

Supplementary

Table S1. Summary of test inputs for classification comparisons. Tests determined by the holistic approach (blue text), tests determined by Log-normal values (green text), and tests determined by RF determined predictor importance values (purple text). For tests in green and purple, features are represented by their respective index number ref. **Error! Reference source not found.**

1	Band 1-7 Reflectances (Spring)
2	Band 1-7 Reflectances (Summer)
3	Band 1-7 Reflectances (Fall)
4	Band 1-7 Reflectances, Temp 1 (Spring)
5	Band 1-7 Reflectances, Temp 1 (Summer)
6	Band 1-7 Reflectances, Temp 1 (Fall)
7	Band 1-7 Reflectances, Temp 2 (Spring)
8	Band 1-7 Reflectances, Temp 2 (Summer)
9	Band 1-7 Reflectances, Temp 2 (Fall)
10	Band 1-7 Reflectances, Radar-VV (Summer)
11	Band 1-7 Reflectances, Radar-VH (Summer)
12	Band 1-7 Reflectances, Radar-VV (Summer2)
13	Band 1-7 Reflectances, Radar-VH (Summer2)
14	Band 1-7 Reflectances, Radar-VV (Fall)
15	Band 1-7 Reflectances, Radar-VH (Fall)
16	Band 1-7 Reflectances, DEM (Spring)
17	Band 1-7 Reflectances, DEM (Summer)
18	Band 1-7 Reflectances, DEM (Fall)
19	Band 1-7 Reflectances, Slope (Spring)
20	Band 1-7 Reflectances, Slope (Summer)
21	Band 1-7 Reflectances, Slope (Fall)
22	Band 1-7 Reflectances, DEM, Slope (Spring)
23	Band 1-7 Reflectances, DEM, Slope (Summer)
24	Band 1-7 Reflectances, DEM, Slope (Fall)
25	Band 1-7 Reflectances, Radar - (Alpha - Summer)
26	Band 1-7 Reflectances, Radar - (Entropy - Summer)
27	Band 1-7 Reflectances, Radar - (Alpha - Fall)
28	Band 1-7 Reflectances, Radar - (Entropy - Fall)
29	Band 1-7 Reflectances, Temp, Radar-VV (Summer)
30	Band 1-7 Reflectances, Temp, Radar-VH (Summer)
31	Band 1-7 Reflectances, Temp, Radar-VV (Summer2)
32	Band 1-7 Reflectances, Temp, Radar-VH (Summer2)
33	Band 1-7 Reflectances, Temp, Radar-VV (Fall)
34	Band 1-7 Reflectances, Temp, Radar-VH (Fall)
35	Band 1-7 Reflectances, Temp2, Radar-VV (Summer)

