Lab 6: Idrisi Advanced Classifiers

This lab provided an introduction to the capabilities of Idrisi software package in terms of advanced classification schemes. The various exercises performed include the following topics:

1. Bayes’ Theorem and Maximum Likelihood Classification
2. Soft Classifiers I: Bayclass Soft Classifier
3. Hardeners
4. Soft Classifiers II: Dempster-Shafer Soft Classifier and BELCLASS
5. Dempster-Shafer and Classification Uncertainty

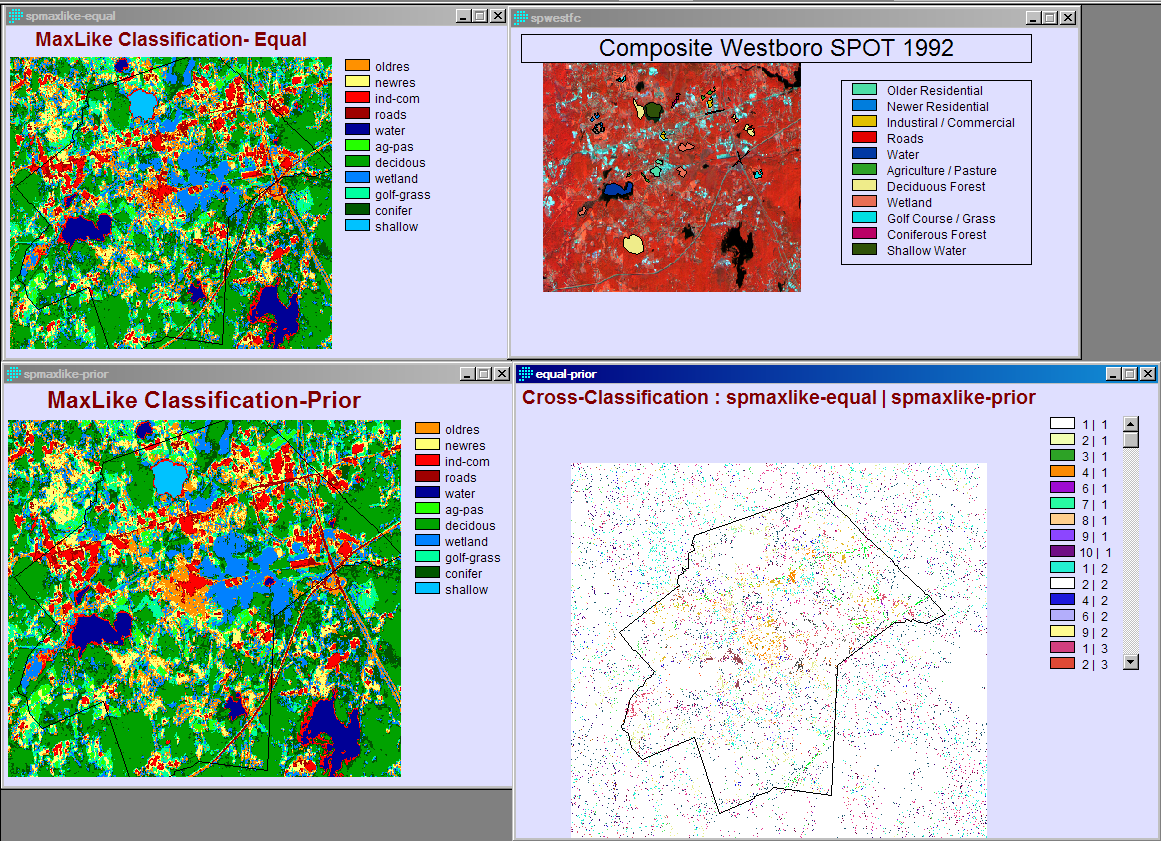
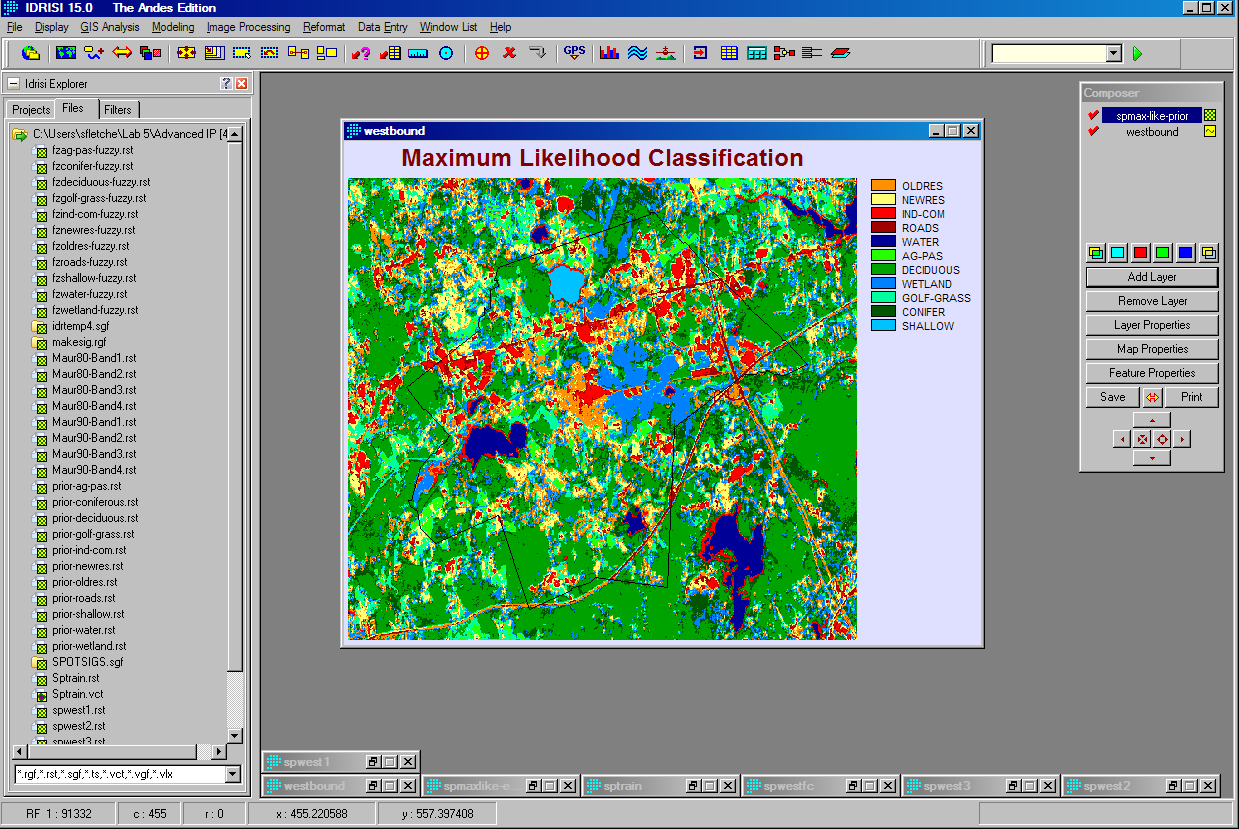


