

**Yannis N. Krestenitis**

Position: Professor of Coastal Engineering & Oceanography

Organization: Aristotle University of Thessaloniki

School of Civil Engineering

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Studies:

1974, Diplome in Rural and Surveyor Engineering, National Technical University of Athens, Greece

1978, M.Sc. in Hydraulics, Hydrology and Coastal Dynamics, Department of Civil Engineering, Strathclyde University, U.K.,

**M.Sc. thesis: "Numerical model of unsteady two dimensional flow in an estuary, using the method of characteristics".**

1986, Ph. D. School of Civil Engineering, Aristotle University of Thessaloniki, Greece,

**Ph. D. Thesis: "Numerical simulation of the three-dimensional coastal circulation using algebraic transformations".**

# Employment

1999 - Professor of Coastal Engineering & Oceanography, Aristotle University

1995 - 1999, Associate Professor of Coastal Engineering, Aristotle University

1991 - 1995, Assistant Professor, Aristotle University

1987 - 1991, Lecturer, Aristotle University

1980 - 1986, Research Associate, Aristotle University

## European Research Projects (Scientific responsible):

1990-92 "**Mediterranean Eddy Resolving Modelling and Interdisciplinary studies**", MERMAIDS-I, MAST-I, CT90-0039-C, Marine Science and Technology, CEC/DG-XII.

1990-92 "**Integrated modelling and measurement of physically controlled fluxes and plankton dynamics in coastal seas**", MAST-CT90-0050-C, Marine Science and Technology, CEC/DG-XII.

1992-95 "**Coastal Morphodynamics**", G8-M, MAS2-CT92-0027, Marine Science and Technology, CEC/DG-XII.

1993-96 "**Processes in Region of Freshwater Influence**", PROFILE, MAS2-CT93-0054, Marine Science and Technology, CEC/DG-XII.

"**Mediterranean Eddy Resolving and Interdisciplinary Studies**", MERMAIDS-II, The Mediterranean Targeted Project, MAS2-CT93-0055, Marine Science and Technology, CEC/DG-XII.

1994-96 "**Development of coupled atmosphere-wave-ocean model and data assimilation system for application in European Seas**", ECAWOM, MAS2-CT94-0091, Marine Science and Technology, CEC/DG-XII.

1996-99 "**Performance of soft beach systems and nourishment measures for European coasts**", SAFE, MAS3-CT95-0004, Marine Science and Technology, CEC/DG-XII.

1997-99 **"Mass transfer and ecosystem response: Evolution and spreading of the deep N. Aegean waters"**, MATER, Mediterranean Targeted Project, MTP-II, WP5/405, NCMR, Marine Science and Technology, CEC/DG-XII.

1998-00 **" Investigation of the water circulation pattern and the deep water formation in the N. Aegean plateau through mathematical modelling based on satellite data and coupled with seasonal in-situ measurements"**, European Space Agency, ESA Exploitation of ERS data, AO3.

2003-05 **"Mediterranean ocean forecasting system: Towards environmental predictions (MFSTEP). Advection - diffusion of contaminants and cohesive sediments transport in the Thermaikos Gulf"** EVK3-CT-2002-0075, CEC/DG-XII,

2006-2008 **"Prevention and management of sea originated risks to the coastal zone (CORI). Extreme sea level variability for Eastern Mediterranean"**, INTERREG III-B, ARCHIMED (Measure 3.3).

2007-2010 **"Investigation of the coupling between the Aegean and Black Seas though the Turkish Strait System - SESAME"**, IP-036949, Research DG, Commission of European Communities.

2007-2011 **"Science and policy integration for coastal system assessment - SPICOSA. Thermaikos Study Site"**, IP-036992, Research DG, Commission of European Communities.

Selected Publications:

**"On the Sensitivity of the Aegean Sea Seasonal Baroclinic Circulation to Surface Wind Stresses"**, Y. Krestenitis and I. Valioulis, *Thalassographica*, 1993.

**"Low Frequency Waves Propagation in the Inshore Zone"**, Th. Karabas and Y. Krestenitis, *Coastal Morphodynamics*, MAST-II, Overall Workshop, pp 1.15-1.17, 1993

**"Influence des Parametres Climatologiques sur la Circulation Baroclinic eu Mer"**, Y. Krestenitis et I. Valioulis, *Publ. de l' Assoc. Int. de Climat.*, Vol. 6, pp 693-700, 1994.

**"Modelling the Water Mass Circulation in the Aegean Sea. Part I. Wind Stresses, Thermal and Haline Fluxes"**, I. Valioulis and Y. Krestenitis, *Annales Geophysicae* 12, pp 794-807, 1994.