36	Band 1-7 Reflectances, Temp2, Radar-VH (Summer)
37	Band 1-7 Reflectances, Temp2, Radar-VV (Summer2)
38	Band 1-7 Reflectances, Temp2, Radar-VH (Summer2)
39	Band 1-7 Reflectances, Temp2, Radar-VV (Fall)
40	Band 1-7 Reflectances, Temp2, Radar-VH (Fall)
41	Band 1-7 Reflectances, Temp, Radar-VV (Summer), DEM
42	Band 1-7 Reflectances, Temp, Radar-VH (Summer), DEM
43	Band 1-7 Reflectances, Temp, Radar-VV (Summer2), DEM
44	Band 1-7 Reflectances, Temp, Radar-VH (Summer2), DEM
45	Band 1-7 Reflectances, Temp, Radar-VV (Fall), DEM
46	Band 1-7 Reflectances, Temp, Radar-VH (Fall), DEM
47	Band 1-7 Reflectances, Temp2, Radar-VV (Summer), DEM
48	Band 1-7 Reflectances, Temp2, Radar-VH (Summer), DEM
49	Band 1-7 Reflectances, Temp2, Radar-VV (Summer2), DEM
50	Band 1-7 Reflectances, Temp2, Radar-VH (Summer2), DEM
51	Band 1-7 Reflectances, Temp2, Radar-VV (Fall), DEM
52	Band 1-7 Reflectances, Temp2, Radar-VH (Fall), DEM
53	Band 1-7 Reflectances, Temp, Radar-VV (Summer), Slope
54	Band 1-7 Reflectances, Temp, Radar-VH (Summer), Slope
55	Band 1-7 Reflectances, Temp, Radar-VV (Summer2), Slope
56	Band 1-7 Reflectances, Temp, Radar-VH (Summer2), Slope
57	Band 1-7 Reflectances, Temp, Radar-VV (Fall), Slope
58	Band 1-7 Reflectances, Temp, Radar-VH (Fall), Slope
59	Band 1-7 Reflectances, Temp2, Radar-VV (Summer), Slope
60	Band 1-7 Reflectances, Temp2, Radar-VH (Summer), Slope
61	Band 1-7 Reflectances, Temp2, Radar-VV (Summer2), Slope
62	Band 1-7 Reflectances, Temp2, Radar-VH (Summer2), Slope
63	Band 1-7 Reflectances, Temp2, Radar-VV (Fall), Slope
64	Band 1-7 Reflectances, Temp2, Radar-VH (Fall), Slope
65	Band 1-7 Reflectances, Temp, Alpha (Summer), Slope
66	Band 1-7 Reflectances, Temp, Entropy (Summer), Slope
67	Band 1-7 Reflectances, Temp, Alpha (Fall), Slope
68	Band 1-7 Reflectances, Temp, Entropy (Fall), Slope
69	All Band Reflectances All Seasons
70	All Band Reflectances, Radar(VV) All Seasons
71	All Band Reflectances, Temp1, All Seasons
72	All Band Reflectances, Slope, All Seasons
73	All Band Reflectances, Radar (VV), Temp1, All Seasons
74	All Band Reflectances, Radar (VV), Temp1 Slope, All Seasons
75	All Band Reflectances, Radar(VH) All Seasons
76	All Band Reflectances, Radar (VH), Temp1, All Seasons
77	All Band Reflectances, Radar (VH), Temp1, Slope, All Seasons

78	All Band Reflectances, Radar (VV,VH), Temp1, Slope, All Seasons
79	All Band Reflectances, Alpha, All Seasons
80	All Band Reflectances, Temp, Alpha, All Seasons
81	All Band Reflectances, Entropy, All Seasons
82	All Band Reflectances, Temp, Entropy, All Seasons
83	All Band Reflectances, Temp2, All Seasons
84	All Band Reflectances, Radar (VV), Temp2, All Seasons
85	All Band Reflectances, Radar (VV), Temp2 Slope, All Seasons
86	All Band Reflectances, Radar (VH), Temp2, All Seasons
87	All Band Reflectances, Radar (VH), Temp2, Slope, All Seasons
88	All Band Reflectances, Radar (VV,VH), Temp2, Slope, All Seasons
89	NDVI, NDWI, Albedo (Spring)
90	NDVI, NDWI, Albedo (Summer)
91	NDVI, NDWI, Albedo (Fall)
92	NDVI, NDWI, Albedo, Temp 1 (Spring)
93	NDVI, NDWI, Albedo, Temp 1 (Summer)
94	NDVI, NDWI, Albedo, Temp 1 (Fall)
95	NDVI, NDWI, Albedo, Temp 2 (Spring)
96	NDVI, NDWI, Albedo, Temp 2 (Summer)
97	NDVI, NDWI, Albedo, Temp 2 (Fall)
98	NDVI, NDWI, Albedo, Radar-VV (Summer)
99	NDVI, NDWI, Albedo, Radar-VH (Summer)
100	NDVI, NDWI, Albedo, Radar-VV (Summer2)
101	NDVI, NDWI, Albedo, Radar-VH (Summer2)
102	NDVI, NDWI, Albedo, Radar-VV (Fall)
103	NDVI, NDWI, Albedo, Radar-VH (Fall)
104	NDVI, NDWI, Albedo, DEM (Spring)
105	NDVI, NDWI, Albedo, DEM (Summer)
106	NDVI, NDWI, Albedo, DEM (Fall)
107	NDVI, NDWI, Albedo, Slope (Spring)
108	NDVI, NDWI, Albedo, Slope (Summer)
109	NDVI, NDWI, Albedo, Slope (Fall)
110	NDVI, NDWI, Albedo, Alpha (Summer)
111	NDVI, NDWI, Albedo, Alpha (Fall)
112	NDVI, NDWI, Albedo, Entropy (Summer)
113	NDVI, NDWI, Albedo, Entropy (Fall)
114	NDVI, NDWI, Albedo, DEM, Slope (Spring)
115	NDVI, NDWI, Albedo, DEM, Slope (Summer)
116	NDVI, NDWI, Albedo, DEM, Slope (Fall)
117	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer)
118	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer)
119	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer2)

