**This document is a survey of literature concerning the ROC curve and its AUC to supplement Pontius and Parmentier (2014) Recommendations for using the Relative Operating Characteristics (ROC). Landscape Ecology.**

We reviewed 63 papers that report the AUC of the ROC and recorded whether each one shows the ROC curve. Eight of these papers appear in Computers Environment and Urban Systems ([Verburg et al. 2004](#_ENREF_58); [Manson 2006](#_ENREF_32); [Dendoncker, Rounsevell, and Bogaert 2007](#_ENREF_14); [Hu and Lo 2007](#_ENREF_21); [Conway 2009](#_ENREF_11); [Poelmans and Van Rompaey 2010](#_ENREF_44); [Pradhan, Lee, and Buchroithner 2010](#_ENREF_47); [Bajat et al. 2011](#_ENREF_3)) twelve are in Environmental Modelling and Software ([Amini, Abbaspour, and Johnson 2010](#_ENREF_2); [Brown et al. 2010](#_ENREF_8); [Dlamini 2010](#_ENREF_15); [Luccarini et al. 2010](#_ENREF_31); [Pino-Mejías et al. 2010](#_ENREF_42); [Roberts et al. 2010](#_ENREF_50); [Alcamo et al. 2011](#_ENREF_1); [Phatak, Bates, and Charles 2011](#_ENREF_41); [Hong et al. 2012](#_ENREF_20); [Letourneau, Verburg, and Stehfest 2012](#_ENREF_28); [Ordóñez et al. 2012](#_ENREF_36); [Pérez-Vega, Mas, and Ligmann-Zielinska 2012](#_ENREF_39)); eleven are in International Journal of Applied Earth Observation and Geoinformation ([Jokar Arsanjani et al. 2013](#_ENREF_23); [Braimoh and Onishi 2007](#_ENREF_7); [Marghany, Cracknell, and Hashim 2009](#_ENREF_33); [Siljander 2009](#_ENREF_53); [Soti et al. 2009](#_ENREF_54); [Symeonakis, Bonifaçio, and Drake 2009](#_ENREF_55); [Chauhan et al. 2010](#_ENREF_9); [Mochizuki and Murakami 2011](#_ENREF_34); [Tiwari, Arora, and Singh 2011](#_ENREF_57); [Nefeslioglu et al. 2012](#_ENREF_35); [Pittiglio et al. 2012](#_ENREF_43)); eleven are in International Journal of Geographical Information Science([Wang and Mountrakis 2010](#_ENREF_61); [Sangermano and Eastman 2012](#_ENREF_51); [Peters et al. 2011](#_ENREF_40); [Paegelow and Olmedo 2005](#_ENREF_38); [Overmars and Verburg 2005](#_ENREF_37); [Lin et al. 2010](#_ENREF_30); [Li et al. 2010](#_ENREF_29); [Leitão, Moreira, and Osborne 2011](#_ENREF_27); [Jansen and Veldkamp 2011](#_ENREF_22); [Gao and Zhang 2012](#_ENREF_18); [Conway and Wellen 2011](#_ENREF_12)); seventeen are in Landscape Ecology ([Westphal et al. 2003](#_ENREF_62); [Verburg and Veldkamp 2004](#_ENREF_59); [Claessens et al. 2006](#_ENREF_10); [Fang, Gertner, and Anderson 2006](#_ENREF_17); [Bolliger et al. 2007](#_ENREF_4); [Kadoya et al. 2007](#_ENREF_24); [Zhu et al. 2007](#_ENREF_63); [Rizkalla, Moore, and Swihart 2008](#_ENREF_49); [Taylor, Oldland, and Clarke 2008](#_ENREF_56); [Viaud et al. 2008](#_ENREF_60); [Boscolo and Metzger 2009](#_ENREF_5); [Bradstock et al. 2009](#_ENREF_6); [Crk et al. 2009](#_ENREF_13); [Evans and Cushman 2009](#_ENREF_16); [Lakes, Müller, and Krüger 2009](#_ENREF_26); [Richard and Armstrong 2010](#_ENREF_48); [Poulin and Villard 2011](#_ENREF_46)); four are in Transactions in GIS ([Gorsevski et al. 2006](#_ENREF_19); [Kim 2010](#_ENREF_25); [Pontius Jr and Batchu 2003](#_ENREF_45); [Sangermano, Eastman, and Zhu 2010](#_ENREF_52)). Of these papers that reported AUC, only 41 percent showed the ROC curve.

