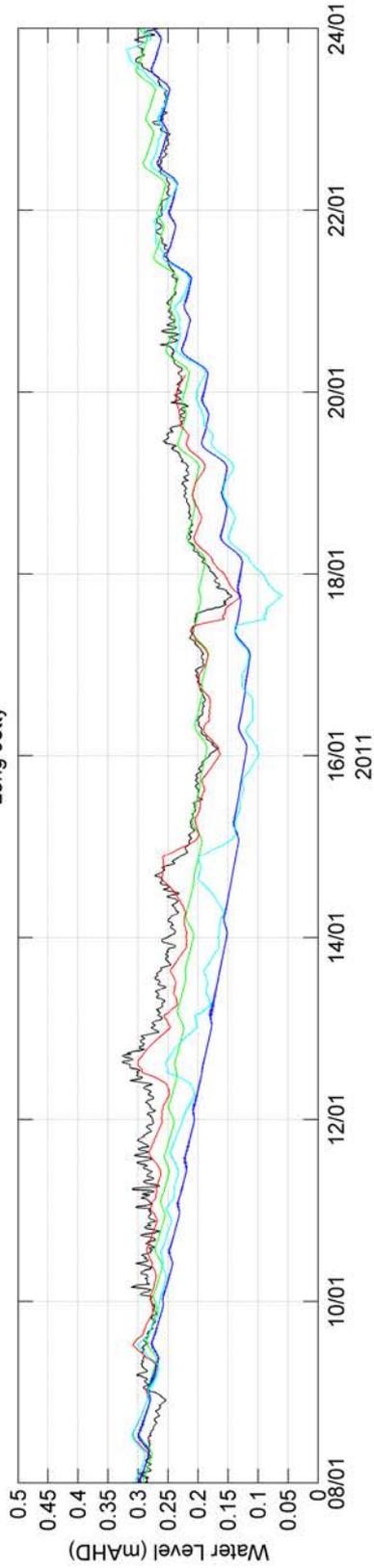




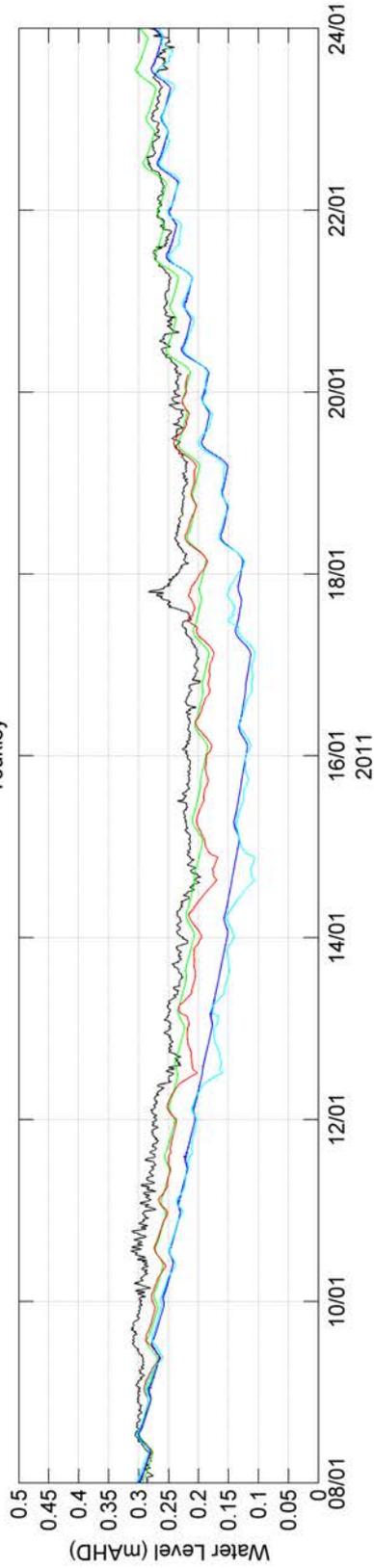




January 2011 - Roughness: Chezy 45
Long Jetty

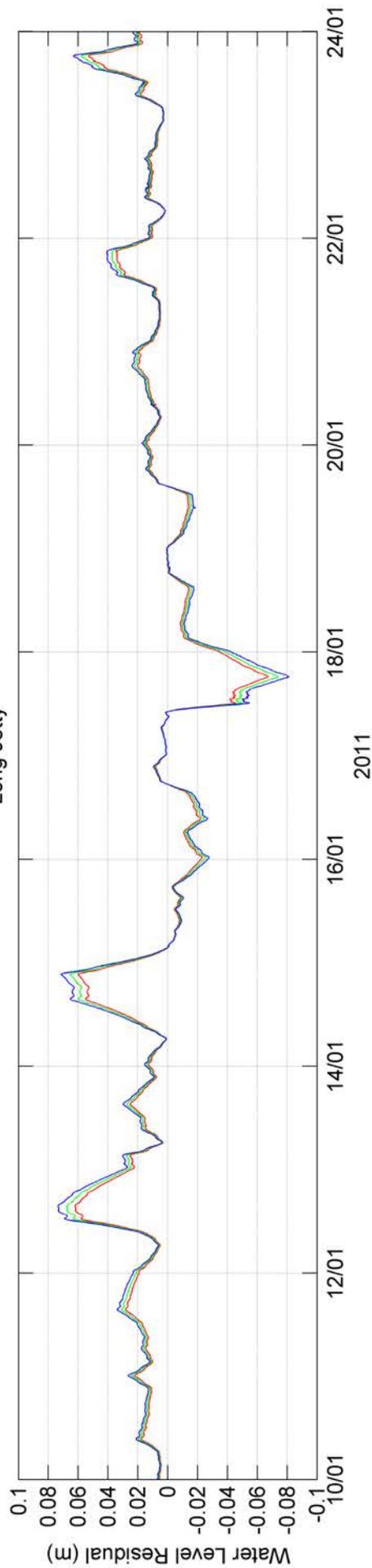


Toukley

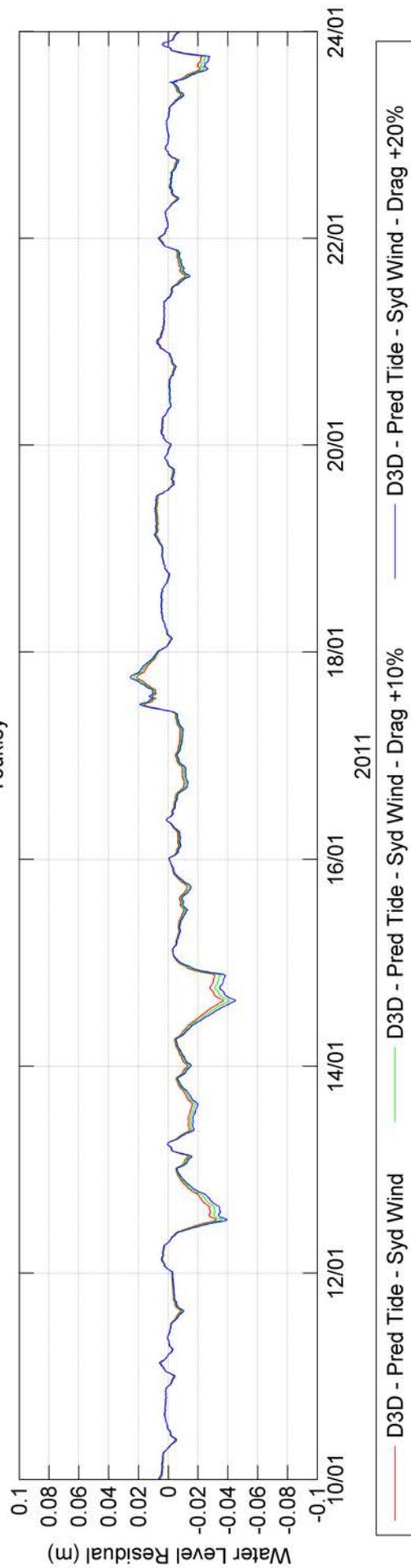


— Recorded Gauge Data — D3D - Pred Tide - No Wind — D3D - Pred Tide - Syd Wind — D3D - Syd Tide - No Wind — D3D - Syd Tide - Syd Wind

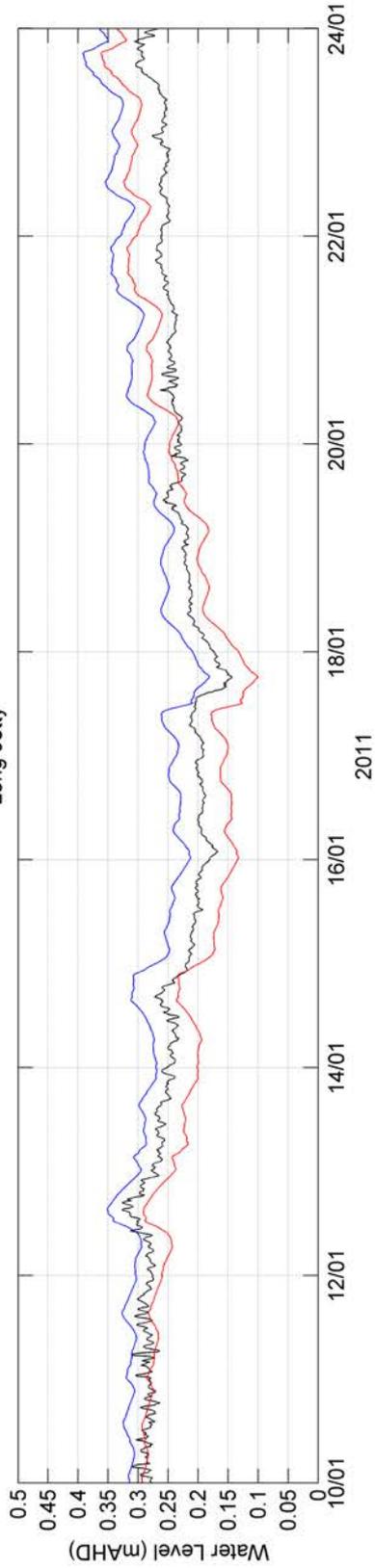
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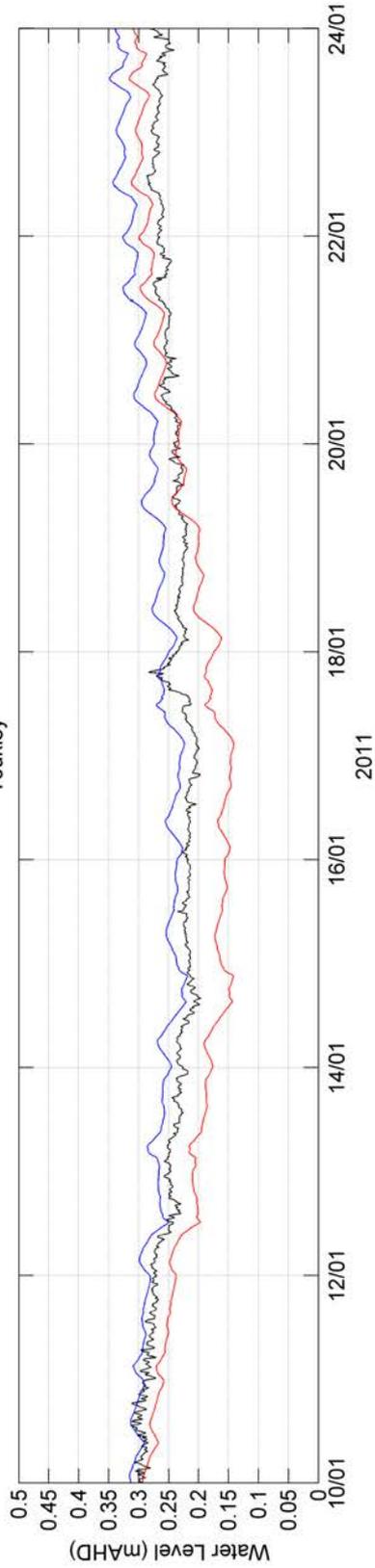
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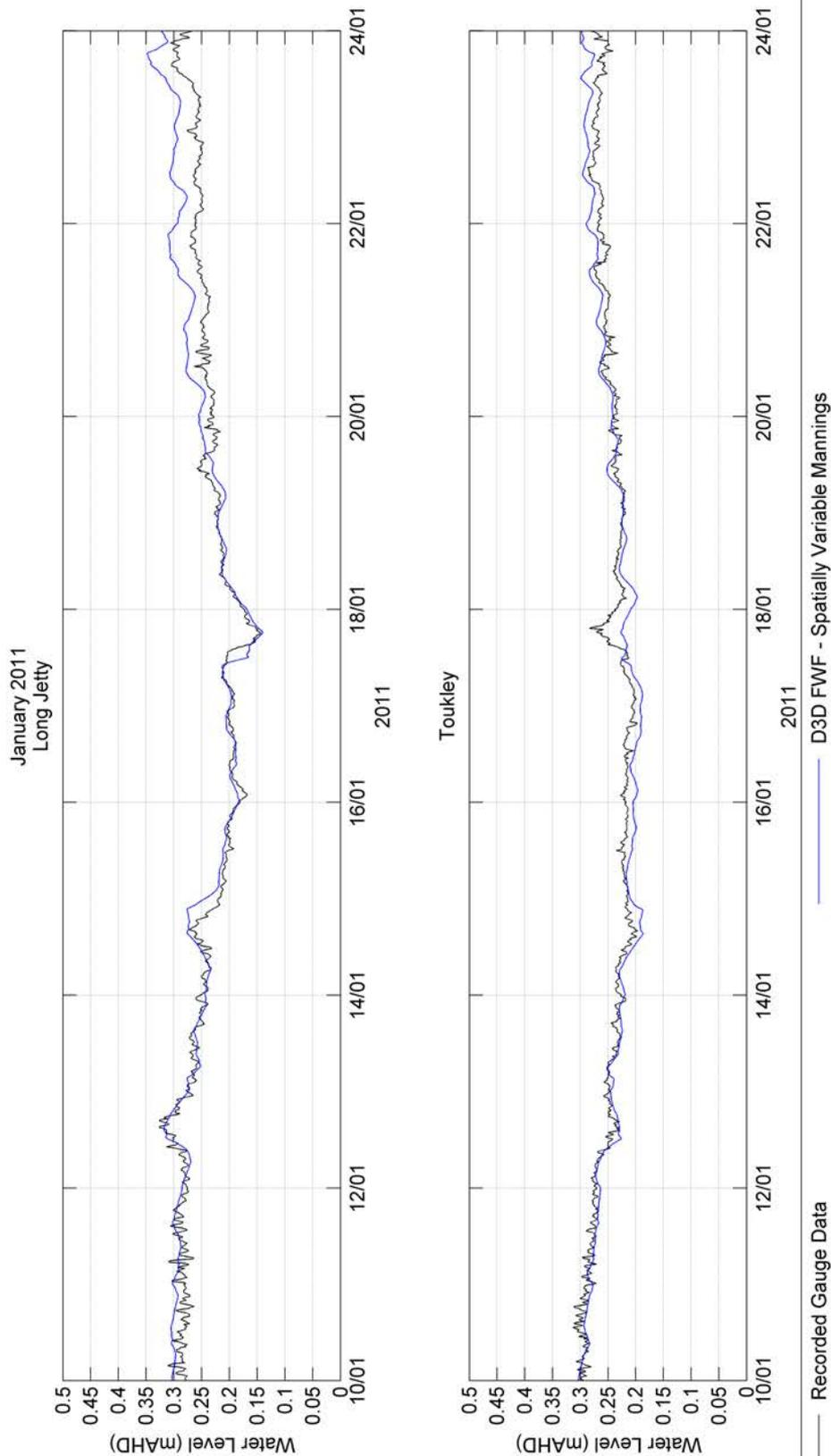
January 2011 - Roughness: Chezy 45
Long Jetty

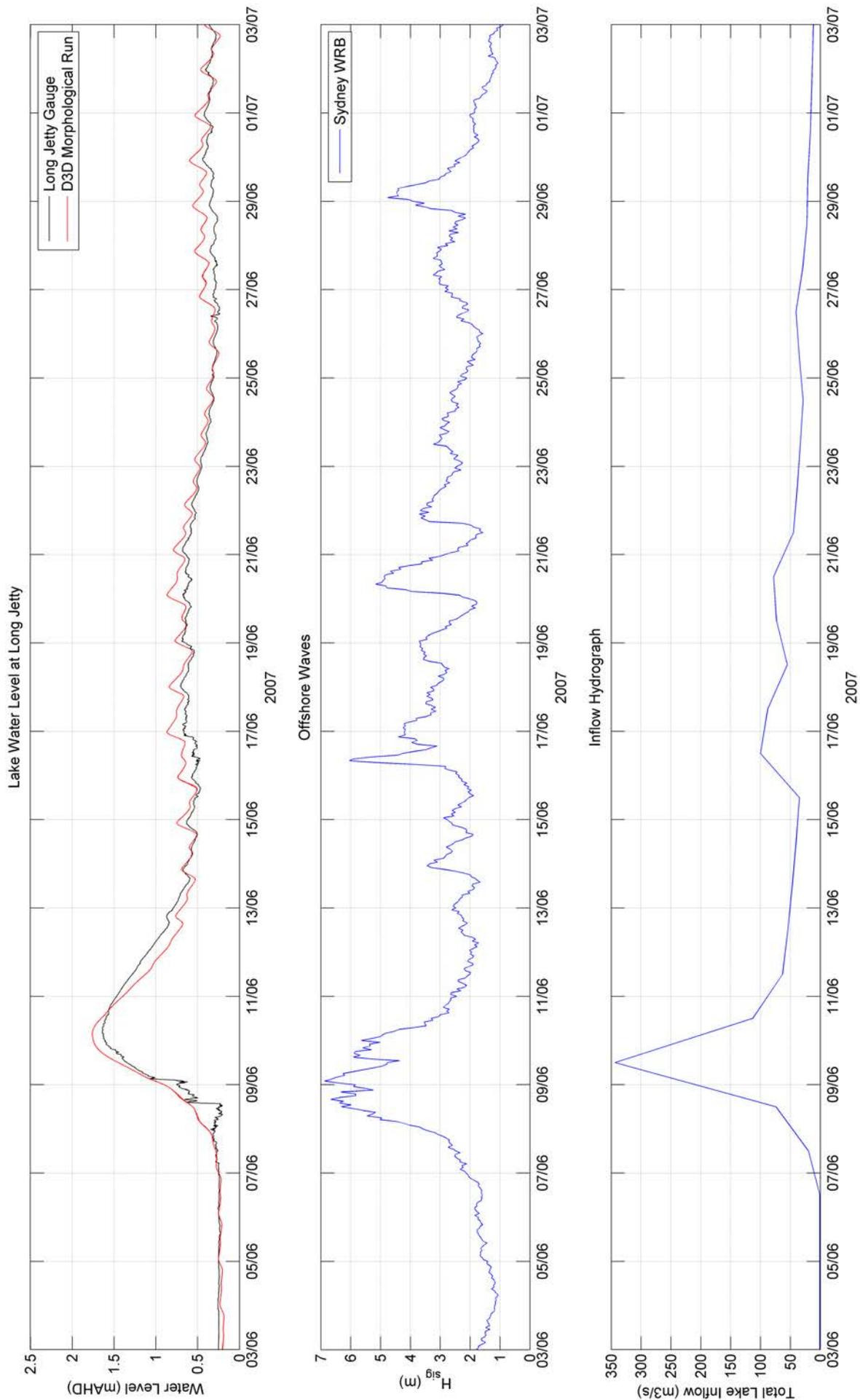


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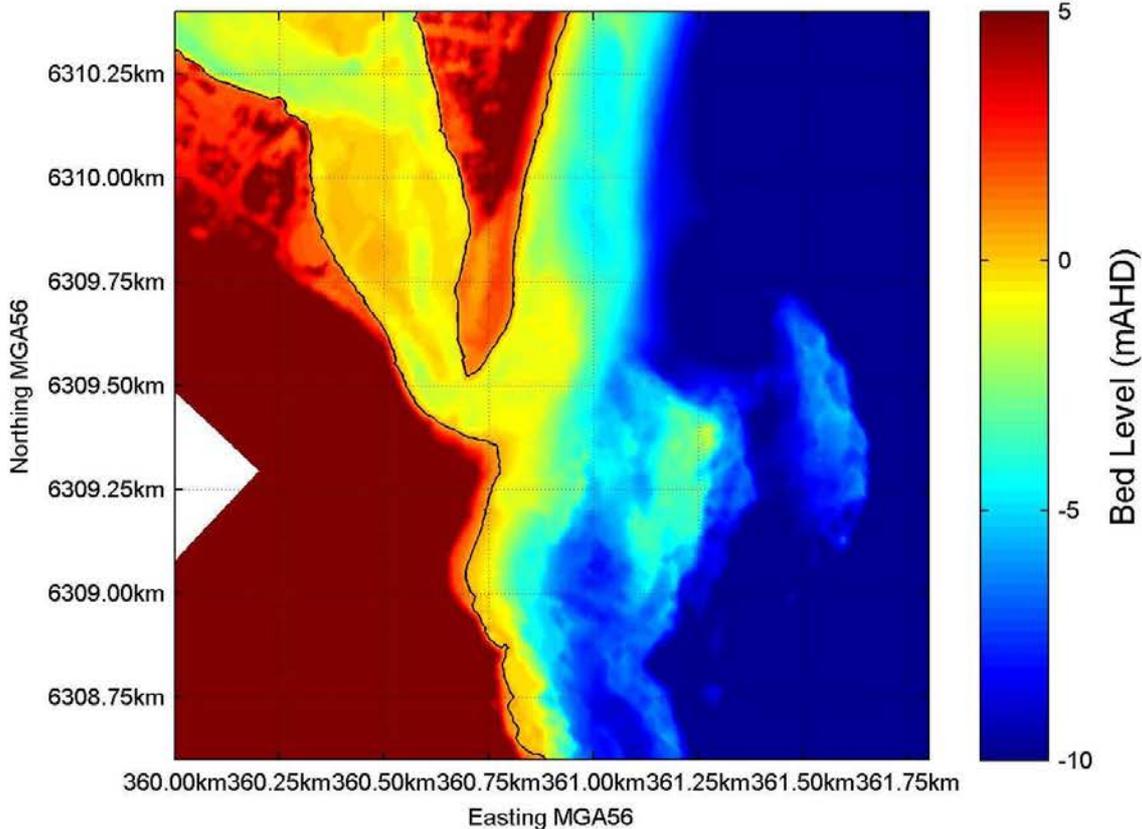


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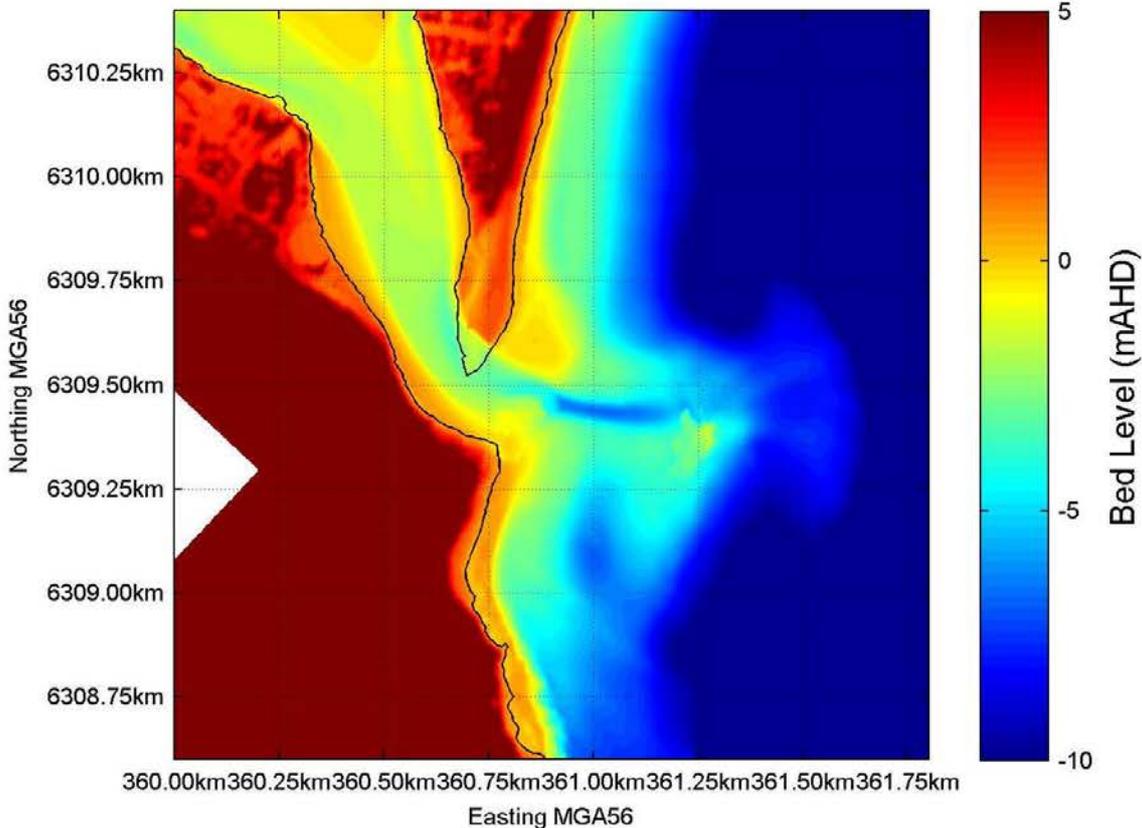


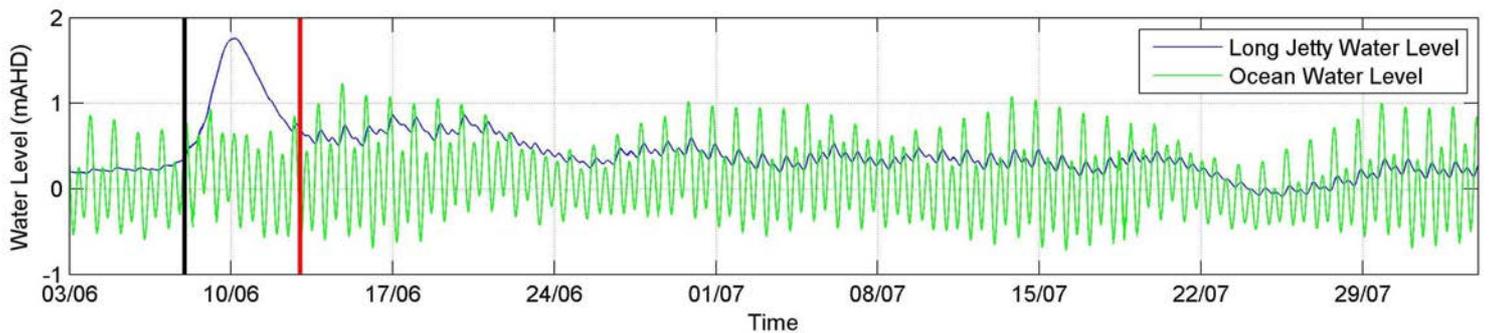
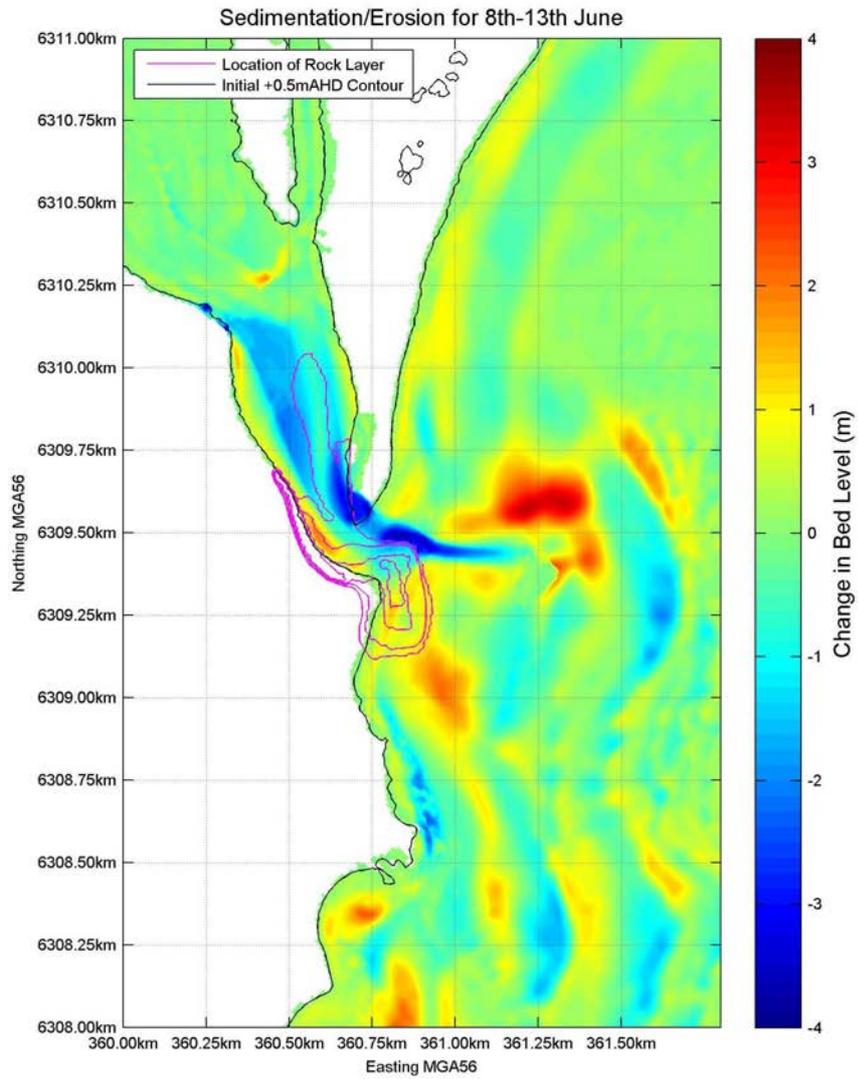


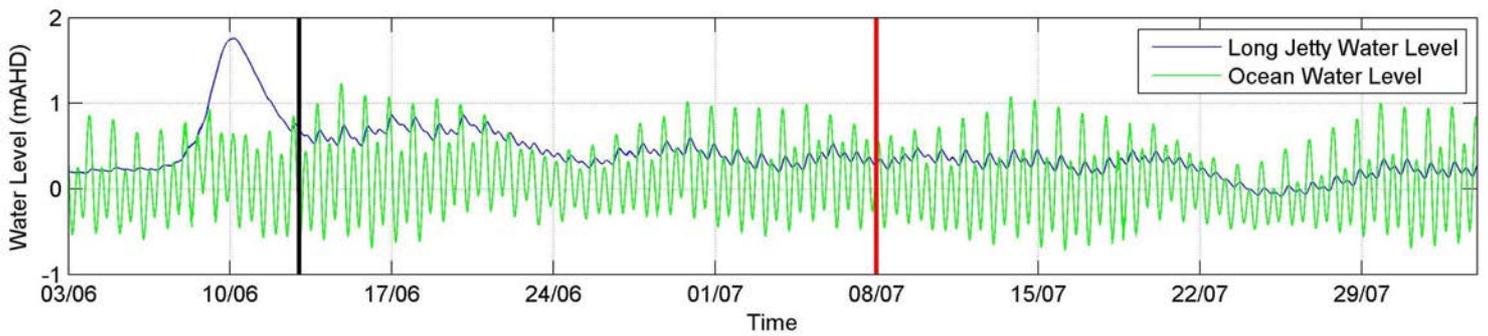
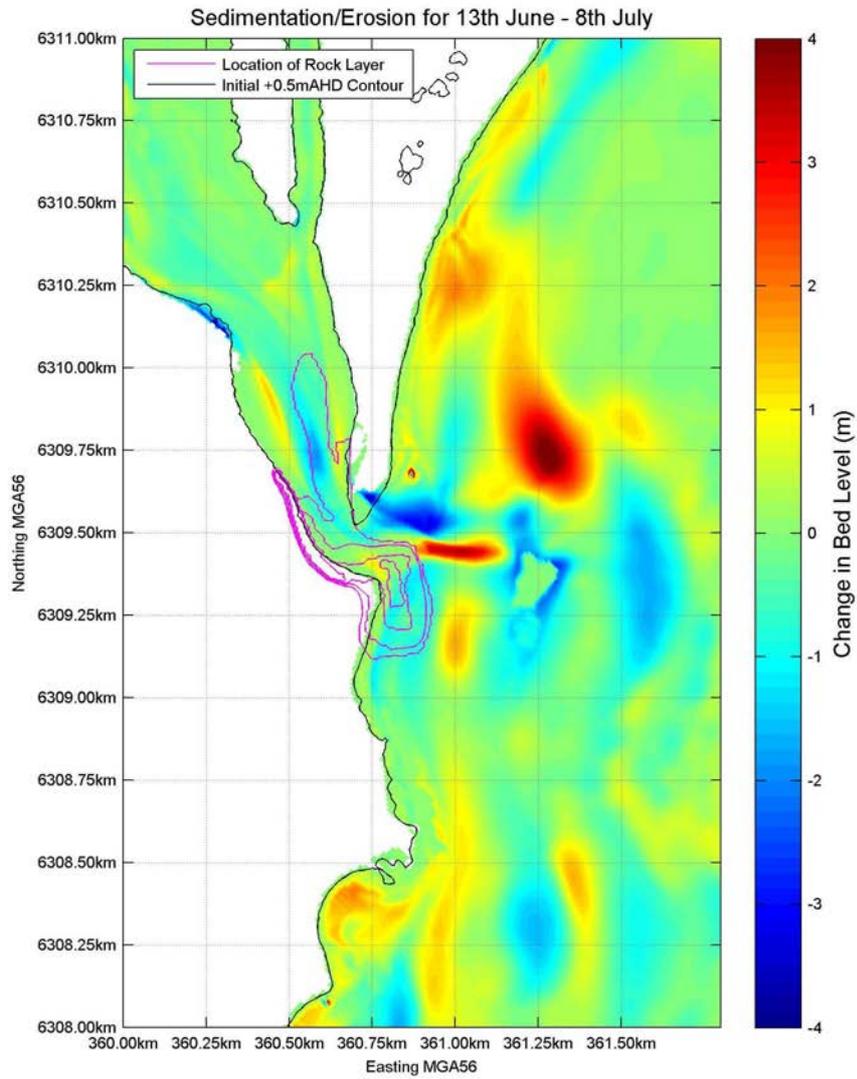
Pre Breakout Bed Level - 7 June 2007

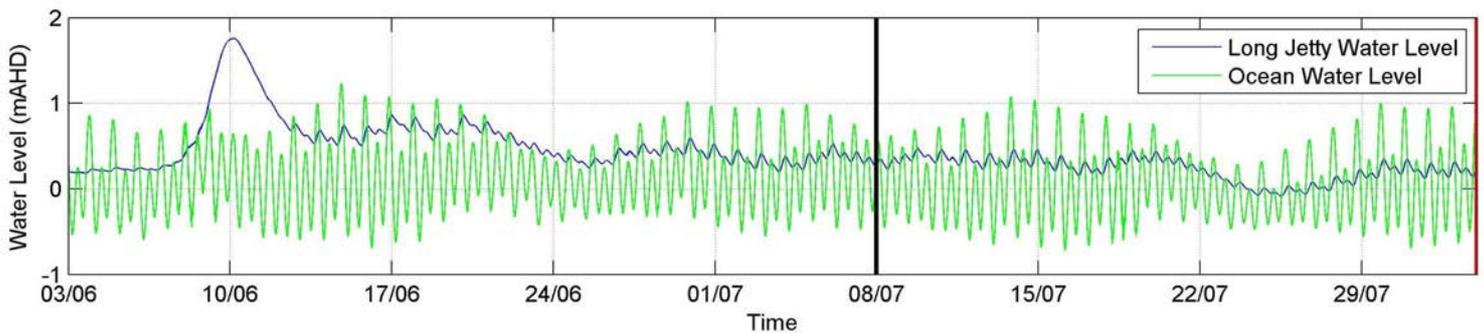
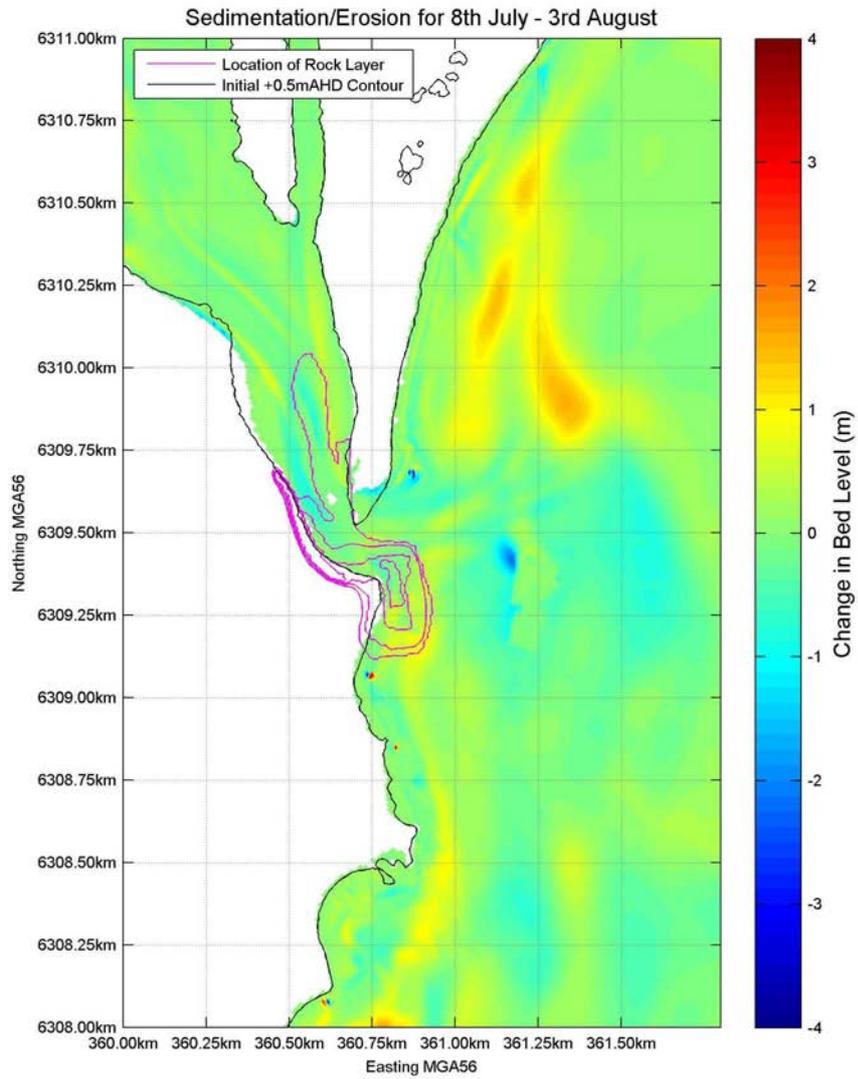