120	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer2)
121	NDVI, NDWI, Albedo, Temp, Radar-VV (Fall)
122	NDVI, NDWI, Albedo, Temp, Radar-VH (Fall)
123	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer)
124	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer)
125	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer2)
126	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer2)
127	NDVI, NDWI, Albedo, Temp2, Radar-VV (Fall)
128	NDVI, NDWI, Albedo, Temp2, Radar-VH (Fall)
129	NDVI, NDWI, Albedo, Temp, Alpha (Summer)
130	NDVI, NDWI, Albedo, Temp, Entropy (Summer)
131	NDVI, NDWI, Albedo, Temp, Alpha (Fall)
132	NDVI, NDWI, Albedo, Temp, Entropy (Fall)
133	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer), DEM
134	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer), DEM
135	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer2), DEM
136	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer2), DEM
137	NDVI, NDWI, Albedo, Temp, Radar-VV (Fall), DEM
138	NDVI, NDWI, Albedo, Temp, Radar-VH (Fall), DEM
139	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer), DEM
140	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer), DEM
141	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer2), DEM
142	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer2), DEM
143	NDVI, NDWI, Albedo, Temp2, Radar-VV (Fall), DEM
144	NDVI, NDWI, Albedo, Temp2, Radar-VH (Fall), DEM
145	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer), Slope
146	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer), Slope
147	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer2), Slope
148	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer2), Slope
149	NDVI, NDWI, Albedo, Temp, Radar-VV (Fall), Slope
150	NDVI, NDWI, Albedo, Temp, Radar-VH (Fall), Slope
151	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer), Slope
152	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer), Slope
153	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer2), Slope
154	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer2), Slope
155	NDVI, NDWI, Albedo, Temp2, Radar-VV (Fall), Slope
156	NDVI, NDWI, Albedo, Temp, Alpha (Summer), Slope
157	NDVI, NDWI, Albedo, Temp, Entropy (Summer), Slope
158	NDVI, NDWI, Albedo, Temp, Alpha (Fall), Slope
159	NDVI, NDWI, Albedo, Temp, Entropy (Fall), Slope
160	NDVI, NDWI, Albedo, Temp2, Radar-VH (Fall), Slope
161	NDVI, NDWI, Albedo All Seasons