**REFERENCES**

Alcamo, Joseph, Rüdiger Schaldach, Jennifer Koch, Christina Kölking, David Lapola, and Jörg Priess. 2011. "Evaluation of an integrated land use change model including a scenario analysis of land use change for continental Africa." Review of*. Environmental Modelling &amp; Software* 26 (8):1017-27. doi: 10.1016/j.envsoft.2011.03.002.

Amini, Manouchehr, Karim C. Abbaspour, and C. Annette Johnson. 2010. "A comparison of different rule-based statistical models for modeling geogenic groundwater contamination." Review of*. Environmental Modelling &amp; Software* 25 (12):1650-7. doi: 10.1016/j.envsoft.2010.05.014.

Bajat, Branislav, Tomislav Hengl, Milan Kilibarda, and Nikola Krunić. 2011. "Mapping population change index in Southern Serbia (1961–2027) as a function of environmental factors." Review of*. Computers, Environment and Urban Systems* 35 (1):35-44. doi: 10.1016/j.compenvurbsys.2010.09.005.

Bolliger, Janine, Felix Kienast, Reto Soliva, and Gillian Rutherford. 2007. "Spatial sensitivity of species habitat patterns to scenarios of land use change (Switzerland)." Review of*. Landscape Ecology* 22 (5):773-89. doi: 10.1007/s10980-007-9077-7.

Boscolo, Danilo, and Jean P. Metzger. 2009. "Is bird incidence in Atlantic forest fragments influenced by landscape patterns at multiple scales?" Review of*. Landscape Ecology* 24 (7):907-18. doi: 10.1007/s10980-009-9370-8.

Bradstock, R. A., K. A. Hammill, L. Collins, and O. Price. 2009. "Effects of weather, fuel and terrain on fire severity in topographically diverse landscapes of south-eastern Australia." Review of*. Landscape Ecology* 25 (4):607-19. doi: 10.1007/s10980-009-9443-8.

Braimoh, Ademola K., and Takashi Onishi. 2007. "Geostatistical techniques for incorporating spatial correlation into land use change models." Review of*. International Journal of Applied Earth Observation and Geoinformation* 9 (4):438-46. doi: 10.1016/j.jag.2007.02.005.

Brown, James D., Julie Demargne, Dong-Jun Seo, and Yuqiong Liu. 2010. "The Ensemble Verification System (EVS): A software tool for verifying ensemble forecasts of hydrometeorological and hydrologic variables at discrete locations." Review of*. Environmental Modelling &amp; Software* 25 (7):854-72. doi: 10.1016/j.envsoft.2010.01.009.

Chauhan, Shivani, Mukta Sharma, M. K. Arora, and N. K. Gupta. 2010. "Landslide Susceptibility Zonation through ratings derived from Artificial Neural Network." Review of*. International Journal of Applied Earth Observation and Geoinformation* 12 (5):340-50. doi: 10.1016/j.jag.2010.04.006.

Claessens, Lieven, Peter H. Verburg, Jeroen M. Schoorl, and Anthony Veldkamp. 2006. "Contribution of Topographically Based Landslide Hazard Modelling to the Analysis of the Spatial Distribution and Ecology of Kauri (Agathis australis)." Review of*. Landscape Ecology* 21 (1):63-76. doi: 10.1007/s10980-005-5769-z.

Conway, T. M. 2009. "The impact of class resolution in land use change models." Review of*. Computers, Environment and Urban Systems* 33 (4):269-77. doi: 10.1016/j.compenvurbsys.2009.02.001.

Conway, Tenley M., and Christopher C. Wellen. 2011. "Not developed yet? Alternative ways to include locations without changes in land use change models." Review of*. International Journal of Geographical Information Science* 25 (10):1613-31. doi: 10.1080/13658816.2010.534738.