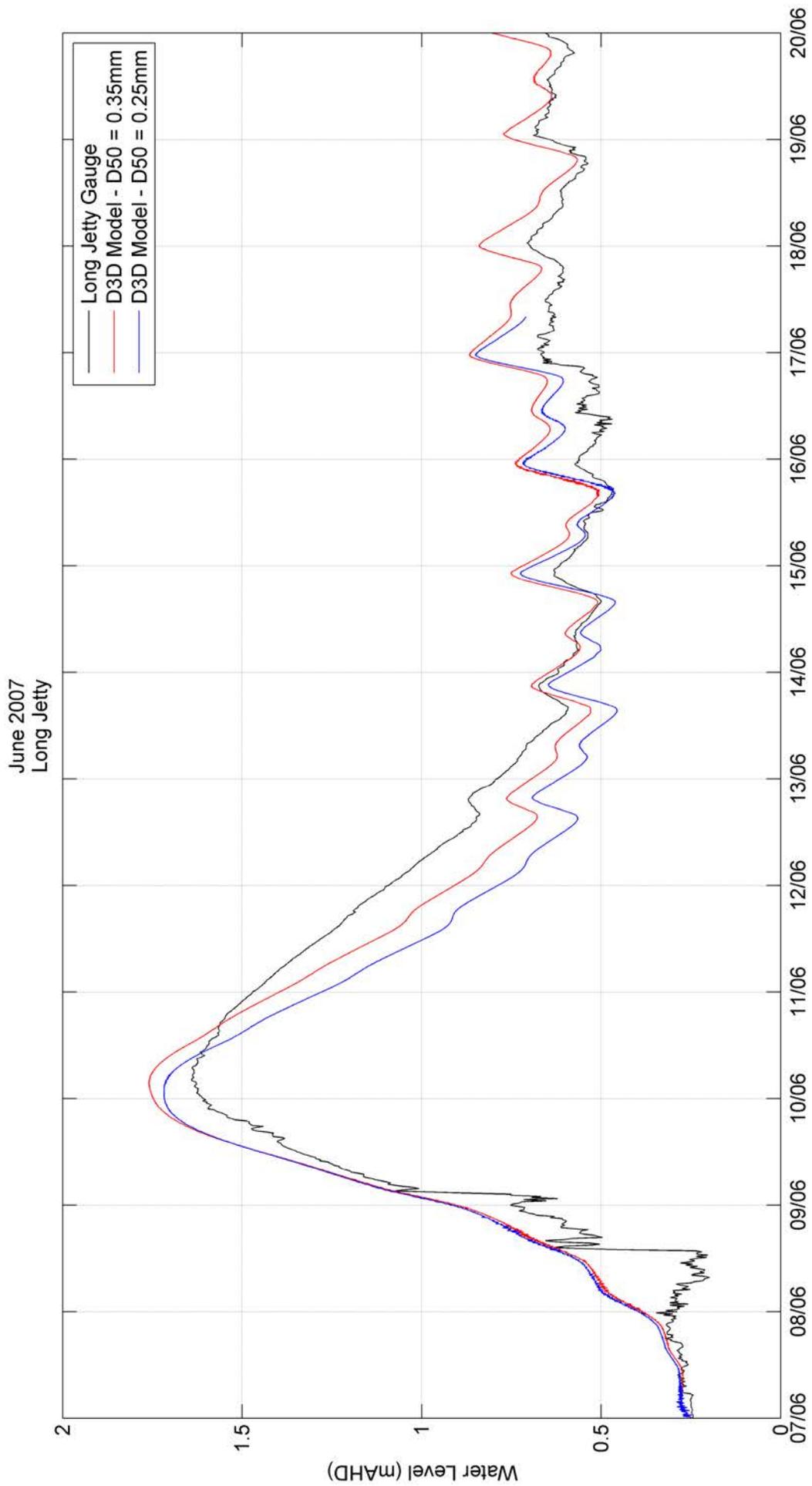
Post Breakout Bed Level - 13 June 2007



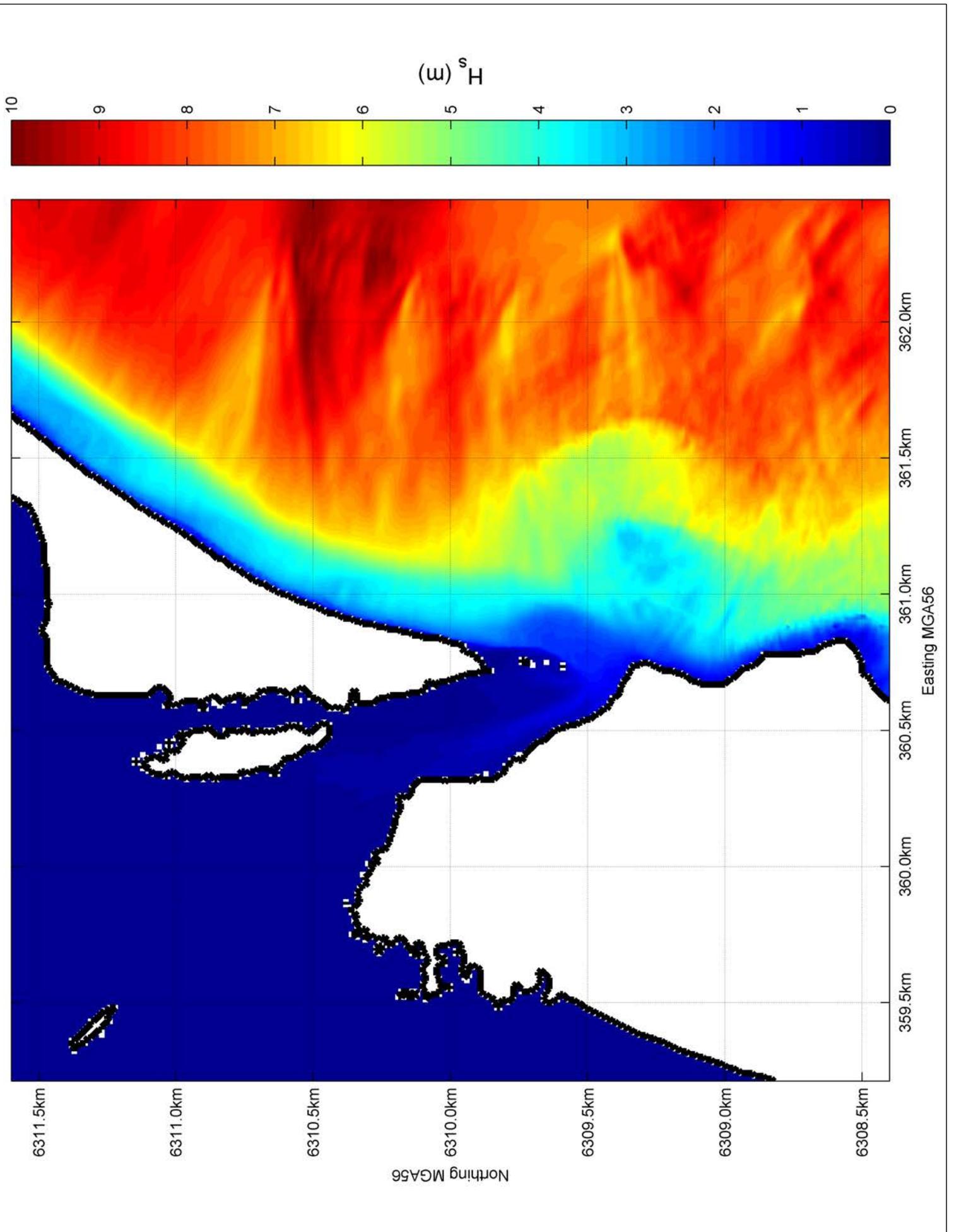








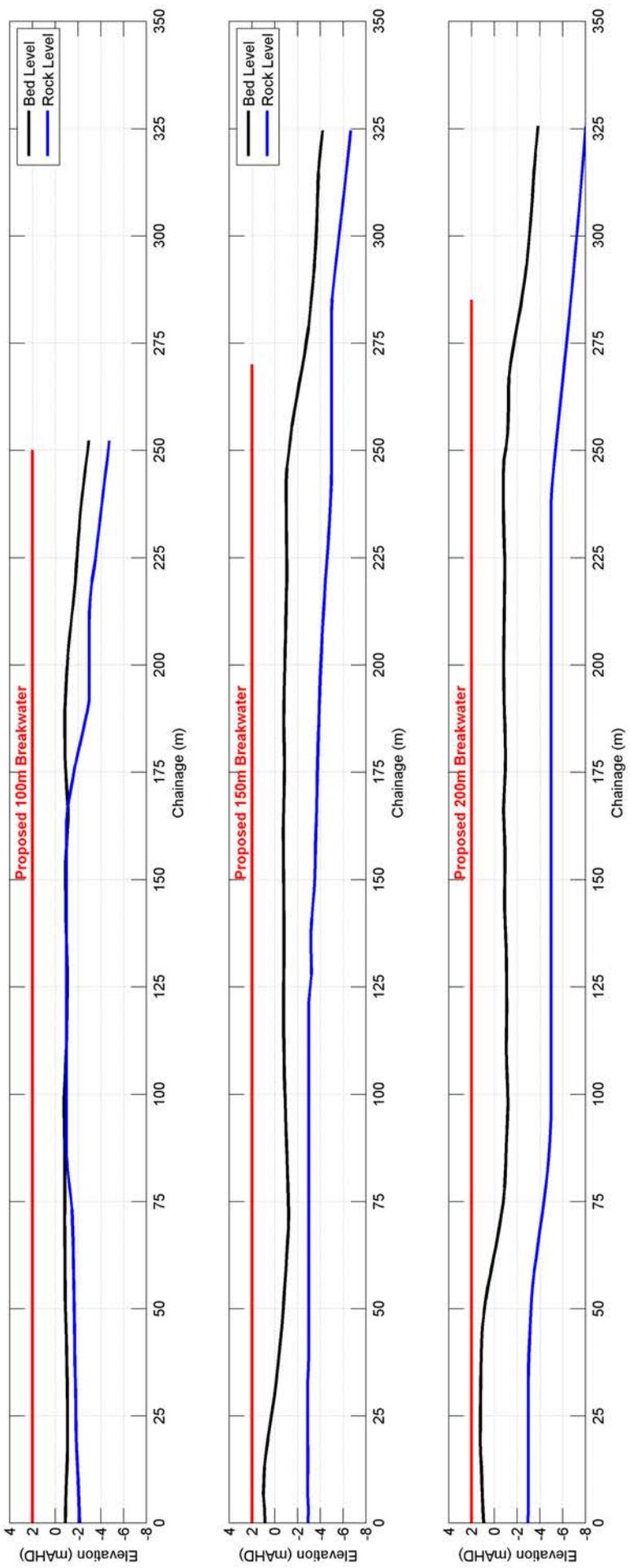


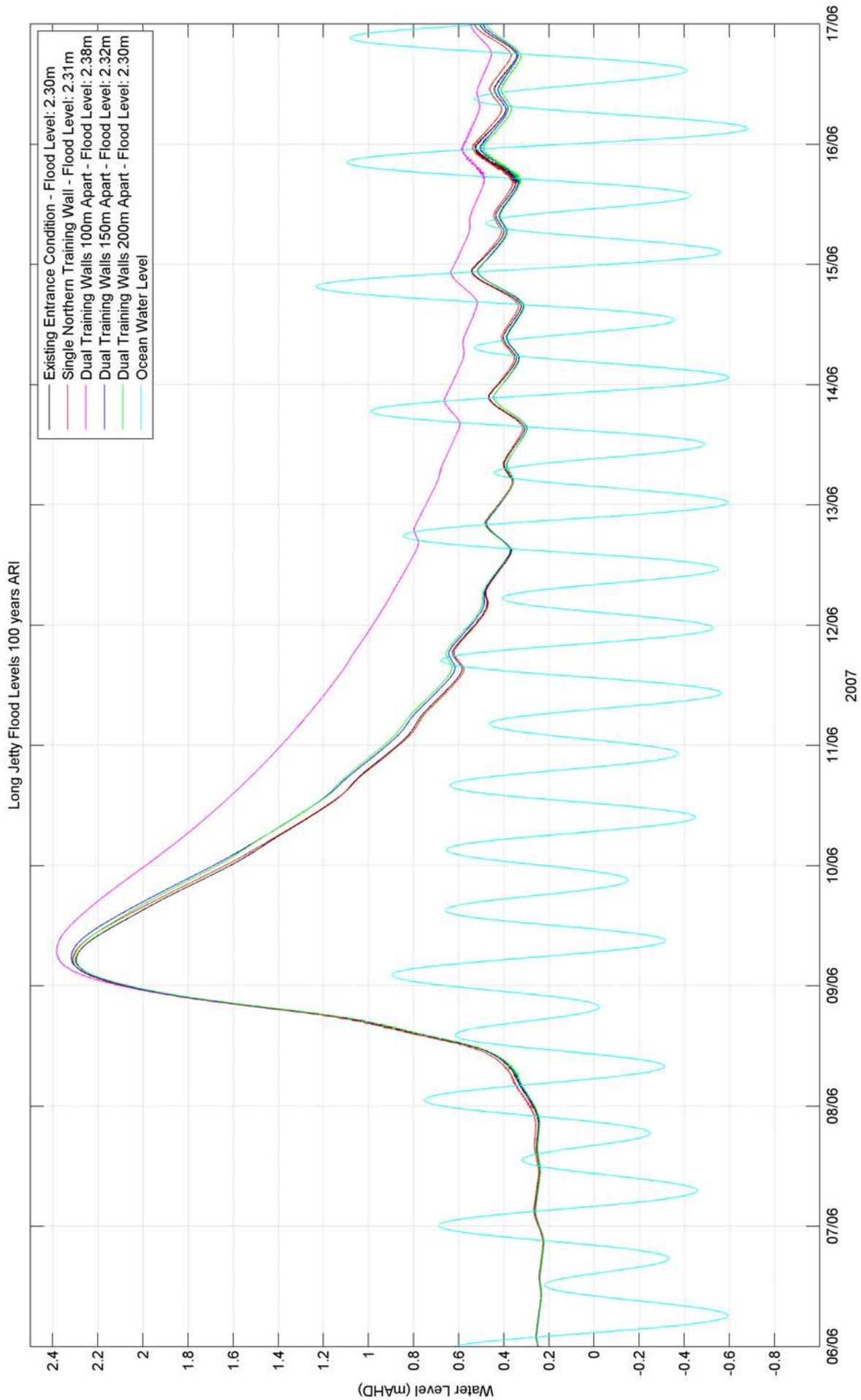


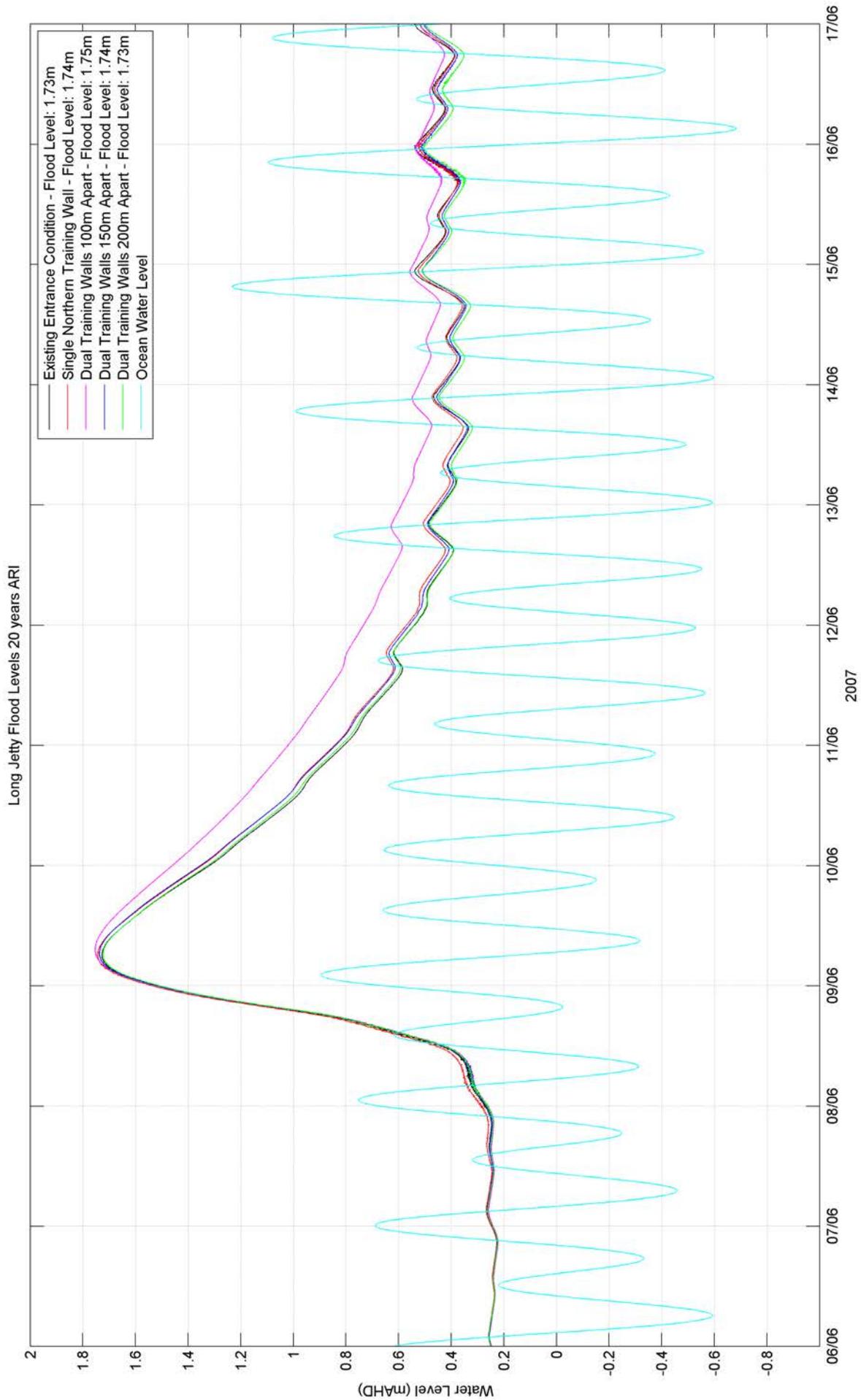
Tuggerah Lakes – The Entrance Morphodynamic Modelling
 Effect of Major Ocean Storm on Karagi Point
 ESE Waves , $H_s=10m$, $T_p=13$ seconds, Storm Tide = 1.2m AHD

Figure 6.14

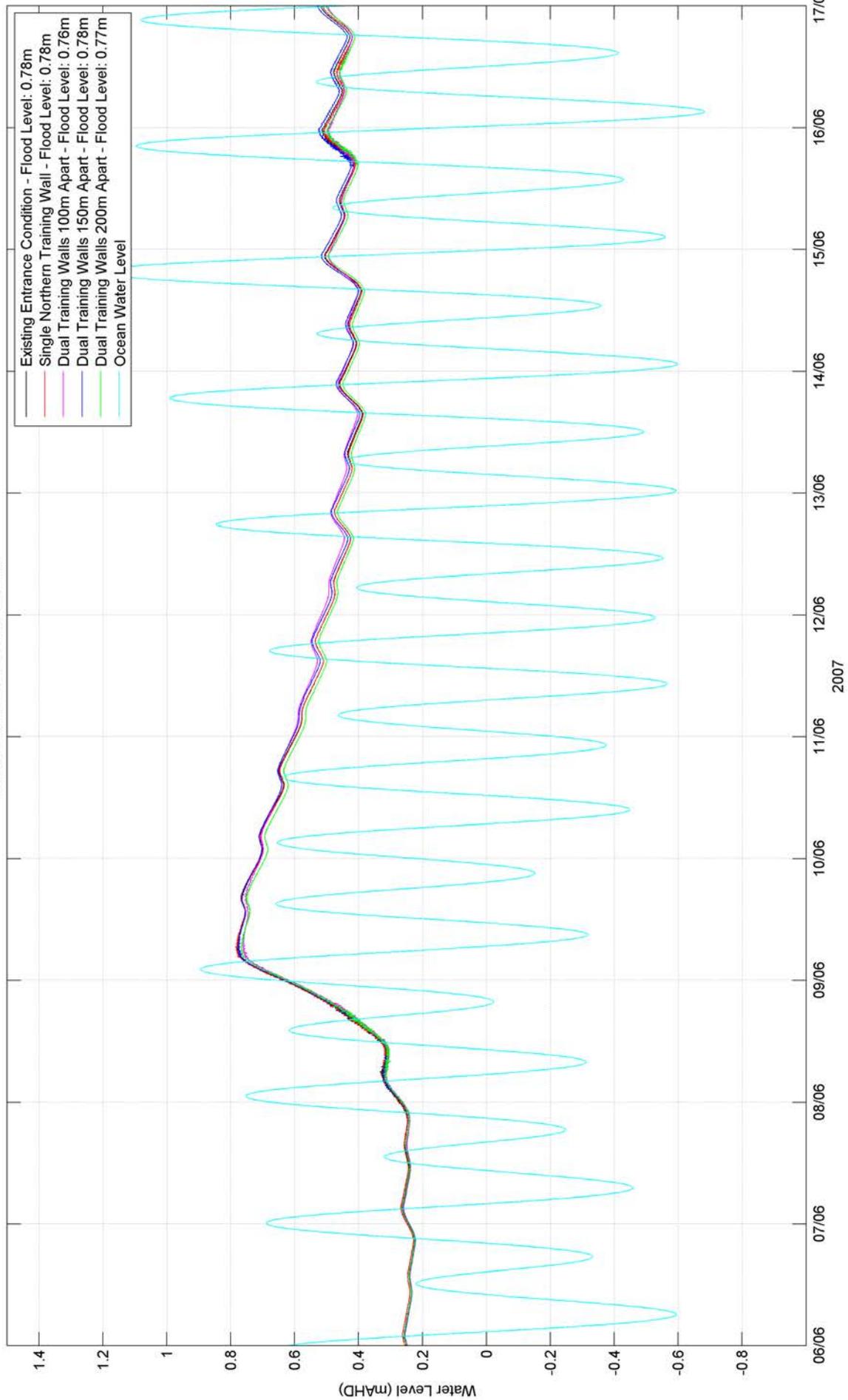
Bed Level and Rock Layer Profiles
 Bed Levels based on 2011 LIDAR - Rock Levels Based on Patterson Britton 1988



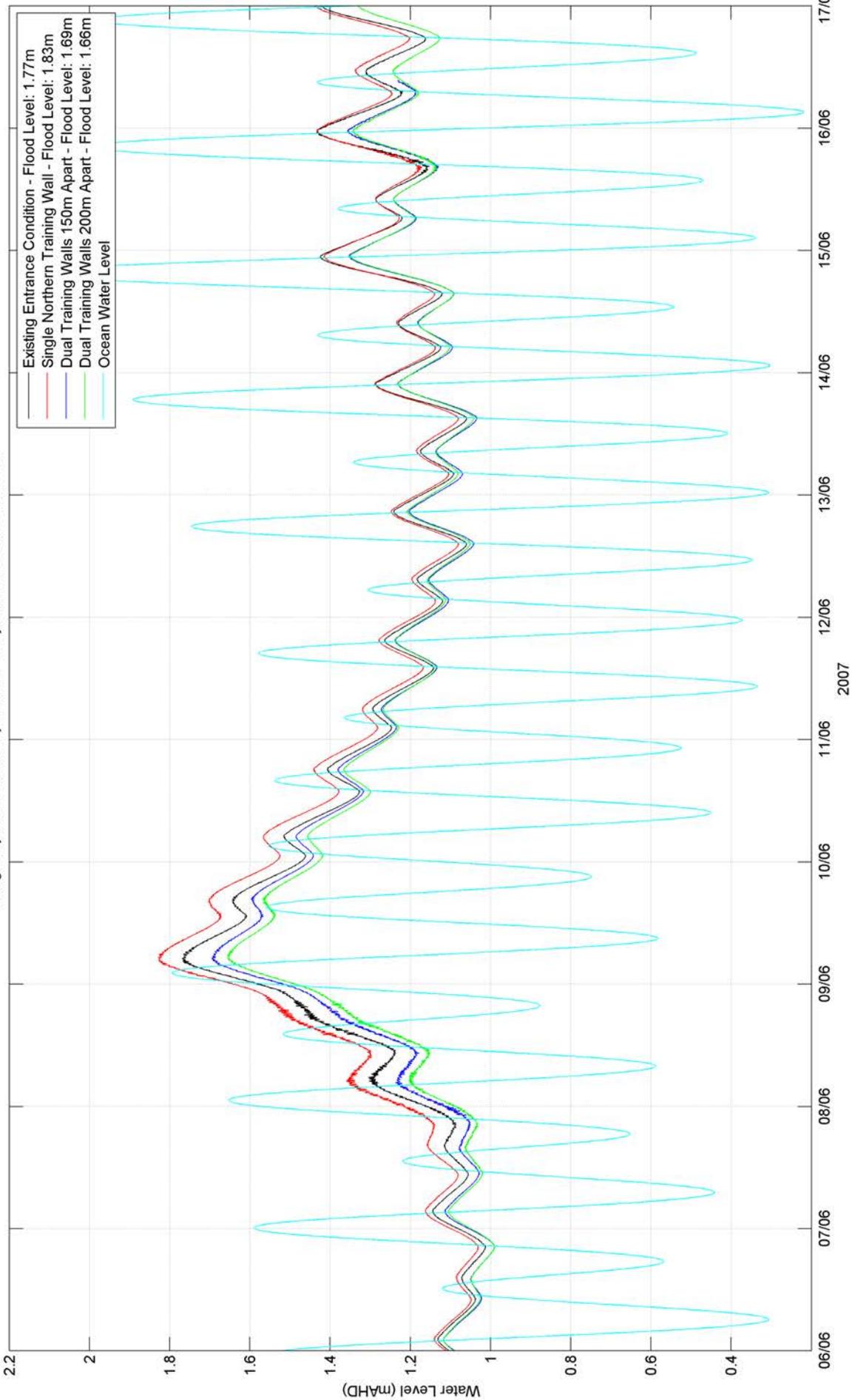


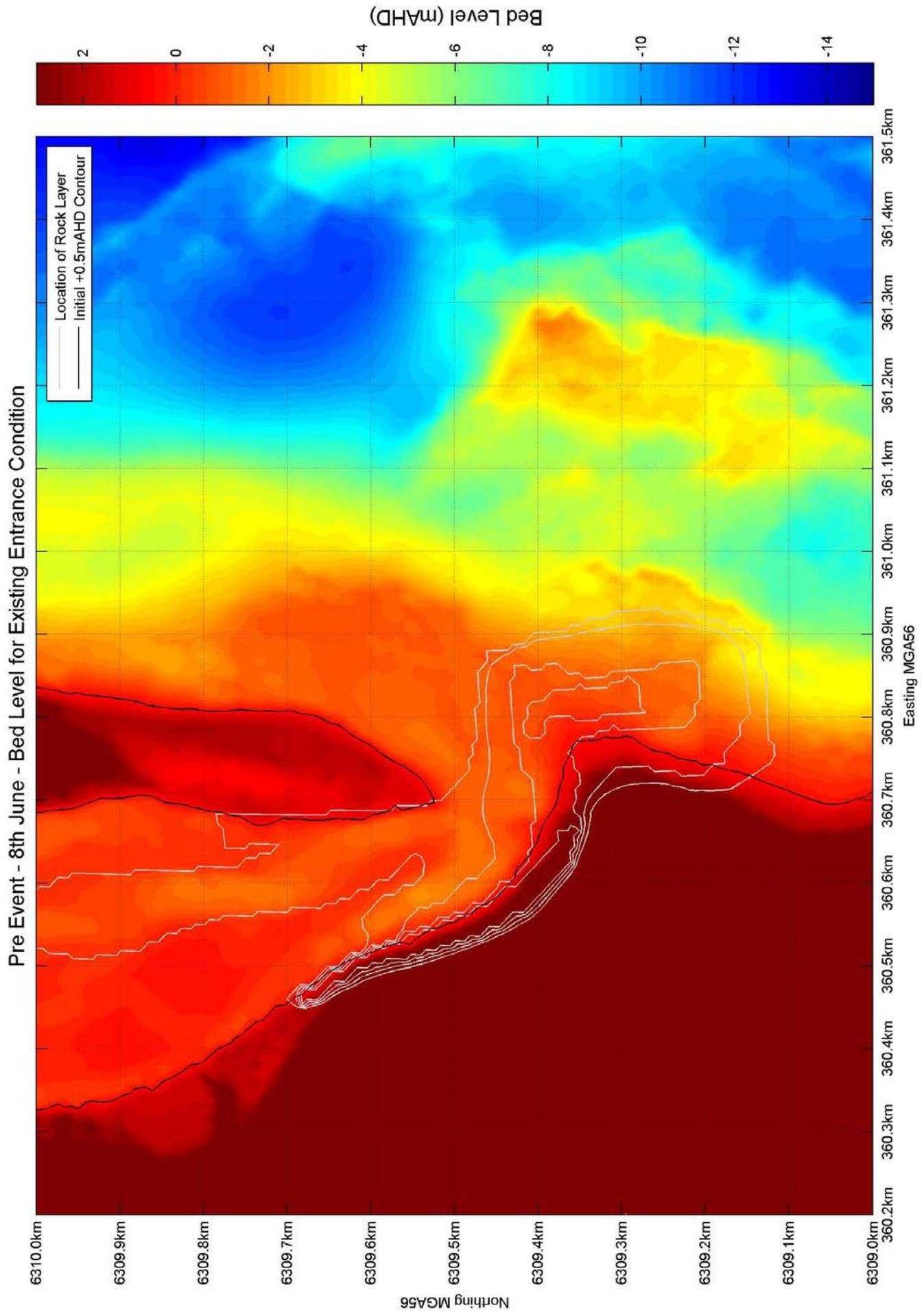


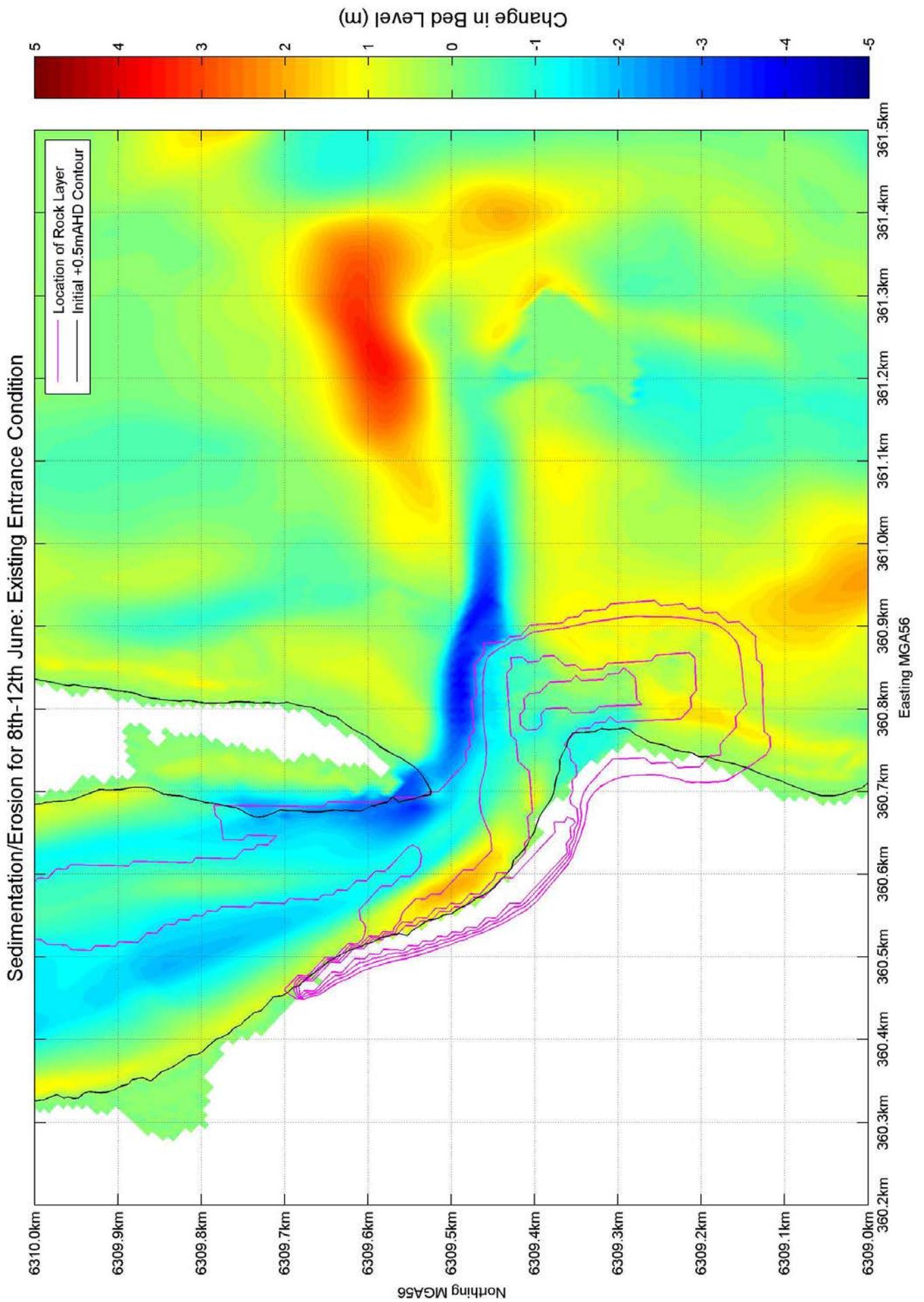
Long Jetty Flood Levels 1 years ARI



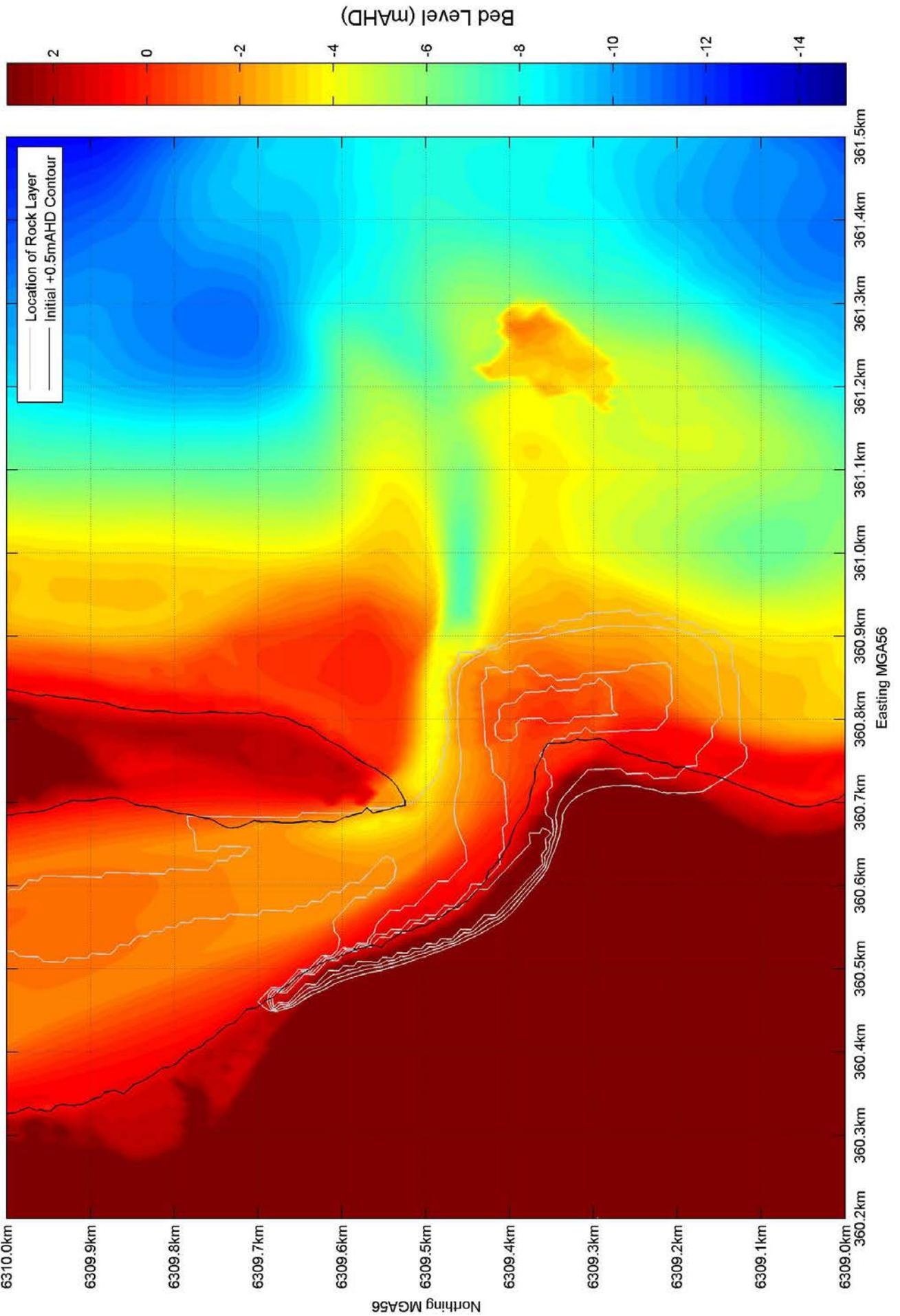
Long Jetty Flood Levels 1 years ARI - Projected 2100 Sea Level Rise

