

CURRICULUM VITAE

1. PERSONAL DATA

João Pedro Carvalho Nunes

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Date of birth: 25-Jun-1976

Nationality: Portuguese

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2. AFFILIATION

Centre for Ecological Modelling – Institute for Marine Research (CEM/IMAR), hosted by the New University of Lisbon (UNL).

3. CURRENT WORK

PhD student – multi-scale hydrological and soil erosion modeling: analyzing the consequences of Climate Change for Portugal (FCT/POCTI PhD grant ; host institutions: CEM/IMAR and UNL; supervisor: Prof. Julia Seixas).

4. RESEARCH AREAS

Interaction between climate change, natural systems, and land use patterns.

Environmental systems modeling.

Surface runoff and hydrological erosion processes.

Geographical information analysis and processing.

Coastal and estuarine systems.

5. BACKGROUND

2006: Invited lecturer at the Third Institute of Oceanography, Xiamen (China).

2005 to present: Research collaborator in the Centre for Environmental and Marine Studies, Aveiro University (CESAM/UA).

2005 to present: Director, LZero Environmental Innovation.

2005: Invited lecturer at the University of Trás-os-Montes e Alto Douro.

2004 to 2005: Teaching assistant in the New University of Lisbon.

2002 to 2005: Consultant work for YDREAMS Informatics.

2001 to present: PhD student in CEM/IMAR (supervisor: Prof. Julia Seixas).

2000: Visiting student in Cornell University (supervisor: Prof. Peter Loucks).

1999 to 2001: Research assistant in CEM/IMAR.

1998 to 1999: Young environmental researcher in CEM/IMAR.

1994 to 1999: College diploma (5-year program) in Environmental Engineering by the New University of Lisbon (classification: 16/20).

6. RESEARCH PROJECTS

2005 to present: EROSFIRE – A Model-based, Decision-support Tool for Soil Erosion Hazard Assessment Following Forest Wildfires (FCT: POCTI program).

2005 to present: SPEAR – Sustainable options for People, catchments and Aquatic Resources (EU: INCO-CT program).

2003 to 2004: Modeling response of soil erosion and runoff to changes in precipitation and cover – model comparison exercise (IGBP: Soil Erosion Network).

2003 to 2005: GENETICLAND – Discovering Future Landscapes Using Genetic Algorithms (FCT: POCTI program).
2000 to 2001: OAERRE – Oceanographic Applications to Eutrophication in Regions of Restricted Exchange (EU: Framework V program).
1999 to 2001: Carrying Capacity and Impact of Aquaculture on the Environment in Chinese Bays (EU: INCO-DC program).
1999: SADO2000: Ecological Modeling of the Sado Estuary (CEM/IMAR).
1998 to 2001: Spatial Modeling Based on Remote Sensing Data: Application to Water Resources Analysis (JNICT).
1998 to 2000: EUROSAM – European Salt Marsh Modelling (EEC: ENVIRONMENT program).
1998: ECOTEJO98 – Environmental Analysis of the Tagus Estuary (Solvay Portugal).

7. PROFESSIONAL PROJECTS

2004 to 2005: Hydrological and Diffuse Pollution Modeling for Portugal (INAG).
2002 to 2003: Forest Fire Modeling for Environmental Awareness (“Engenho e Obra” exhibition).
1999: Environmental Education on Oceans (Expo '98 exhibition).
1999: Environmental Auditing for the Colombo Shopping Centre (UNL).
1998: Environmental Auditing for the Cascais Municipality (UNL).

8. LANGUAGES

Portuguese: Native language
English: Good conversation, reading and writing skills
French: Reasonable conversation and reading skills
Castilian: Reasonable conversation and reading skills
German: Basic conversation skills

9. OTHER SKILLS

Programming languages: Visual Basic, Delphi, C++, HTML, MATLAB.
GIS Software: ArcGIS, Idrisi.
Modeling Software: PowerSim, MEFIDIS, SWAT.

