

Center Reports

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2008

CACR-08-01 "Cross-Shore Numerical Model CSHORE for Waves, Currents, Sediment Transport and Beach Profile Evolution," Nobuhisa Kobayashi and Ali Farhadzadeh

2007

CACR-07-01 "Seasonal and Yearly Profile Changes of Delaware Beaches," Jens Figlus and Nobuhisa Kobayashi

CACR-07-02 "Experimental and Numerical Modeling of Wave Overtopping and Overflow on Dikes," Ali Farhadzadeh, Nobuhisa Kobayashi, Jeffrey A. Melby and Caterina Ricottilli

CACR-07-03 "Berm and Dune Erosion during a Storm," Mitchell Buck, Nobuhisa Kobayashi, Andres Payo and Bradley Johnson

CACR-07-04 "SANDCAM at Rehoboth: Quantifying Shoreline Change Using Video" Nathaniel Pearre and Jack A. Puleo

2006

CACR-06-01 "Irregular Wave Seepage and Overtopping on Cobble Beaches and Revetments," Francisco J. de los Santos and Nobuhisa Kobayashi

CACR-06-02 "Boussinesq Modeling of Waves, Currents and Sediment Transport," Wen Long and James T. Kirby

CACR-06-03 "Cross Shore Sediment Transport and Beach Profile Change," Lauren Schmied, Nobuhisa Kobayashi, Andres Payo and Jack Puleo

CACR-06-04 "Numerical Study in Delaware Inland Bays," Long Xu, Dominic DiToro and James T. Kirby

CACR-06-05 "Video-Based Particle Image Velocimetry of Laboratory Rip Currents," Liang He and Jack A. Puleo

CACR-06-06 "Surf and Nearshore Dynamics Camera (SANDCam)," Jack A. Puleo and Nathaniel Pearre

2005

CACR-05-01 "Suspended Sand Transport in Surf Zones on Equilibrium Beaches," Haoyu Zhao and Nobuhisa Kobayashi

CACR-05-02 "Lidar Applications for Coastal Engineering: Sea Bottom Mapping and Water Wave Measurement," Jennifer L. Irish and Nobuhisa Kobayashi

CACR-05-03 "Personnel Grate Study for Stormwater Pipes," Nobuhisa Kobayashi and Mayu Kagawa

CACR-05-06 "Irregular Wave Setup and Runup on Cobble Beaches and Revetments," Francisco J. de los Santos and Nobuhisa Kobayashi

CACR-05-07 "Time-Averaged Model for Longshore Current and Sediment Transport in Surf and Swash Zones" Arpit Agarwal and Nobuhisa Kobayashi

CACR-05-08 "The Turbulent Dynamics of Quasi-Steady Spilling Breakers - Theory and Experiments" Shubhra K. Misra, James T. Kirby and Maurizio Brocchini

CACR-05-09 "Application of the Spectral Wave Model SWAN in Delaware Bay" Wenting Qin, James T. Kirby and Mohsen Badiy

2004

CACR-04-01 "A Laboratory Investigation of Nearshore Turbulence," Mark S. Osler and Ib A. Svendsen

CACR-04-02 "Time-Averaged Model for Irregular Breaking Waves on Porous Structures and Beaches," Leslie Elizabeth Meigs and Nobuhisa Kobayashi

2003

CACR-03-01 "Wave Transmission and Force on Nearshore Rapidly-Installed Breakwater" Hiroaki Hosoi, Nobuhisa Kobayashi and Jeffrey A. Melby

CACR-03-02 "Parameterization of Mudflat Profile Changes Caused by Seasonal Tide Level Variations" Fumihiko Yamada and Nobuhisa Kobayashi

CACR-03-03 ``Experiments on Cross-Shore Sediment Transport under Positive and Negative Solitary Waves" Andrew R. Lawrence and Nobuhisa Kobayashi

CACR-03-04 ``Modeling Nearshore Processes" Wenkai Qin and Ib A. Svendsen

CACR-03-05 ``The Flow in the Surf Zone. A Fully Nonlinear Boussinesq Model for Breaking Waves" Rosaria Ester Musumeci, Ib A. Svendsen and Enrico Foti