Crk, Tanja, María Uriarte, Fabio Corsi, and Dan Flynn. 2009. "Forest recovery in a tropical landscape: what is the relative importance of biophysical, socioeconomic, and landscape variables?" Review of*. Landscape Ecology* 24 (5):629-42. doi: 10.1007/s10980-009-9338-8.

Dendoncker, Nicolas, Mark Rounsevell, and Patrick Bogaert. 2007. "Spatial analysis and modelling of land use distributions in Belgium." Review of*. Computers, Environment and Urban Systems* 31 (2):188-205. doi: 10.1016/j.compenvurbsys.2006.06.004.

Dlamini, Wisdom M. 2010. "A Bayesian belief network analysis of factors influencing wildfire occurrence in Swaziland." Review of*. Environmental Modelling &amp; Software* 25 (2):199-208. doi: 10.1016/j.envsoft.2009.08.002.

Evans, Jeffrey S., and Samuel A. Cushman. 2009. "Gradient modeling of conifer species using random forests." Review of*. Landscape Ecology* 24 (5):673-83. doi: 10.1007/s10980-009-9341-0.

Fang, Shoufan, George Z. Gertner, and Alan B. Anderson. 2006. "Prediction of multinomial probability of land use change using a bisection decomposition and logistic regression." Review of*. Landscape Ecology* 22 (3):419-30. doi: 10.1007/s10980-006-9037-7.

Gao, Jungang, and Yili Zhang. 2012. "Incorporating spectral data into logistic regression model to classify land cover: a case study in Mt. Qomolangma (Everest) National Nature Preserve." Review of*. International Journal of Geographical Information Science*:1-18. doi: 10.1080/13658816.2012.659185.

Gorsevski, Pece V., Paul E. Gessler, Randy B. Foltz, and William J. Elliot. 2006. "Spatial Prediction of Landslide Hazard Using Logistic Regression and ROC Analysis." Review of*. Transactions in GIS* 10 (3):395-415. doi: 10.1111/j.1467-9671.2006.01004.x.

Hong, Bongghi, Karin E. Limburg, Myrna H. Hall, Giorgos Mountrakis, Peter M. Groffman, Karla Hyde, Li Luo, Victoria R. Kelly, and Seth J. Myers. 2012. "An integrated monitoring/modeling framework for assessing human–nature interactions in urbanizing watersheds: Wappinger and Onondaga Creek watersheds, New York, USA." Review of*. Environmental Modelling &amp; Software* 32 (0):1-15. doi: 10.1016/j.envsoft.2011.08.006.

Hu, Zhiyong, and C. P. Lo. 2007. "Modeling urban growth in Atlanta using logistic regression." Review of*. Computers, Environment and Urban Systems* 31 (6):667-88. doi: 10.1016/j.compenvurbsys.2006.11.001.

Jansen, Louisa J. M., and Tom Veldkamp. 2011. "Evaluation of the variation in semantic contents of class sets on modelling dynamics of land-use changes." Review of*. International Journal of Geographical Information Science* 26 (4):717-46. doi: 10.1080/13658816.2011.609989.

Jokar Arsanjani, Jamal, Marco Helbich, Wolfgang Kainz, and Ali Darvishi Boloorani. 2013. "Integration of logistic regression, Markov chain and cellular automata models to simulate urban expansion." Review of*. International Journal of Applied Earth Observation and Geoinformation* 21 (0):265-75. doi: 10.1016/j.jag.2011.12.014.

Kadoya, Taku, Shin-ichi Suda, Yoshitaka Tsubaki, and Izumi Washitani. 2007. "The sensitivity of dragonflies to landscape structure differs between life-history groups." Review of*. Landscape Ecology* 23 (2):149-58. doi: 10.1007/s10980-007-9151-1.

Kim, Oh Seok. 2010. "An Assessment of Deforestation Models for Reducing Emissions from Deforestation and Forest Degradation (REDD)." Review of*. Transactions in GIS* 14 (5):631-54. doi: 10.1111/j.1467-9671.2010.01227.x.