10. PUBLICATIONS

Book chapters:

Nunes, J.P., Vieira, G.N., & Seixas, J.; 2006. MEFIDIS - A Physically-based, Spatially-Distributed Runoff and Erosion Model for Extreme Rainfall Events. In: “Watershed Models”, V.P. Singh & D.K. Frevert (eds.): 291-314, CRC press, Boca Raton.

Seixas, J., Nunes, J.P., Lourenço, P., & Corte-Real, J.; 2006. GeneticLand: Modeling Land Use Change Using Evolutionary Algorithms. In: “Simulating Land-Use Change”, E. Koomen, A. Bakema, J. Stillwell & H. Scholten (eds.), Springer Verlag (in press).

Scientific papers in international journals with peer-review:

Nunes, J.P., de Lima, J.L.M.P., Singh, V.P., de Lima, M.I.P., & Vieira, G.N.; 2006. Numerical modelling of surface runoff and erosion due to moving rainstorms at the drainage basin scale. J. Hydrol. 330 (3-4): 709-720.

Nunes, J.P., Vieira, G., Seixas, J., Gonçalves, P., & Carvalhais, N.; 2005. Evaluating the MEFIDIS model for runoff and soil erosion prediction during rainfall events. CATENA 61 (2-3): 210-228.

Nearing, M.A., Jetten, V., Baffaut, C., Cerdan, O., Couturier, A., Hernandez, M., Le Bissonnais, Y., Nichols, M.H., Nunes, J.P., Renschler, C.S., Souchère, V., & van Oost, K.; 2005. Modeling response of soil erosion and runoff to changes in precipitation and cover. CATENA 61 (2-3): 131-154.

Newton, A., Icely, J.D., Falcão, M., Nobre, A., Nunes, J.P., Ferreira, J.G., & Vale, C.; 2003. Evaluation of eutrophication in the Ria Formosa coastal lagoon, Portugal. Continental Shelf Research 23: 1945-1961.

Nunes, J.P., Ferreira, J.G., Gazeau, F., Lencart-Silva, J., Zhang, X.L., Zhu, M.Y., & Fang, J.G.; 2003. A model for sustainable management of shellfish polyculture in coastal bays. Aquaculture 219: 257-277.

Alvera-Azcárate, A., Ferreira, J.G., & Nunes, J.P.; 2003. Modelling eutrophication in mesotidal and macrotidal estuaries. The role of intertidal seaweeds. Estuarine, Coastal and Shelf Science 57: 715-724.

Simas, T., Nunes, J.P. & Ferreira, J.G.; 2001. Effects of global climate change on coastal salt marshes. Ecological Modelling 139 (1): 1-15.

Invited presentations in international conferences with peer-review:

Nunes, J.P., Seixas, M.J., & Pacheco, N.R.; 2006. Sensitivity of water resources and soil erosion to climate change in semi-arid watersheds. 14th congress of the International Soil Conservation Organization: water management and soil conservation in semi-arid environments, 14-19 May 2006, Marrakesh.

Keizer, J., Nunes, J., Malvar, M., Stolte, J., Coelho, C., Silva, J., Prats, S., Ferreira, R., Houmann, M., Lagewaard, M., Afonso, P., Lopes, F., Ferreira, A., Pereira, V., Condesso de Melo, T., Jetten, V.; 2006. The EROSFIRE project - presentation and first results of a rainfall-simulation and model-based approach to soil erosion assessment in recently burned forest areas in Portugal. 14th congress of the International Soil Conservation Organization: water management and soil conservation in semi-arid environments, 14-19 May 2006, Marrakesh.

Ferreira, J.G., Bricker, S.B., Nobre, A.M., Nunes, J.P., Yan, X., Zhang, X.L., & Zhu, M.Y; 2005. Research and screening models for science and management - Integrated assessment of ecological balance and sustainability in coastal zones. The Estuarine Research Federation 2005 Conference, 16-18 October 2005, Norfolk.

Presentations in international conferences with peer-review:

Nunes, J.P., Seixas, J., Pacheco, N.R., & Carvalhais, N.; 2006. Consequences of climate change for runoff and soil erosion: coupled simulation at the seasonal and extreme event scales. Geophysical Research Abstracts 8: 09100; proceedings of the EGU 2006 General Assembly, April 2006, Vienna.