CACR-03-06 ``Boussinesq Modeling of Longshore Currents" Qin Chen, James T. Kirby, Robert A. Dalrymple, Fengyan Shi and Edward B. Thornton

2002

CACR-02-01 ``Quasi-3D Nearshore Circulation Model SHORECIRC - Version 2.0" Ib A. Svendsen, Kevin Haas and Qun Zhao

CACR-02-02 ``Performance of Coastal Structures under Combined Storm Surge and Breaking Waves for Sequences of Hurricanes" Beatriz Pozueta and Nobuhisa Kobayashi

CACR-02-03 ``Boussinesq Models and Applications to Nearshore Wave Propagation, Surfzone Processes and Wave-Induced Currents" James T. Kirby

CACR-02-04 ``Development of a Long-Term Coastal Zone Management Plan for the Delaware Atlantic Coast" Courtney M. Garriga and Robert A. Dalrymple

2001

CACR-01-01 ``Irregular Breaking Wave Transformation on a Beach and Runup on a Revetment" Peter Kearney and Nobu Kobayashi

CACR-01-02 ``The Boundary Condition at the Moving Shoreline for Nearshore Models" Ravi S. Prasad and Ib A. Svendsen

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2000

CACR-00-01 ``Determining Water Depths from Surface Images using Boussinesq Equations" Shubhra K. Misra, Andrew B. Kennedy and James T. Kirby

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CACR-00-05 ``Cross-Shore Irregular Wave Transformation and Sediment Transport in Surf and Swash Zones" Bradley D. Johnson and Nobuhisa Kobayashi

CACR-00-06 ``Three-Dimensional Modeling of Rip Current Systems" Kevin A. Haas and Ib A. Svendsen

1999

CACR-99-01 ``The One-Way Source Function Method for Wave Generation in Boussinesq Models" Arun Chawla and James T. Kirby

CACR-99-02 ``Boussinesq Modeling of Wave Transformation, Breaking and Runup Part I: One Dimension

A.B.Kennedy, Q. Chen, J.T. Kirby and R.A. Dalrymple

Part II: Two Horizontal Dimensions

Q. Chen, J.T. Kirby, R.A. Dalrymple, A.B. Kennedy and Arun Chawla

CACR-99-03 ``Waves on Opposing Currents: Data Report" Arun Charla and James T. Kirby

CACR-99-04 ``Modeling the Flow in Surf Zone Waves" Jayaram Veeramony and Ib A. Svendsen

CACR-99-05 ``Rip Current Dynamics and Nearshore Circulation" Merrick C. Haller and Robert A. Dalrymple

CACR-99-06 ``A Fully Nonlinear Boussinesq Model in Generalized-Curvilinear Coordinates" Fengyan Shi, Robert A. Dalrymple, James T. Kirby, Qin Chen and Andrew Kennedy

CACR-99-07 ``The Flow in Weak Turbulent Hydraulic Jumps" Ib A. Svendsen, J. Veeramony, J. Bakunin and J. T. Kirby

CACR-99-08 ``The Flow in Surf Zone Waves" J. Veeramony and I. A. Svendsen

1998

CACR-98-01 ``A New Boussinesq-Type Model for Surface Water Wave Propagation" Mauricio Felga Gobbi and James T. Kirby

CACR-98-02 ``Simulation of Water Waves by Boussinesq Models" Ge Wei and James T. Kirby

CACR-98-03 ``Discussion of `Note on a Nonlinearity Parameter of Surface Waves' by S. Beji" James T. Kirby

CACR-98-04 ``Computer Program CSHORE for Predicting Cross-Shore Transformation of Irregular Breaking Waves" Nobuhisa Kobayashi and Bradley D. Johnson

CACR-98-05 ``Shear Dispersion of Momentum in the Nearshore" Uday Putrevu and Ib A. Svendsen

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CACR-98-07 ``A Note on the Modified Mild-Slope Equation" James T. Kirby and Shubhra K. Misra