Lakes, Tobia, Daniel Müller, and Carsten Krüger. 2009. "Cropland change in southern Romania: a comparison of logistic regressions and artificial neural networks." Review of*. Landscape Ecology* 24 (9):1195-206. doi: 10.1007/s10980-009-9404-2.

Leitão, Pedro J., Francisco Moreira, and Patrick E. Osborne. 2011. "Effects of geographical data sampling bias on habitat models of species distributions: a case study with steppe birds in southern Portugal." Review of*. International Journal of Geographical Information Science* 25 (3):439-54. doi: 10.1080/13658816.2010.531020.

Letourneau, Aurélien, Peter H. Verburg, and Elke Stehfest. 2012. "A land-use systems approach to represent land-use dynamics at continental and global scales." Review of*. Environmental Modelling &amp; Software* 33 (0):61-79. doi: 10.1016/j.envsoft.2012.01.007.

Li, Xia, Yimin Chen, Xiaoping Liu, Dan Li, and Jinqiang He. 2010. "Concepts, methodologies, and tools of an integrated geographical simulation and optimization system." Review of*. International Journal of Geographical Information Science* 25 (4):633-55. doi: 10.1080/13658816.2010.496370.

Lin, Yu-Pin, Hone-Jay Chu, Chen-Fa Wu, and Peter H. Verburg. 2010. "Predictive ability of logistic regression, auto-logistic regression and neural network models in empirical land-use change modeling – a case study." Review of*. International Journal of Geographical Information Science* 25 (1):65-87. doi: 10.1080/13658811003752332.

Luccarini, Luca, Gianni Luigi Bragadin, Gabriele Colombini, Maurizio Mancini, Paola Mello, Marco Montali, and Davide Sottara. 2010. "Formal verification of wastewater treatment processes using events detected from continuous signals by means of artificial neural networks. Case study: SBR plant." Review of*. Environmental Modelling &amp; Software* 25 (5):648-60. doi: 10.1016/j.envsoft.2009.05.013.

Manson, Steven. 2006. "Land use in the southern Yucatán peninsular region of Mexico: Scenarios of population and institutional change." Review of*. Computers, Environment and Urban Systems* 30 (3):230-53. doi: 10.1016/j.compenvurbsys.2005.01.009.

Marghany, Maged, Arthur P. Cracknell, and Mazlan Hashim. 2009. "Modification of fractal algorithm for oil spill detection from RADARSAT-1 SAR data." Review of*. International Journal of Applied Earth Observation and Geoinformation* 11 (2):96-102. doi: 10.1016/j.jag.2008.09.002.

Mochizuki, Shota, and Takuhiko Murakami. 2011. "Change in habitat selection by Japanese macaques (Macaca fuscata) and habitat fragmentation analysis using temporal remotely sensed data in Niigata Prefecture, Japan." Review of*. International Journal of Applied Earth Observation and Geoinformation* 13 (4):562-71. doi: 10.1016/j.jag.2011.02.006.

Nefeslioglu, H. A., B. T. San, C. Gokceoglu, and T. Y. Duman. 2012. "An assessment on the use of Terra ASTER L3A data in landslide susceptibility mapping." Review of*. International Journal of Applied Earth Observation and Geoinformation* 14 (1):40-60. doi: 10.1016/j.jag.2011.08.005.

Ordóñez, C., A. Saavedra, J. R. Rodríguez-Pérez, F. Castedo-Dorado, and E. Covián. 2012. "Using model-based geostatistics to predict lightning-caused wildfires." Review of*. Environmental Modelling &amp; Software* 29 (1):44-50. doi: 10.1016/j.envsoft.2011.10.004.

Overmars, Koen P., and Peter H. Verburg. 2005. "Analysis of land use drivers at the watershed and household level: Linking two paradigms at the Philippine forest fringe." Review of*. International Journal of Geographical Information Science* 19 (2):125-52. doi: 10.1080/13658810410001713380.