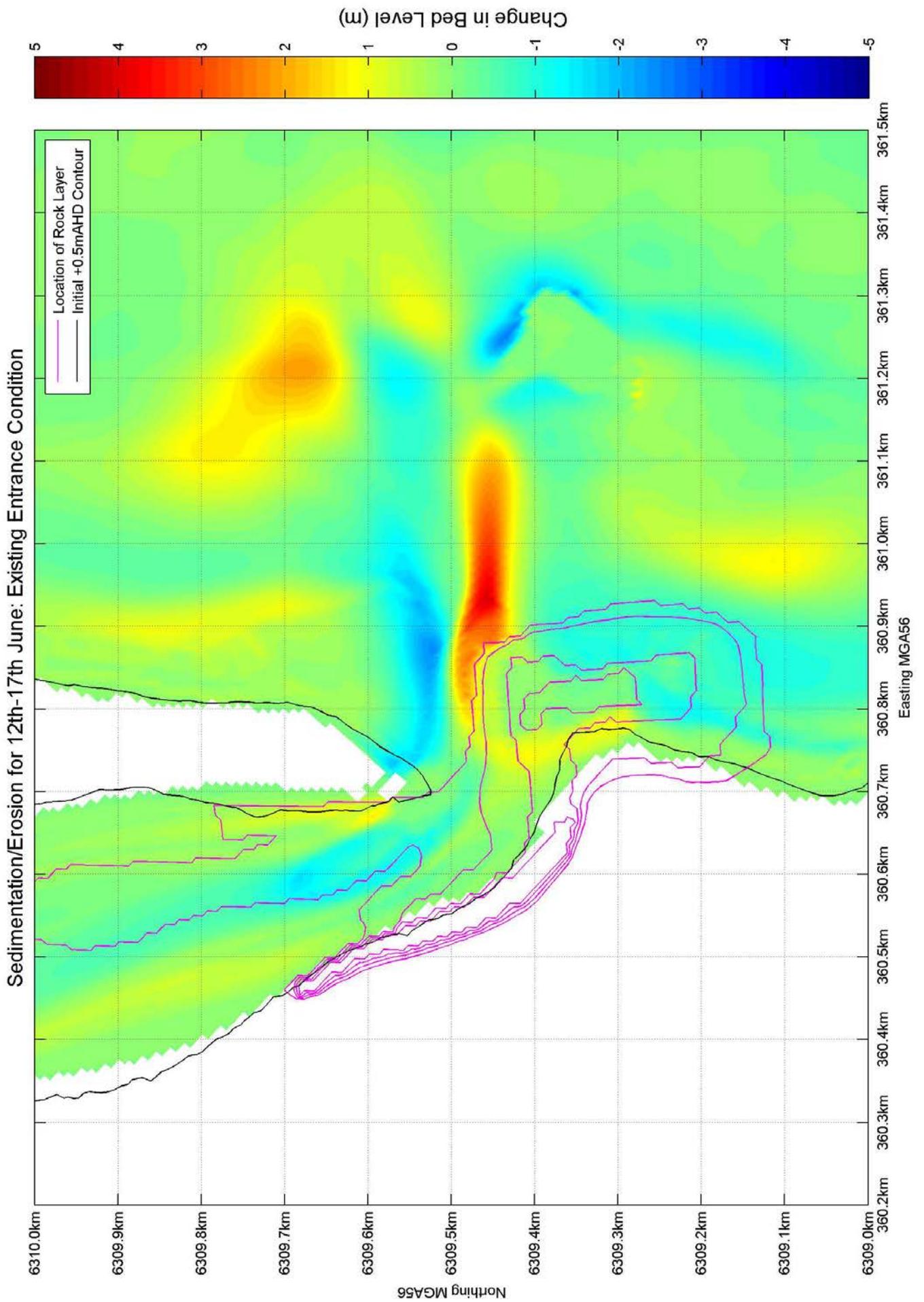




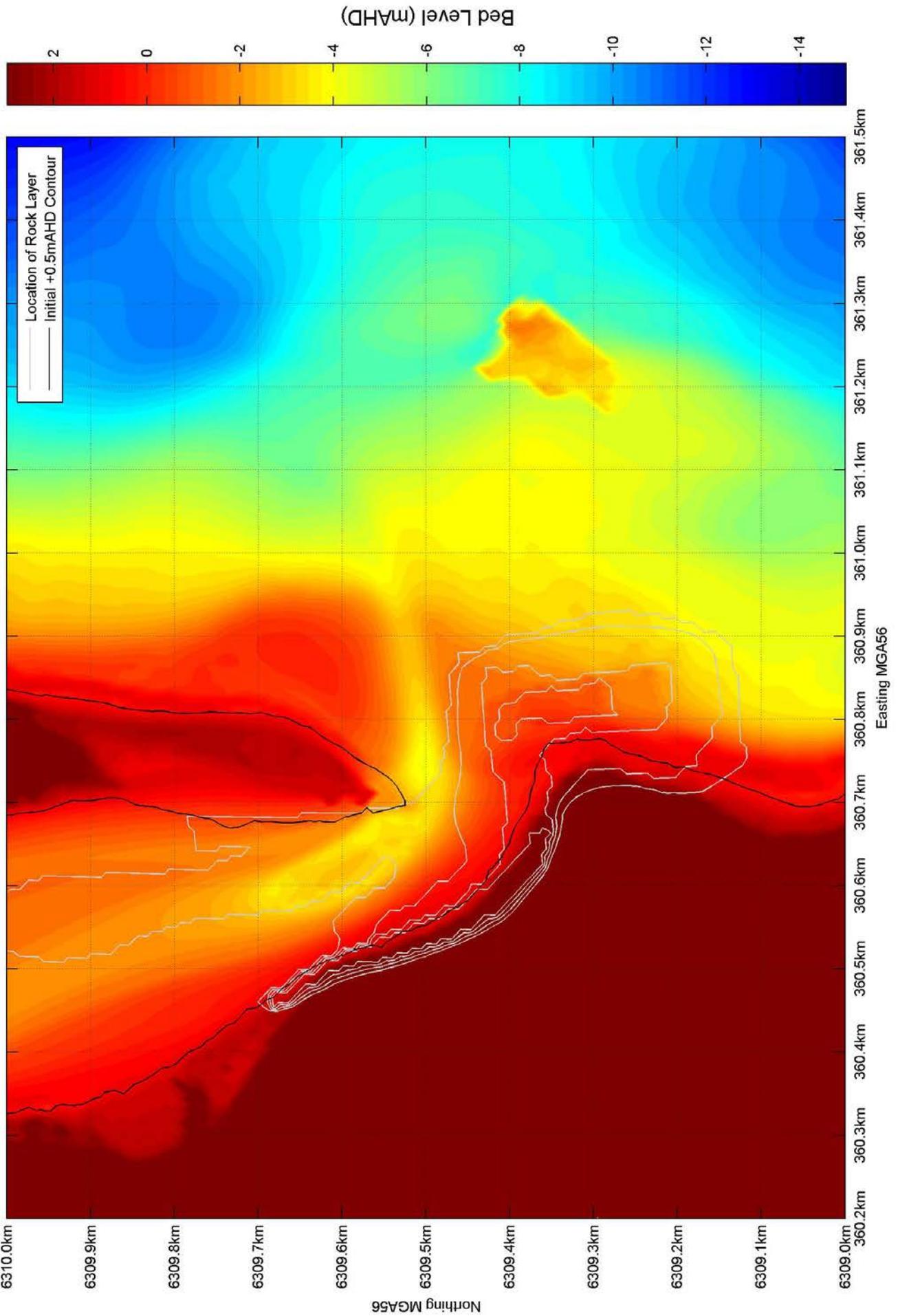


Post Event - 12th June - Bed Level for Existing Entrance Condition

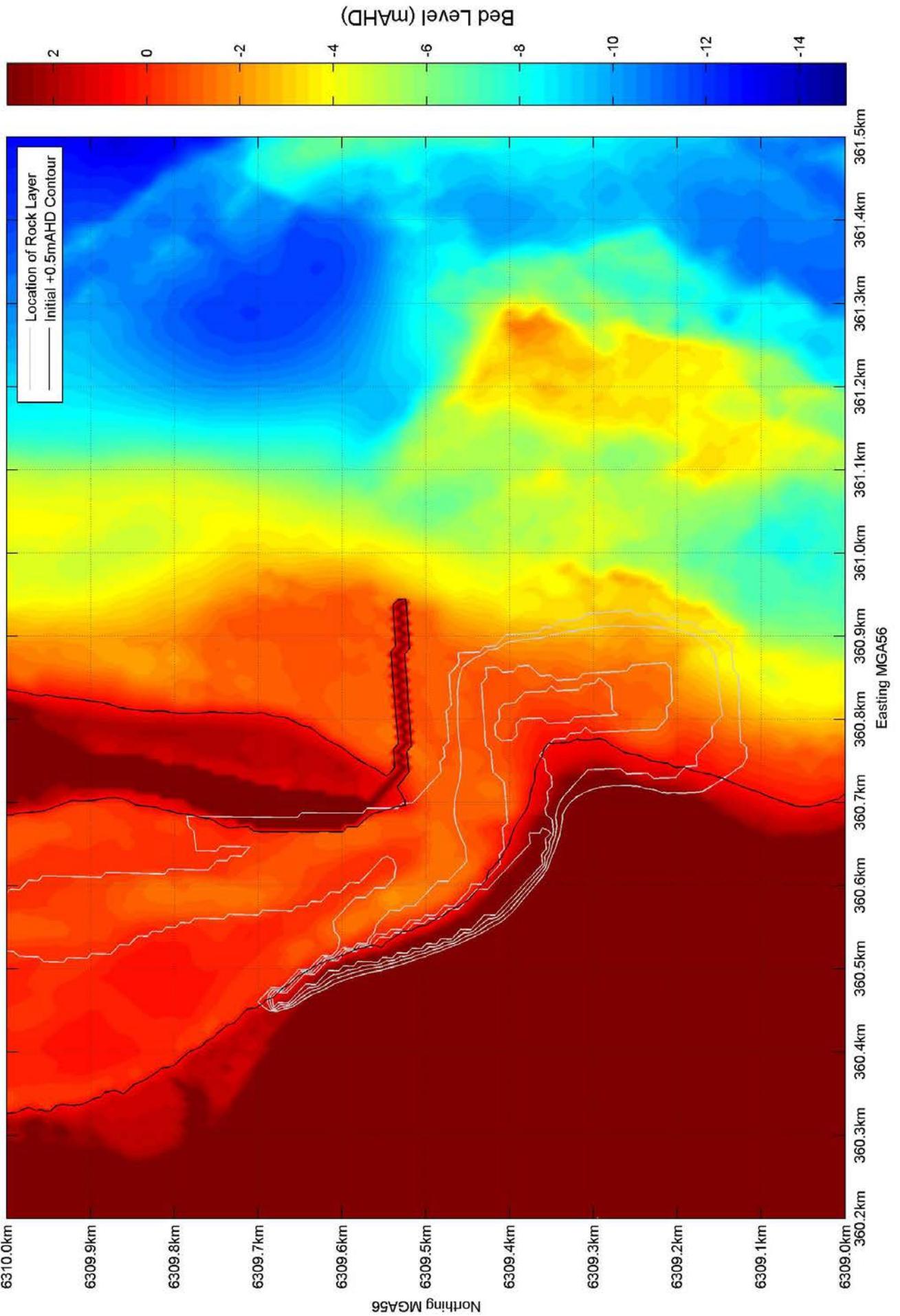


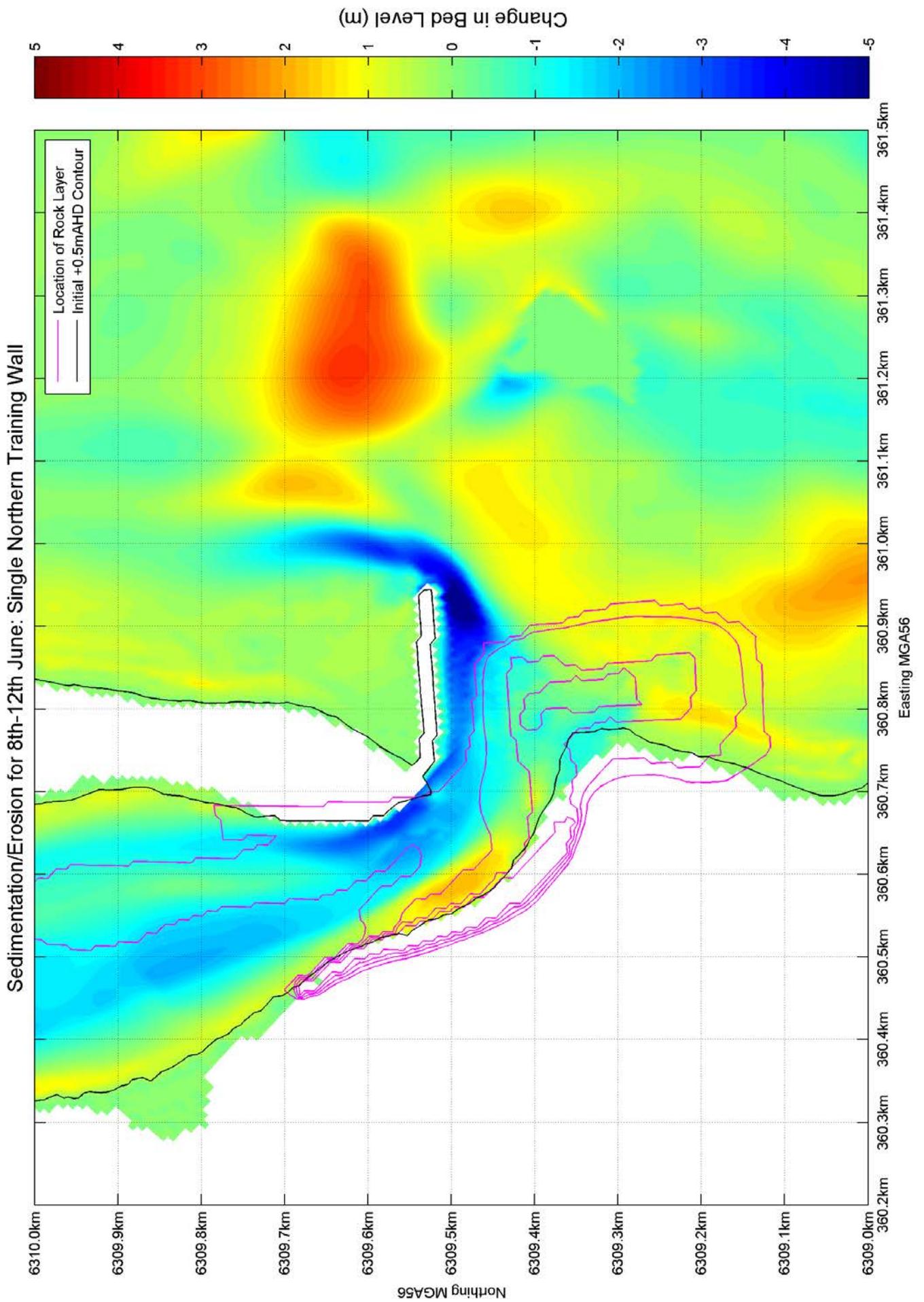


Post Event - 17th June - Bed Level for Existing Entrance Condition

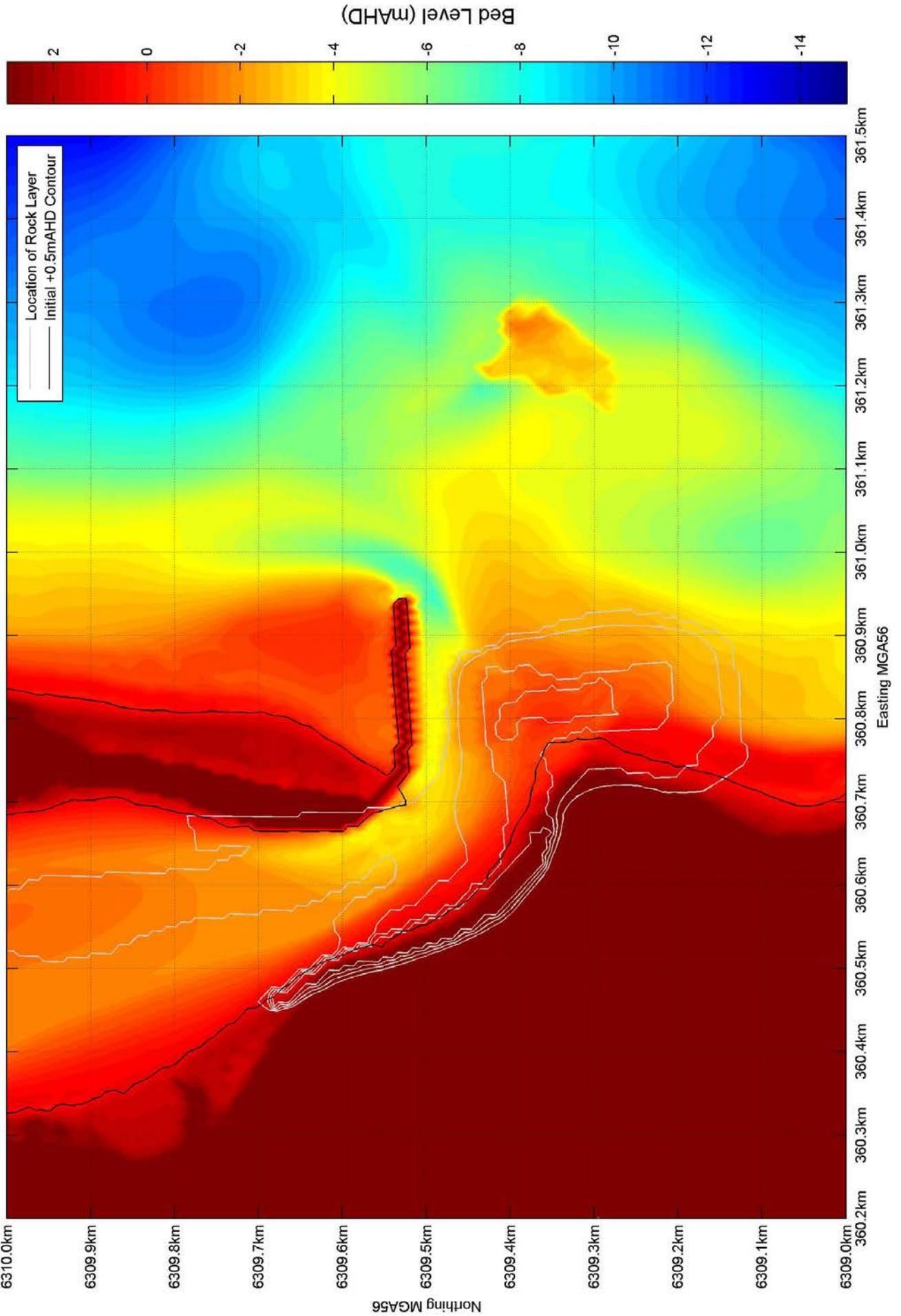


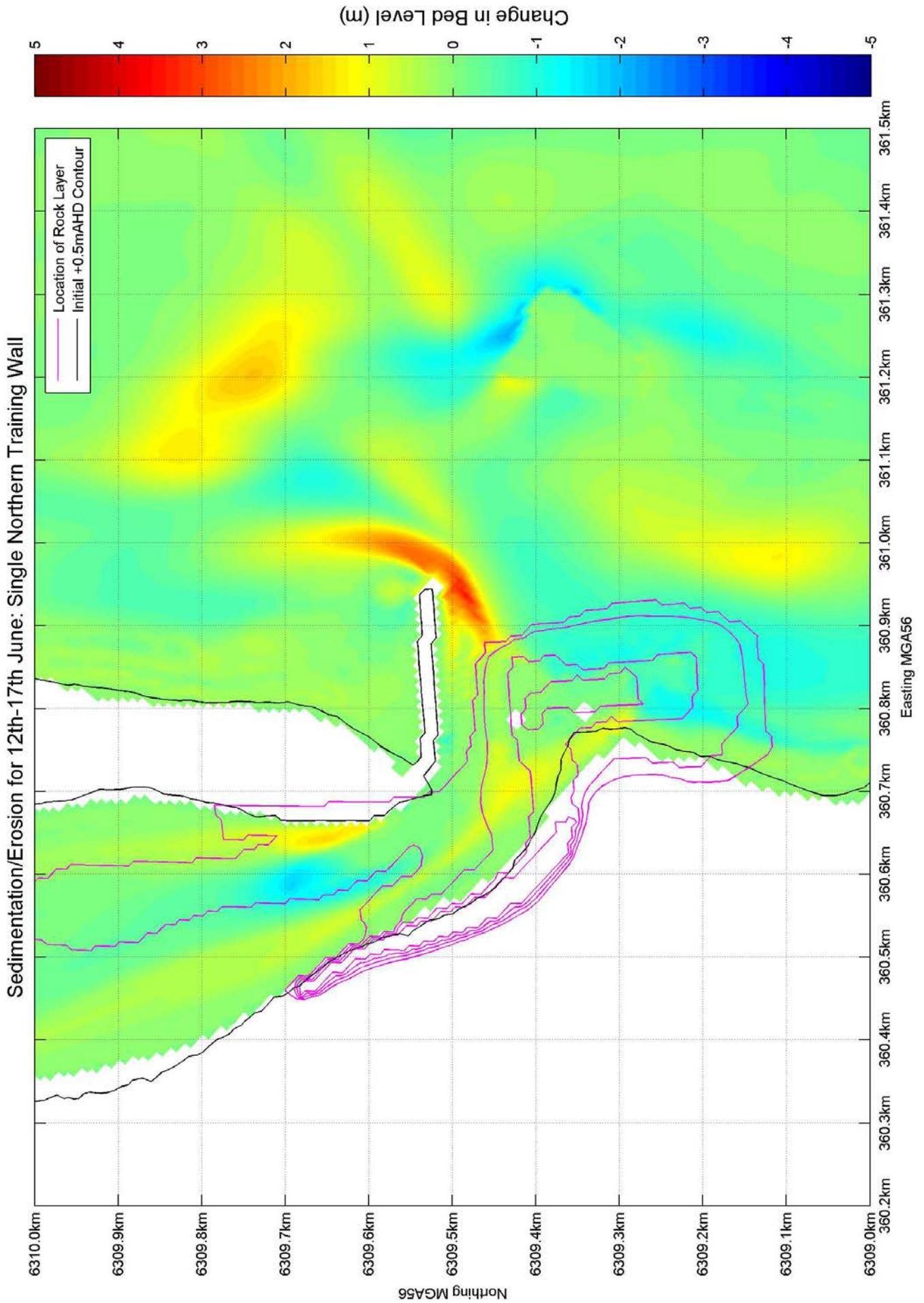
Pre Event - 8th June - Bed Level for Single Northern Training Wall



