

References

1. Oracle: Java. <http://java.com>. Accessed 15 Jan 2018; Current latest version is 8 update 151
2. Aczel: Complete Business Statistics. The Irwin/McGraw-Hill series in operations and decision sciences. McGraw-Hill Education (India) Pvt Limited (2007)
3. Apache: Commons Math. <http://commons.apache.org/proper/commons-math/>. Accessed 15 Jan 2018; current latest version is 3.6.1
4. Boychuk, K., Bun, R.: Regional spatial inventories (cadastres) of GHG emissions in the energy sector: Accounting for uncertainty. *Clim. Change* **124**(3), 561–574 (2014). <https://doi.org/10.1007/s10584-013-1040-9>
5. Cervinka, O.: Construction of fuzzy rule base using hinging hyperplanes algorithm from training data. In: Proceedings of North American Fuzzy Information Processing, pp. 471–475 (1996). <https://doi.org/10.1109/NAFIPS.1996.534780>
6. Cintra, M., Camargo, H., Hruschka Jr., E., Nicoletti, M.: Automatic construction of fuzzy rule bases: a further investigation into two alternative inductive approaches. *J. Univ. Comput. Sci.* **14**(15), 2456–2470 (2008). Cited By 3
7. Dubois, D., Prade, H.: The three semantics of fuzzy sets. *Fuzzy Sets Syst.* **90**, 141–150 (1999)
8. Dubois, D., Prade, H.: Fundamentals of Fuzzy Sets. Kluwer Academic Publishers (2000)
9. Egenhofer, M., Sharma, J.: Topological relations between regions in r^2 and z^2 . In: Abel, D., Chin Ooi, B. (eds.) *Advances in Spatial Databases—Third International Symposium SSD'93*. Lecture Notes in Computer Science, vol. 692, pp. 316–336. Springer, Singapore (1993)
10. Flowerdew, R., Green, M.: Statistical methods for inference between incompatible zonal systems. Accuracy of spatial databases, pp. 239–247 (1989)
11. Flowerdew, R., Green, M.: Spatial analysis and GIS. In: Fotheringham, S., Rogerson, P. (eds.) *Areal interpolation and types of data*, pp. 141–152. Taylor & Francis (1994)
12. Fritz, S., See, L.: Comparison of land cover maps using fuzzy agreement. *Int. J. Geogr. Inf. Sci.* **19**, 787–807 (2005)
13. Goodchild, M.F., Lam, S.N.: Areal interpolation: a variant of the traditional spatial problem. *Geo-Processing* **1**, 297–312 (1980)
14. Gotway, C.A., Young, L.J.: Combining incompatible spatial data. *J. Am. Stat. Assoc.* **97**(458), 632–648 (2002)
15. Hoffmann, C.M.: *Geometric and Solid Modeling: An Introduction*. Morgan Kaufmann Publishers Inc., San Francisco (1992)
16. Holnicki, P.: Advanced air pollution. In: Nejadkoorki, F. (eds.) *Uncertainty in Integrated Modelling of Air Quality*, pp. 239–260. INTECH (2011)
17. Horabik, J., Nahorski, Z.: Improving resolution of a spatial air pollution inventory with a statistical inference approach. *Clim. Change*, 575–589 (2014). <https://doi.org/10.1007/s10584-013-1029-4>