Seixas, J., Nunes, J.P., Lourenço, P., Condado, P., & Lobo, F.; 2005. GeneticLand: Modeling Land Use Change Using Evolutionary Algorithms. 45th Congress of the European Regional Science Association – “Land Use and Water Management in a Sustainable Network Society”, 23-27 August 2005, Amsterdam.

Nunes, J.P., & Pacheco, N.R.; 2005. Consequences of climate change for water resources in Portugal - modeling the consequences of a Climate Change scenario for soil water availability, river runoff and reservoir recharge. Proceedings of GIS Planet 2005: II International Conference and Exhibition on Geographic Information, 30 May – 2 June 2005, Lisbon.

Seixas, J., Lobo, F., Nunes, J.P., Condado, P., & Lourenço, P.; 2005. Evolving landscapes with an evolutionary algorithm. Proceedings of GIS Planet 2005: II International Conference and Exhibition on Geographic Information, 30 May – 2 June 2005, Lisbon.

Nunes, J.P.; 2003. Assessing the sensitivity of soil erosion to increases in extreme event intensity caused by climate change in a Mediterranean watershed. Soil Erosion Under Climate Change: Rates, Implications and Feedbacks, 17-18 November 2003, Tucson.

Nunes, J.P., & Seixas, J.; 2003. Impacts of extreme rainfall events on hydrological soil erosion patterns: application to a Mediterranean watershed. Proceedings of the XIVth Global Warming International Conference and Expo: Extreme Events & Energy, Agriculture and Natural Resource Management, 27-30 May 2003, Boston.

Seixas, J., Lobo, F.G., Corte-Real, J., & Nunes, J.P.; 2003. GeneticLand: spatial planning supported by genetic algorithms. Framing Land Use Dynamics reviewed abstracts: 124-125, 16-18 April 2003, Utrecht.

Nunes, J.P., Vieira, G., Gonçalves, P. & Seixas, M.J.; 2001. Runoff and erosion modeling: a new approach driven by small-scale variability. Proceedings of the ISEH 2001 – International Symposium on Environmental Hydraulics, December 2001, Tempe.

Carvalho, N., Nunes, J., Vieira, G., & Seixas, J.; 2001. Remote sensing data to parameterise spatially distributed erosion models – The case of Manning-Strickler's roughness coefficient. Remote Sensing Society Conference 2001, London.

Posters in international conferences with peer review:

Keizer, J.J., Malvar, M., Nunes, J., Silva, J., Coelho, C., Prats, S., Ferreira, R., Houmann, M., Lagewaard, M., Ferreira, A.J.D., Lucena, J., Pereira, V., Condesso de Melo, T., Afonso, P., Stolte, J., & Jetten, V.; 2006. The role of land management practices in soil erosion hazard in eucalypt stands in north-central Portugal following forest wildfires. Vth International Conference on Forest Fire Research, 27-30 November 2006, Coimbra.

Nunes, J.P., de Lima, J.L.M.P., Singh, V.P., de Lima, M.I.P., & Vieira, G.N.; 2006. Numerical modelling of surface runoff and erosion due to moving rainstorms at the drainage basin scale. Geophysical Research Abstracts 8: 08828; proceedings of the EGU 2006 General Assembly, April 2006, Vienna.

Keizer, J., Nunes, J., Malvar, M., Prats, S., Ferreira, R., Coelho, C., Houmann, M., Lagewaard, M., Herrera, D., Oñate, M., Menéndez, I., Bravo, E., García-Monge, A., Pereira, V., Condesso de Melo, T., Silva, J., Ferreira, A., Lucena, J., Robeiro, C., Stolte, J., & Jetten, V.; 2006. The EROSFIRE project – preliminary results of small-scale and slope-scale runoff plots. Geophysical Research Abstracts 8: 10373; proceedings of the EGU 2006 General Assembly, April 2006, Vienna.

Keizer, J., Nunes, J., Silva, J., Ferreira, A., Coelho, C., Lopes, F., Melo, T., Pereira, V., Stolte, J., & Jetten, V.; 2005. The EROSFIRE project – presentation. Geophysical Research Abstracts 7: EGU05-A-07222; proceedings of the EGU 2005 General Assembly, April 2005, Vienna.