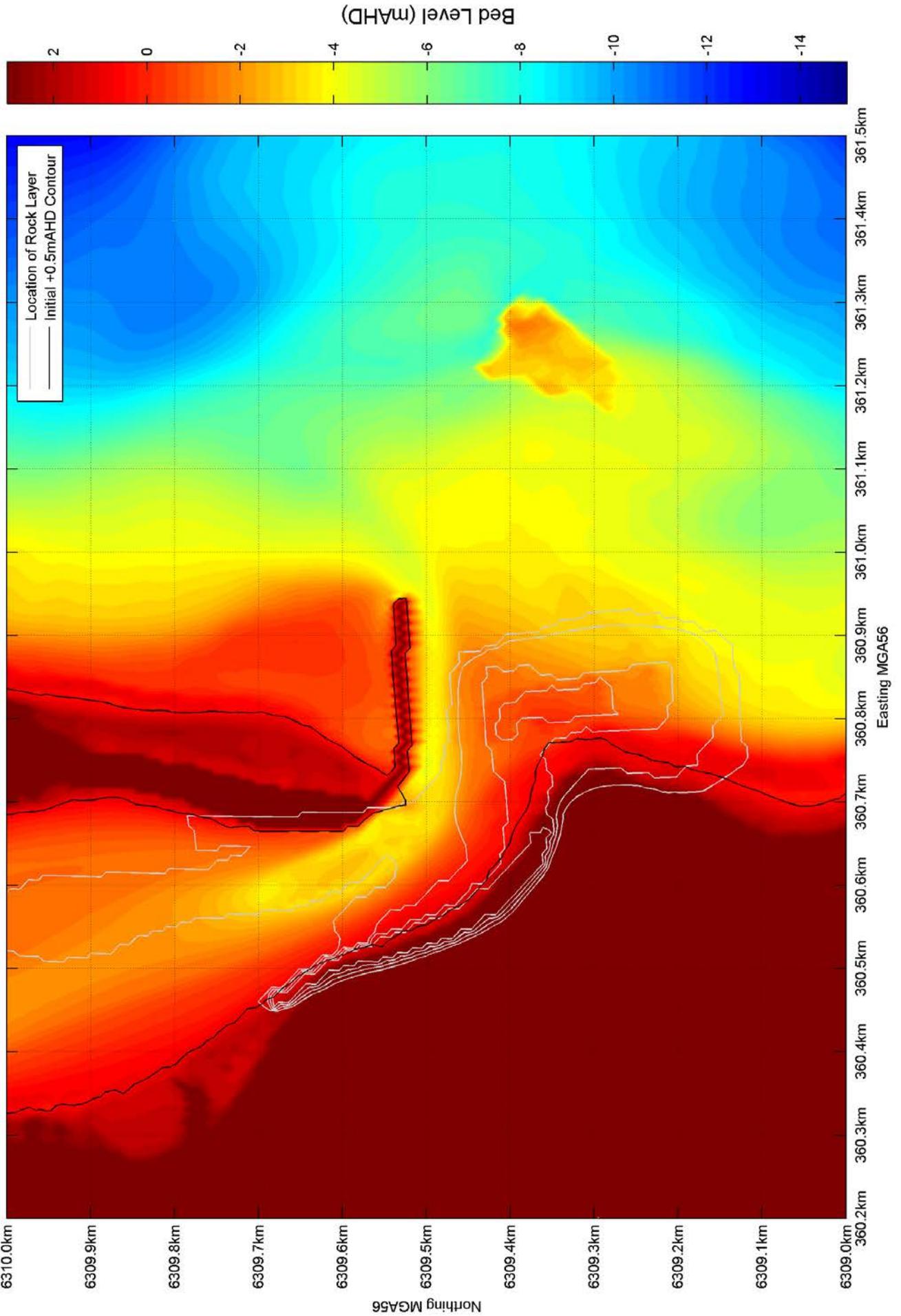


Post Event - 12th June - Bed Level for Single Northern Training Wall

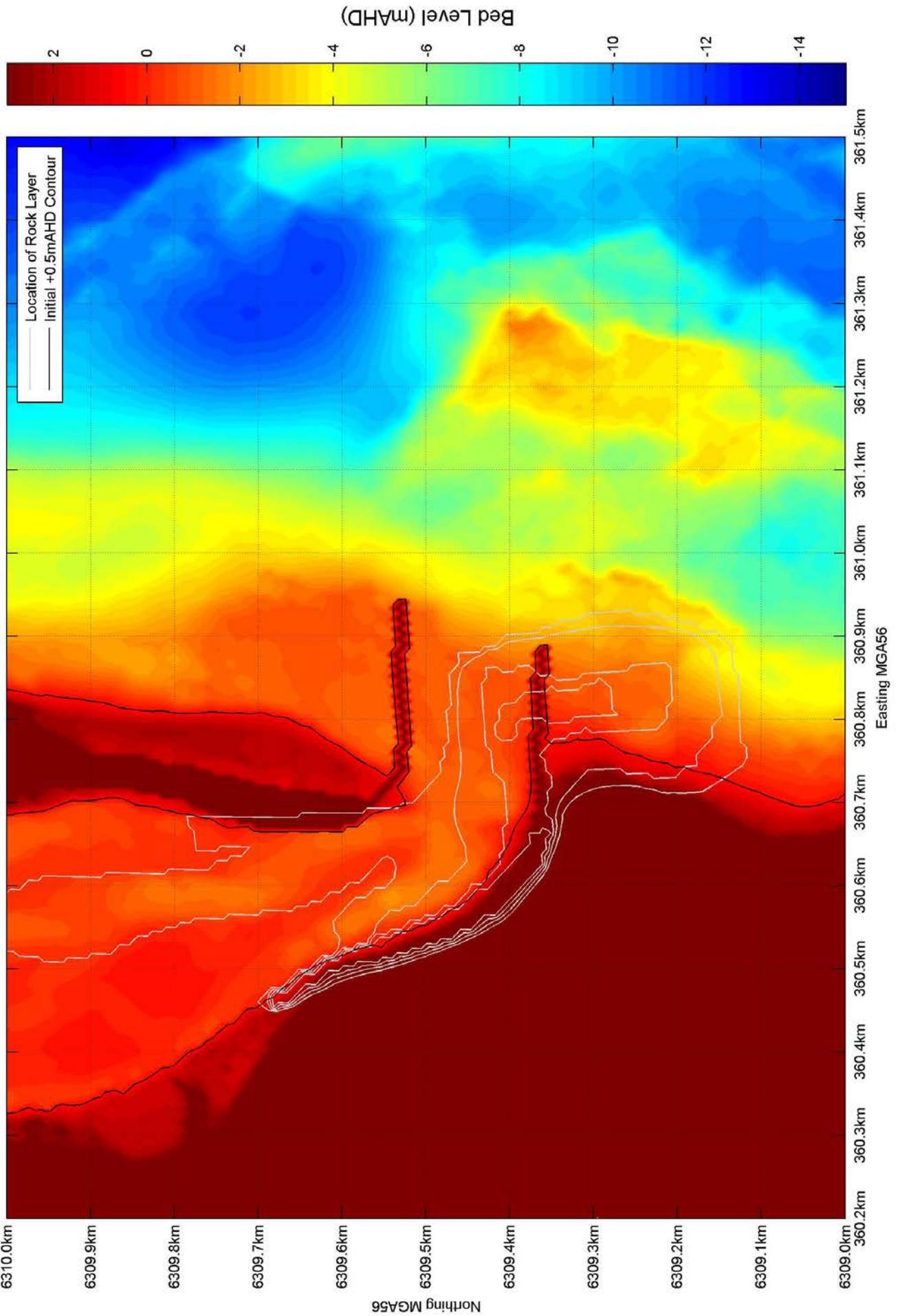


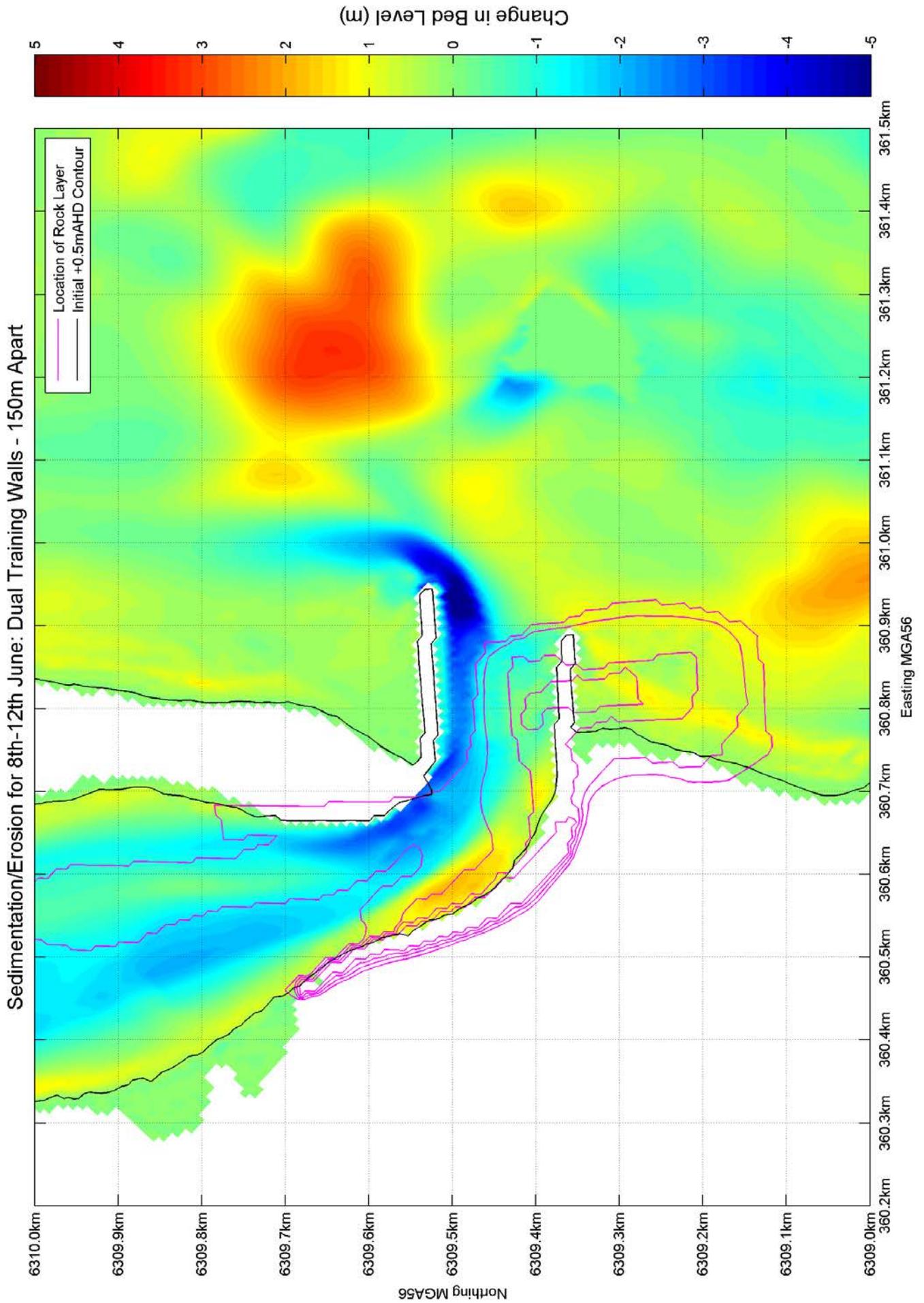


Post Event - 17th June - Bed Level for Single Northern Training Wall

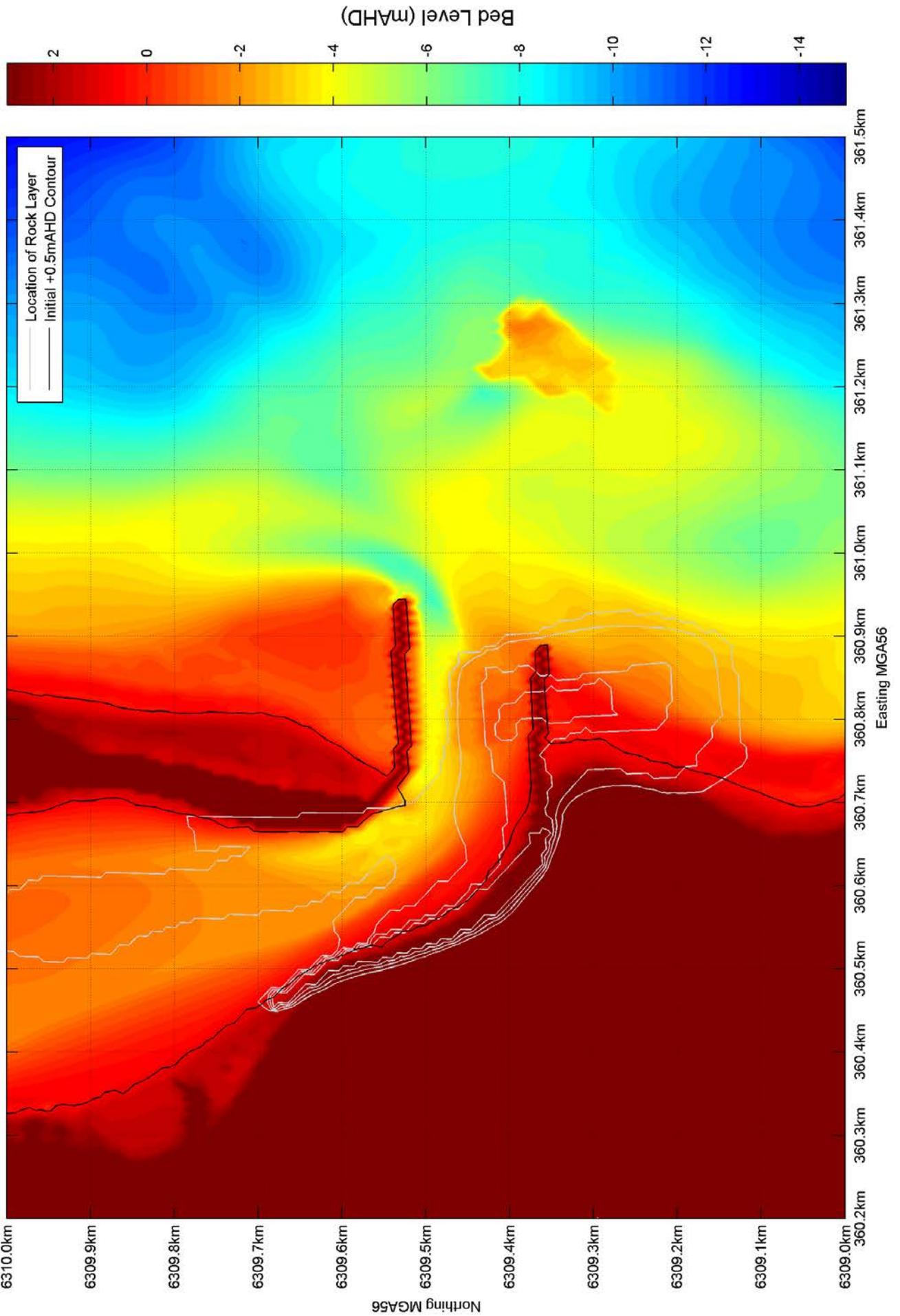


Pre Event - 8th June - Bed Level for Dual Training Walls - 150m Apart

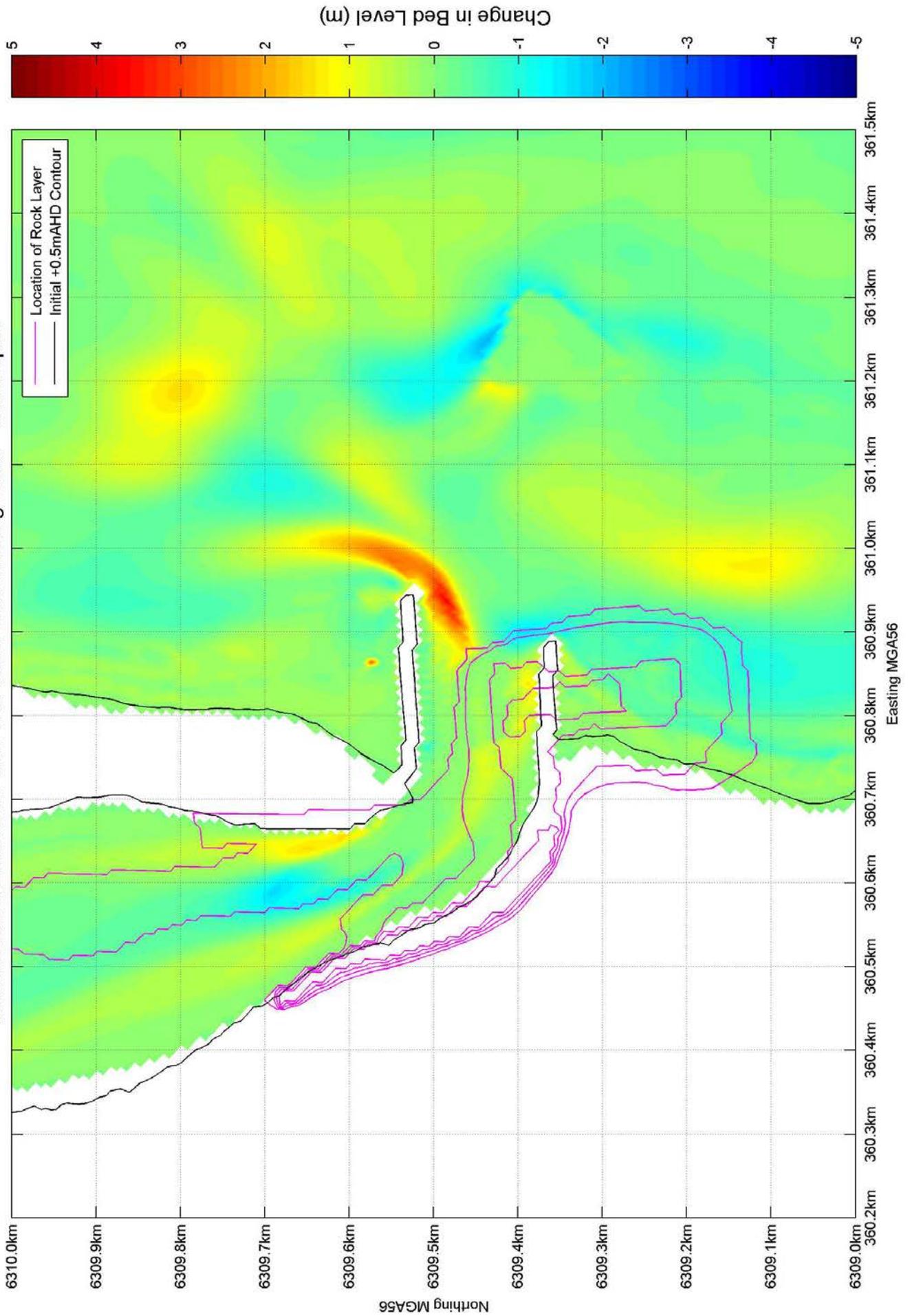




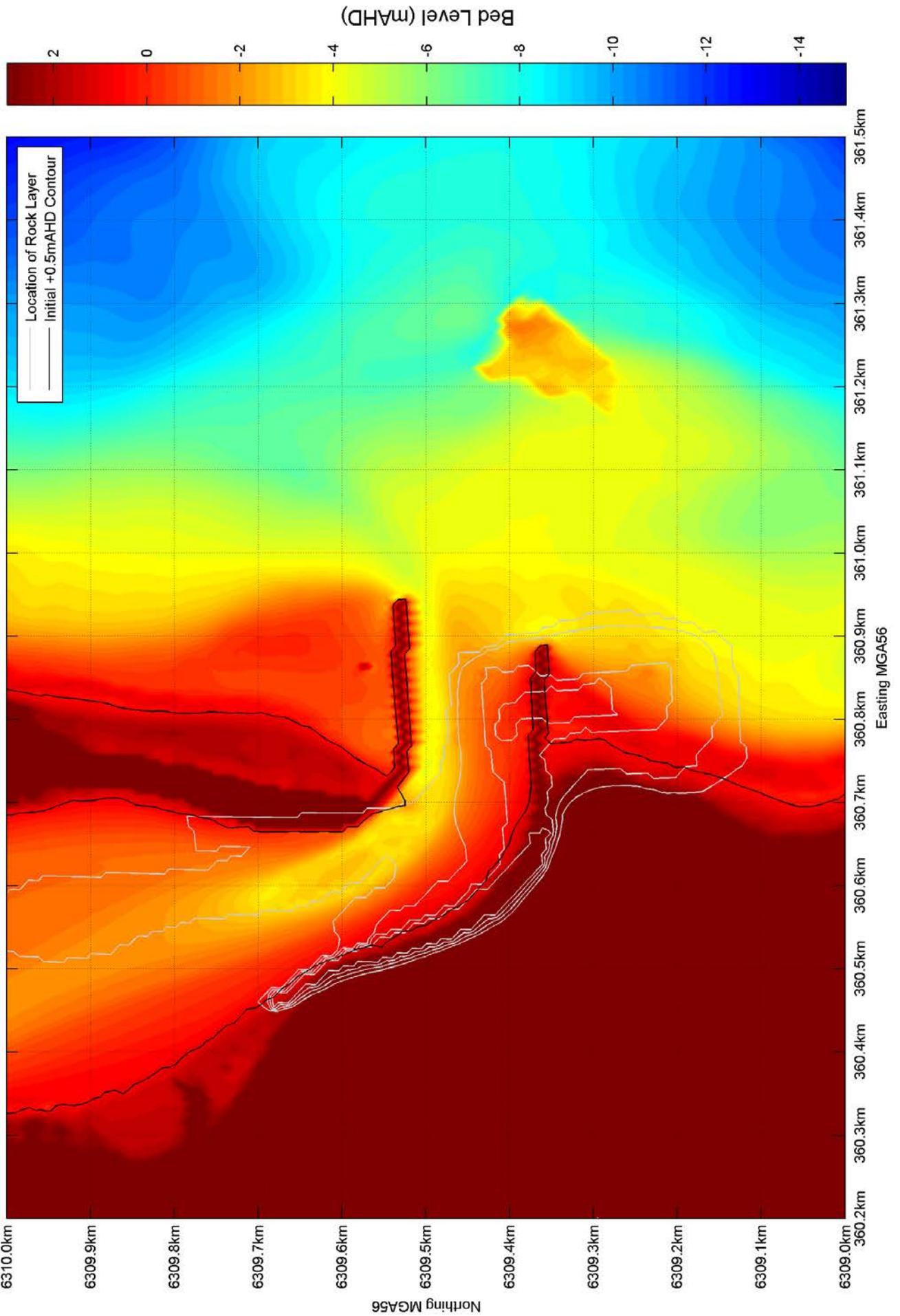
Post Event - 12th June - Bed Level for Dual Training Walls - 150m Apart



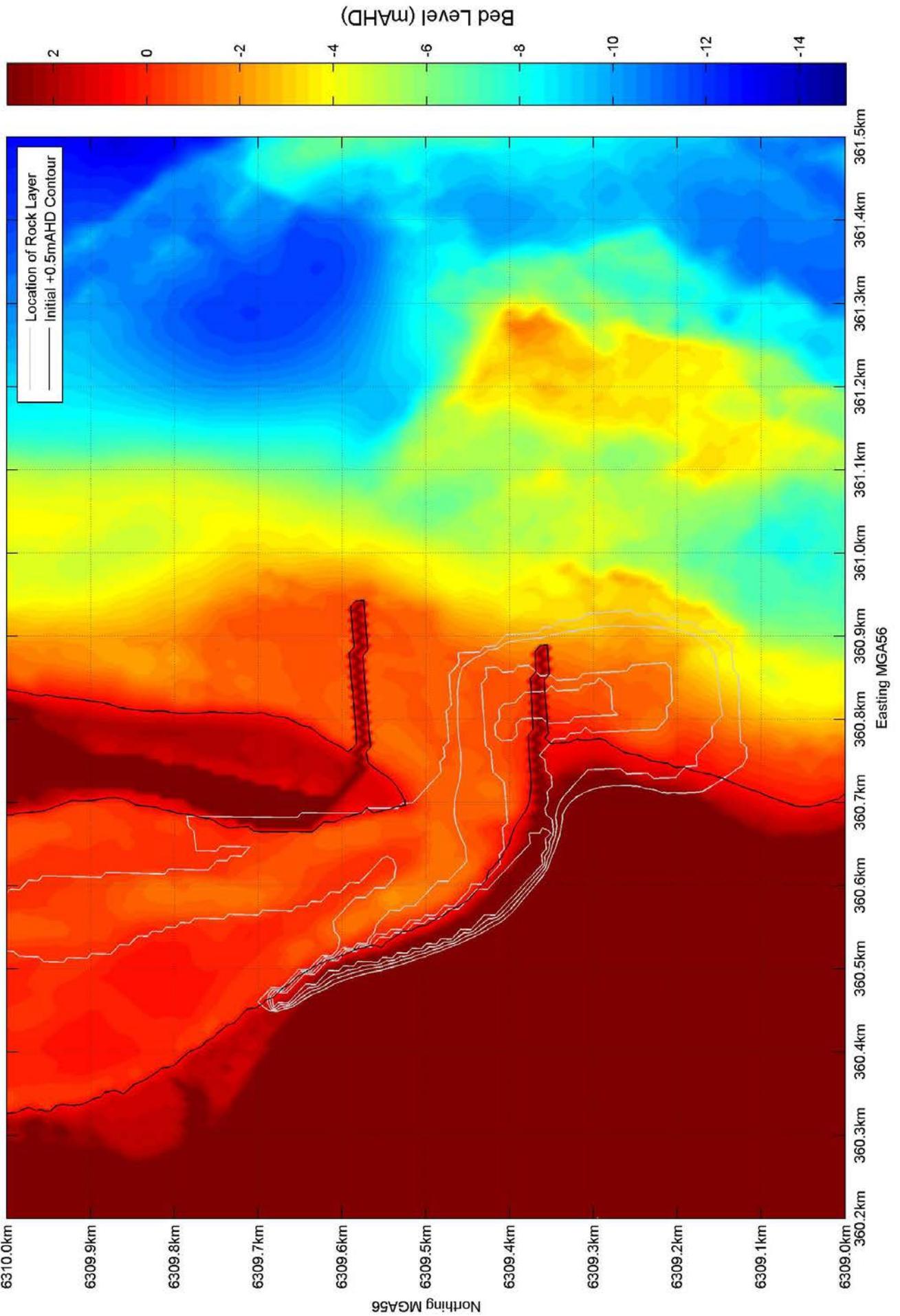
Sedimentation/Erosion for 12th-17th June: Dual Training Walls - 150m Apart

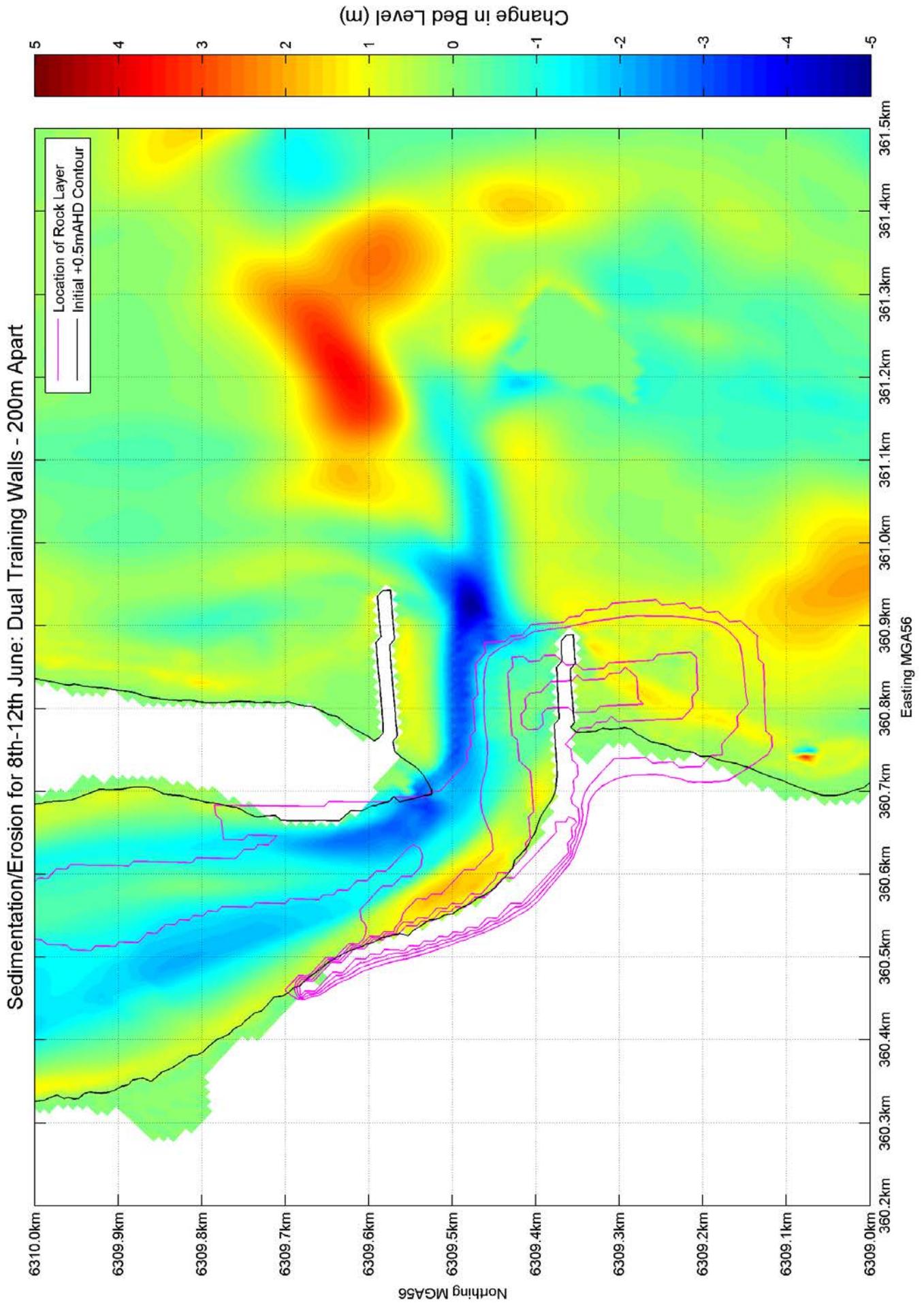


Post Event - 17th June - Bed Level for Dual Training Walls - 150m Apart

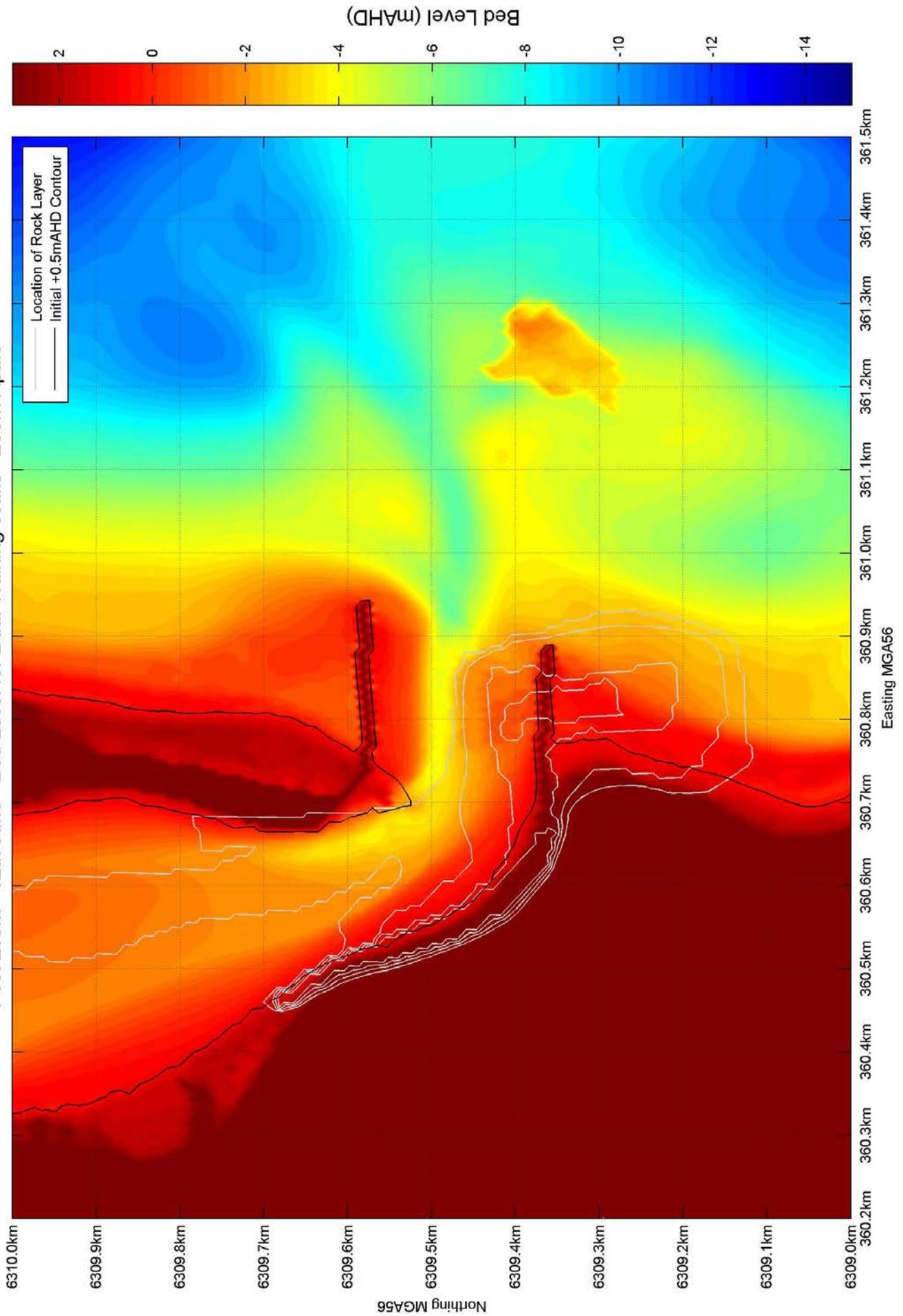


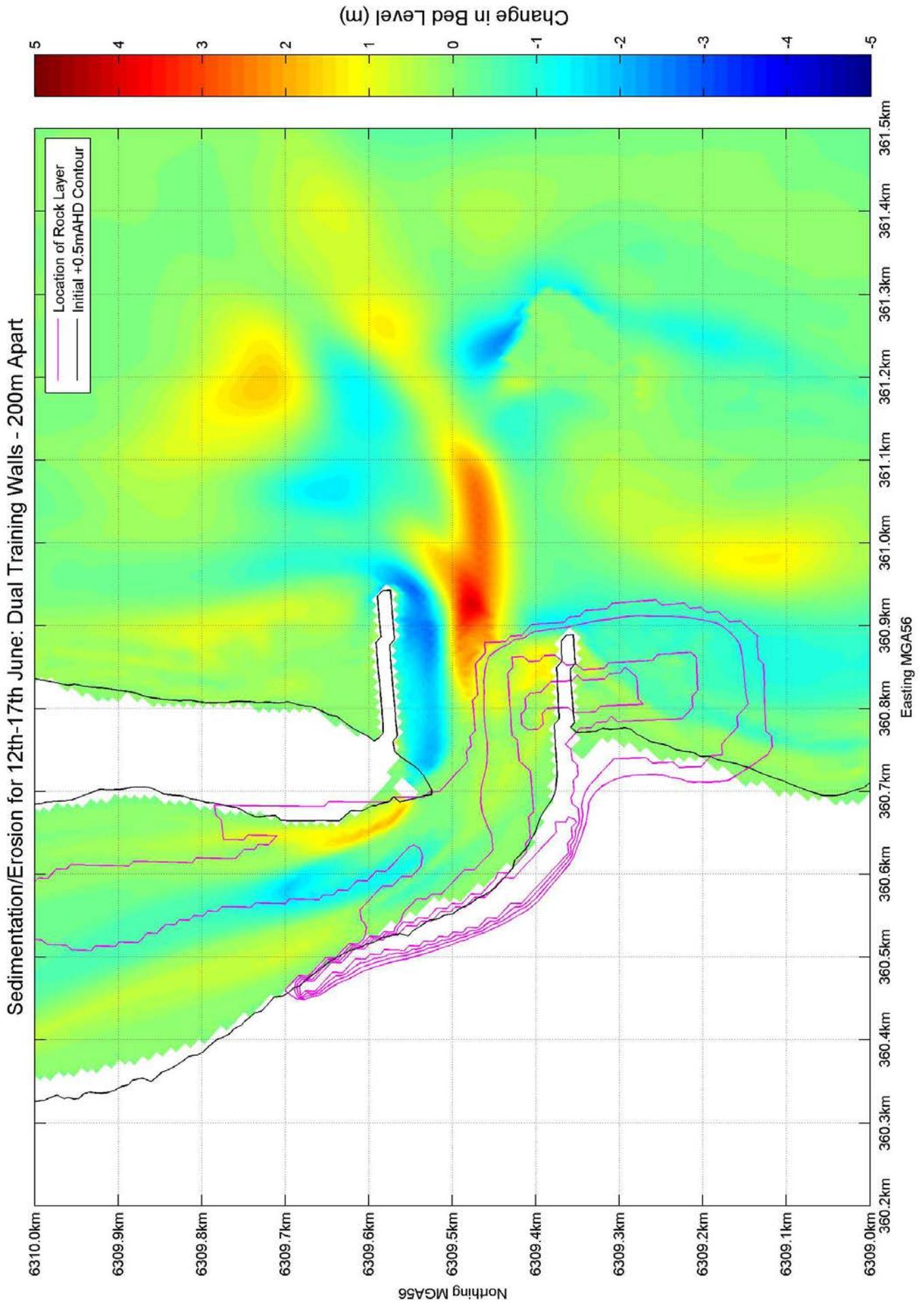
Pre Event - 8th June - Bed Level for Dual Training Walls - 200m Apart



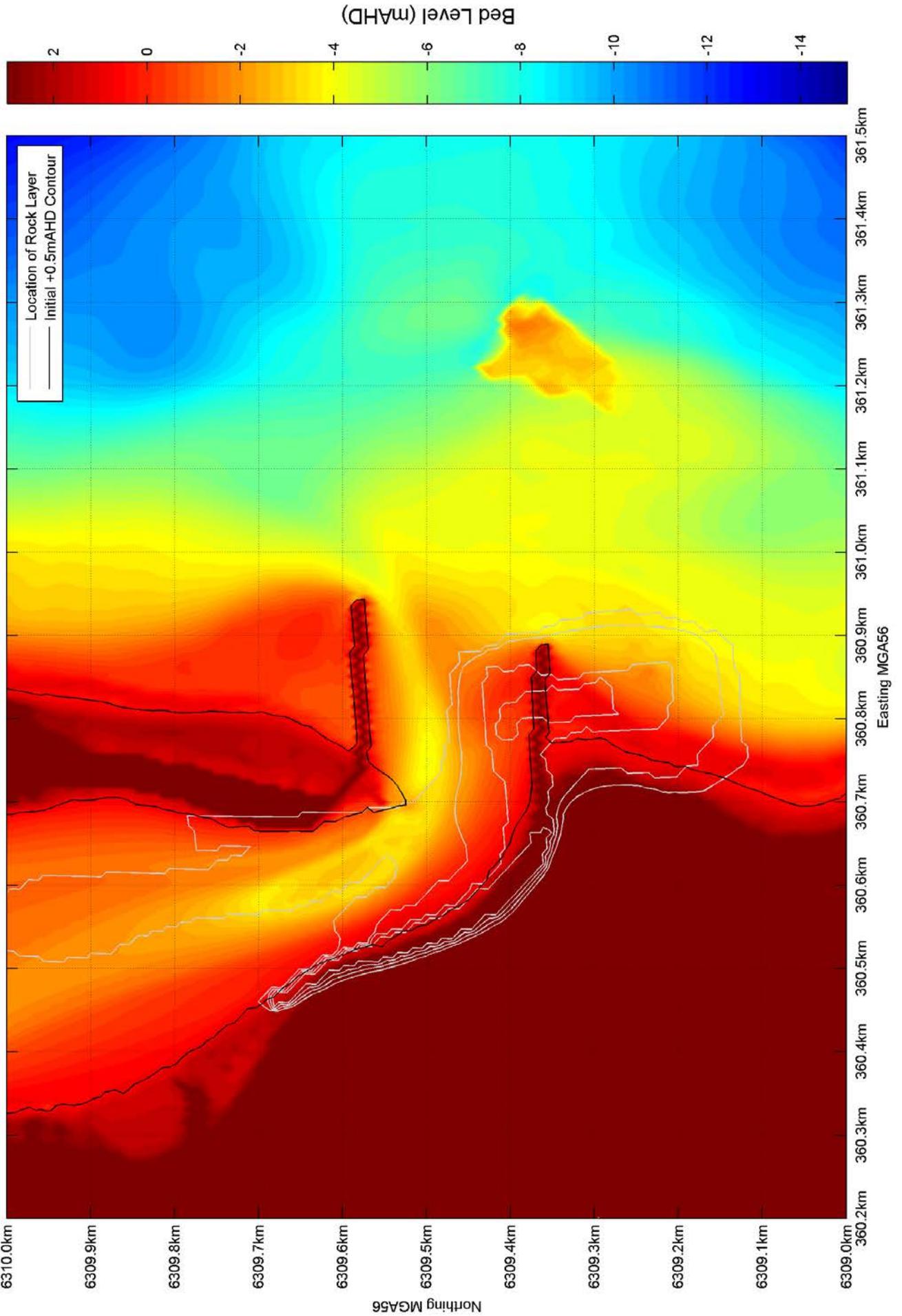


Post Event - 12th June - Bed Level for Dual Training Walls - 200m Apart

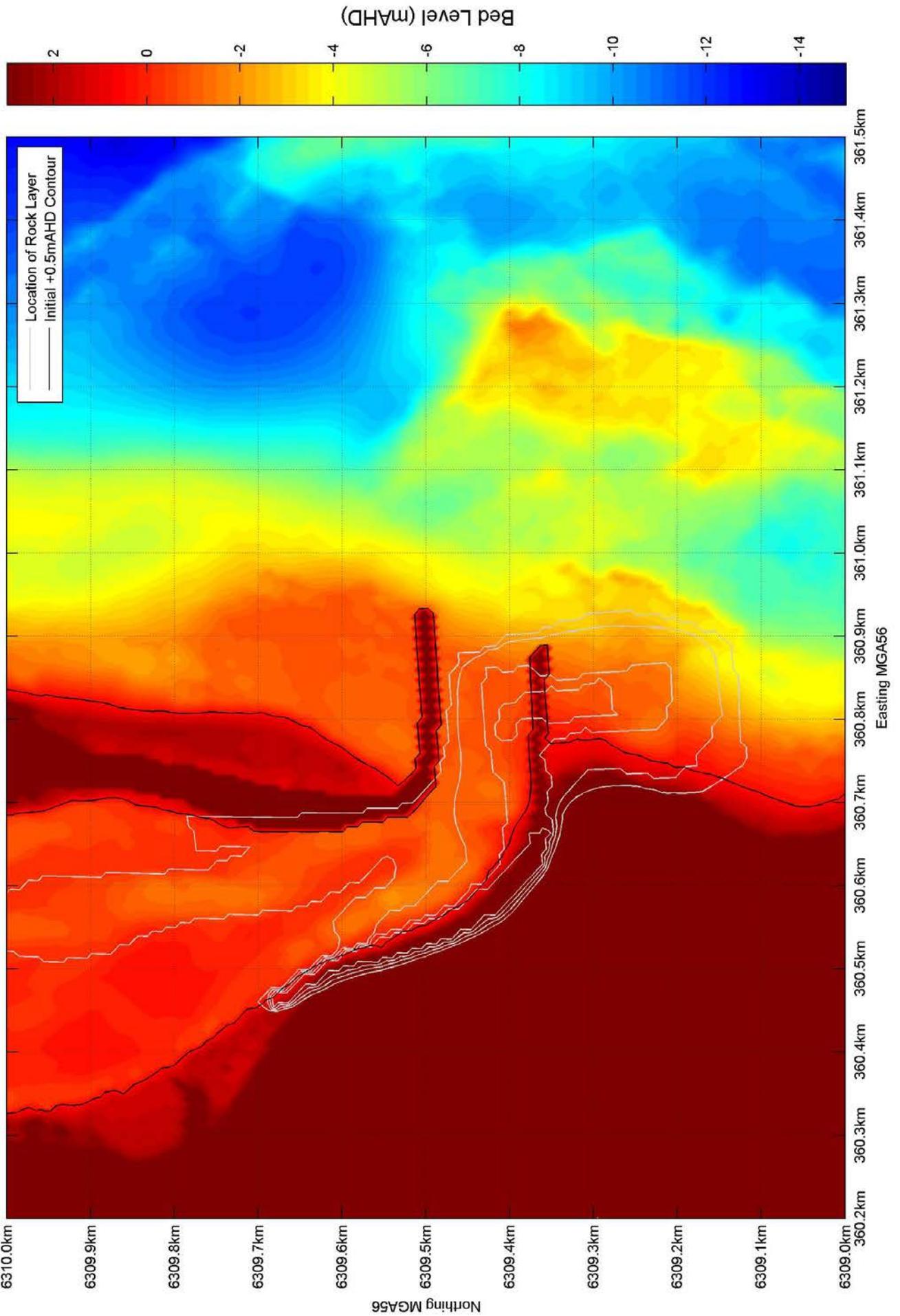




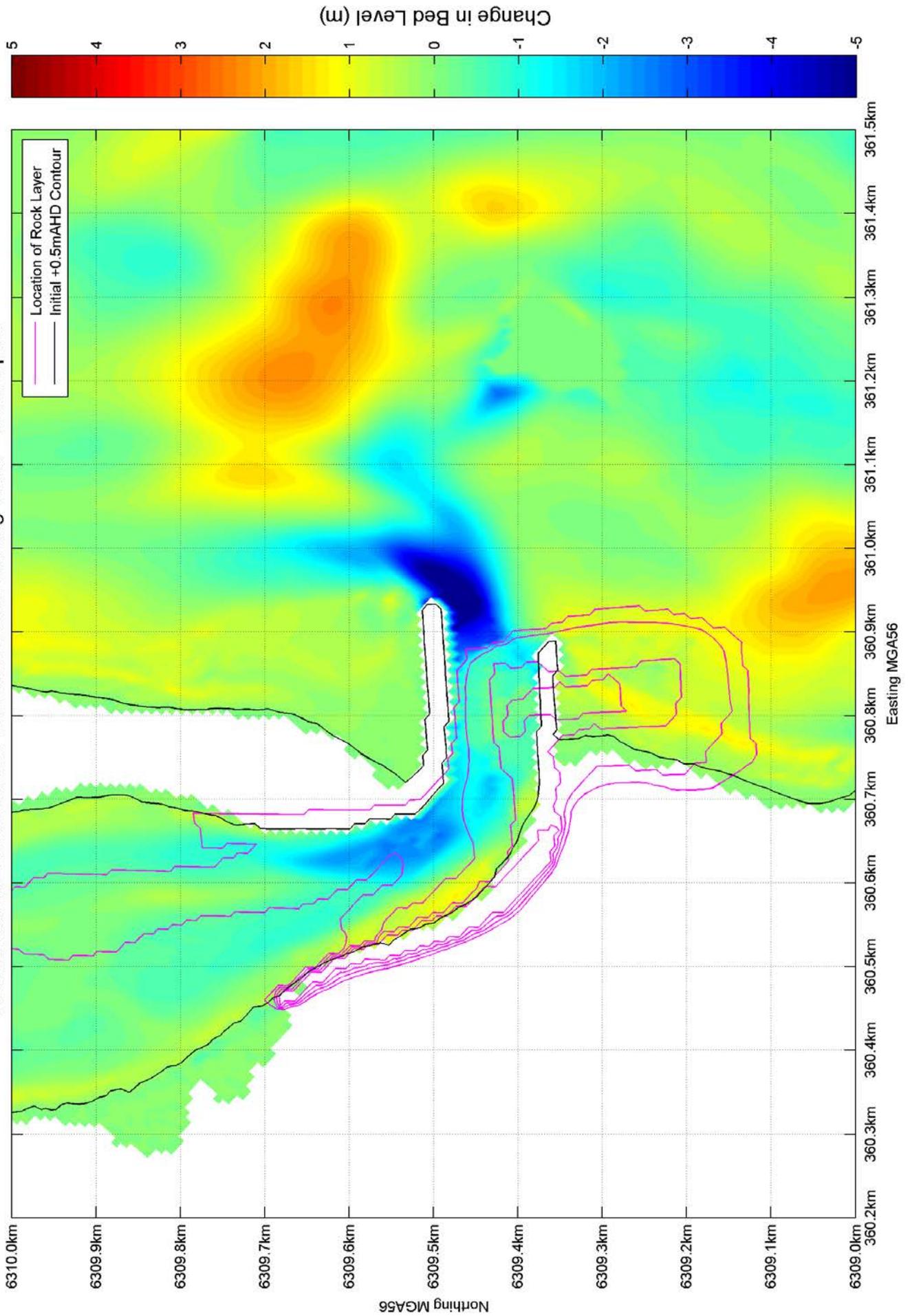
Post Event - 17th June - Bed Level for Dual Training Walls - 200m Apart



