



2nd International Nearest Neighbors Workshop

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Nearest Neighbors Workshop

July 5-7, 2007 Italian Academy of Forest Sciences Florence, Italy

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DRAFT PROGRAM

July the 5th

9.00 – 10.15 Registration, coffee available

Session1 – Introduction (Chair M. Marchetti)

Opening and welcome to the AISF (*F. Mancini*)

Organisation and presentation of the workshop (*G. Chirici*)

From the 1st to the 2nd NN workshop: status and trends in the NN community (*R. E. McRoberts, E. Tomppo*)

Session 2 - Theoretical contributions (Chair P. Corona)

Design based approach to the kNN techniques in forest inventory (*L. Fattorini, P. Corona, S. Franceschi, F. Baffetta*)

Diagnostic Tools for Nearest Neighbor Techniques (*R. E. McRoberts*)

Discussion of the distance metric of nearest neighbour analysis as a measure of imputation accuracy (*V. LeMay*)

Performance of knn imputations and the dimension of the ancillary variables (*S. Magnussen*)

Lunch Break

Session 3 – Optimization of NN methods (Chair E. Tomppo)

Reducing or Condensing the Nearest Neighbor Reference Set (*R. E. McRoberts*)

Use of ancillary information to improve k-nn forest volume estimation in a Mediterranean region (*F. Maselli, M. Chiesi, L. Bottai*)

Feature selection in combining satellite imagery and aerial photographs for multi-source forest inventory (*S. Tuominen, R. Haapanen*)

Coffee Break

Efficient k-Nearest Neighbor Searches for Multi-source Forest Attribute Mapping (*A.O. Finley & R.E. McRoberts*)

Spatially consistent data for forestry scenario analysis (*A. Barth, J. Wallerman, G. Ståhl*)

Usefulness of nearest neighbour regression techniques and national forest inventory data for the estimation of forest stand tables in Switzerland (*D. Bierer & A. Lanz*)

Open discussion

Social Dinner



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July the 6th

Session 4 -Application of NN techniques for estimation of quantitative variables (Chair R. McRoberts)

Extension of field inventory data over the forest land in northern Italy by means of k-NN method and Landsat 7 ETM+ (*N. Puletti, R. Bertini, G. Chirici, F. Giannetti, D. Travaglini*)

Predicting the volume of dead wood from satellite images using k-NN (*N. Vainikainen & E. Tomppo*)

Estimation of forest biodiversity variables: multiregressive vs. k-NN methods, SPOT vs. Landsat (*U. Chiavetta, G. Chirici, P. Corona, M. Marchetti*)

Estimating aboveground biomass in a forest-tundra ecosystem in Siberia: Combining satellite imagery (QuickBird, ASTER) and field inventory data with a non parametric approach (*H. Fuchs, P. Magdon, C. Kleinn, N. Mikheyeva, H. Flessa*)

Coffee Break

Design based approach to the kNN techniques in forest inventory: study cases (*P. Corona, L. Fattorini, M. Marchetti, G. Chirici, F. Baffetta, S. Franceschi*)

kNN-based Estimation of growing stock for mountain forests in South-Korea (*J. Yim, C. Kleinn, M. Shin*)

Estimation of forest inventory attributes by k-nearest neighbours algorithms in Bosnia (*A. Cabaravdic, G. Chirici, P. Corona, D.R. Pelz, D. Travaglini*)

Comparison of nearest neighbor imputation methods for estimating frequency of cavity trees for western Oregon forests (*H. Temesgen, V. LeMay, G. Latta, T. Barrett*)

Lunch Break

Session 5 – Application of NN techniques for classification of categorical variables (Chair V. LeMay)

Probabilistic classifiers using Nearest Neighbor balls (*B. Ranneby & J. Yu*)

Predicting categorical variables by means of an improved k-NN (*E. Tomppo, C. Gagliano, F. de Natale*)

Operational use of nationwide Landsat data to downscale forest information within the frame of the Austrian National Forest Inventory (*C. Bauershansl & T. Koukal*)

Nearest neighbour classification in large scale forest mapping (*A. Pekkarinen, L. Reithmaier, P. Strobl*)

Coffe Break

Final discussion and workshop follow up



Poster Session

Application of Geostatistics in Inventory of Natural Forests of Iran (*R. Akhavan & M. Zobeiri*)

Multivariate Analysis on Rapid Growth of Planted Loblolly Pine (*Pinus taeda* L.) Stands in Northern Iran (*A. Bonyad*)

Neighbourhood analysis of Sal (*Shorea robusta* Gaertn.f) in near natural and coppiced Sal forests at Madhupur, Bangladesh (*Md.M. Rahman, A. Nishat, G.M.M. Rahman, R. Herwig, H. Vacik*)

Using quickbird imagery and knn approach to assess forest spatial structural diversity: a case study in central Italy (*A. Lamonaca & P. Corona*)

July the 7th Excursion to the Vallombrosa Forest

1. 8.30 - Departure by bus from Florence (main train station) to Vallombrosa
2. 9.30 - Arrival in Vallombrosa Visit of the facilities of the University of Florence and presentation of the history of the forest and the new forest management plan Excursion in the forest
3. 13.00 - 14.30 Lunch
4. 14.30 - 16.00 Visit of the abbey and getting in touch with the everyday life of monks
5. 16.00 - Departure from Vallombrosa
6. 17.00 - Arrival back to Florence main train station