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1997

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CACR-97-02 ``A Numerical Model for Breaking Waves: The Volume of Fluid Method" Philip L.-F. Liu and Pengzhe Lin

CACR-97-03 ``Numerical Model for Obliquely Incident Waves in Surf and Swash Zones" Entin A. Karjadi and Nobuhisa Kobayashi

CACR-97-04 ``Quasi 3-D Modeling of Nearshore Hydrodynamics" A. R. van Dongeren and Ib A. Svendsen

CACR-97-05 ``Beach Profile Analysis Along the Delaware Atlantic Coastline" Kirk F. Bosma and Robert A. Dalrymple

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1996

CACR-96-01 ``A Coastal Processes Model Based on Time-Domain Boussinesq Equations" Ge Wei and James T. Kirby

CACR-96-02 ``Nonlinear, Dispersive Long Waves in Water of Variable Depth" James T. Kirby (April 1996, Revised June 1997)

CACR-96-03 ``Wave Transformation over a Submerged Shoal" Arun Chawla and James T. Kirby

CACR-96-04 ``Time- and Depth-Varying Cross-Shore Currents: Numerical Modeling and Laboratory Measurements" Jane McKee Smith and Ib A. Svendsen

CACR-96-05 ``Formulation and Validation of Vertically Two-Dimensional Shallow-Water Wave Model" Bradley D. Johnson, Nobuhisa Kobayashi and Daniel T. Cox

CACR-96-06 ``A Fourier-Chebyshev Collocation Method for the Shallow Water Equations Including Shoreline Runup" H. Tuba Ozkan-Haller and James T. Kirby

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CACR-96-08 ``Surf-Zone Modeling" Ib A. Svendsen and Uday Putrevu

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CACR-96-11 ``Modeling Time- and Depth-Varying Currents at SUPERTANK" Jane McKee Smith and Ib A. Svendsen

1995

CACR-95-01 (In preparation), James T. Kirby

CACR-95-02 ``Surf-Zone Hydrodynamics," Ib A. Svendsen and Uday Putrevu

CACR-95-03 ``Propagation and Breaking of Wave Groups," J. Veeramony and Ib A. Svendsen

CACR-95-04 ``Numerical Study of the Unified Kadomtsev-Petviashvili Equation," Yongze Chen and Philip L.-F. Liu

CACR-95-05 ``User's Manual for Dune Erosion Model: EDUNE," David L. Kriebel

CACR-95-06 ``Numerical Model VBREAK for Vertically Two-Dimensional Breaking Waves on Impermeable Slopes," Nobuhisa Kobayashi and Bradley D. Johnson

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1994

CACR-94-01 ``Spectral Methods for Forward-Propagating Water Waves in Conformally-Mapped Channels," Robert A. Dalrymple, James T. Kirby and P. A. Martin

CACR-94-02 ``A Time-Dependent Numerical Code for Extended Boussinesq Equations," Ge Wei and James T. Kirby

CACR-94-03 ``Parabolic Approximations for Water Waves in Conformal Coordinate Systems," James T. Kirby, Robert A. Dalrymple and Haruhiko Kaku

CACR-94-04 REF-DIF S, Version 1.1, James T. Kirby and H. Tuba Ozkan

CACR-94-05 ``The Breaking and Run-up of Solitary Waves on Beaches," Ashwini Otta, Ib A. Svendsen and S. T. Grilli

CACR-94-06 ``A Mixing Mechanism in the Nearshore Region," Uday Putrevu and Ib A. Svendsen

CACR-94-07 ``Hydrodynamics of the Surf Zone," Ib A. Svendsen

CACR-94-08 ``Nearshore Mixing and Dispersion," Ib A. Svendsen and Uday Putrevu

CACR-94-09 ``Vertical Structure of the Undertow Outside the Surf-Zone," Uday Putrevu and Ib A. Svendsen

CACR-94-10 ``Infragravity Velocity Profiles in the Surf-Zone," Uday Putrevu and Ib A. Svendsen