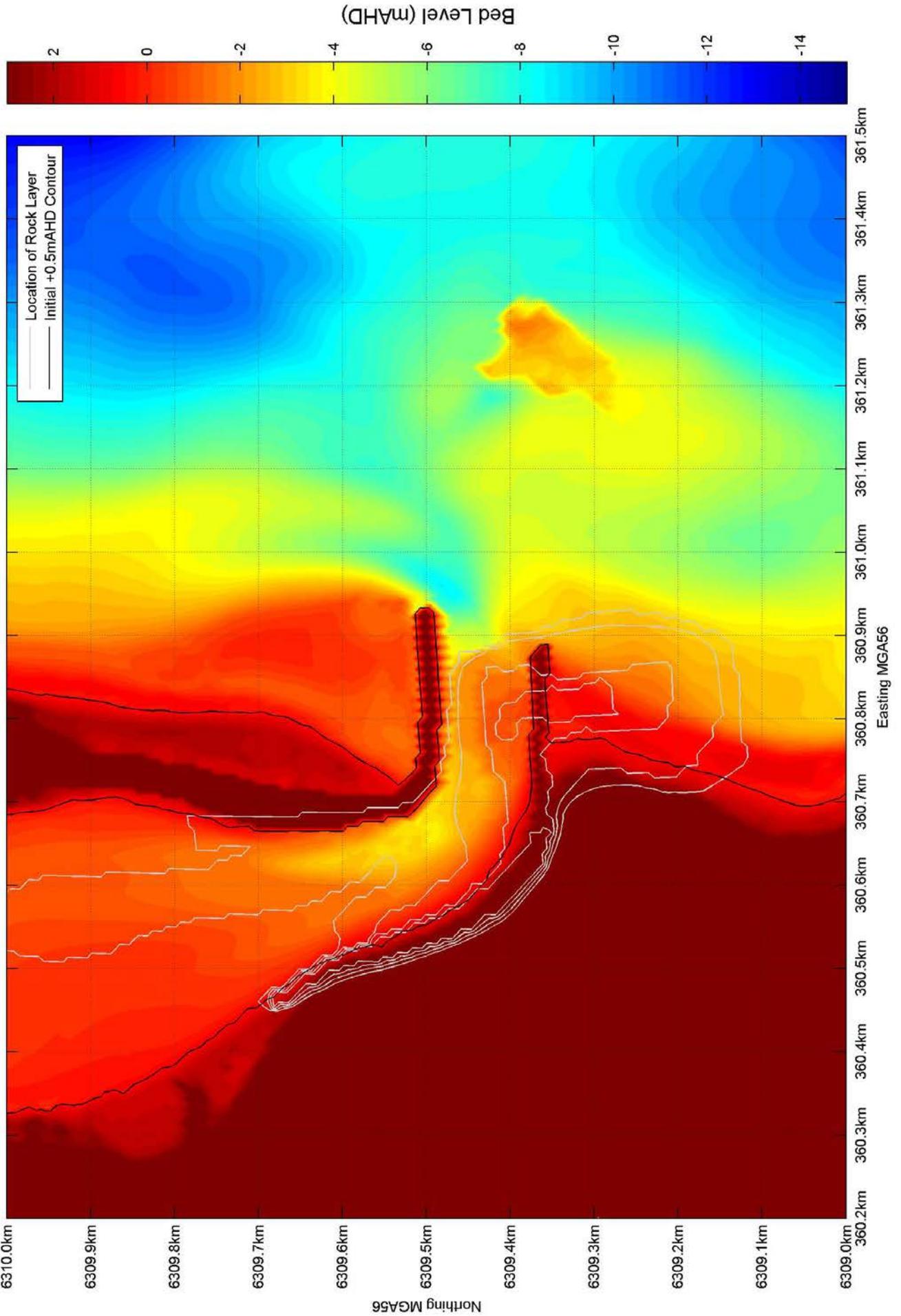
Pre Event - 8th June - Bed Level for Dual Training Walls - 100m Apart



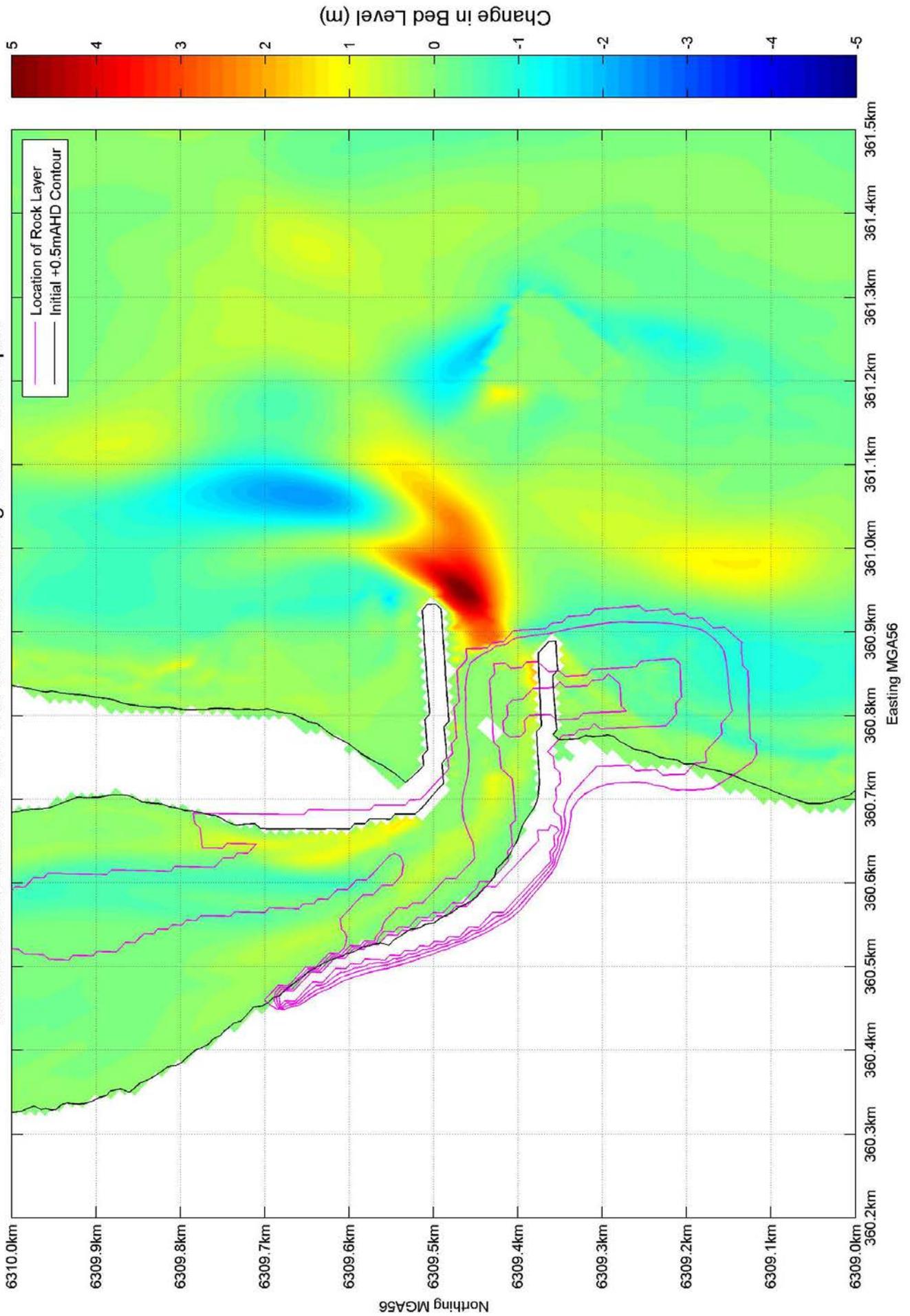
Sedimentation/Erosion for 8th-12th June: Dual Training Walls - 100m Apart



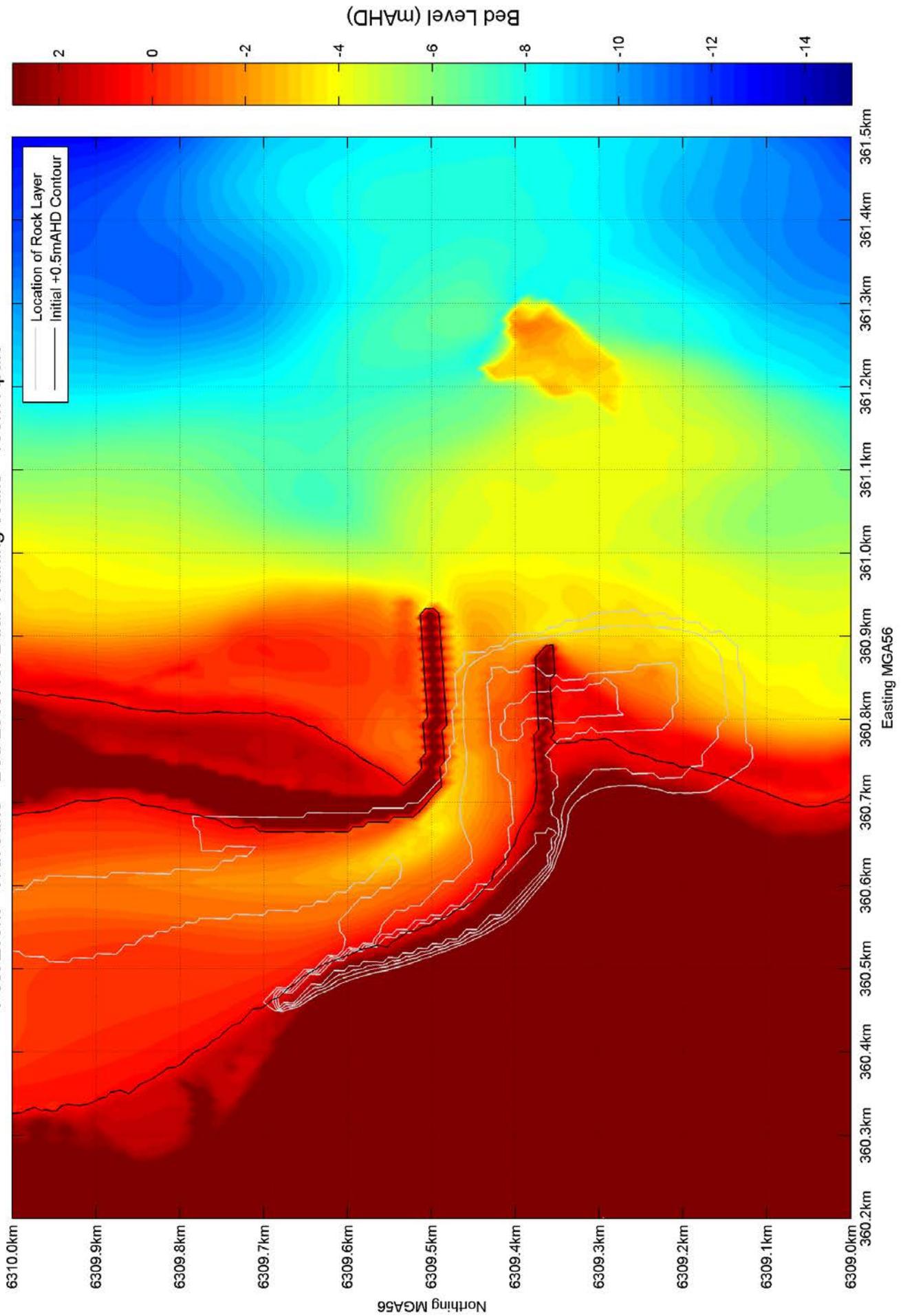
Post Event - 12th June - Bed Level for Dual Training Walls - 100m Apart



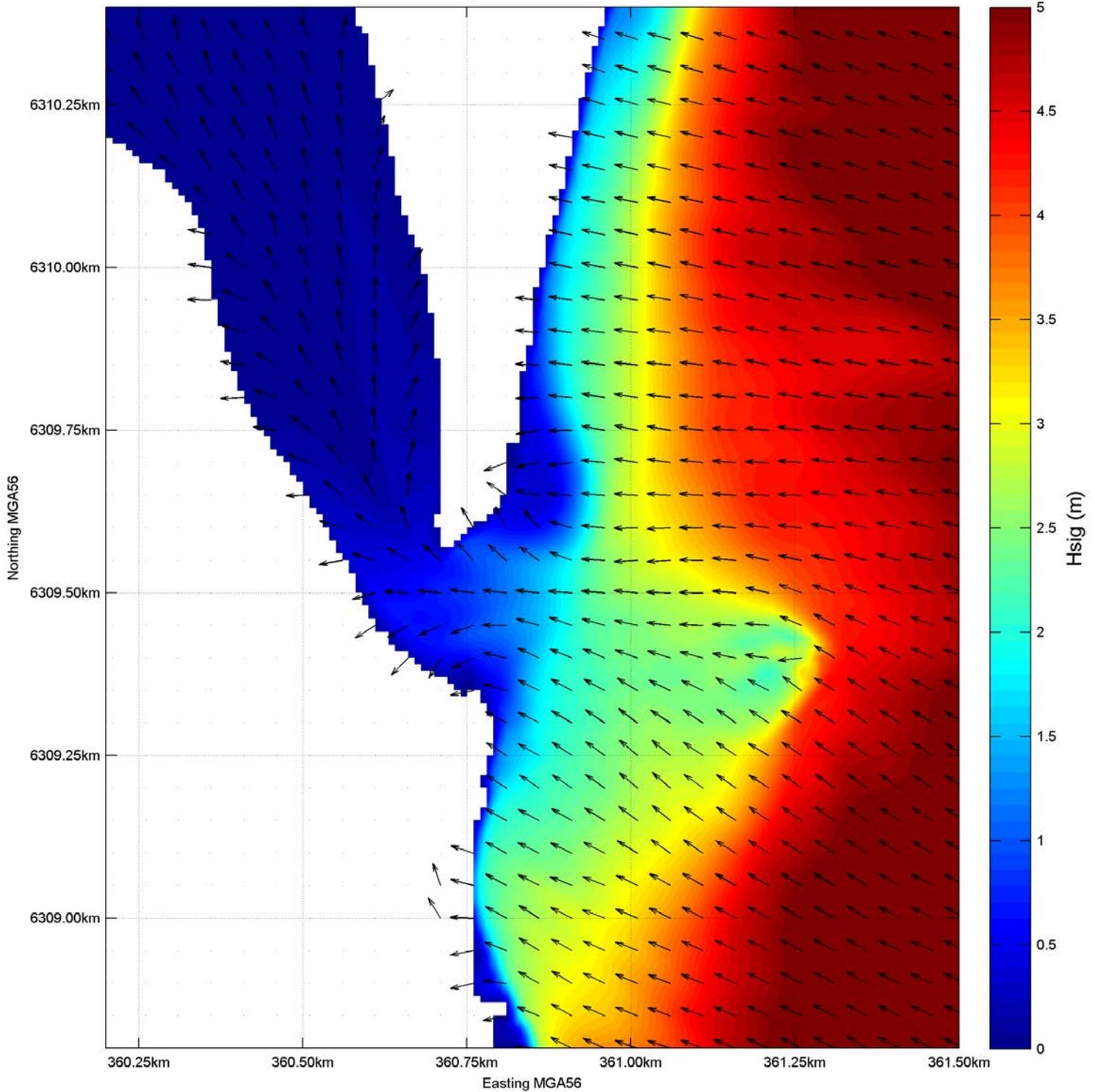
Sedimentation/Erosion for 12th-17th June: Dual Training Walls - 100m Apart



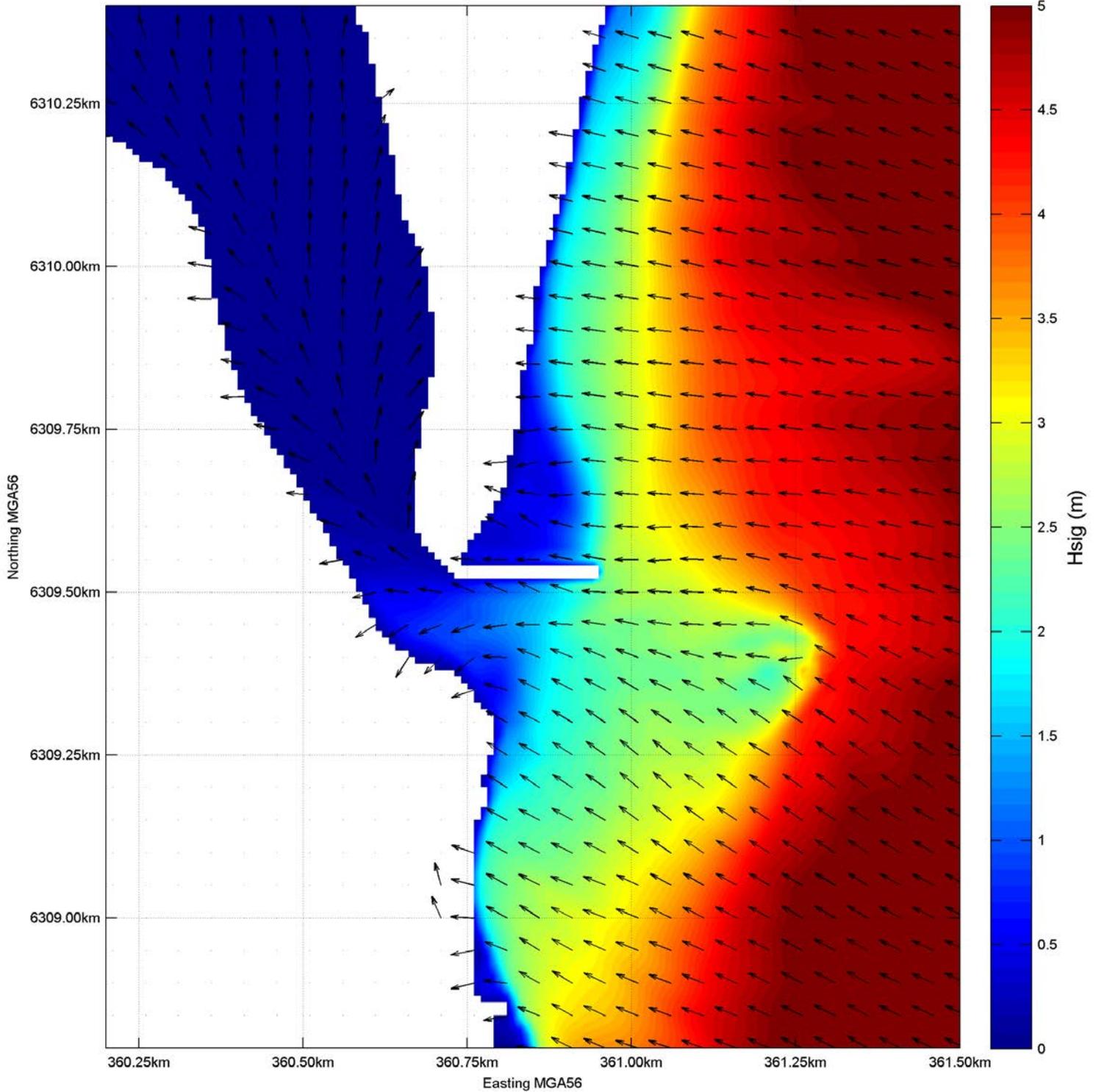
Post Event - 17th June - Bed Level for Dual Training Walls - 100m Apart



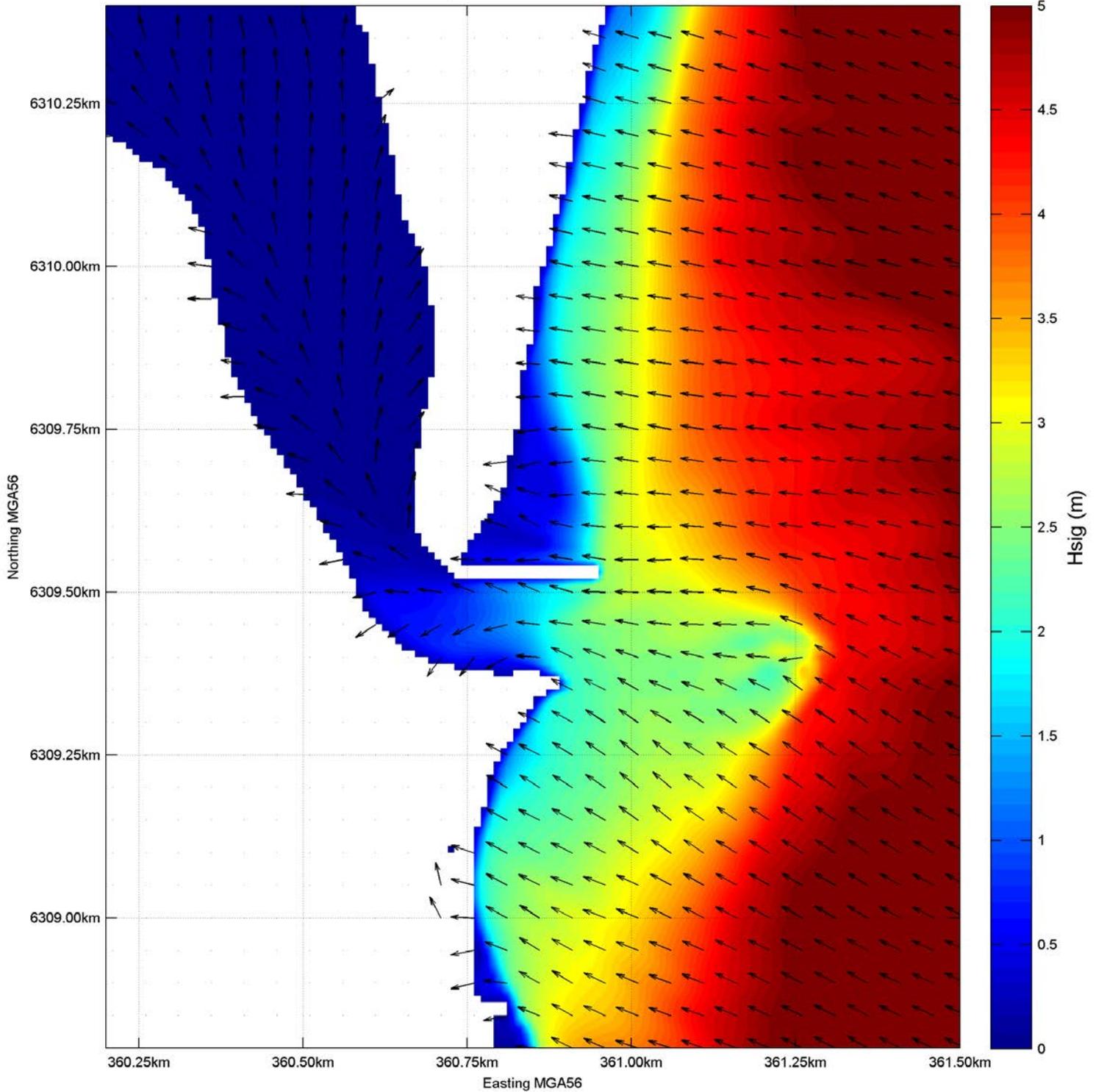
Wave Penetration Post 100yrARI Flood: Existing Entrance Conditon



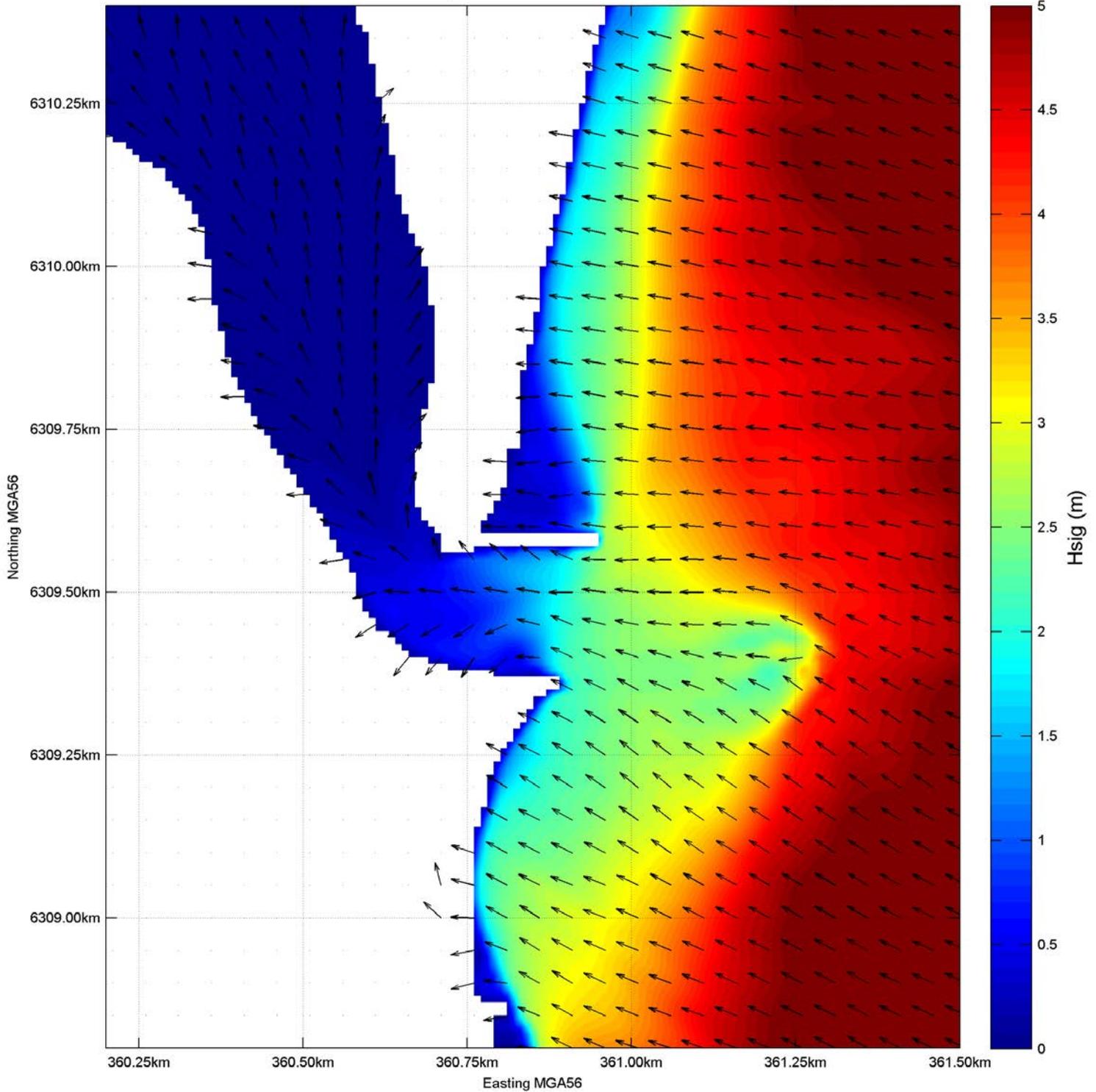
Wave Penetration Post 100yrARI Flood: Single Northern Training Wall



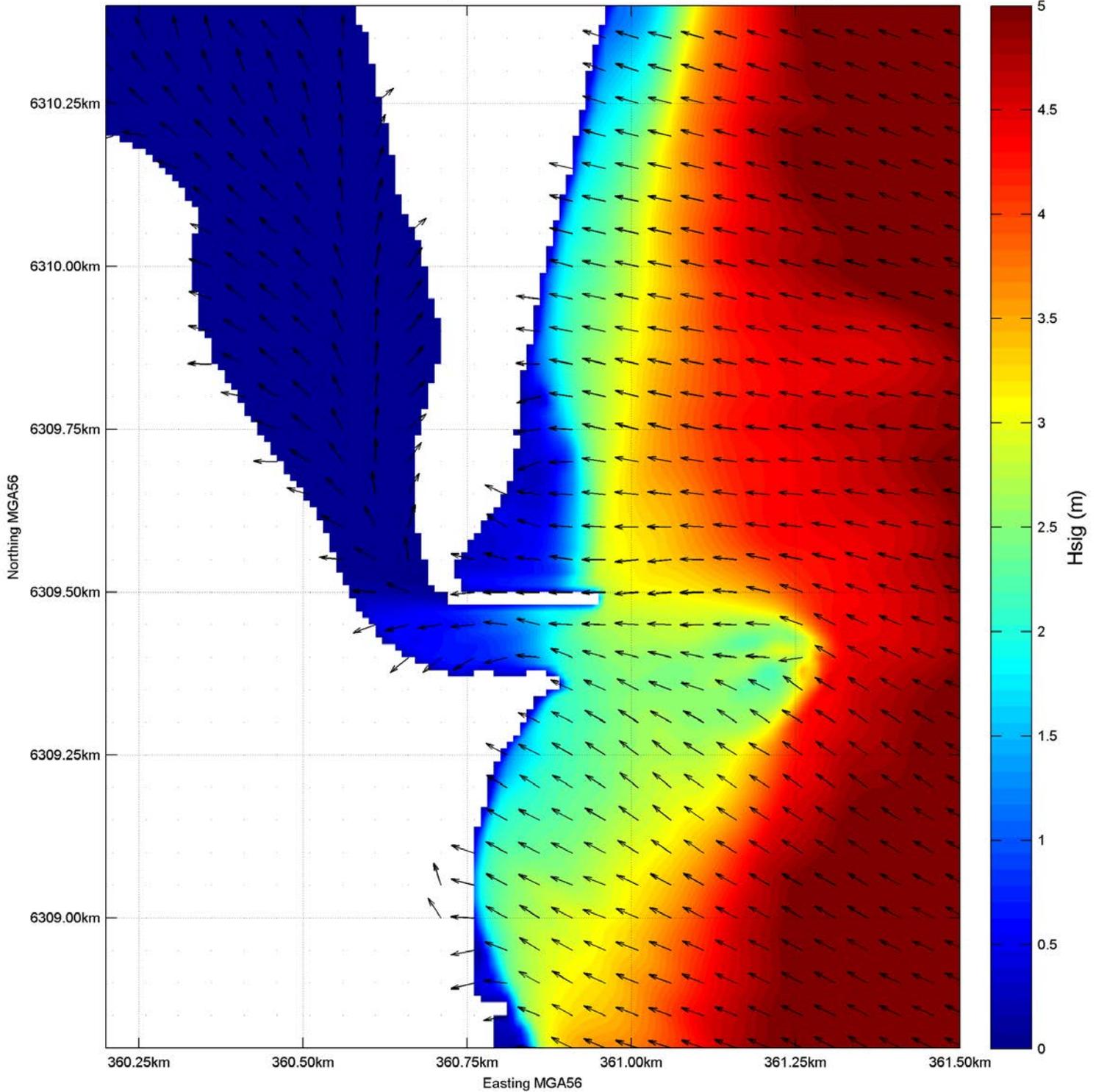
Wave Penetration Post 100yrARI Flood: Dual Training Walls - 150m Apart



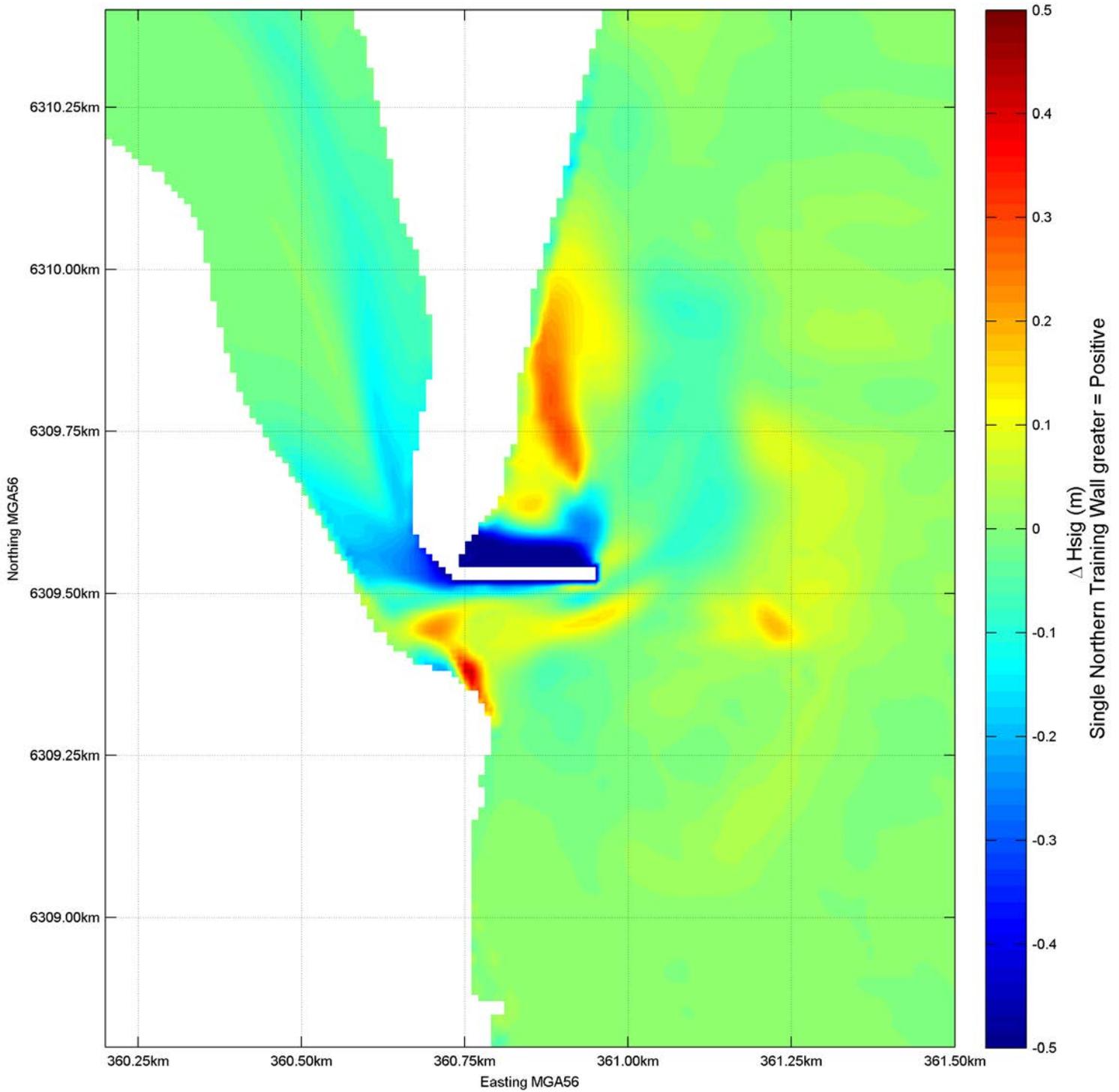
Wave Penetration Post 100yrARI Flood: Dual Training Walls - 200m Apart