18. Jenks, G.F.: International yearbook of cartography: 1967. In: Frenzel, K. (ed.) *The Data Model Concept in Statistical Mapping*, vol. 7. George Philip (1967)
19. jFuzzyLogic: jfuzzylogic. <http://jfuzzylogic.sourceforge.net/>. Accessed 15 Jan 2018
20. Jonas, M., Marland, G., Krey, V., Wagner, F., Nahorski, Z.: Uncertainty in an emissions-constrained world. *Clim. Change* **124**(3), 459–476 (2014). <https://doi.org/10.1007/s10584-014-1103-6>
21. JTS: JTS Topology Suite. <https://sourceforge.net/projects/jts-topo-suite/>. Accessed Jan 15 2018; Current latest version is 1.14
22. JUMP: JUMP Pilot Project. <https://sourceforge.net/projects/jump-pilot/>. Accessed 15 Jan 2018; Current latest version is 2.18.15
23. Klir, G.J., Yuan, B.: *Fuzzy Sets and Fuzzy Logic: Theory and Applications*. Prentice Hall, New Jersey (1995)
24. Mamdani, E., Assilian, S.: An experiment in linguistic synthesis with a fuzzy logic controller. *Int. J. Man-Mach. Stud.* **7**(1), 1–13 (1975). [https://doi.org/10.1016/S0020-7373\(75\)80002-2](https://doi.org/10.1016/S0020-7373(75)80002-2)
25. Martinez-Urtaza, J., Bowers, J.C., Trinanes, J., DePaola, A.: Climate anomalies and the increasing risk of vibrio parahaemolyticus and vibrio vulnificus illnesses. *Food Res. Int.* **43**(7), 1780–1790 (2010). <https://doi.org/10.1016/j.foodres.2010.04.001>. <http://www.sciencedirect.com/science/article/pii/S0963996910000980>. *Climate Change and Food Science*
26. Mendel, J.M.: *Uncertain Rule-based Fuzzy Logic Systems: Introduction and New Directions*. Prentice Hall (2001)
27. Mugglin, A., Carlin, B., Zhu, L., Conlon, E.: Bayesian areal interpolation, estimation, and smoothing: an inferential approach for geographic information systems. *Environ. Plan. A* **31**(8), 1337–1352 (1999)
28. Mugglin, A.S., Carlin, B.P., Gelfand, A.E.: Fully model-based approaches for spatially misaligned data. *J. Am. Stat. Assoc.* **95**(451), 877–887 (2000)
29. Murata, T., Ishibuchi, H.: Adjusting membership functions of fuzzy classification rules by genetic algorithms. In: *Proceedings of 1995 IEEE International Conference on Fuzzy Systems*, vol. 4, pp. 1819–1824 (1995). <https://doi.org/10.1109/FUZZY.1995.409928>
30. National Research Council of Canada: FuzzyJ Toolkit. <https://github.com/rorchard/FuzzyJ/>. Accessed 15 Jan 2018; Current latest version is 2.0
31. Nomura, H., Hayashi, I., Wakami, N.: A self-tuning method of fuzzy reasoning by genetic algorithm. In: *Proceedings of the 1992 International Fuzzy Systems and Intelligent Control Conference*, pp. 236–245 (1992)
32. OpenGeoSpatial: Opengeospatial. <http://www.opengeospatial.org/docs/is>. Accessed 15 Mar 2018
33. Rafaj, P., Amann, M., Siri, J., Wuester, H.: Changes in European greenhouse gas and air pollutant emissions 1960–2010: decomposition of determining factors. *Clim. Change* **124**(3), 477–504 (2014). <https://doi.org/10.1007/s10584-013-0826-0>
34. Rigaux, P., Scholl, M., Voisard, A.: *Spatial Databases with Applications to GIS*. Morgan Kaufman Publishers (2002)
35. Shekhar, S., Chawla, S.: *Spatial Databases: A Tour*. Pearson Educations (2003)
36. Shewchuk, J.R.: Triangle: engineering a 2D quality mesh generator and delaunay triangulator. In: *First Workshop on Applied Computational Geometry*, pp. 124–133. Association for Computing Machinery, Philadelphia, Pennsylvania (1996)
37. Sugeno, M.: *Industrial Applications of Fuzzy Control*. Elsevier Science Inc., New York (1985)
38. Tobler, W.R.: Smooth pycnophylactic interpolation for geographic regions. *J. Am. Stat. Assoc.* **74**(367), 519–536 (1979)
39. Tomlin, C.: Special issue landscape planning: expanding the tool kit map algebra: one perspective. *Landsc. Urban Plann.* **30**(1), 3–12 (1994). [https://doi.org/10.1016/0169-2046\(94\)90063-9](https://doi.org/10.1016/0169-2046(94)90063-9)
40. Van Leekwijck, W., Kerre, E.E.: Defuzzification: criteria and classification. *Fuzzy Sets Syst.* **108**, 159–178 (1999)
41. Verstraete, J.: Dealing with rounding errors in geometry processing. In: *Flexible Query Answering Systems 2015–Proceedings of the 11th International Conference FQAS 2015, Cracow*,

- Poland, 26–28 October 2015, pp. 417–428 (2015). https://doi.org/10.1007/978-3-319-26154-6_32
42. Verstraete, J.: The spatial disaggregation problem: simulating reasoning using a fuzzy inference system. *IEEE Trans. Fuzzy Syst.* **25**(3), 627–641 (2016). <https://doi.org/10.1109/TFUZZ.2016.2567452>
 43. Verstraete, J.: Fuzzy quality assessment of gridded approximations. *Appl. Soft Comput.* **55**, 319–330 (2017). <https://doi.org/10.1016/j.asoc.2017.01.051>. <http://www.sciencedirect.com/science/article/pii/S1568494617300662>
 44. Volker, W., Fritsch, D.: Matching spatial datasets: a statistical approach. *Int. J. Geograph. Inf. Sci.* **13**(5), 445–473 (1999)
 45. Wang, L.X., Mendel, J.M.: Generating fuzzy rules by learning from examples. *IEEE Trans. Syst. Man Cybern.* **22**(6), 1414–1427 (1992)
 46. Wikipedia: Jenks natural breaks optimization. https://en.wikipedia.org/wiki/Jenks_natural_breaks_optimization. Accessed 17 Jan 2018
 47. Yager, R.R., Filev, D.P.: Constrained defuzzification. In: *Proceedings of the 5th IFSA Congress*, pp. 1167–1170 (1993)
 48. Yager, R.R., Filev, D.P.: Defuzzification with constraints. In: *Fuzzy Logic and its Applications to Engineering, Information Sciences, and Intelligent Systems—Theory and Decision Library*, vol. 16, pp. 157–166 (1996)
 49. Zadeh, L.A.: Fuzzy sets. *Inf. Control* **8**, 338–353 (1965)
 50. Zimmerman, H.J.: *Practical Applications of Fuzzy Technologies*. Kluwer Academic Publishers (1999)