CACR-94-11 ``Nine Papers to be Presented at *International Symposium on WAVES -- PHYSICAL AND NUMERICAL MODELLING*"

CACR-94-12 ``Numerical Model RBREAK2 for Random Waves on Impermeable Coastal Structures and Beaches," Nobuhisa Kobayashi and Michael T. Poff

CACR-94-13 ``The Unified KP Equation for Surface and Interfacial Water Waves in a Rotating Channel with Varying Topography and Sidewalls," Yongze Chen and Philip L.-F. Liu

CACR-94-14 ``Shoaling and Breaking Random Waves on a 1:35 Laboratory Beach," Glenn G. Bowen and James T. Kirby

CACR-94-15 ``A Fully Nonlinear Boussinesq Model for Surface Waves. I. Highly Nonlinear, Unsteady Waves," Ge Wei, James T. Kirby, Stephan T. Grilli and Ravishankar Subramanya

CACR-94-15 ``A Fully Nonlinear Boussinesq Model for Surface Waves. I. Highly Nonlinear, Unsteady Waves," Ge Wei, James T. Kirby, Stephan T. Grilli and Ravishankar Subramanya

CACR-94-16 ``Flooding of Delaware Route 54 Between Little Assawoman and Assawoman Bays Due to Storm Surge and Tides," Bradley D. Johnson, Nobuhisa Kobayashi and Keith D. Watson

CACR-94-17 ``Frequency-Domain Models for Nonlinear Finite Depth Water Wave Propagation," James M. Kaihatu

CACR-94-18 ``A Note on Hamiltonian for Long Water Waves in Varying Depth," Sung B. Yoon and Philip L.-F. Liu

CACR-94-19 ``A Study of Time-Dependent Mild-Slope Equations," Changhoon Lee

CACR-94-20 ``Observation of Undertow and Turbulence in a Laboratory Surf Zone," Francis C. K. Ting and James T. Kirby

CACR-94-21 ``Dynamics of Surf-Zone Turbulence in a Strong Plunging Breaker," Francis C. K. Ting and James T. Kirby

CACR-94-22 REF/DIF 1 VERSION 2.5 (in preparation)

CACR-94-23 ``Wave Group Forcing in Low Frequency Surf Zone Motion," Robert P. Hamilton and Robert A. Dalrymple

1993

CACR-93-01 ``Modelling Equilibrium Beach Profiles," Christopher G. Creed

CACR-93-02 ``Computer Program for Transient Wave Runup," S. T. Grilli and R. Subramanya

CACR-93-03 ``Documentation of Computer Program for Predicting Long Wave Run-up," N. Kobayashi and E. A. Karjadi

CACR-93-04 ``Computer Program for Refraction of Directional Random Waves," M. T. Poff and N. Kobayashi

CACR-93-05 ``Scattering of Linear and Weakly Nonlinear Waves: Pseudospectral Approaches," Yongze Chen and Philip L.-F. Liu

CACR-93-06 ``Modified Boussinesq Equations and Associated Parabolic Models for Wave Propagation," Yongze Chen and Philip L.-F. Liu

CACR-93-07 ``Bragg Reflection of Infragravity Waves by Sandbars," Philip L.-F. Liu and Yong-Sik Cho

CACR-93-08 ``Short Waves in a Rotating, Shallow Tank with Bathymetry: A Model Equation in the Mild-Slope Approximation," James T. Kirby and Changhoon Lee

CACR-93-09 ``Model Equations for Wave Propagation from Deep to Shallow Water," Philip L.-F. Liu

1992

CACR-92-01 ``Modelling Bathymetric Control of Near Coastal Wave Climate: Report 3," James T. Kirby with J.P. Anton, J.A. Baillard R. A. Dalrymple, J.W. DeVries and R.T. Guza,

CACR-92-02 ``Numerical Model for Random Waves on Permeable Coastal Structures," Andojo Wurjanto and Nobuhisa Kobayashi

CACR-92-03 ``Irregular Wave Interaction with Permeable Slopes of Coastal Structures," Andojo Wurjanto and Nobuhisa Kobayashi