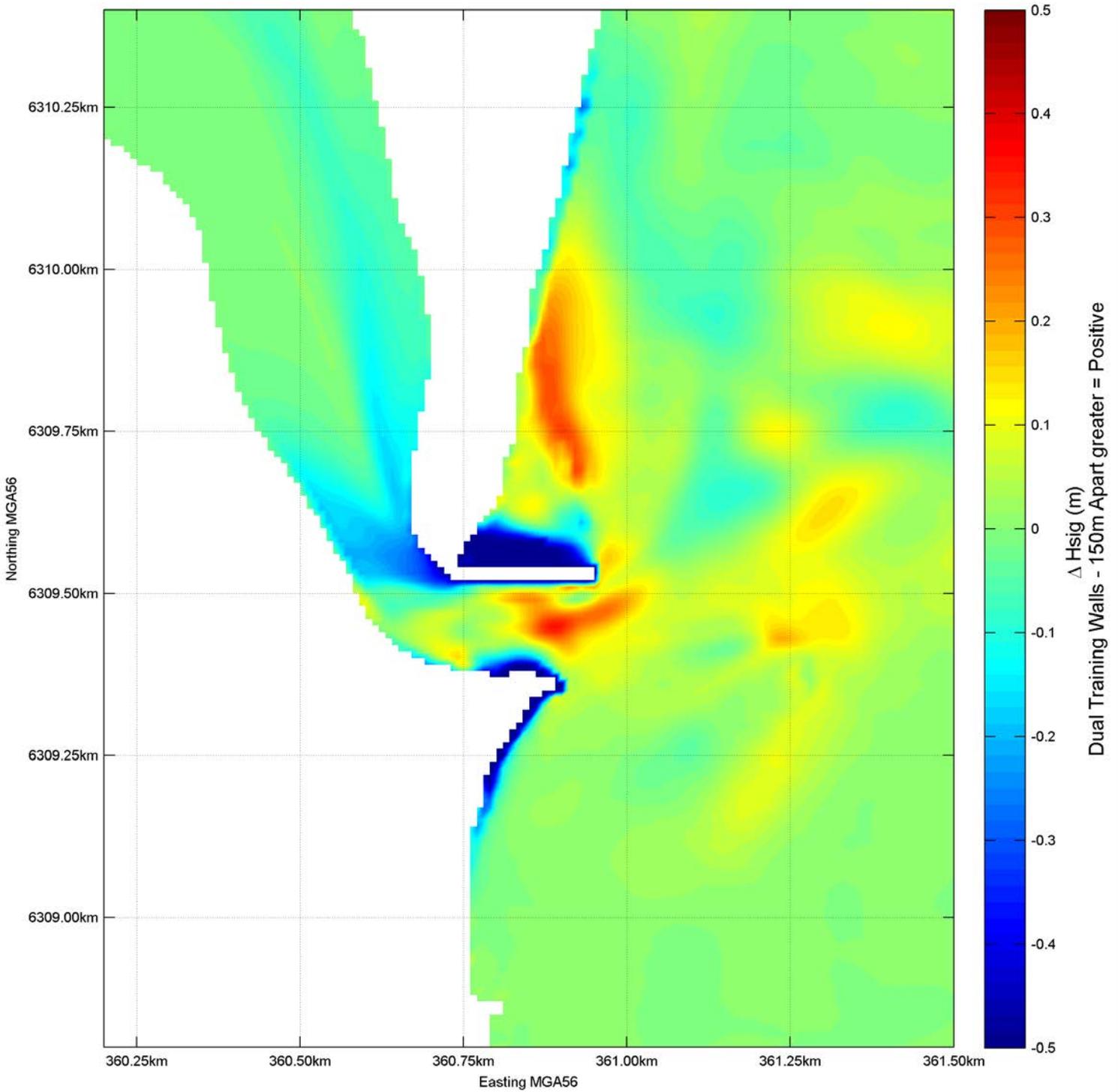
Wave Penetration Post 100yrARI Flood: Dual Training Walls - 100m Apart



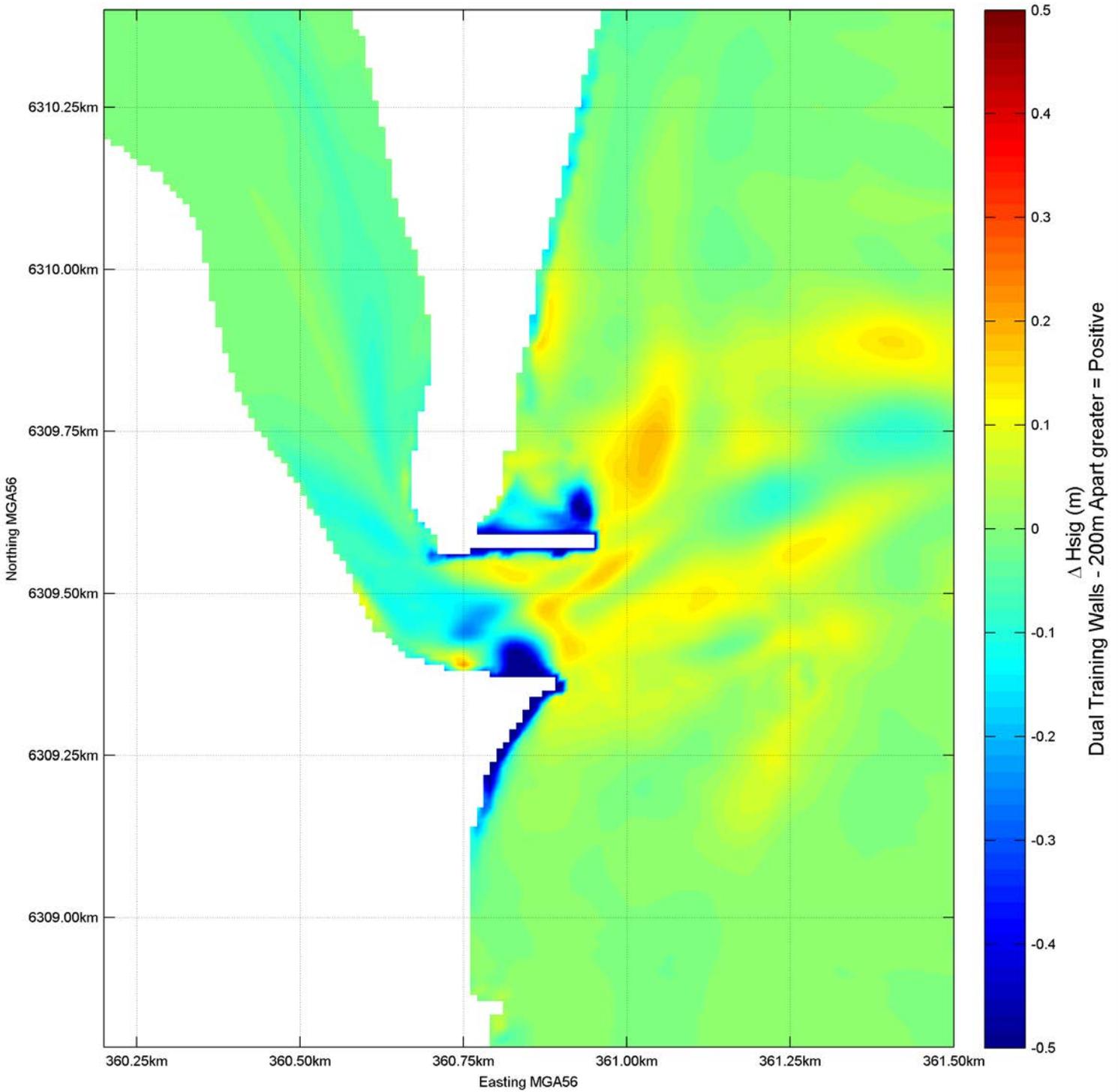
Wave Penetration Post 100yrARI Flood:
Difference between Single Northern Training Wall and Existing Entrance Condition



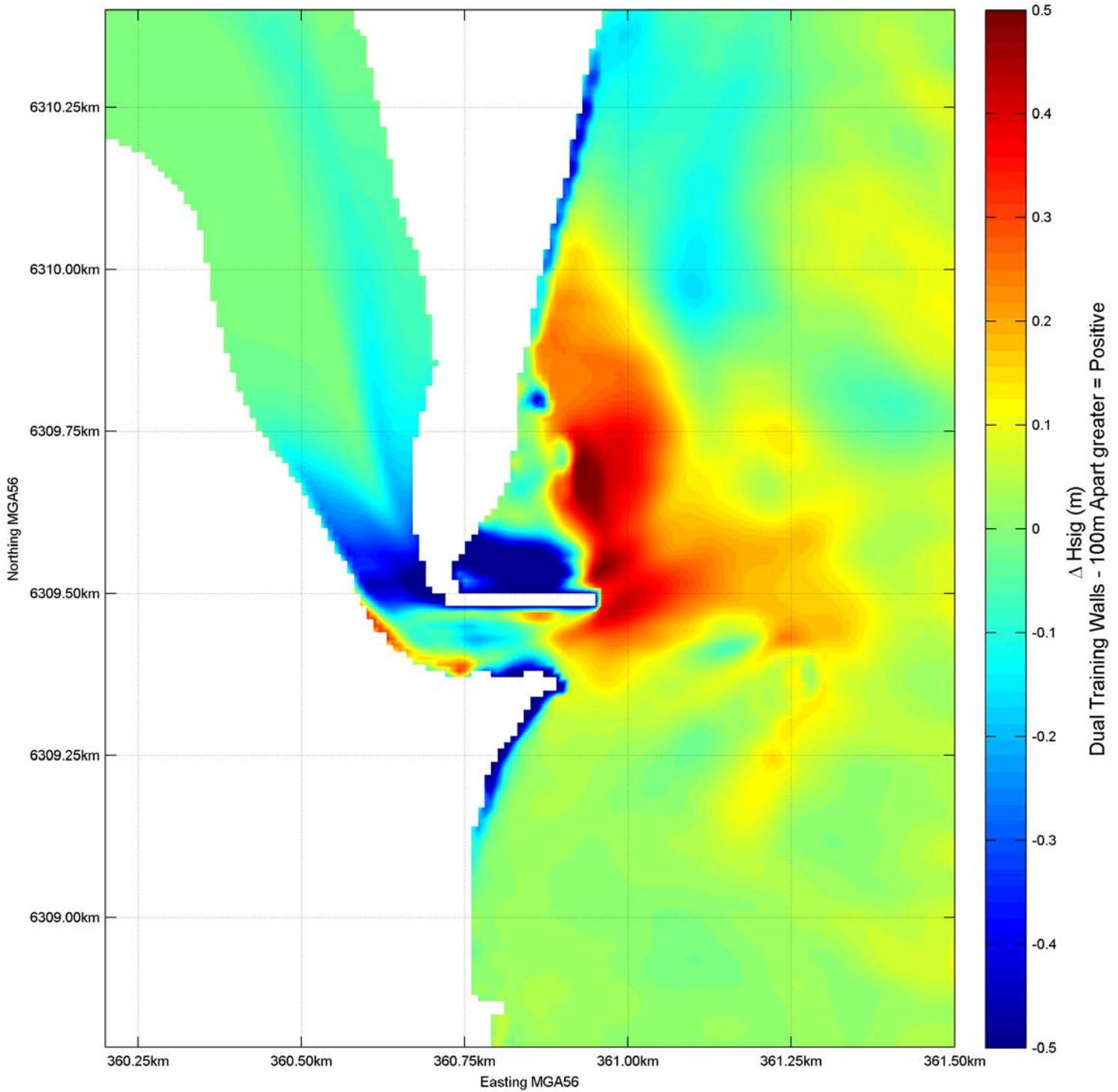
Wave Penetration Post 100yrARI Flood:
 Difference between Dual Training Walls - 150m Apart and Existing Entrance Conditon



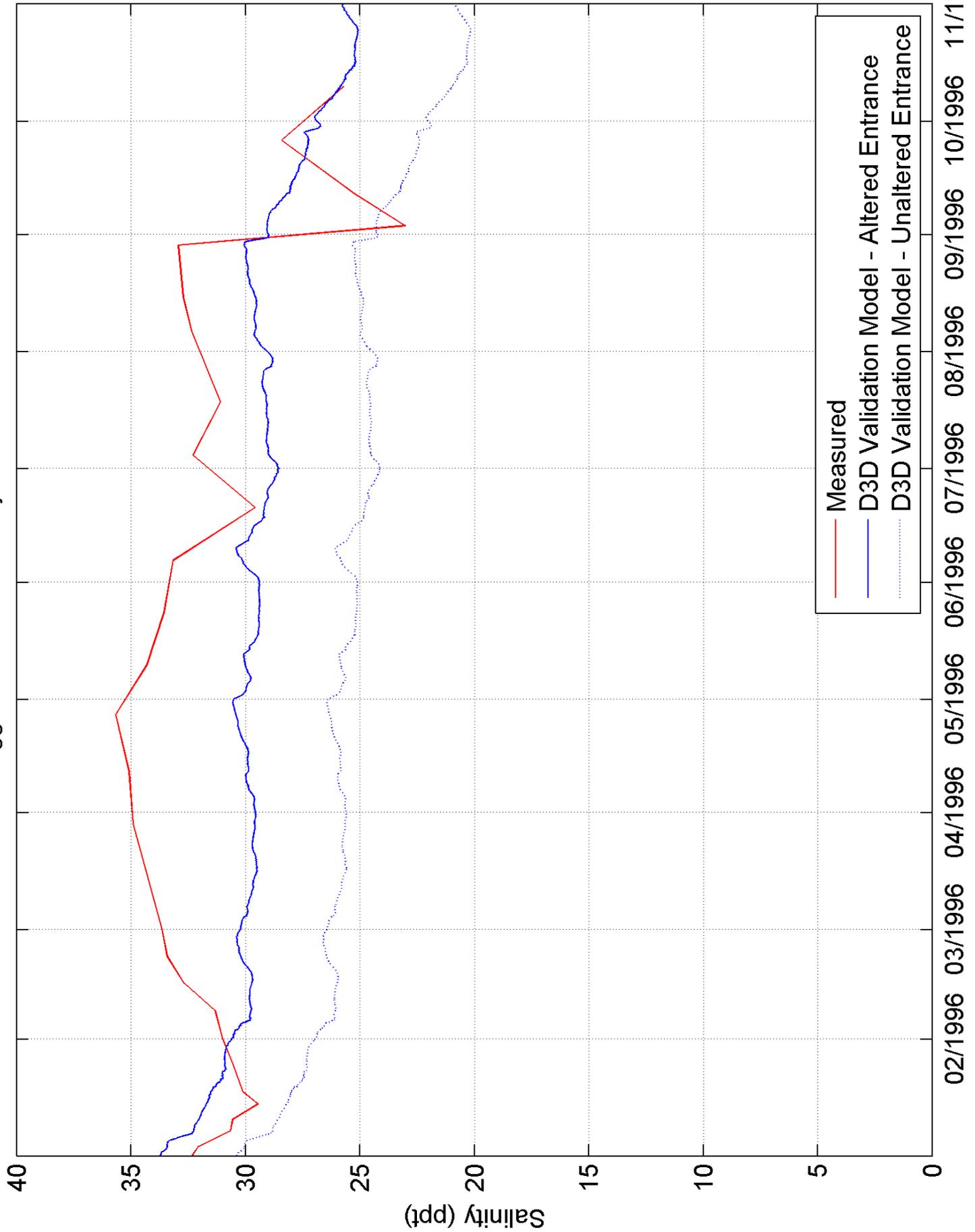
Wave Penetration Post 100yrARI Flood:
Difference between Dual Training Walls - 200m Apart and Existing Entrance Conditon

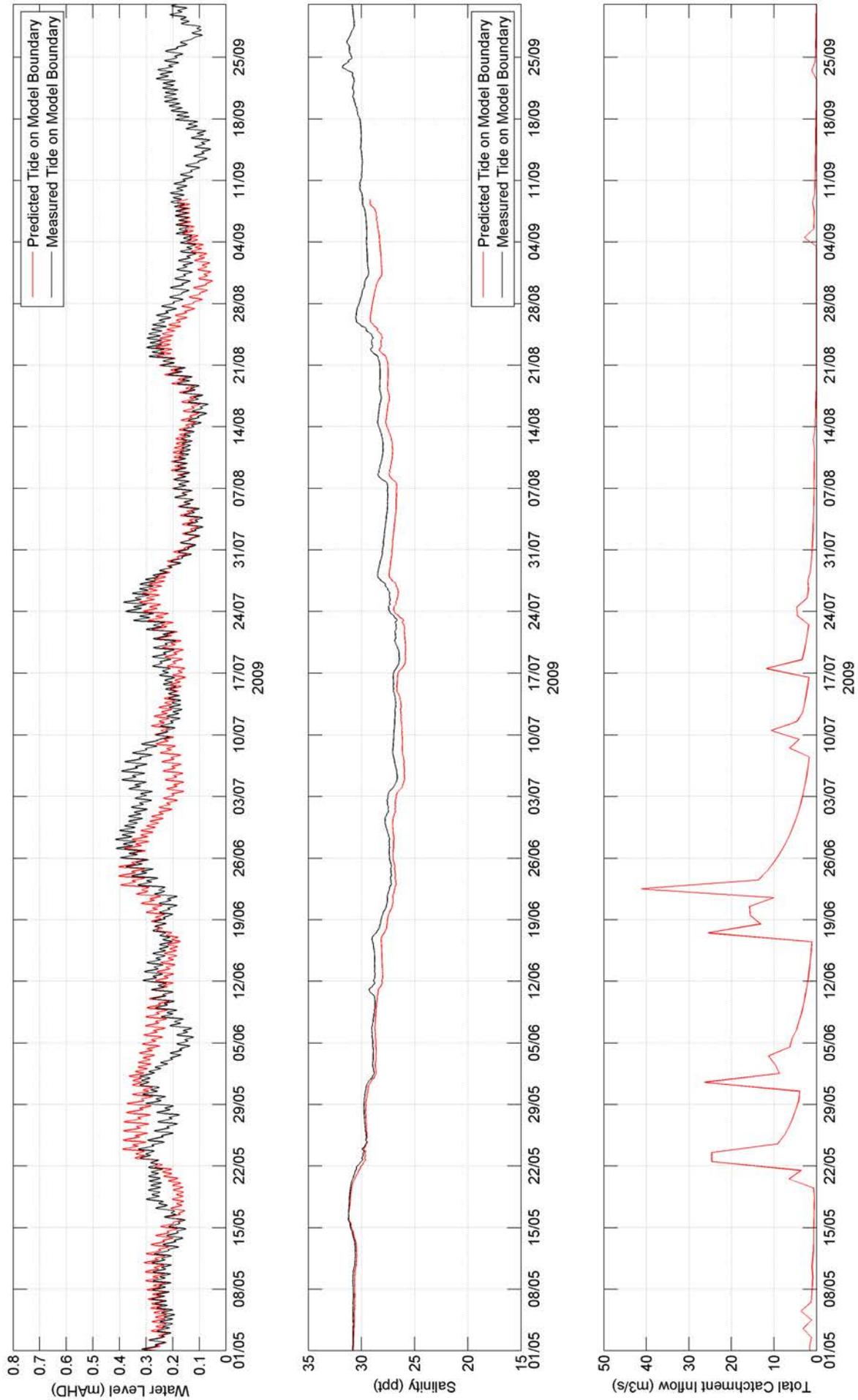


Wave Penetration Post 100yrARI Flood:
Difference between Dual Training Walls - 100m Apart and Existing Entrance Conditon



Tuggerah Lakes - Salinity at Site L2



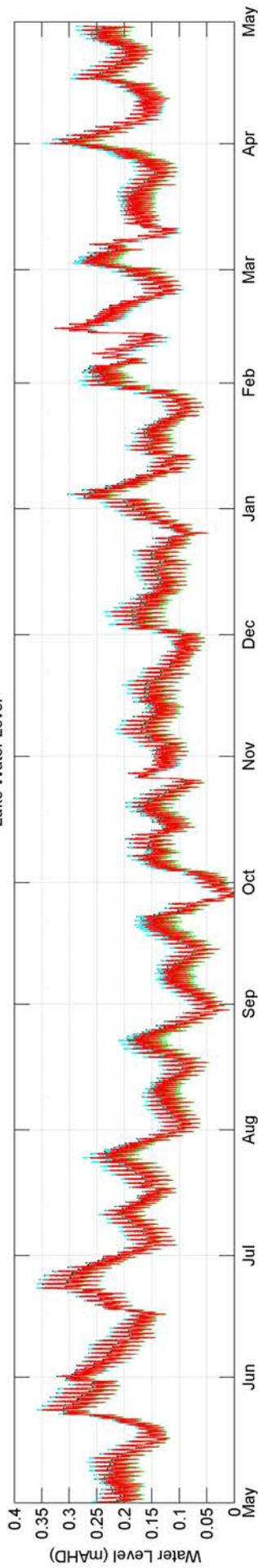


Tuggerah Lakes – The Entrance Morphodynamic Modelling
 Comparison of Lake Salinity Using Predicted and Measured Tides
 1996 – MHL Site L2

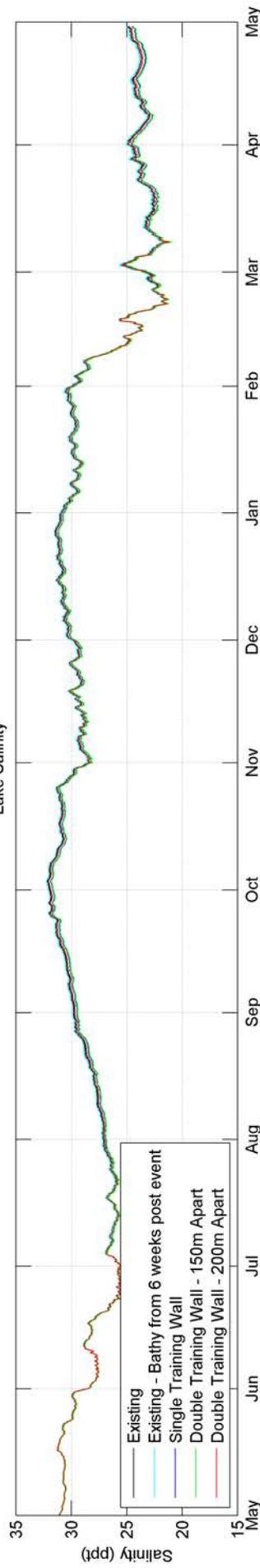
Figure 6.52



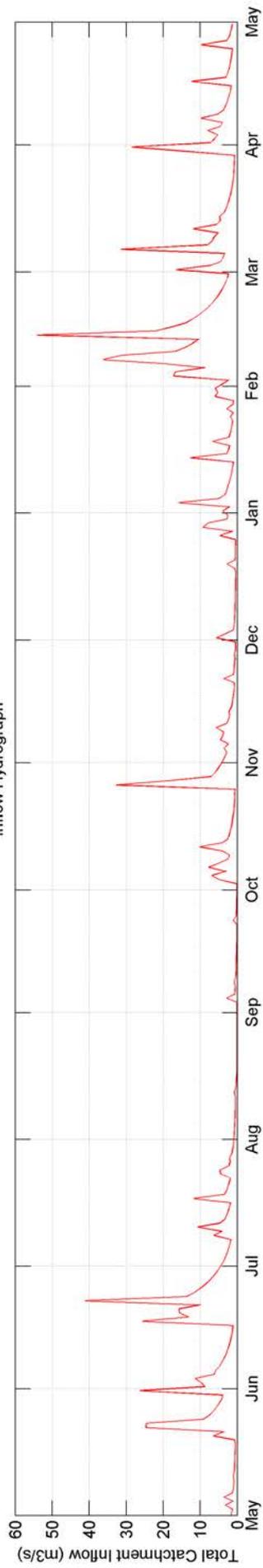
Post 100yr ARI Flood Entrance Condition
Lake Water Level



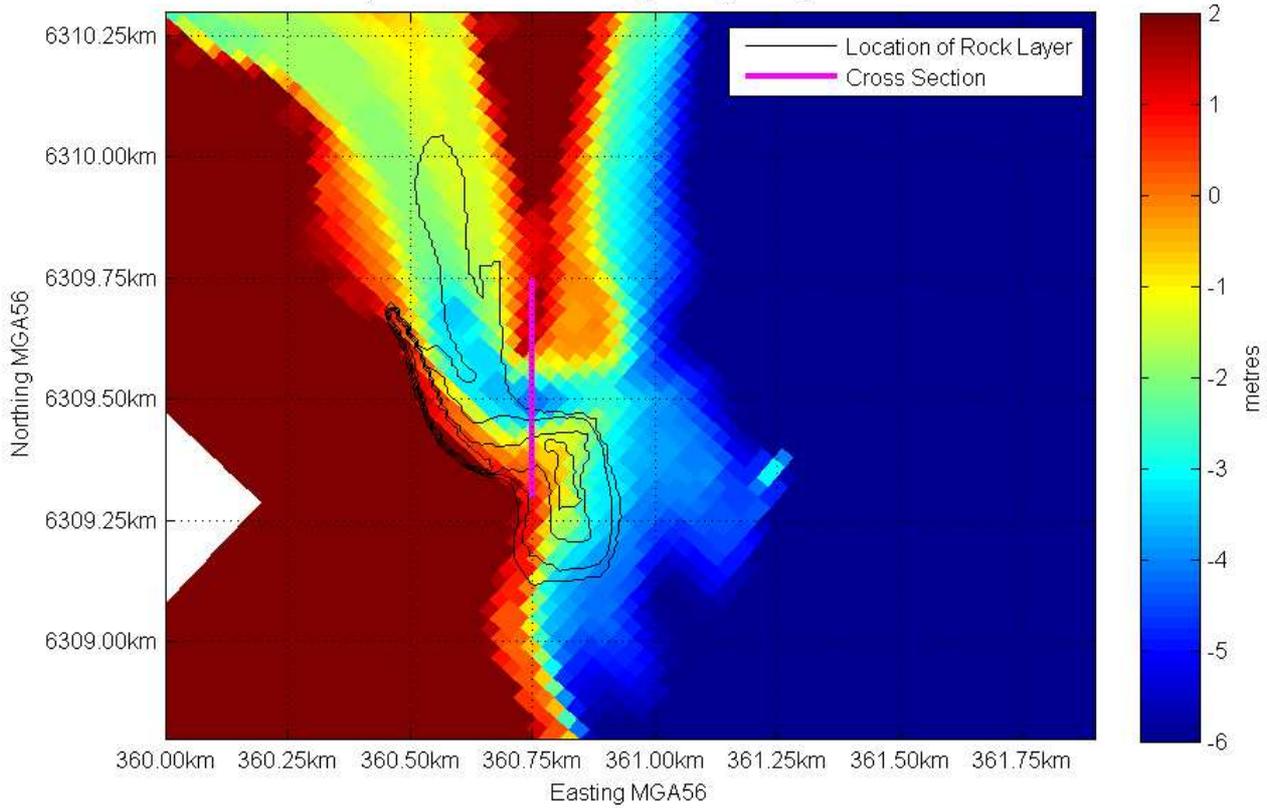
Lake Salinity



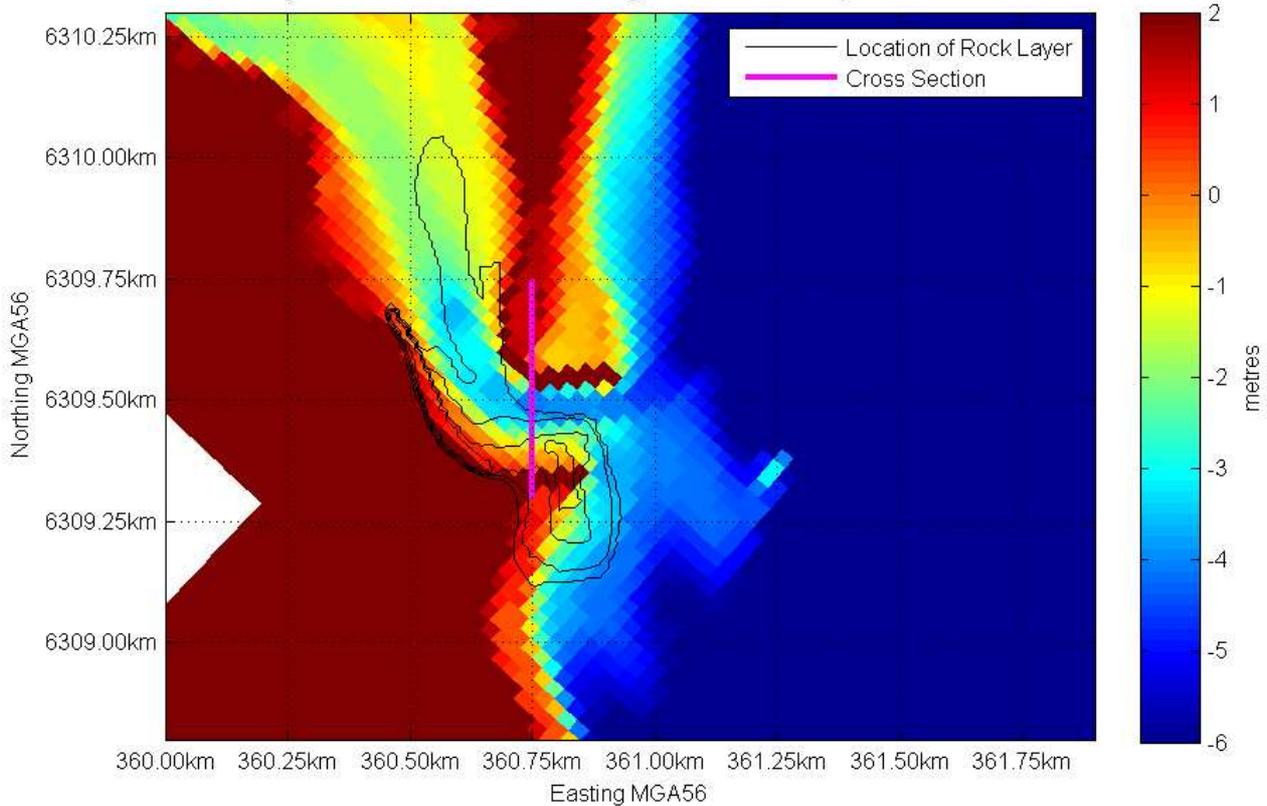
Inflow Hydrograph



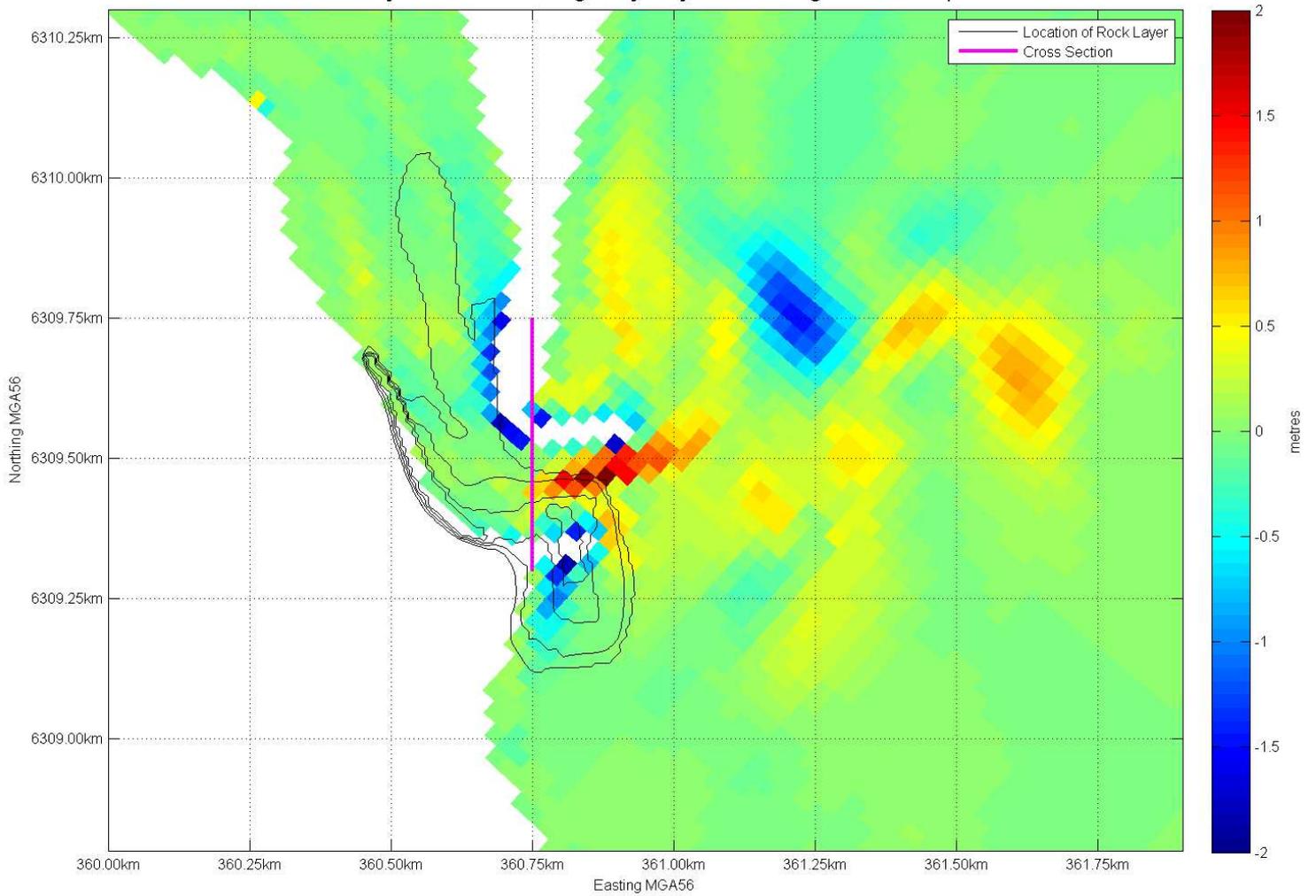
Bathymetric Plot 100yr ARI Flood Existing Bathymetry - 12 June



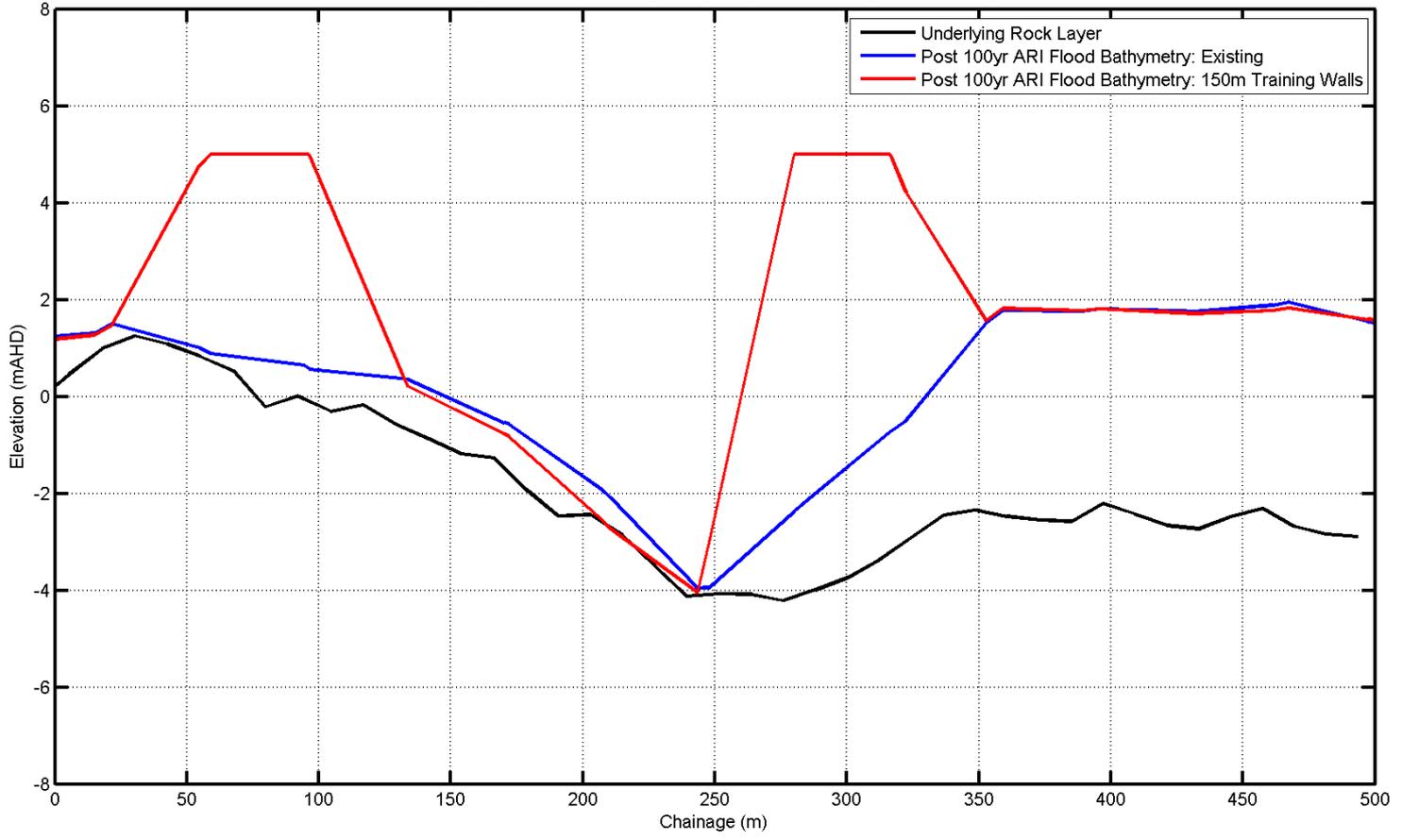
Bathymetric Plot 100yr ARI Flood Dual Training Walls 150m Apart - 12 June



Bathymetric Difference Plot
Post 100yrs ARI Flood: Existing Bathymetry - Dual Training Walls 150m Apart