Figure 1: Exercise 5-1 MaxLike Classification



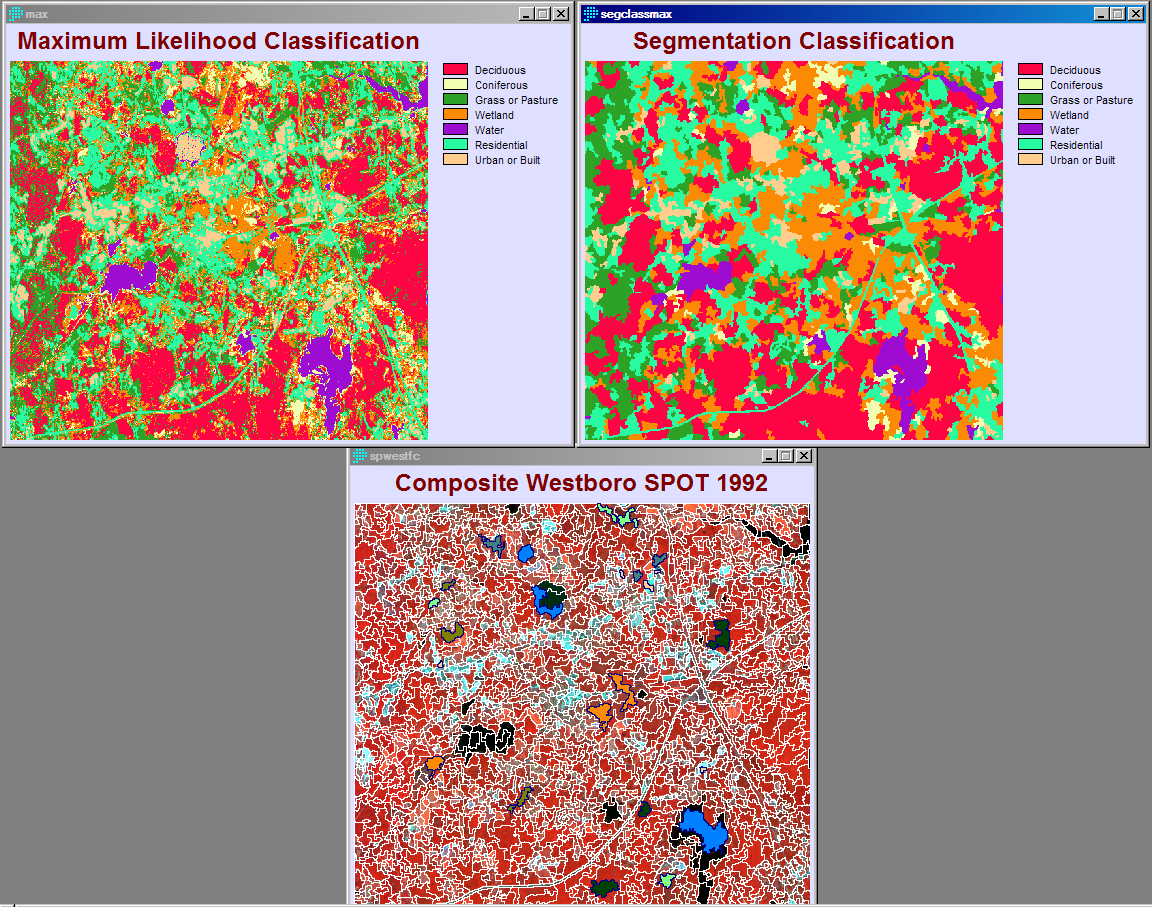
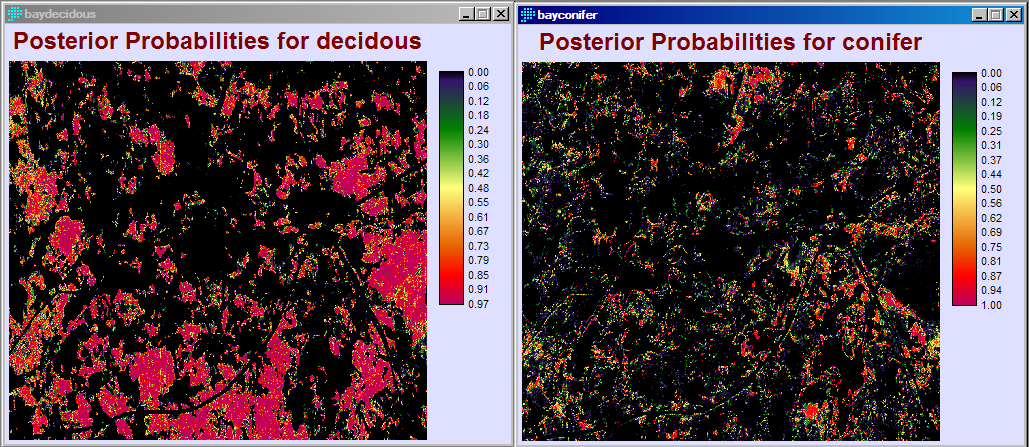
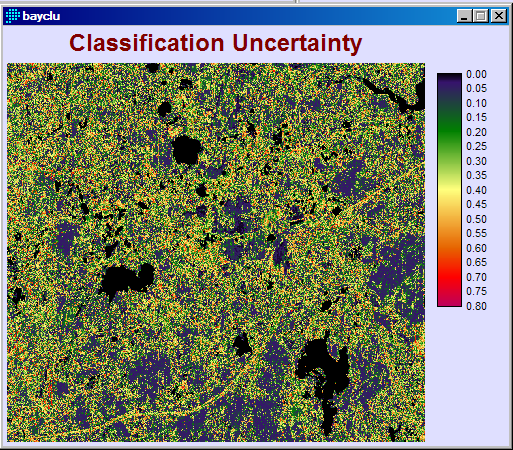


