**Table 6. GridSearchCV Results for Clusters based on SSTA data and testing period 2011-2022**

|  |  |  |  |
| --- | --- | --- | --- |
| **Model** | **Best Score** | **Accuracy Score** | **Best Parameters** |
| Support Vector Machine | 0.927273 | 0.916667 | {'C': 10, 'coef0': 0.0, 'degree': 2, 'kernel': 'rbf', 'probability': True} |
| Random Forest | 0.845455 | 0.833333 | {'criterion': 'entropy', 'max\_depth': None, 'min\_samples\_leaf': 1, 'min\_samples\_split': 2, 'n\_estimators': 20} |
| Logistic Regression | 0.6 | 1 | {'C': 1, 'penalty': 'l1'} |
| Naive Bayes Gaussian | 0.809091 | 1 | {} |
| Naive Bayes Multinomial | 0.590909 | 0.75 | {'alpha': 2.0} |
| Decision Tree | 0.727273 | 0.666667 | {'criterion': 'entropy', 'max\_depth': None, 'min\_samples\_leaf': 1, 'min\_samples\_split': 5} |
| Linear Discriminant Analysis | 0.872727 | 1 | {} |