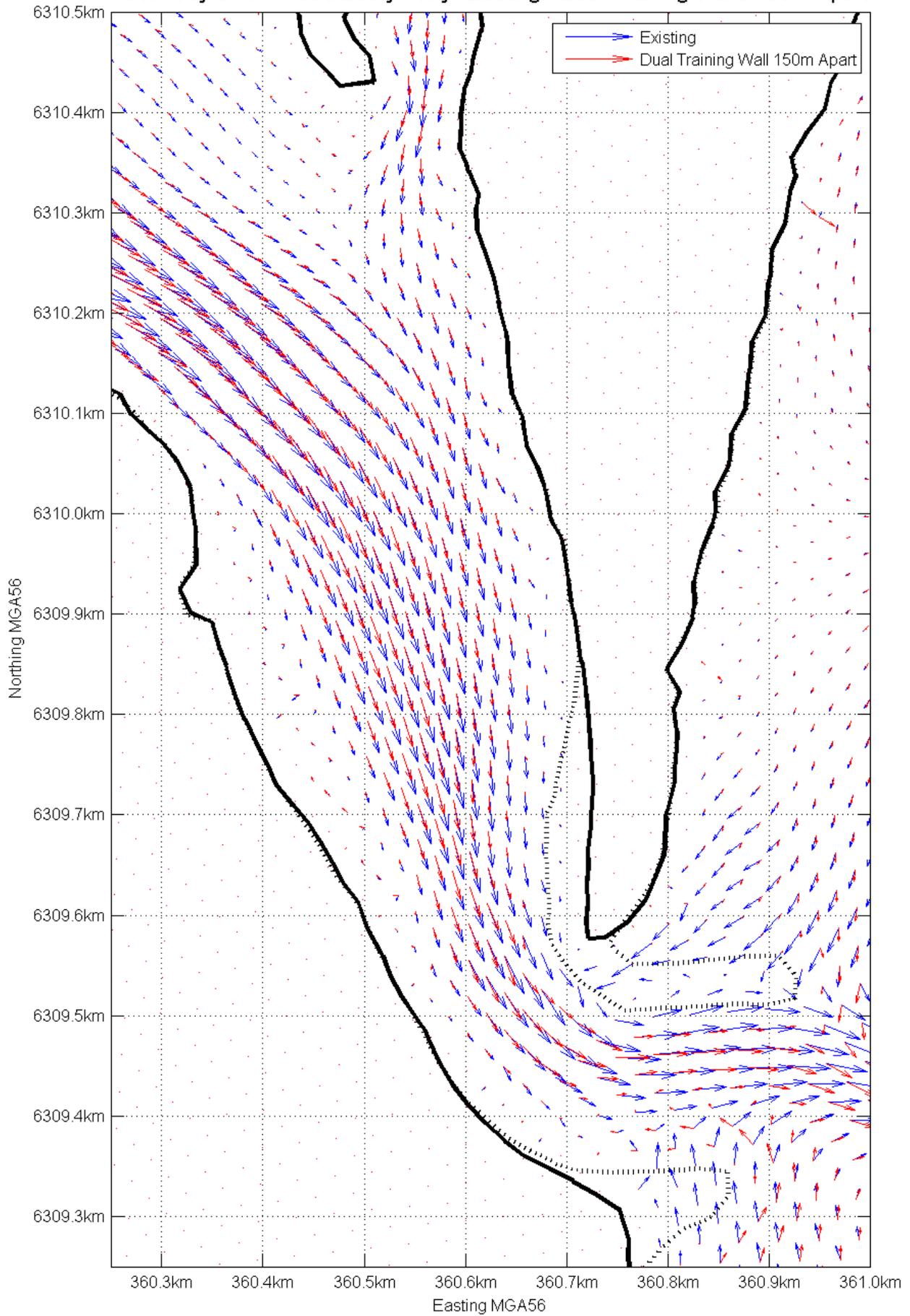


Cross-Sectional Bathymetric Difference Plot
 Post 100yrs ARI Flood: Existing Bathymetry - Dual Training Walls 150m Apart

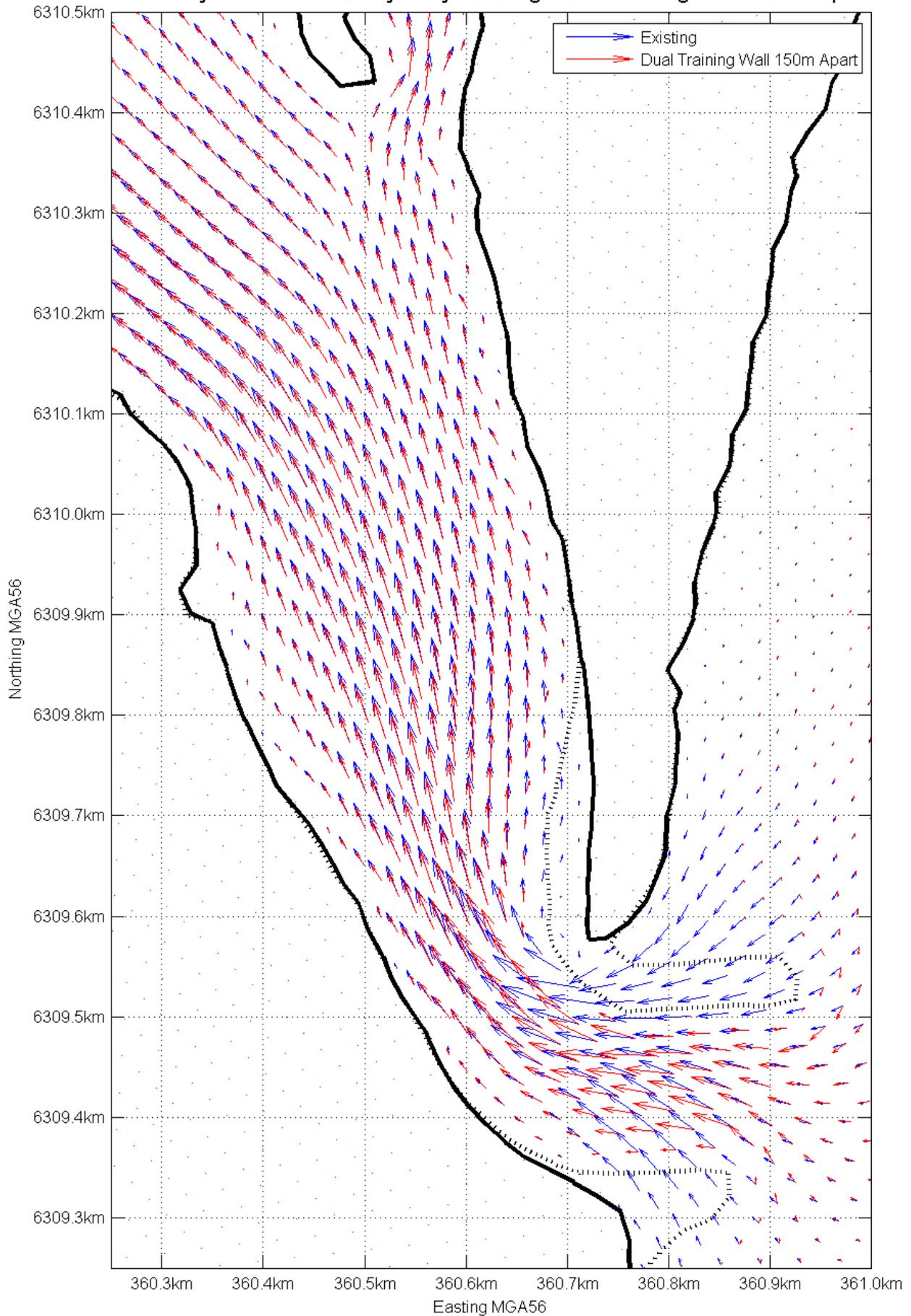


Tuggerah Lakes – The Entrance Morphodynamic Modelling
 Post 100yr ARI Flood Event: Difference in Entrance Bathymetries
 Cross-Sections of Existing and Dual Training Wall 150m Apart

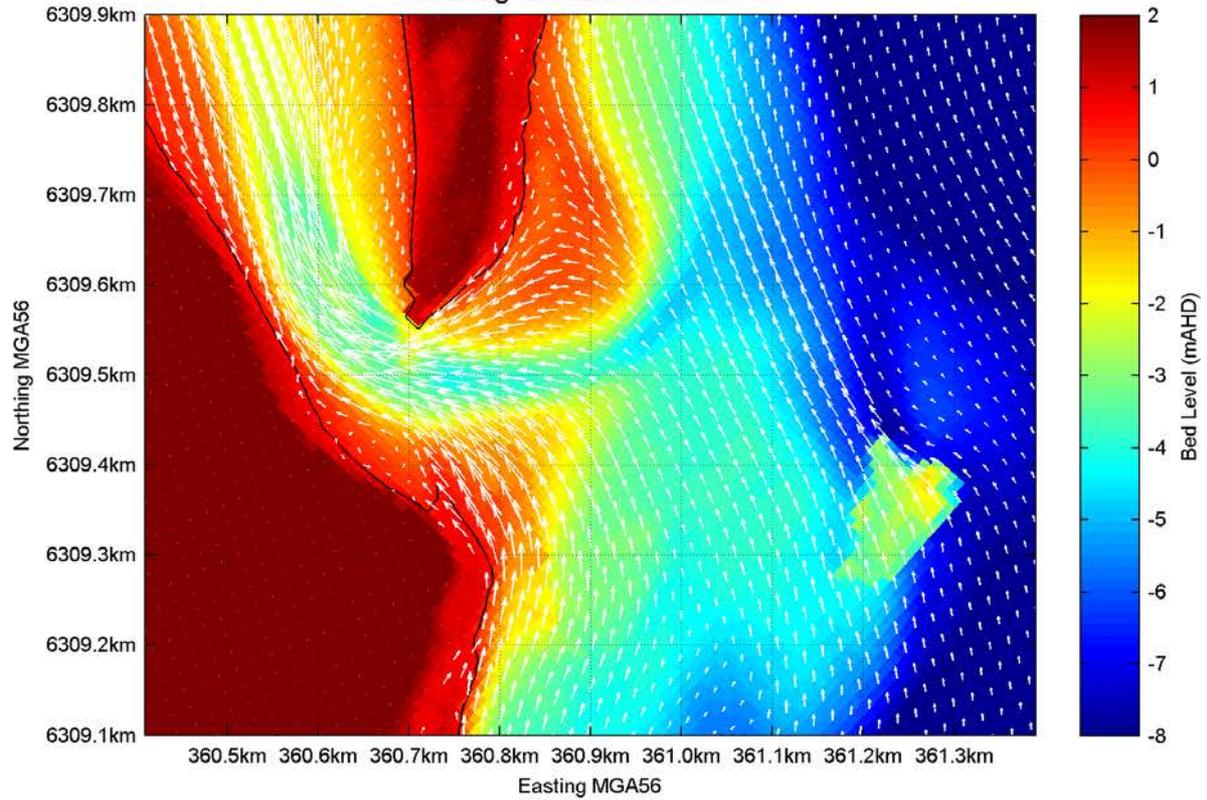
Entrance Channel Ebb Current Vectors - 2 Months after Breakout
Post 100yrs ARI Flood Bathymetry: Existing - Dual Training Walls 150m Apart



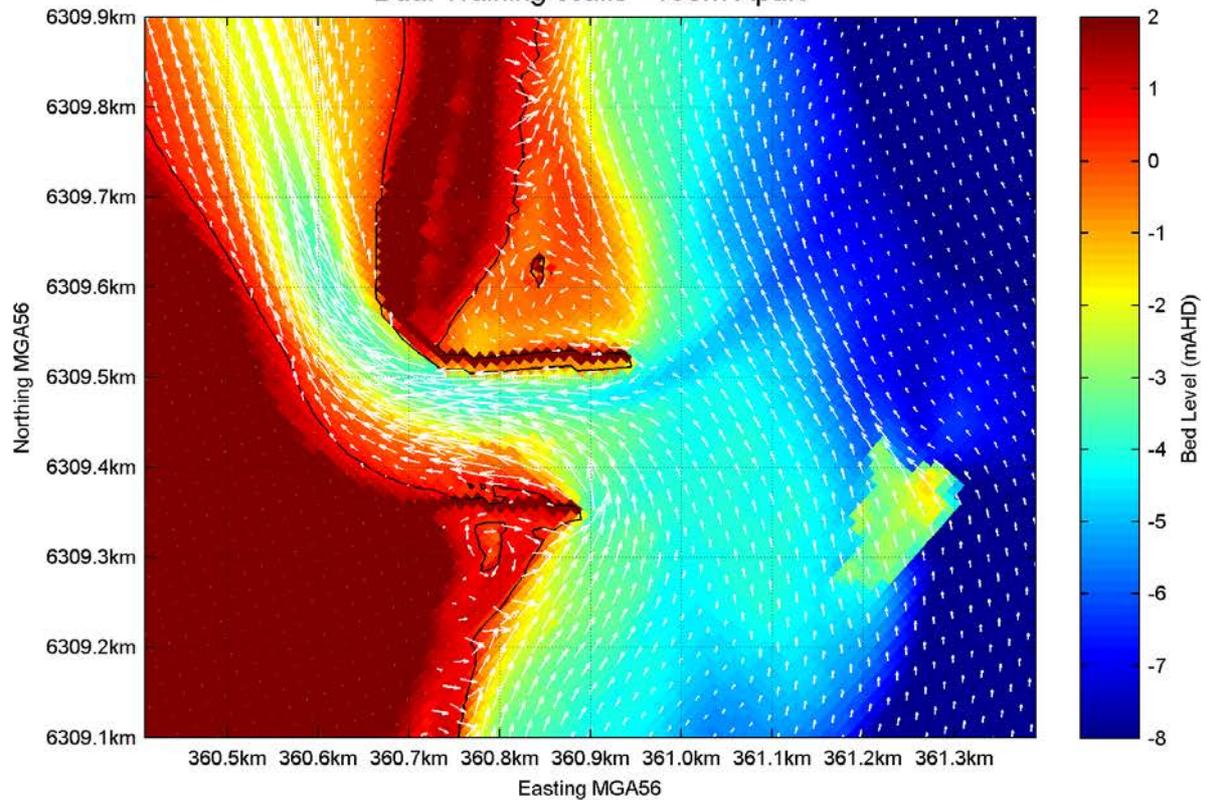
Entrance Channel Flood Current Vectors - 2 Months after Breakout
Post 100yrs ARI Flood Bathymetry: Existing - Dual Training Walls 150m Apart

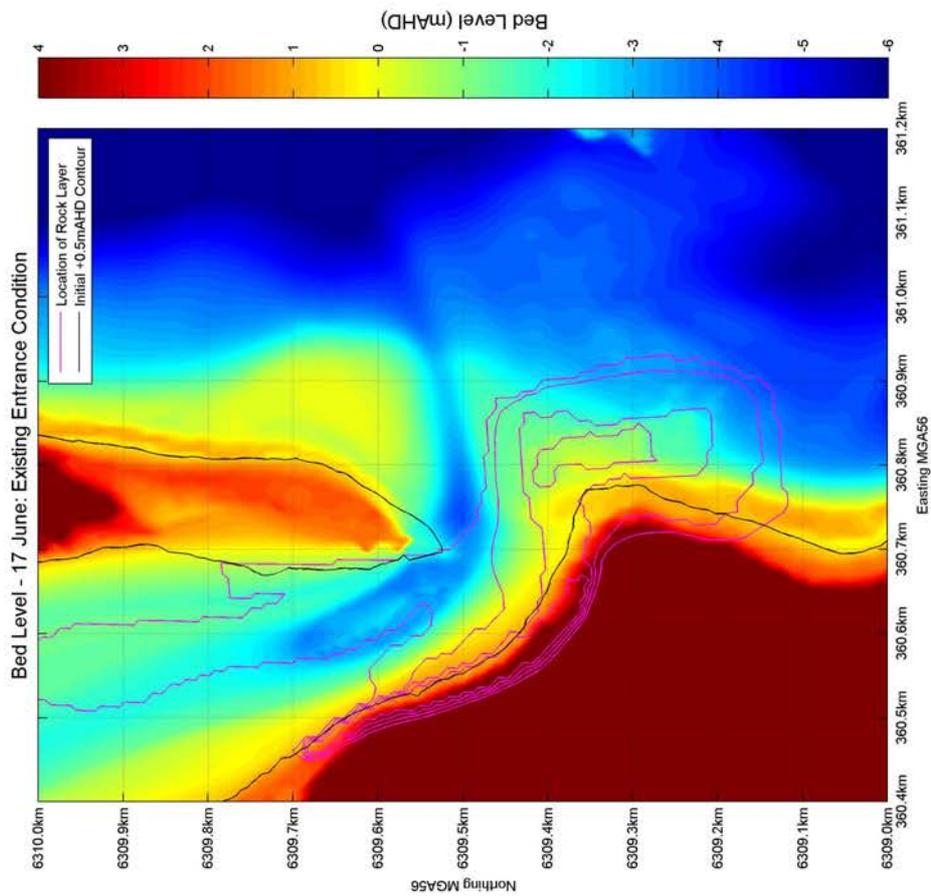
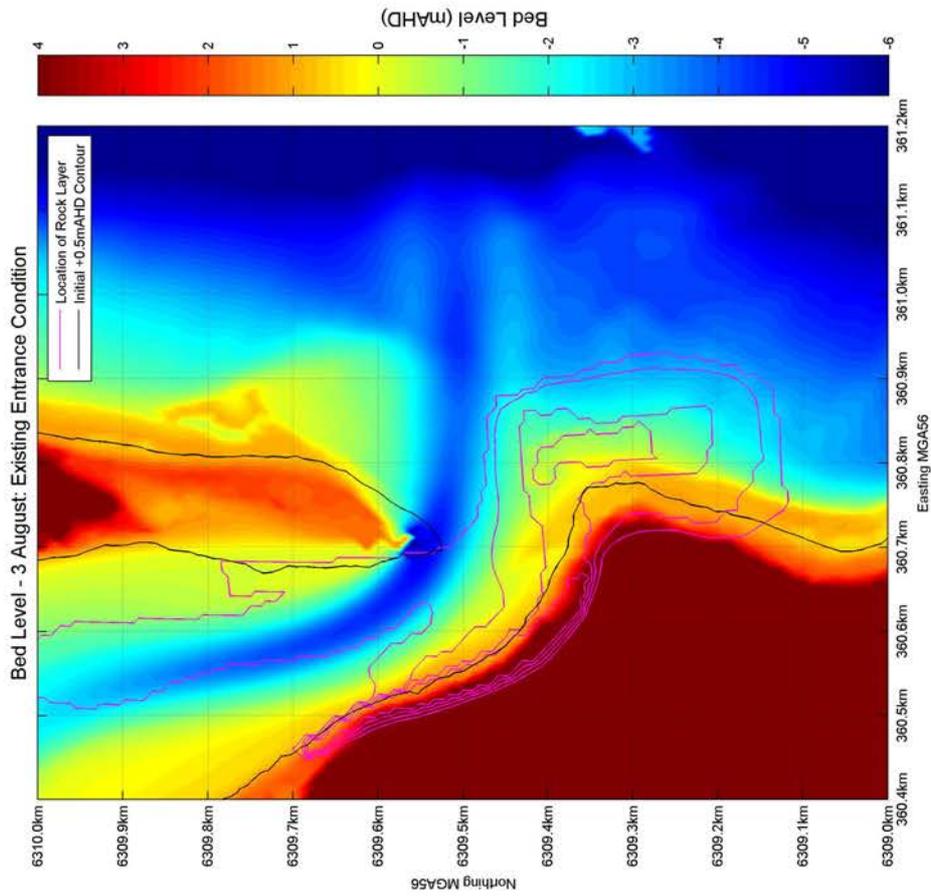


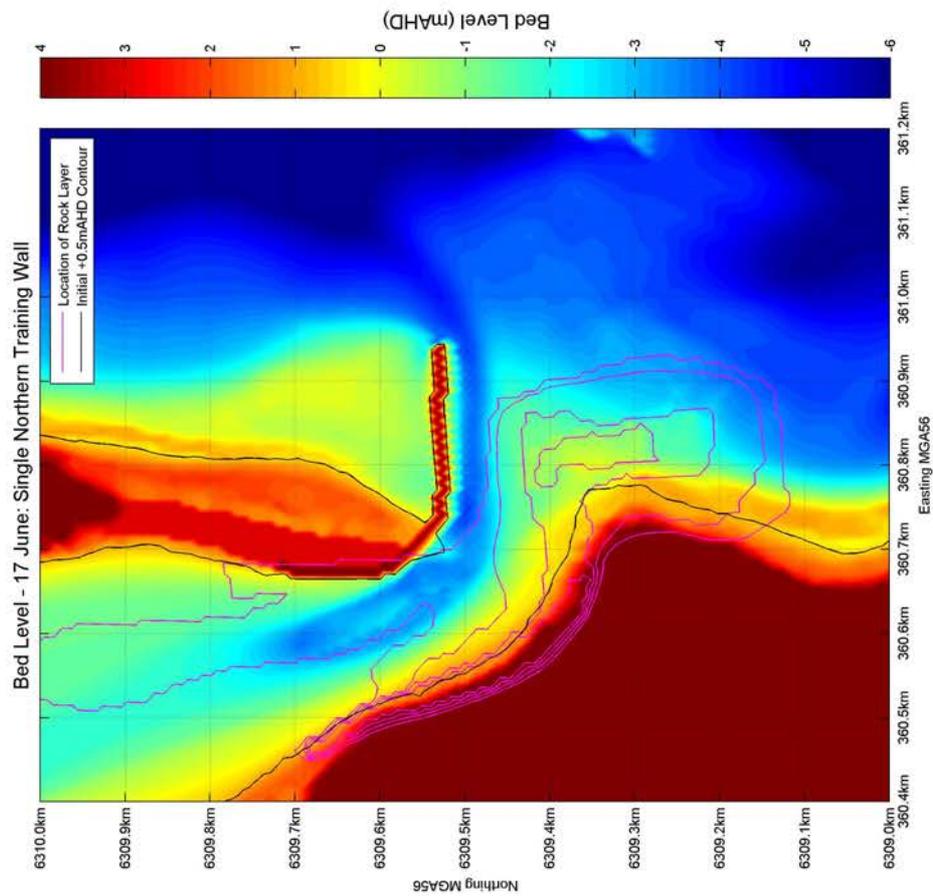
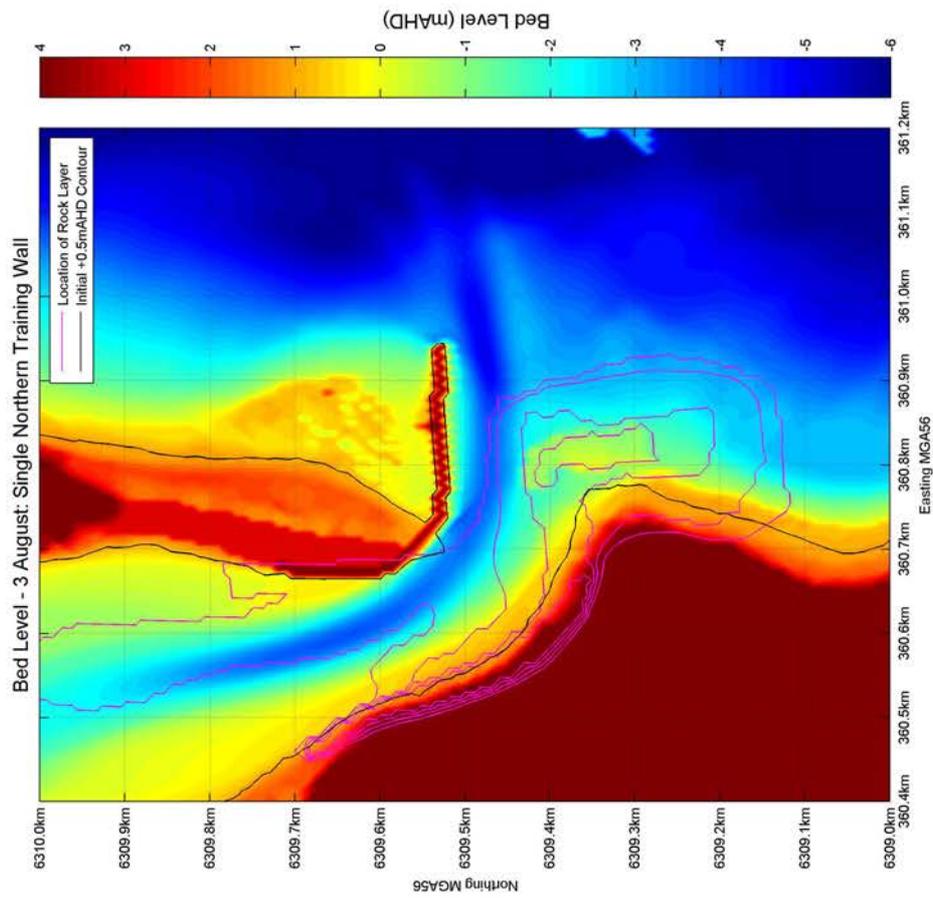
Bed Levels and Velocity Vectors
 100yrsARI Catchment Event - 19 June 2007
 Existing Entrance Condition

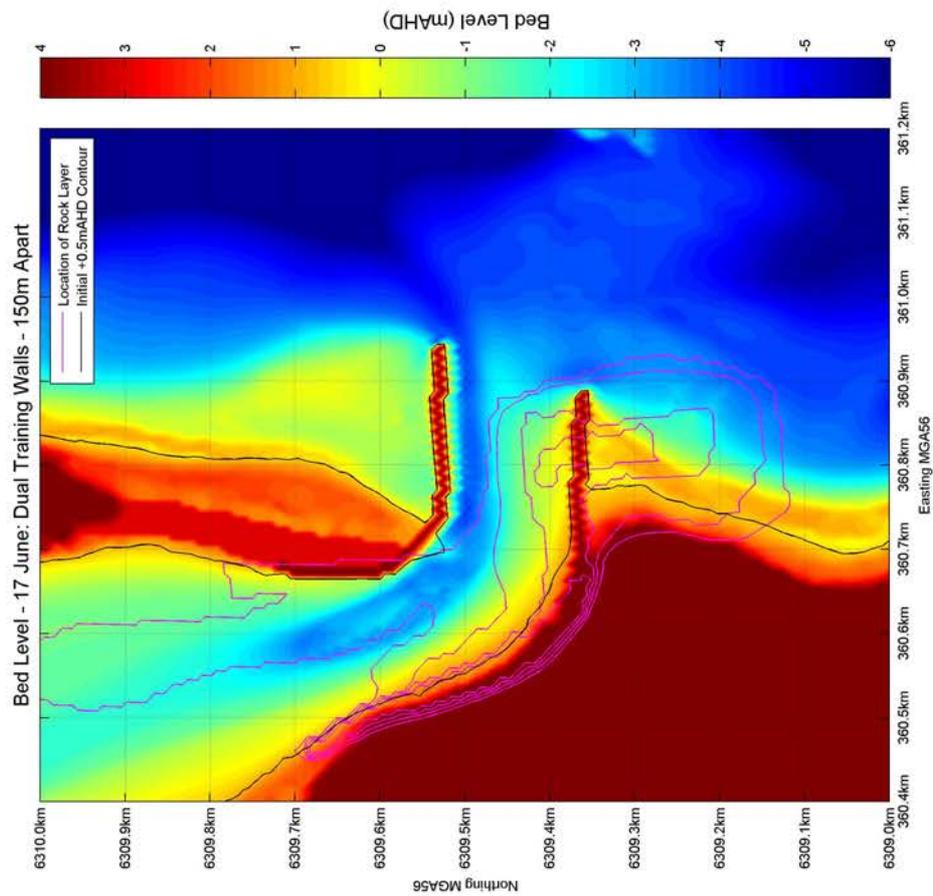
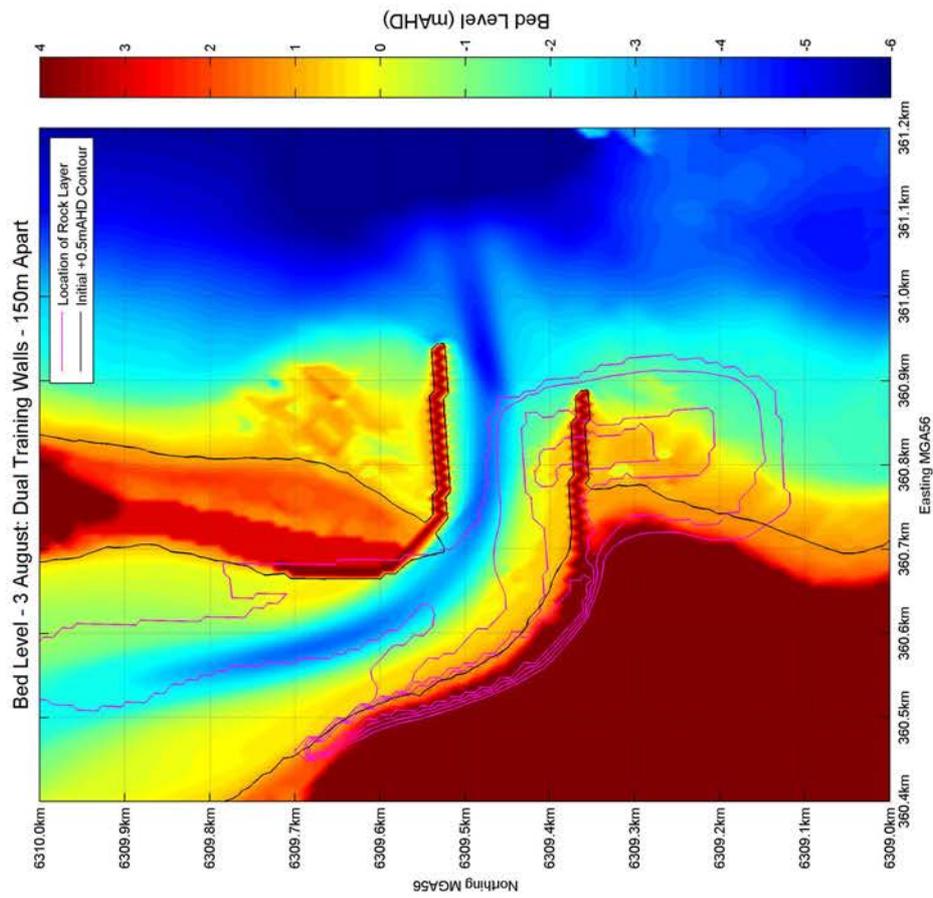


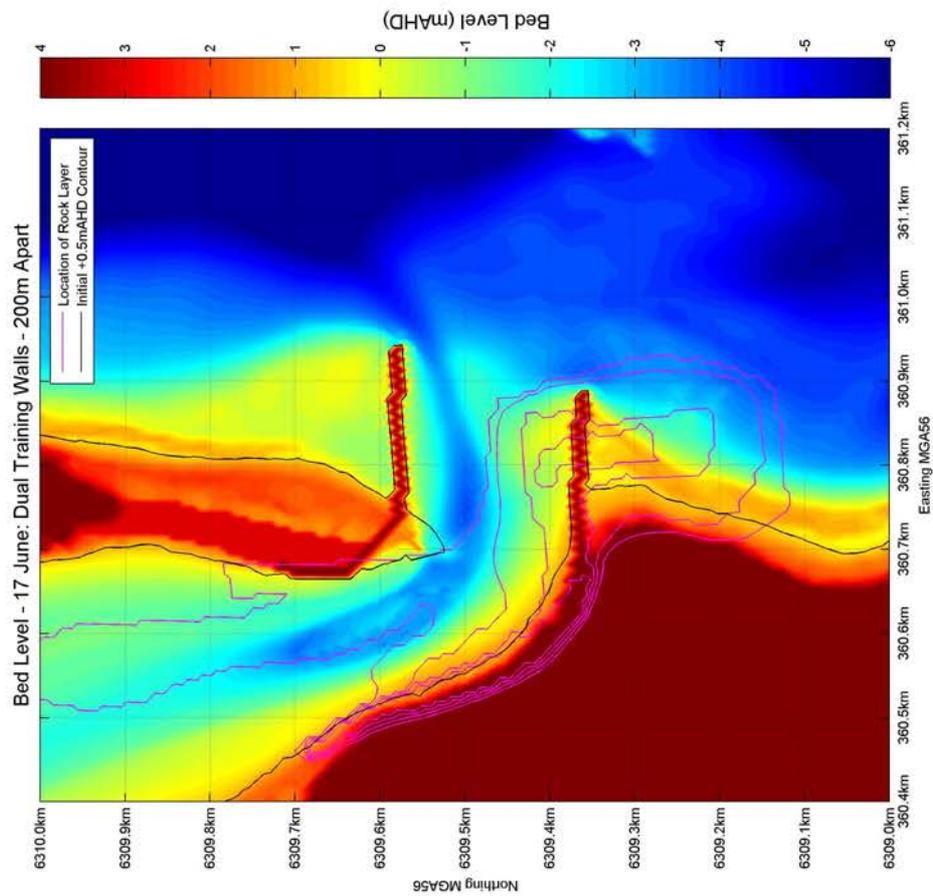
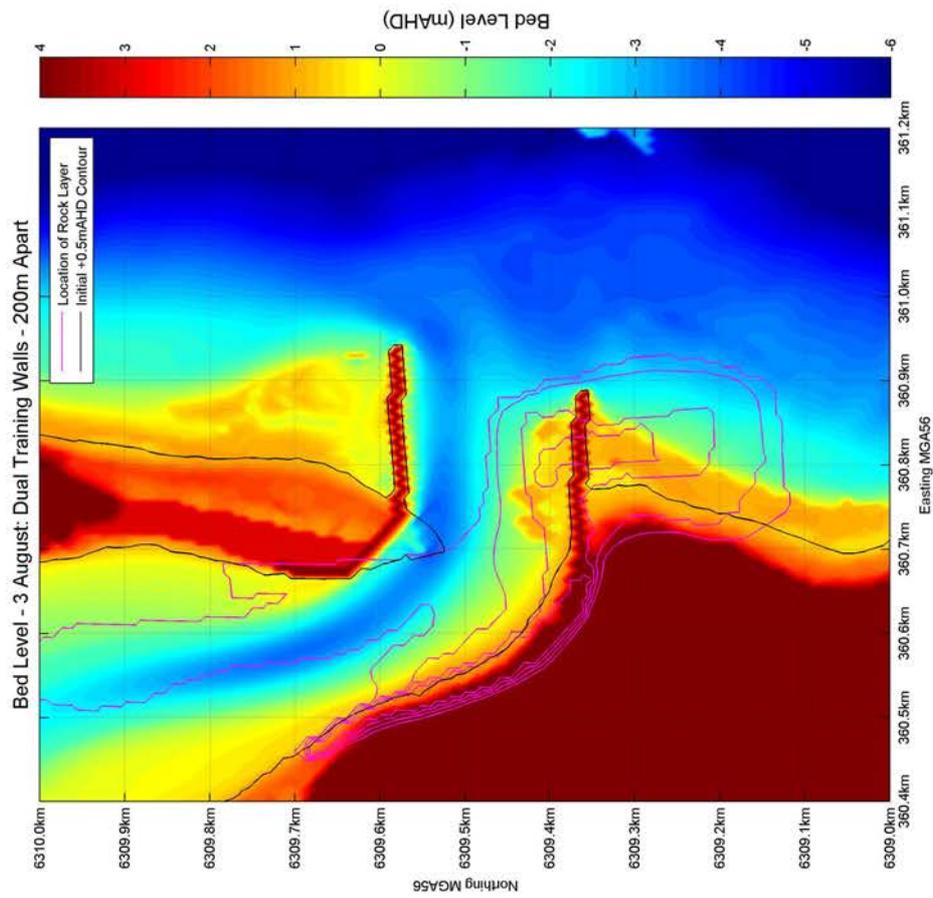
Dual Training Walls - 150m Apart