162	NDVI, NDWI, Albedo, Radar(VV) All Seasons
163	NDVI, NDWI, Albedo, Temp1, All Seasons
164	NDVI, NDWI, Albedo, Slope, All Seasons
165	NDVI, NDWI, Albedo, Radar (VV), Temp1, All Seasons
166	NDVI, NDWI, Albedo, Radar (VV), Temp1, Slope, All Seasons
167	NDVI, NDWI, Albedo, Radar (VV,VH), Temp1, Slope, All Seasons
168	NDVI, NDWI, Albedo, Radar(VH) All Seasons
169	NDVI, NDWI, Albedo, Temp2, All Seasons
170	NDVI, NDWI, Albedo, Radar (VH), Temp1, All Seasons
171	NDVI, NDWI, Albedo, Radar (VH), Temp1, Slope, All Seasons
172	NDVI, NDWI, Albedo, Alpha, Temp1, All Seasons
173	NDVI, NDWI, Albedo, Entropy, Temp1, Slope, All Seasons
174	NDVI, NDWI, Albedo, Temp2, All Seasons
175	NDVI, NDWI, Albedo, Radar (VV), Temp2, All Seasons
176	NDVI, NDWI, Albedo, Radar (VV), Temp2 Slope, All Seasons
177	NDVI, NDWI, Albedo, Radar (VH), Temp2, All Seasons
178	NDVI, NDWI, Albedo, Radar (VH), Temp2, Slope, All Seasons
179	NDVI, NDWI, Albedo, Radar (VV,VH), Temp2, Slope, All Seasons
180	NDVI, NDWI, Albedo, Radar (VV,VH), Temp2, Slope, Alpha, Entropy, All Seasons
181	Top 5 [16,22,21,7,10]
182	Top 10 [16,22,21,7,10,8,20,9,24,43]
183	Top 15 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6]
184	Top 20 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18]
185	Top 25 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17]
186	Top 30 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17]
187	Top 35 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17,36,12,30,23,15]
188	Top 40 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17,36,12,30,23,15,2,1,27,3,13]
189	Top 45 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17,36,12,30,23,15,2,1,27,3,13,29,35,45,46,44]
190	All Variables
191	Hybrid Top 5 [16,22,21,7,22,43]
192	Hybrid Top 10 [16,22,21,7,22,43,6,28,19,21,45]
193	Hybrid Top 15 [16,22,21,7,22,43,6,28,19,21,45,26,18,4,10,46]
194	Hybrid Top 20 [16,22,21,7,22,43,6,28,19,21,45,26,18,4,10,46,25,31,14,8,44]
195	Hybrid Top 25 [16,22,21,7,22,43,6,28,19,21,45,26,18,4,10,46,25,31,14,8,44,17,30,15,20,48]
196	Hybrid Top 30 [16,22,21,7,22,43,6,28,19,21,45,26,18,4,10,46,25,31,14,8,44,17,30,15,20,48,2,1,27,9,47]
197	Bottom 16 [39,40,41,42,37,38,47,48,44,46,45,35,29,13,3,27]
198	Bottom 14 [39,40,41,42,37,38,47,48,44,46,45,35,29,13]
199	Bottom 12 [39,40,41,42,37,38,47,48,44,46,45,35]

200	Bottom 10 [39,40,41,42,37,38,47,48,44,46]
201	Bottom 8 [39,40,41,42,37,38,47,48]
202	Bottom 6 [39,40,41,42,37,38]
203	Bottom 4 [39,40,41,42]
204	Top 5 [34,32,43,9,8]
205	Top 10 [34,32,43,9,8,21,20,33,25,22]
206	Top 15 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35]
207	Top 20 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19]
208	Top 25 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26]
209	Top 30 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26,7,6,1,23,4]
210	Top 35 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26,7,6,1,23,4,24,15,2,3,46]
211	Top 40 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26,7,6,1,23,4,24,15,2,3,46,12,18,30,29,17]
212	Top 45 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26,7,6,1,23,4,24,15,2,3,46,12,18,30,29,17,40,36,41,39,42]
213	Hybrid Top 5 [25,5,16,34,43]
214	Hybrid Top 10 [25,5,16,34,43,13,28,19,32,44]
215	Hybrid Top 15 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45]
216	Hybrid Top 20 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45,7,6,1,21,47]
217	Hybrid Top 25 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45,7,6,1,21,47,4,15,2,33,40]
218	Hybrid Top 30 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45,7,6,1,21,47,4,15,2,33,40,3,18,30,22,41]
219	Bottom 16 [2,3,46,12,18,30,29,17,40,36,41,39,42,27,37,38]
220	Bottom 14 [2,3,46,12,18,30,29,17,40,36,41,39,42,27]
221	Bottom 12 [2,3,46,12,18,30,29,17,40,36,41,39]
222	Bottom 10 [2,3,46,12,18,30,29,17,40,36]
223	Bottom 8 [2,3,46,12,18,30,29,17]
224	Bottom 6 [2,3,46,12,18,30]
225	Bottom 4 [2,3,46,12]

Table S2. Summary of top 20 (A) and bottom 20 (B) classification inputs for various classification schemes. Blue highlighted tests were determined through a holistic approach to feature selection, while the green and purple highlighted tests were selected through log-normal and RF importance value analysis, respectively.