Nunes, J.P., & Seixas, J.; 2003. Simulating the effects of climate change on soil erosion for a Mediterranean watershed. COST 623 – Soil Erosion and Global Change conference, 5-8 July 2003, Budapest.

Nunes, J.P., Seixas, J., & Vieira, G.; 2003. Choosing between lower spatial resolution and lower information content in providing data for spatially-distributed models. Geophysical Research Abstracts 5: 12732; proceedings of the EGS-EGU-AUG Joint Assembly, 6-11 April 2003, Nice.

Nunes, J.P., Seixas, J., & Vieira, G.; 2003. MEFIDIS - a process-based hydrological and soil erosion model. Geophysical Research Abstracts 5: 11817; proceedings of the EGS-EGU-AUG Joint Assembly, 6-11 April, 2003, Nice.

Alvera-Azcárate, A., Ferreira, J.G., & Nunes, J.P.; 2002. Modelling macroalgae productivity in an estuary. A bioremediation to nutrient discharges in the ecosystems. Geophysical Research Abstracts 4: EGS02-A-05502_1; proceedings of the EGS XXVIIth General Assembly, April 2002, Nice.

Presentations in national conferences with peer-review:

Keizer, J., Nunes, J., Coelho, C., Silva, J., Lopes, F., Brinkhof, T., Nijssingh, E., Stolte, J., Jetten, V., Ferreira, A., Melo, T., Pereira, V., Mateus, V., & Malvar, M.; 2005. EROSFIRE – Ferramenta de apoio para identificação, com base em modelação, de risco de erosão do solo após incêndios florestais. 5th National Forestry Congress, 16-19 May 2005, Viseu.

Nunes, J.P., & Pacheco, N.R.; 2004. Informação Geográfica e Modelação para a Gestão de Bacias Hidrográficas. Consequências das alterações climáticas para os processos hidrológicos e erosivos: potenciar a informação geográfica para a gestão ambiental. ESIG 2004, 2-4 June 2004, Oeiras.

Nunes, J.P., Vieira, G.N., Seixas, M.J., Gonçalves, P., & Carvalhais, N.; 2002. Informação Geográfica e Modelação Ambiental. ESIG 2002, 13-15 November 2002, Oeiras.

Posters in national conferences with peer review:

Pacheco, N.R., Nunes, J.P., Seixas, J., & Corte-Real, J.; 2004. Changes in hydrological and soil erosion patterns in a Mediterranean watershed due to climate change. Seminar IGBP 2004: Global Change and Sustainability, 15-17 April 2004, Évora.

Other scientific publications:

Nunes, J.P., & Seixas, J.; 2003. Impacts of extreme rainfall events on hydrological soil erosion patterns: application to a Mediterranean watershed. World Resource Review 15 (3): 336-351.

Simas, M.T., & Nunes, J.P.; 1999. Mercúrio na matéria particulada em suspensão e nos sedimentos da Cala do Norte do Estuário do Tejo. ECOTEJO 98, Rel. A-8503-02-99-UNL, Ed. DCEA/FCT.

Other publications:

Nunes, J.P.; 2005. Aftershocks. In: "System Failure", R. Boyle (ed.), Fanpro, Seattle.

Nunes, J.P.; 2005. Paraguay. In: "Shadows of Latin America", P. Taylor (ed.), Fanpro, Seattle.

Fonseca, H., Fraser, A., Kim, J.W., & Nunes, J.P.; 2005. The Rest of Asia. In: "Shadows of Asia", R. Boyle (ed.), Fanpro, Seattle.

Nunes, J.P., & Bruno, A.; 2005. The Middle East. In: "Shadows of Asia", R. Boyle (ed.), Fanpro, Seattle.

Nunes, J.P.; 2005. The Islamic Renaissance Movement. In: "Loose Alliances", R. Boyle (ed.), Fanpro, Seattle.

Kowalski, M., & Nunes, J.P.; 2004. Poland. In: "Shadows of Europe", R. Boyle (ed.), Fanpro, Seattle.