Paegelow, Martin, and María Teresa Camacho Olmedo. 2005. "Possibilities and limits of prospective GIS land cover modelling—a compared case study: Garrotxes (France) and Alta Alpujarra Granadina (Spain)." Review of*. International Journal of Geographical Information Science* 19 (6):697-722. doi: 10.1080/13658810500076443.

Pérez-Vega, Azucena, Jean-François Mas, and Arika Ligmann-Zielinska. 2012. "Comparing two approaches to land use/cover change modeling and their implications for the assessment of biodiversity loss in a deciduous tropical forest." Review of*. Environmental Modelling &amp; Software* 29 (1):11-23. doi: 10.1016/j.envsoft.2011.09.011.

Peters, Jan, Frieke Van Coillie, Toon Westra, and Robert De Wulf. 2011. "Synergy of very high resolution optical and radar data for object-based olive grove mapping." Review of*. International Journal of Geographical Information Science* 25 (6):971-89. doi: 10.1080/13658816.2010.515946.

Phatak, A., B. C. Bates, and S. P. Charles. 2011. "Statistical downscaling of rainfall data using sparse variable selection methods." Review of*. Environmental Modelling &amp; Software* 26 (11):1363-71. doi: 10.1016/j.envsoft.2011.05.007.

Pino-Mejías, Rafael, María Dolores Cubiles-de-la-Vega, María Anaya-Romero, Antonio Pascual-Acosta, Antonio Jordán-López, and Nicolás Bellinfante-Crocci. 2010. "Predicting the potential habitat of oaks with data mining models and the R system." Review of*. Environmental Modelling &amp; Software* 25 (7):826-36. doi: 10.1016/j.envsoft.2010.01.004.

Pittiglio, Claudia, Andrew K. Skidmore, Hein A. M. J. van Gils, and Herbert H. T. Prins. 2012. "Identifying transit corridors for elephant using a long time-series." Review of*. International Journal of Applied Earth Observation and Geoinformation* 14 (1):61-72. doi: 10.1016/j.jag.2011.08.006.

Poelmans, Lien, and Anton Van Rompaey. 2010. "Complexity and performance of urban expansion models." Review of*. Computers, Environment and Urban Systems* 34 (1):17-27. doi: 10.1016/j.compenvurbsys.2009.06.001.

Pontius Jr, R. Gil, and Kiran Batchu. 2003. "Using the Relative Operating Characteristic to Quantify Certainty in Prediction of Location of Land Cover Change in India." Review of*. Transactions in GIS* 7 (4):467-84. doi: 10.1111/1467-9671.00159.

Poulin, Jean-François, and Marc-André Villard. 2011. "Edge effect and matrix influence on the nest survival of an old forest specialist, the Brown Creeper (Certhia americana)." Review of*. Landscape Ecology* 26 (7):911-22. doi: 10.1007/s10980-011-9615-1.

Pradhan, Biswajeet, Saro Lee, and Manfred F. Buchroithner. 2010. "A GIS-based back-propagation neural network model and its cross-application and validation for landslide susceptibility analyses." Review of*. Computers, Environment and Urban Systems* 34 (3):216-35. doi: 10.1016/j.compenvurbsys.2009.12.004.

Richard, Yvan, and Doug P. Armstrong. 2010. "The importance of integrating landscape ecology in habitat models: isolation-driven occurrence of north island robins in a fragmented landscape." Review of*. Landscape Ecology* 25 (9):1363-74. doi: 10.1007/s10980-010-9488-8.

Rizkalla, Carol E., Jeffrey E. Moore, and Robert K. Swihart. 2008. "Modeling patch occupancy: Relative performance of ecologically scaled landscape indices." Review of*. Landscape Ecology* 24 (1):77-88. doi: 10.1007/s10980-008-9281-0.

Roberts, Jason J., Benjamin D. Best, Daniel C. Dunn, Eric A. Treml, and Patrick N. Halpin. 2010. "Marine Geospatial Ecology Tools: An integrated framework for ecological geoprocessing with ArcGIS, Python, R, MATLAB, and C++." Review of*. Environmental Modelling &amp; Software* 25 (10):1197-207. doi: 10.1016/j.envsoft.2010.03.029.