CACR-92-04 Combined Refraction/Diffraction Model, REF/DIF 1, Version 2.4, Documentation and User's Manual, Supersedes Version 2.3 (Report No. 91-02, January, 1991), James T. Kirby and Robert A. Dalrymple

CACR-92-05 ``Prediction of Storm/Normal Beach Profiles," Robert A. Dalrymple

CACR-92-06 ``Documentation and User's Manual, REF/DIF S," Version 1.0, James T. Kirby and H. T. Ozkan

CACR-92-07 ``Nearshore Mixing and Dispersion," Ib A. Svendsen and Uday Putrevu

CACR-92-08 ``Review of Pipeline-Seabed Interaction," Mark W. Hancock and Nobuhisa Kobayashi

CACR-92-09 ``Sharing Sea Grant Models with the Public," Joy E. Moses-Hall and Robert A. Dalrymple

CACR-92-10 ``Unsteady Free Surface Waves in a Region of Arbitrary Shape," A. K. Otta, I. A. Svendsen and S. T. Grilli

1991

CACR-91-01 ``A Probabilistic Prediction of Beach Nourishment Project Lifetimes," Michael A. Strine and Robert A. Dalrymple

CACR-91-02 ``Documentation Manual, Combined Refraction/Diffraction Model, REF/DIF 1," Version 2.3, Robert A. Dalrymple and James T. Kirby, SUPERSEDED BY CACR 92-06

CACR-91-03 ``Wave Group Forced Nearshore Circulation: A Generation Mechanism for Migrating Rip Currents and Low Frequency Motion," Rachel Elizabeth Fowler and Robert A. Dalrymple

CACR-91-04 ``The Runup and Reflection of Solitary Waves on Steep Slopes," S. Grilli and I. A. Svendsen

CACR-91-05 ``Numerical Model for Random Waves on Impermeable Coastal Structures and Beaches," Andojo Wurjanto and Nobuhisa Kobayashi

CACR-91-06 ``Computer Program for Spectral and Time Series Analyses for Random Waves," Daniel T. Cox, Nobuhisa Kobayashi and Andojo Wurjanto

CACR-91-07 ``Prediction of Wave Attenuation by Vegetation and Seaweed," N. Kobayashi, A. W. Raichle and T. Asano

CACR-91-08 ``Perfect Boundary Conditions for Parabolic Water-Wave Models," Robert A. Dalrymple and P. A. Martin

CACR-91-09 ``REFRACT: A Refraction Program for Water Waves," Robert A. Dalrymple

CACR-91-10 ``Angular Spectrum Modelling of Water Waves," Robert A. Dalrymple and James T. Kirby, Revised 6/92

CACR-91-11 ``Wave Induced Nearshore Currents: A Study of the Forcing, Mixing and Stability Characteristics," Uday Putrevu and Ib A. Svendsen

1990

CACR-90-01 ``Modelling Bathymetric Control of Near Coastal Wave Climate: Report 2," James T. Kirby and Jeffrey P. Anton (with R. A. Dalrymple and K. D. Suh)

CACR-90-02 ``Review on Presidente Rivera Oil Spill in Delaware River," Andrew W. Raichle and Nobuhisa Kobayashi

CACR-90-03 ``Review on Oil Spills and Their Effects," Hwa-Woon Lee, Nobuhisa Kobayashi and Cheong-Ro Ryu

CACR-90-04 ``Numerical Prediction of Armor Stability and Movement under Irregular Wave Action," Nobuhisa Kobayashi and Andojo Wurjanto

1989

CE-89-73 ``Numerical Prediction of Wave Transmission Over Submerged Breakwaters," Nobuhisa Kobayashi and Andojo Wurjanto

CE-89-75 ``Numerical Model for Design of Impermeable Coastal Structures," Nobuhisa Kobayashi and Andojo Wurjanto

CACR-89-01 ``Beach Fill at Fenwick Island, Delaware," Michael A. Strine and Robert A. Dalrymple