Figure 2: Exercise 5-2 Segmentation Classification



**Figure 3:** Exercise 5-3 BAYCLASS Method Conifer vs Deciduous Classification

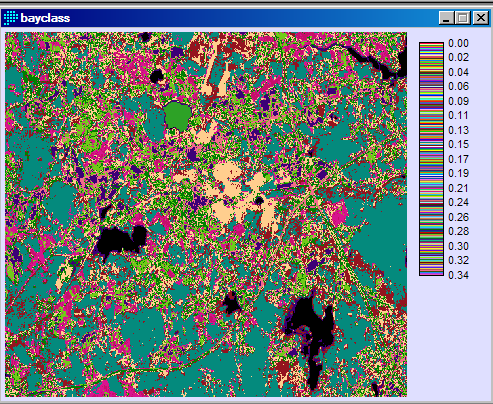


**Figure 4:** Ex 5-3 Bayclass Uncertainty

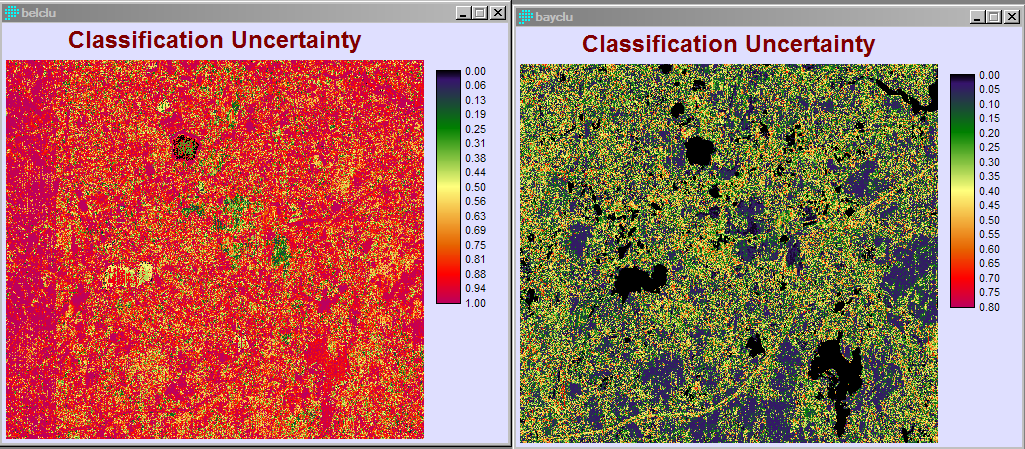
Average values extracted from BAYCLU based on SPMAXLIKE-EQUAL

|  |  |  |  |
| --- | --- | --- | --- |
| Category Average Legend |  |  |  |
| 1 0.343203 oldres |  |  |  |
| 2 0.282645 newres |  |  |  |
| 3 0.066097 ind-com |  |  |  |
| 4 0.336280 roads |  |  |  |
| 5 0.000002 water |  |  |  |
| 6 0.294644 ag-pas |  |  |  |
| 7 0.189668 decidous |  |  |  |
| 8 0.149133 wetland |  |  |  |
| 9 0.219302 golf-grass |  |  |  |
| 10 0.301683 conifer |  |  |  |
| 11 0.004251 shallow |  |  |  |

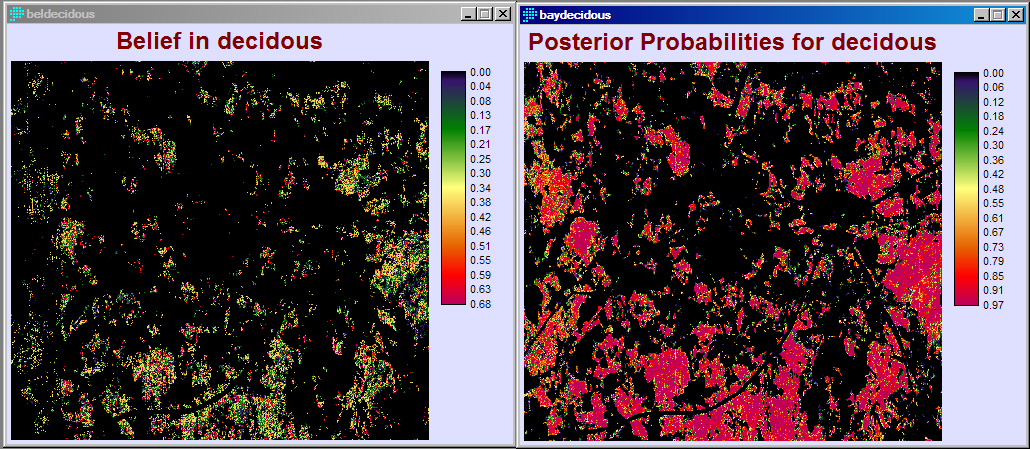
Table 1: Exercise 5-3 Bayclass uncertainty by class



**Figure 5**: Exercise 5-3 Avg Bayclu Values based on spmaxlike-equal



**Figure 8:** Exercise 5-5 Comparison of bayclass and belclass uncertainty



**Figure 9**: Comparison of deciduous results (bel vs bayclass)