A)

	Random Forest Classifier	Producer Accuracy	Kappa Value
1	All Band Reflectances, Radar (VH), Temp1, Slope, All Seasons	0.8781	0.8841
2	All Band Reflectances, Temp1, All Seasons	0.8766	0.8839
3	All Band Reflectances, Temp, Alpha, All Seasons	0.8714	0.8769
4	All Band Reflectances, Temp, Entropy, All Seasons	0.8671	0.8766
5	All Band Reflectances, Radar (VV,VH), Temp1, Slope, All Seasons	0.8574	0.8753
6	All Band Reflectances, Entropy, All Seasons	0.8515	0.8753

7	Top 40 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17,36,12,30,23, 15,2,1,27,3,13]	0.8492	0.8734
8	All Band Reflectances, Radar (VV,VH), Temp2, Slope, All Seasons	0.8468	0.8718
9	All Band Reflectances, Radar (VV), Temp1 Slope, All Seasons	0.8467	0.8712
10	All Band Reflectances, Alpha, All Seasons	0.8466	0.8688
11	All Band Reflectances, Radar(VV) All Seasons	0.8454	0.8659
12	All Band Reflectances All Seasons	0.8453	0.8654
13	Hybrid Top 20 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45,7,6,1,21,47]	0.8450	0.8649
14	All Band Reflectances, Temp2, All Seasons	0.8447	0.8618
15	All Band Reflectances, Radar (VH), Temp1, All Seasons	0.8445	0.8617
16	All Band Reflectances, Radar(VH) All Seasons	0.8445	0.8587
17	All Band Reflectances, Radar (VH), Temp2, Slope, All Seasons	0.8436	0.8576
18	All Band Reflectances, Slope, All Seasons	0.8394	0.8532
19	All Band Reflectances, Radar (VV), Temp2 Slope, All Seasons	0.8346	0.8531
20	Top 45 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26,7,6,1,23,4,24,15,2,3, 46,12,18,30,29,17,40,36,41,39,42]	0.8328	0.8511
	Nearest Neighbor Classifier	Producer Accuracy	Kappa Value
1	Top 20 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18]	0.7746	0.8540
2	Top 35 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17,36,12,30,23,15]	0.7668	0.8512
3	Top 25 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17]	0.7662	0.8470
4	Top 30 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17]	0.7643	0.8499
5	Top 15 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6]	0.7475	0.8370
6	All Band Reflectances, Temp1, All Seasons	0.7425	0.8265
7	All Band Reflectances, Temp2, All Seasons	0.7368	0.8237
8	Top 10 [16,22,21,7,10,8,20,9,24,43]	0.7321	0.8250
9	Band 1-7 Reflectances, DEM (Spring)	0.7220	0.8189
10	Top 15 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35]	0.7215	0.8220
11	Hybrid Top 15 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45]	0.7210	0.8268
12	NDVI, NDWI, Albedo, DEM (Summer)	0.7117	0.8022
13	Band 1-7 Reflectances, Temp 1 (Spring)	0.7117	0.8074
14	Hybrid Top 30 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45,7,6,1,21,47,4,15,2,33,40,3,18,30,22,41]	0.7114	0.8125
15	All Band Reflectances All Seasons	0.7094	0.7967