Sangermano, Florencia, and J. Ronald Eastman. 2012. "A GIS framework for the refinement of species geographic ranges." Review of*. International Journal of Geographical Information Science* 26 (1):39-55. doi: 10.1080/13658816.2011.567987.

Sangermano, Florencia, J. Ronald Eastman, and Honglei Zhu. 2010. "Similarity Weighted Instance-based Learning for the Generation of Transition Potentials in Land Use Change Modeling." Review of*. Transactions in GIS* 14 (5):569-80. doi: 10.1111/j.1467-9671.2010.01226.x.

Siljander, Mika. 2009. "Predictive fire occurrence modelling to improve burned area estimation at a regional scale: A case study in East Caprivi, Namibia." Review of*. International Journal of Applied Earth Observation and Geoinformation* 11 (6):380-93. doi: 10.1016/j.jag.2009.06.004.

Soti, Valérie, Annelise Tran, Jean-Stéphane Bailly, Christian Puech, Danny Lo Seen, and Agnes Bégué. 2009. "Assessing optical earth observation systems for mapping and monitoring temporary ponds in arid areas." Review of*. International Journal of Applied Earth Observation and Geoinformation* 11 (5):344-51. doi: 10.1016/j.jag.2009.05.005.

Symeonakis, Elias, Rogerio Bonifaçio, and Nick Drake. 2009. "A comparison of rainfall estimation techniques for sub-Saharan Africa." Review of*. International Journal of Applied Earth Observation and Geoinformation* 11 (1):15-26. doi: 10.1016/j.jag.2008.04.002.

Taylor, Rick S., Joanne M. Oldland, and Michael F. Clarke. 2008. "Edge geometry influences patch-level habitat use by an edge specialist in south-eastern Australia." Review of*. Landscape Ecology* 23 (4):377-89. doi: 10.1007/s10980-008-9196-9.

Tiwari, K. C., M. K. Arora, and D. Singh. 2011. "An assessment of independent component analysis for detection of military targets from hyperspectral images." Review of*. International Journal of Applied Earth Observation and Geoinformation* 13 (5):730-40. doi: 10.1016/j.jag.2011.03.007.

Verburg, Peter H., Ton C. M. de Nijs, Jan Ritsema van Eck, Hans Visser, and Kor de Jong. 2004. "A method to analyse neighbourhood characteristics of land use patterns." Review of*. Computers, Environment and Urban Systems* 28 (6):667-90. doi: 10.1016/j.compenvurbsys.2003.07.001.

Verburg, PeterH, and A. Veldkamp. 2004. "Projecting land use transitions at forest fringes in the Philippines at two spatial scales." Review of*. Landscape Ecology* 19 (1):77-98. doi: 10.1023/B:LAND.0000018370.57457.58.

Viaud, Valérie, Hervé Monod, Claire Lavigne, Frédérique Angevin, and Katarzyna Adamczyk. 2008. "Spatial sensitivity of maize gene-flow to landscape pattern: a simulation approach." Review of*. Landscape Ecology* 23 (9):1067-79. doi: 10.1007/s10980-008-9264-1.

Wang, Jida, and Giorgos Mountrakis. 2010. "Developing a multi-network urbanization model: A case study of urban growth in Denver, Colorado." Review of*. International Journal of Geographical Information Science* 25 (2):229-53. doi: 10.1080/13658810903473213.

Westphal, Michael I., S.A. Field, A.J. Tyre, D. Paton, and H.P. Possingham. 2003. "Effects of landscape pattern on bird species distribution in the Mt. Lofty Ranges, South Australia." Review of*. Landscape Ecology* 18 (4):413-26. doi: 10.1023/a%3a1026115807529pb.

Zhu, Li, Osbert J. Sun, Weiguo Sang, Zhenyu Li, and Keping Ma. 2007. "Predicting the spatial distribution of an invasive plant species (Eupatorium adenophorum) in China." Review of*. Landscape Ecology* 22 (8):1143-54. doi: 10.1007/s10980-007-9096-4.