**"Investigation of the deep water formation in the N. Aegean Sea basin"**, Y. N. Krestenitis and I. A. Valioulis, in *Free Surface Flow and Hydraulic Software*, Ed. W.R. Blain and K.L. Katsifarakis, Hydr. Engin. Soft. Vol. 2, pp 107-114, 1994.

**"A comparison of 2D storm surge models applied to the North Sea, the Adriatic and the Aegean"**, H. DeVries, M. Breton, T. De Mulder, Y. Krestenitis, J. Ozer, R. Proctor, K. Ruddick, J-C. Salomon and A. Voorips, *Environmental Software*, Vol. 10, No. 1, 1994.

**"A decision analysis approach to a coastal pollution problem: The sewage system of the City of Thessaloniki (Greece)"**, P. D. Latinopoulos, Y. N. Krestenitis & I. A. Valioulis, in *Coastal Environment, Environmental Problems in Coastal Regions*, Eds. A. J. Ferrante and C. A. Brebbia, pp 11-22, Computational Mechanics Publications, 1996.

**"Processes in Regions of Freshwater Influence - PROFILE"**, Final Report, Doc. No. 102, Proudman Oceanographic Laboratory, 1997

**"Mediterranean Eddy Resolving Modelling and InterDisciplinary Studies - II"**, N. Pinardi, J. Baretta, P. De May, K. Haines, S. Bassini, A. Lascaratos, W. Roether, P. Brasseur, Y. Krestenitis, S. Crise, P. Pierini, I. Allen, R. Williams, J. Vested and P.Y. Le Traon, *Final Scientific and Management 1993-96, IMG A*, 1997.

**"The rivers influence on the seasonal coastal circulation of the Thermaikos Gulf"**, Y.N. Krestenitis, I.A. Valioulis, S.P. Christopoulos and P. Hyder, 3<sup>rd</sup> Int. Conf. on the Mediterranean Coastal Environment, MEDCOAST, Malta, 1997.

**"The Black Sea waters influence on the seasonal baroclinic circulation of the Aegean Sea"**, Y.N. Krestenitis and I.A. Valioulis, 3<sup>rd</sup> Int. Conf. on the Mediterranean Coastal Environment, MEDCOAST, Malta, 1997.

**"Hydrodynamic circulation and suspended sediments transport in the Maliakos Bay"**, Y. N. Krestenitis, I. A. Valioulis, K. Kriezis & K. Barbopoulos, *Proc. Int. Conf. On Protection and Restoration of the Environment - IV*, eds. K. L. Katsifarakis, G. P. Korfiatis, Y. A. Mylopoulos and A. C. Demetracopoulos, pp. 339-346, 1998.

**"Satellite observation and computer simulations of the Black Sea waters pathway in the Aegean sea"**, Y. N. Krestenitis & K. A. Barbopoulos, *Proc. Int. Conf. On Protection and Restoration of the Environment - IV*, eds. K. L. Katsifarakis, G. P. Korfiatis, Y. A. Mylopoulos and A. C. Demetracopoulos, pp. 347-354, 1998.

**"Application of the AUT-S sediment transport and bed evolution model at Malagueta beach nourishment case"**, T. V. Karambas, S. Christopoulos and Y. N.

Krestenitis, in Performance of soft beach systems and nourishment measures for European coasts, Proc. 2<sup>nd</sup> annual workshop, D. 13, 1998.

**"The Black Sea waters influence on the energy and tracer dispersion in the North Aegean"**, Y. N. Krestenitis and K. Barbopoulos, Proc. Inter. Conf. Oceanography of the Eastern Mediterranean and Black sea, NCMR, pp. 202-203, 1999.

**"Oceanographic study of the dredging impact in the Maliakos Bay"**, Y. N. Krestenitis, I. A. Valioulis & K.A. Barbopoulos, Jour. of Marine Environmental Engineering, Vol. 6, No. 1, pp33-68, 2001

**"Malagueta beach case: nourishment characteristics, field surveys and numerical simulation"**, T. Karambas, J.M. de la Pena, S. Christopoulos, J.C. Santas & Y.N. Krestenitis, Coastal Dynamics '01, ASCE, Lund, Sweden, 2001.