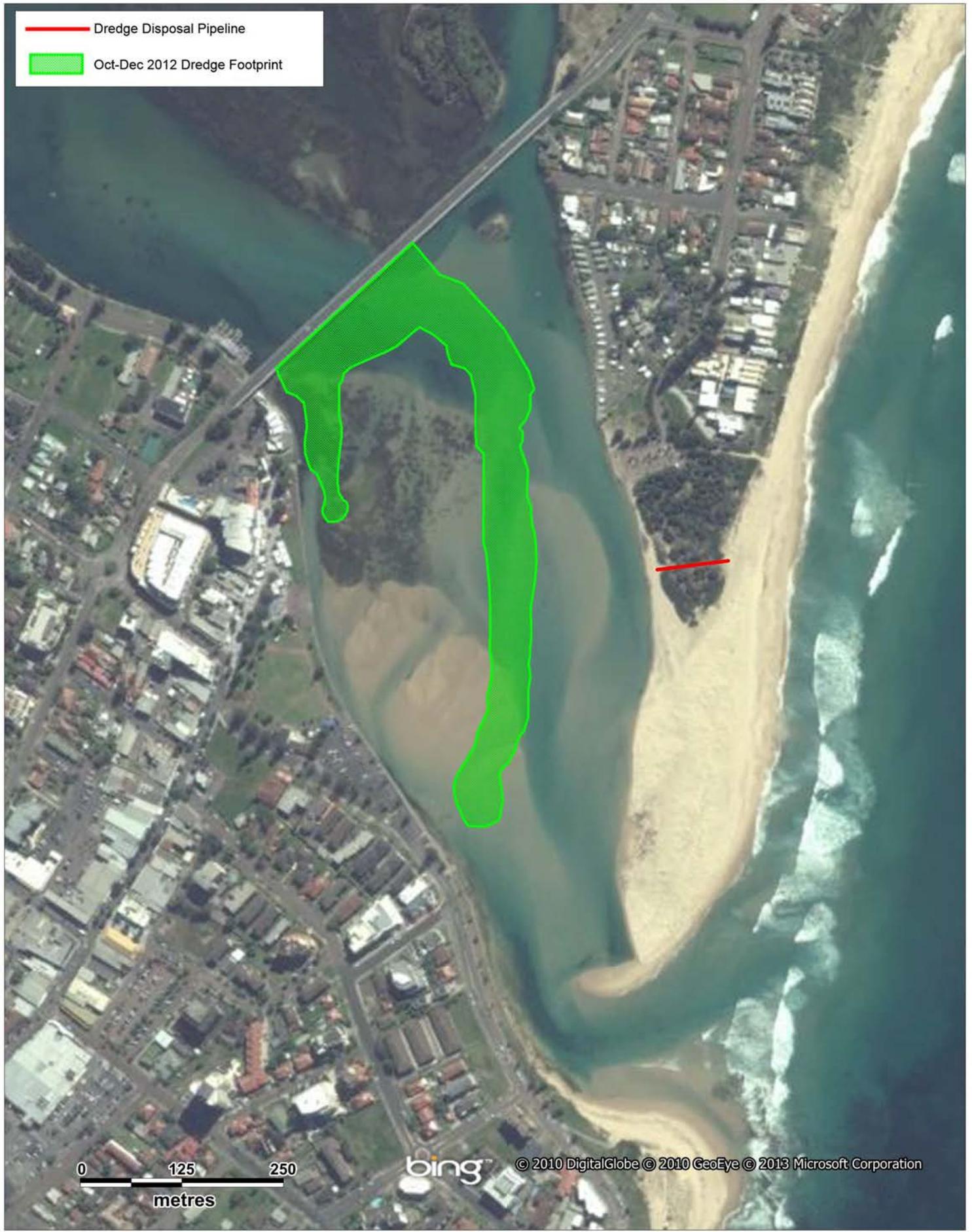


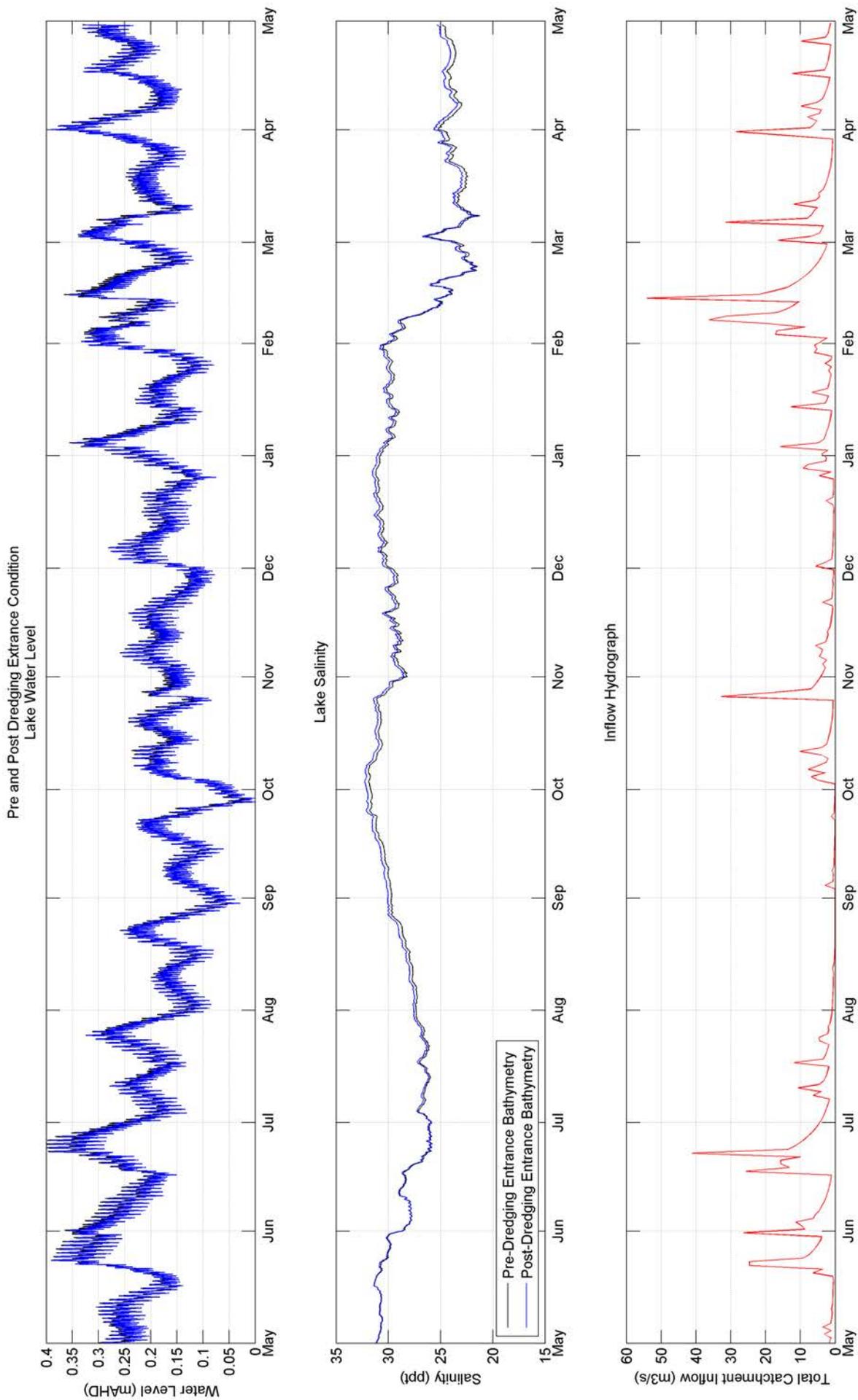








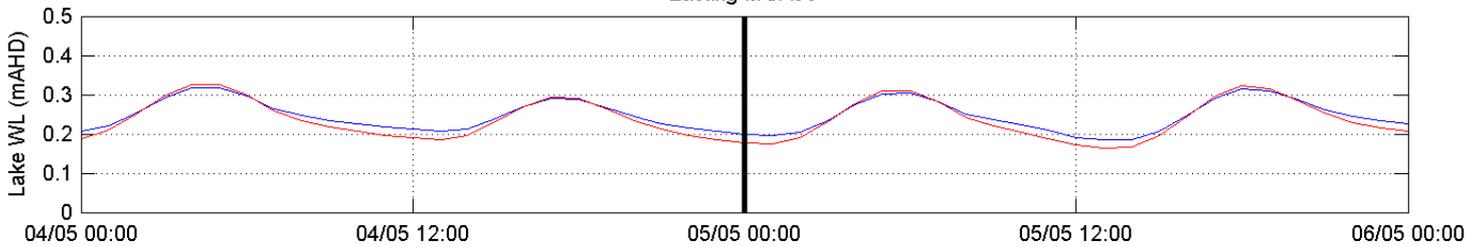
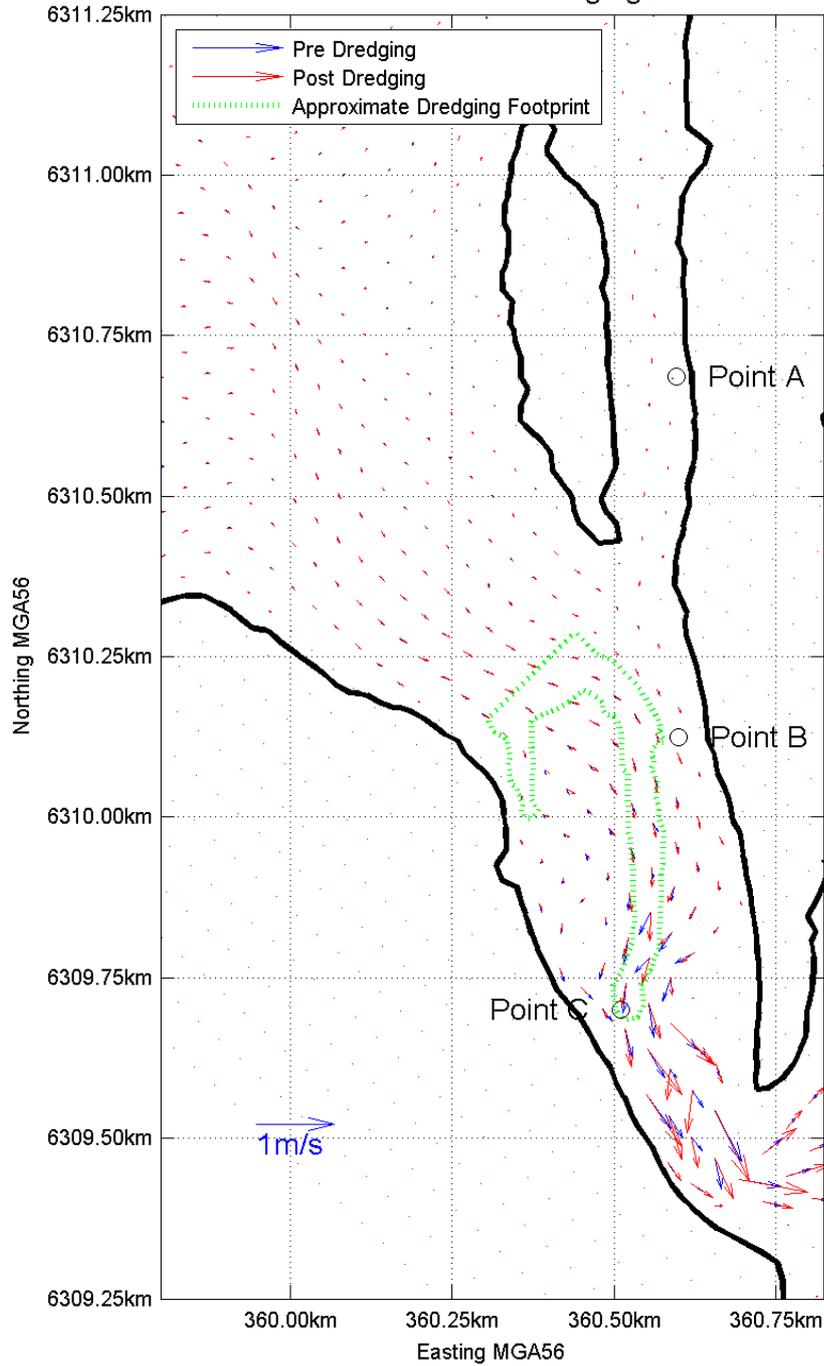




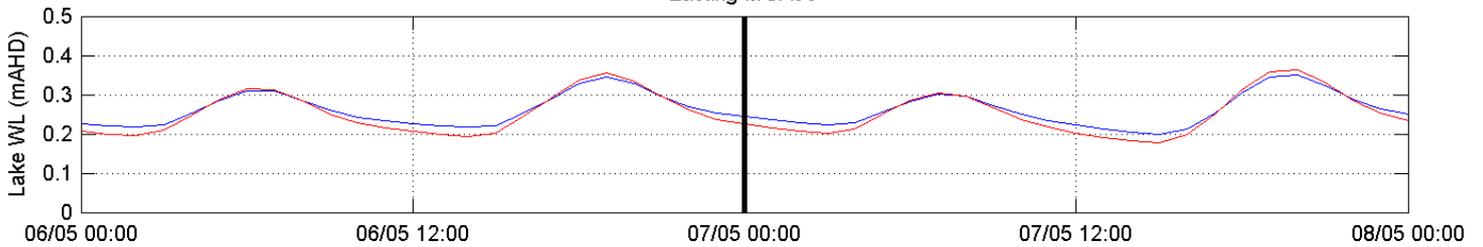
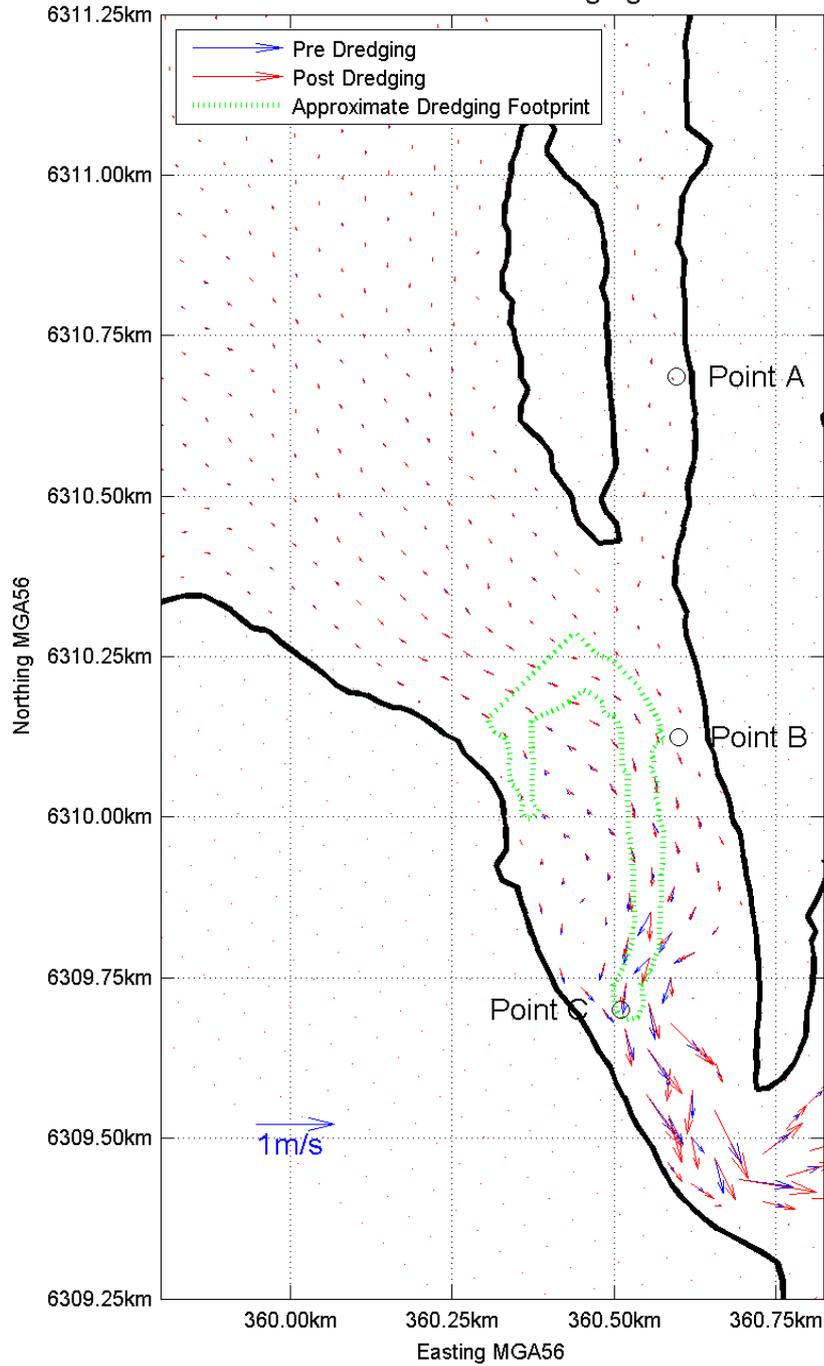
Tuggerah Lakes – The Entrance Morphodynamic Modelling
 Annual Timeseries of Water Level and Salinity
 Pre and Post Dredging Entrance Bathymetry

Figure 7.2

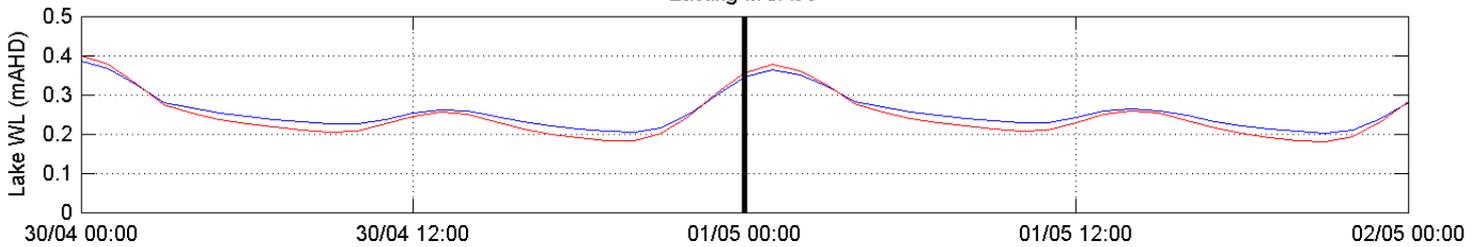
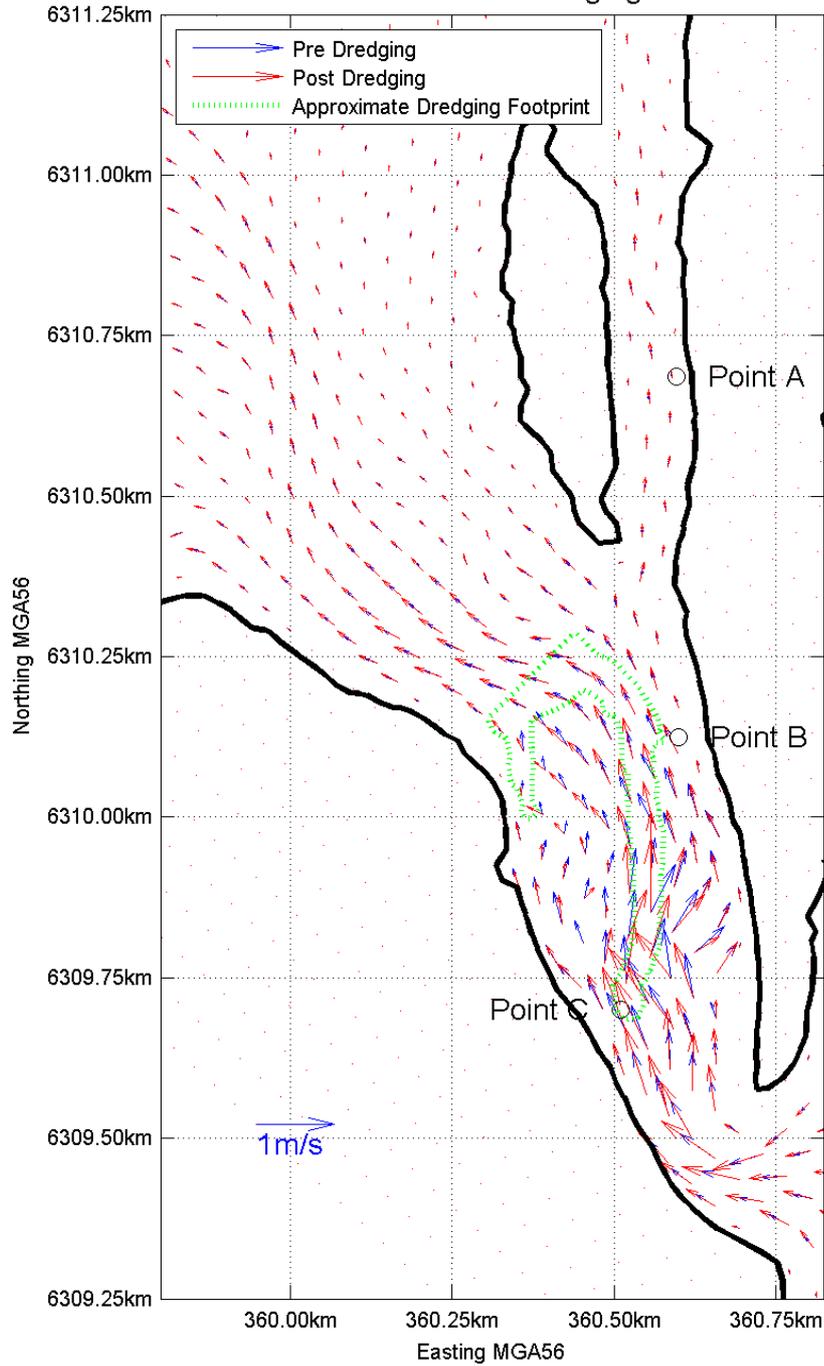
Entrance Channel Current Vector Comparison Pre and Post Dredging



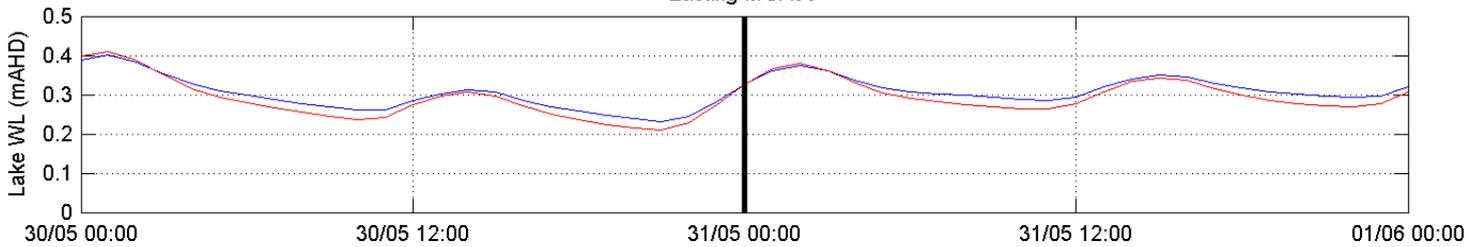
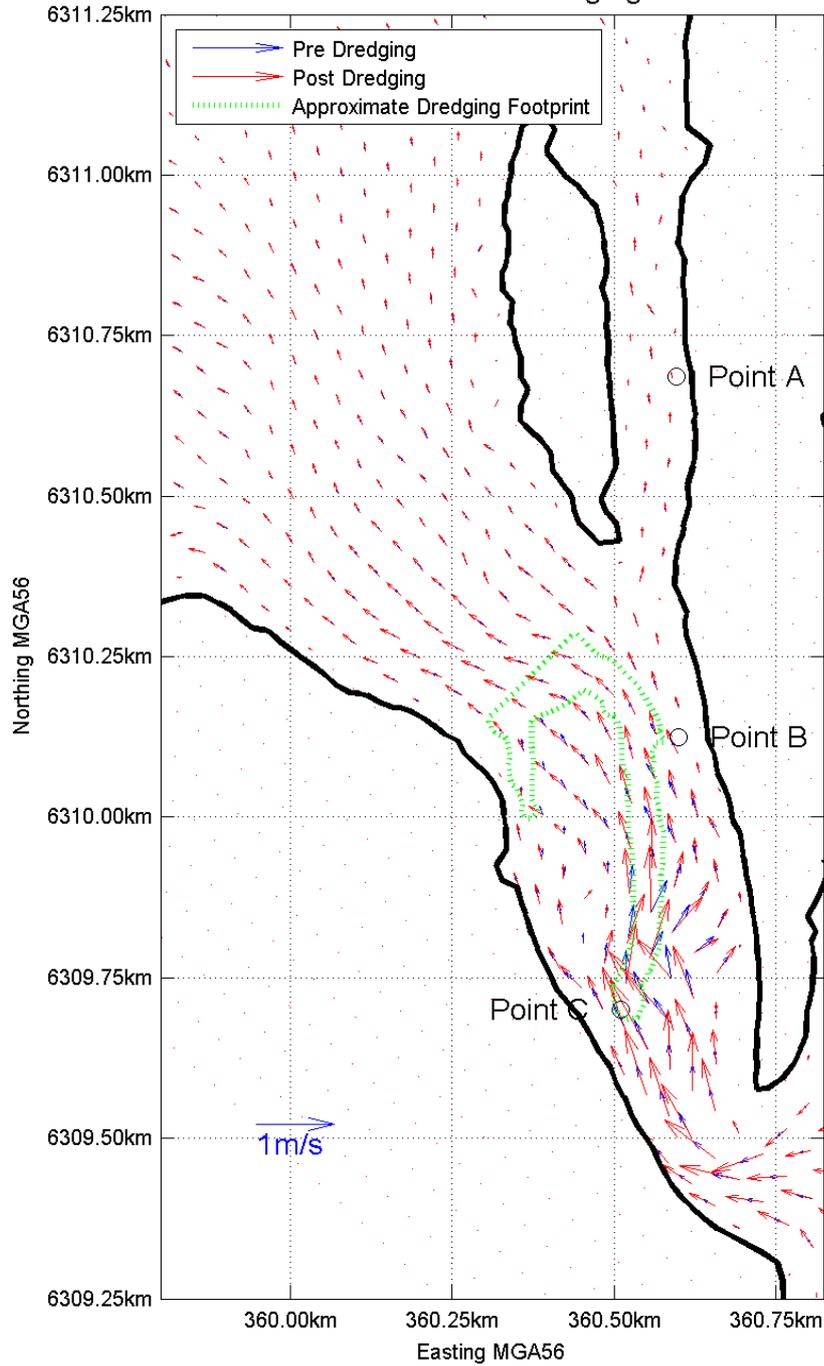
Entrance Channel Current Vector Comparison Pre and Post Dredging

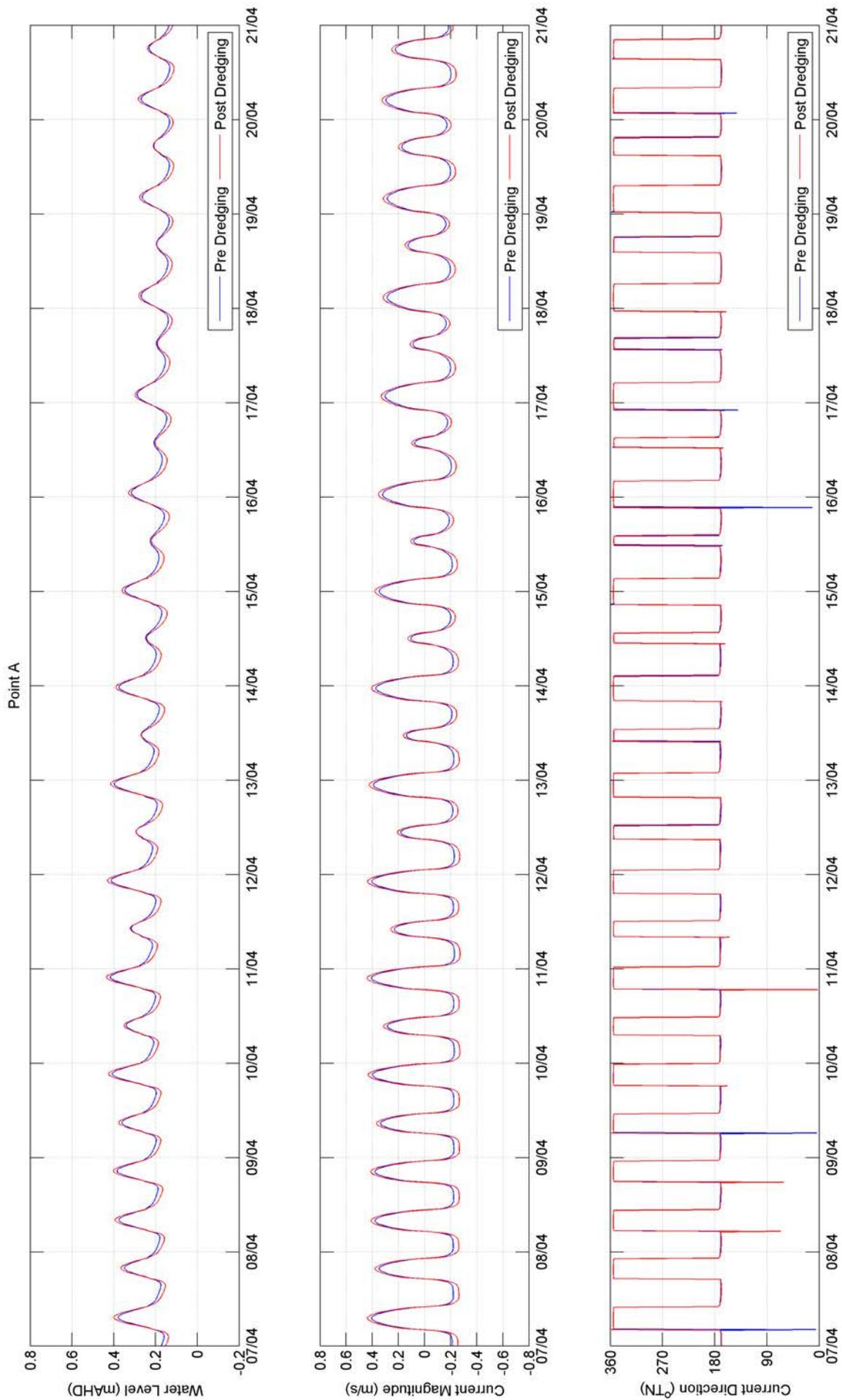


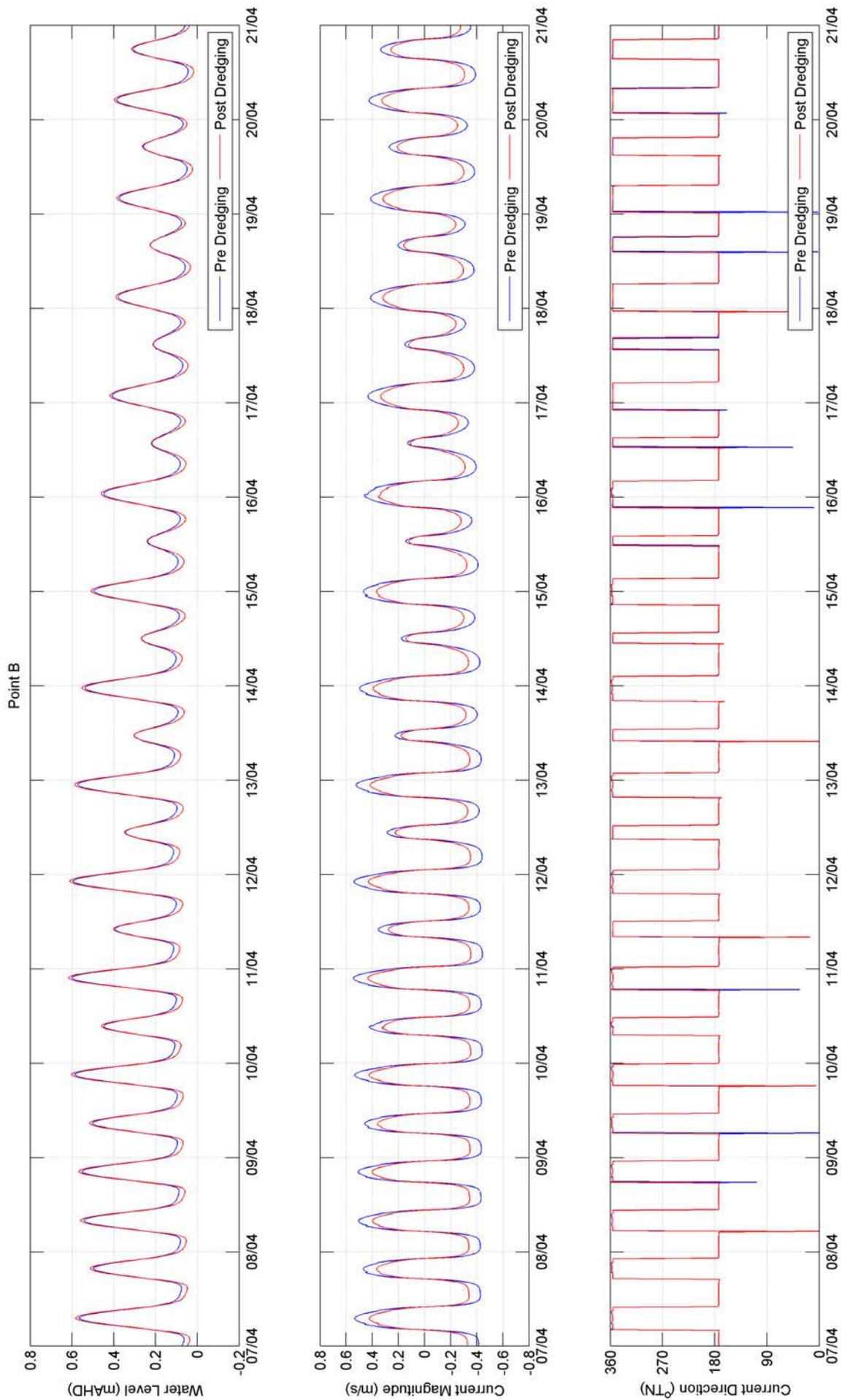
Entrance Channel Current Vector Comparison Pre and Post Dredging

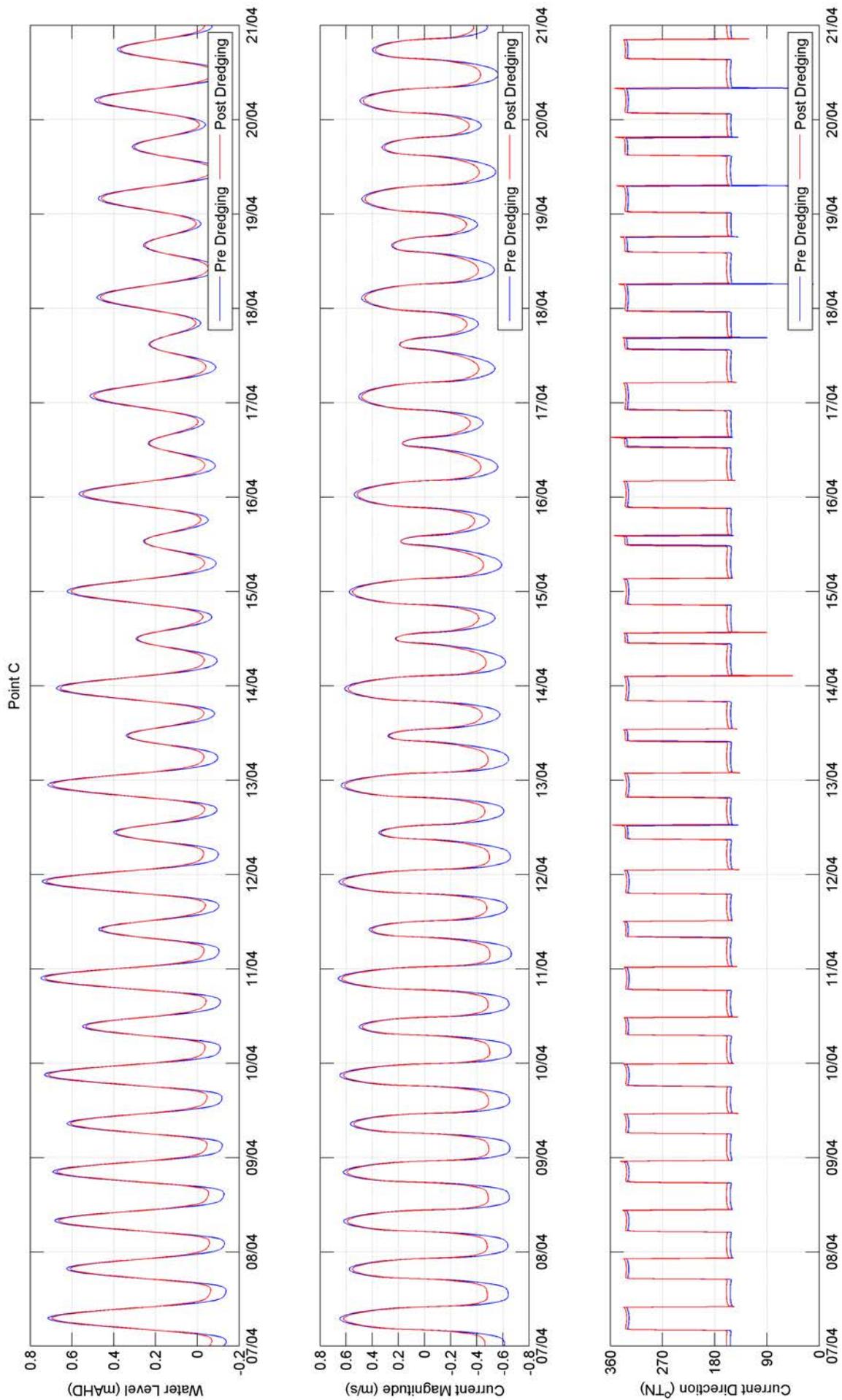


Entrance Channel Current Vector Comparison Pre and Post Dredging









June 2007 Flood Event: Water Levels at Long Jetty
Pre and Post Dredging Entrance Bathymetry

