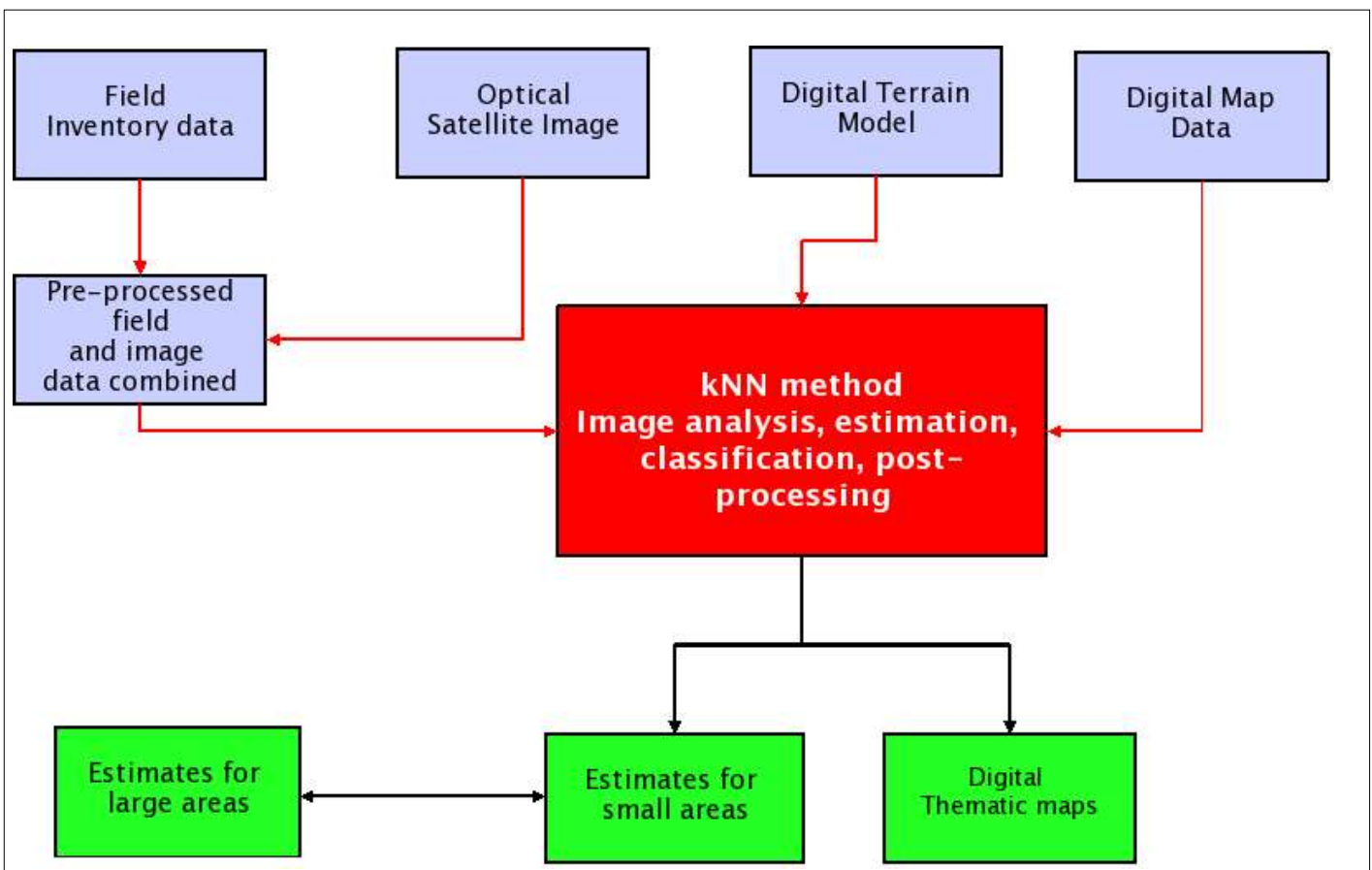


k-Nearest Neighbour classification for forest inventories

KNN is an image processing technique that was developed in Finland during the early 1990s. It combines field inventory data with optical imagery, typically medium resolution satellite imagery, such as SPOT or Landsat TM/ETM+

The technique is used to simultaneously estimate forest inventory parameters, such as volume and basal area. However, it can also be used for the identification of forest types. Estimates are computed based on similarities in the feature (commonly spectral) space between the training (field) data and the satellite image pixels. It produces both statistics and digital thematic maps of each forest parameter.



Overview of kNN methodology

Summary

- KNN is fast and automated to a large degree
- Is used successfully for the estimation of forest parameters over large areas
- Digital, geo-referenced datasets can be used effectively by forest resource managers
- Typically more detailed information can be obtained with little additional cost