**"The seasonal cycles of stratification and circulation in the Thermaikos Gulf region of freshwater influence (ROFI), north-west Aegean"**, P. Hyder, J. H. Simpson, S.Christopoulos, Y. Krestenitis, Continental Shelf Research, Vol. 22, pp. 2573-2597, 2002

**"Development and application of a three dimensional cohesive sediment transport mathematical model"** Y. Savvidis, C. Koutitas & Y. Krestenitis, Journal of Marine Environmental Engineering, Vol. 6, pp. 229-255, 2001

**"Development of a two-layer mathematical model for the study of hydrodynamic circulation in the sea. Application to Thermaikos Gulf"** M. Dodou, Y. Savvidis, Y. Krestenitis and C. Koutitas, Mediterranean Marine Science, Vol. 3 No.2, pp 5-25, 2002

**"Modelling studies on the processes that influence matter transfer on the Gulf of Thermaikos (NW Aegean Sea)"**, Vassiliki H. Kourafalou, Yiannis G. Savvidis, Yiannis N. Krestenitis and Christophoros G. Koutitas, (2004). Continental Shelf Research, Vol. 24, Issue 2 pp. 203-222.

**"Modelling of the hydrodynamics and upwellings in the Aegean Sea"**, Y. Savvidis, M. Dodou, Y. Krestenitis and C. Koutitas, Mediterranean Marine Science, Vol. 4, No.1, 2004.

**"Structure of the "amphioxus sand" community in Thermaikos Bay"**, C. Antoniadou, Y. Krestenitis & Ch. Chintiroglou, Fresenius Env. Bul., 13, 11a, 1122-1128, 2004.

**"Modelling the water mass exchange through navigational channels connecting adjacent basins - application to the Channel of Potidea (North Aegean Sea)"**,

Y. G. Savvidis, C. G. Koutitas and Y. N. Krestenitis, *Annales Geophysicae*, 23, pp. 231-238, 2005.

**"Modelling sediment transport in coastal basins: The case of the Thermaikos Gulf"**, Y. N. Krestenitis, K. Kombiadou and Y. Savvidis, European Geosciences Union General Assembly 2005, Vienna, Austria, 24 - 29 April 2005.

**"Fine Sediment Transport Model for the Simulation of Pollutants in the Coastal Environment"**, K. Kombiadou & Y. N. Krestenitis, Protection and Restoration of the Environment VIII, Xaviá, 3-7 Ιουλίου 2005.

**"Modelling of Marine Structures' Contribution in Coastal Sediment Transport - Case of Ouranoupoli Bay"**, I. S. Androulidakis, K. Kombiadou, Y. N. Krestenitis, Protection and Restoration of the Environment VIII, Xaviá, 3-7 Ιουλίου 2005.

**"Mathematical Simulation of Pollutant Transport in Marine Environment"**, K. Kombiadou, Y. N. Krestenitis, 9<sup>th</sup> International Conference on Environmental Science and Technology, Rhodes island, Greece, 1-3 September 2005.

**"Stock assessment of the dominant ascidians in Thermaikos Bay"**, M. Panagiotou, C. Antoniadou, Y. Krestenitis & Ch. Chintiroglou, *Fresenius Env. Bul.*, 16, 19a, 1012-1019, 2007.

**"Three-dimensional Model for the Simulation of Suspended Matter Pelagic-Benthic Exchanges in Coastal Waters"**, Y. N. Krestenitis, K. Kombiadou & C. Antoniadou, 38<sup>th</sup> CIESM Congress, Istanbul, 9-13 April 2007

**"Modelling the cohesive sediment transport in the marine environment: the case of Thessaloniki Gulf"**, Y. N. Krestenitis, K. D. Kombiadou, Y. G. Savvidis *Ocean Sc.*, 3, 91-104, 2007.

**"Investigation of flood incidents due to storm surge events in the Greek coastal region"**, Y. Androulidakis, Y. N. Krestenitis, Y. Kontos, G. Georgakopoulos and M. Chen, Proceedings of the Third Environmental Conference of Macedonia, Thessaloniki, Greece, 14-17 March, pp.69, 2008.

**"A storm surge model implementation and identification of coastal areas in risk of inundation, in the Mediterranean Sea"**, Y. Androulidakis, Y. N. Krestenitis, Y. Kontos & G. Georgakopoulos, International Congress on Environmental Modelling and Software iEMSs 2008, pp-1187-1194, 2008.

**"Coastal Inundation in the North-Eastern Mediterranean Coastal Zone"**, Y. N. Krestenitis, Y. Androulidakis Y. Kontos, 9<sup>th</sup> international conference LITTORAL, 2008.

**"Mathematical investigation of the applicability of benthic ascidians as biological filters in coastal areas"**, K. D. Kombiadou, Y. N. Krestenitis, C. Antoniadou, C. Chintiroglou, *J. of Marine Env. Eng.*, Vol. 9, pp. 85-97, 2009.

**"Coastal inundation in the north-eastern Mediterranean coastal zone due to storm surge events"**, Y. N. Krestenitis, Y. S. Androulidakis, Y. N. Kontos & G. Georgakopoulos, *J. Coast. Conserv.*, DOI 10.1007/s11852-010-0090-7, 2010.