	Top 40 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17,4,25,31,14,17,36,12,30,23, 15,2,1,27,3,13]	0.7084	0.8148
16			
17	Top 20 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19]	0.7082	0.8179
18	NDVI, NDWI, Albedo, Temp1, All Seasons	0.7054	0.8077
19	All Band Reflectances, Radar (VH), Temp1, Slope, All Seasons	0.7023	0.8052
20	NDVI, NDWI, Albedo, Temp2, All Seasons	0.7021	0.8039
	Support Vector Machine	Producer Accuracy	Kappa Value
1	All Band Reflectances, Radar(VH) All Seasons	0.8004	0.8675
2	All Band Reflectances, Radar(VV) All Seasons	0.7985	0.8650
3	All Band Reflectances, Alpha, All Seasons	0.7964	0.8592
4	All Band Reflectances, Entropy, All Seasons	0.7910	0.8604
5	All Band Reflectances All Seasons	0.7883	0.8596
6	Band 1-7 Reflectances, DEM (Spring)	0.7871	0.8608
7	Band 1-7 Reflectances, DEM, Slope (Spring)	0.7808	0.8576
8	All Band Reflectances, Slope, All Seasons	0.7778	0.8557
9	Band 1-7 Reflectances, Temp2, Radar-VH (Fall), DEM	0.7708	0.8300
10	Band 1-7 Reflectances, Temp2, Radar-VV (Fall), DEM	0.7694	0.8264
11	All Band Reflectances, Radar (VV), Temp2, All Seasons	0.7605	0.8238
12	All Band Reflectances, Radar (VH), Temp1, All Seasons	0.7575	0.8192
13	Hybrid Top 20 [25,5,16,34,43,13,28,19,32,44,31,14,26,9,45,7,6,1,21,47]	0.7575	0.8340
14	All Band Reflectances, Radar (VV), Temp2 Slope, All Seasons	0.7552	0.8151
15	All Band Reflectances, Radar (VV), Temp1, All Seasons	0.7541	0.8050
16	All Band Reflectances, Temp1, All Seasons	0.7528	0.8040
17	All Band Reflectances, Temp2, All Seasons	0.7516	0.8193
18	All Band Reflectances, Radar (VH), Temp2, All Seasons	0.7501	0.8156
19	All Band Reflectances, Radar (VV,VH), Temp2, Slope, All Seasons	0.7499	0.8046
20	All Band Reflectances, Temp, Entropy, All Seasons	0.7486	0.8147
	Naive Bayes	Producer Accuracy	Kappa Value
1	All Band Reflectances, Temp, Entropy, All Seasons	0.6998	0.7931
2	All Band Reflectances, Temp, Alpha, All Seasons	0.6960	0.7912
3	All Band Reflectances, Radar (VV,VH), Temp1, Slope, All Seasons	0.6902	0.7897
4	All Band Reflectances, Temp2, All Seasons	0.6891	0.7895
5	All Band Reflectances, Radar (VH), Temp2, All Seasons	0.6886	0.7893
6	All Band Reflectances, Radar (VV,VH), Temp2, Slope, All Seasons	0.6875	0.7900
7	All Band Reflectances, Radar (VV), Temp2, All Seasons	0.6870	0.7885
8	All Band Reflectances, Radar (VV), Temp1, All Seasons	0.6861	0.7869
9	All Band Reflectances, Temp1, All Seasons	0.6860	0.7854
10	All Band Reflectances, Radar (VH), Temp1, All Seasons	0.6855	0.7858
11	All Band Reflectances, Radar (VH), Temp2, Slope, All Seasons	0.6851	0.7880

12	All Band Reflectances, Radar (VH), Temp1, Slope, All Seasons	0.6850	0.7858
13	All Band Reflectances, Radar (VV), Temp1 Slope, All Seasons	0.6841	0.7860
14	All Band Reflectances, Radar (VV), Temp2 Slope, All Seasons	0.6832	0.7870
15	Top 25 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19,48,47,31,14,26]	0.6783	0.7841
16	All Band Reflectances, Entropy, All Seasons	0.6713	0.7507
17	Top 20 [34,32,43,9,8,21,20,33,25,22,5,16,11,10,35,13,28,44,45,19]	0.6698	0.7766
18	All Band Reflectances, Radar(VV) All Seasons	0.6671	0.7497
19	All Band Reflectances, Alpha, All Seasons	0.6670	0.7492
20	Top 25 [16,22,21,7,10,8,20,9,24,43,33,34,32,5,6,28,11,19,26,18,4,25,31,14,17]	0.6648	0.7741

B)

	Random Forest Classifier	Producer Accuracy	Kappa Value
206	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer2), Slope	0.6080	0.6519
207	NDVI, NDWI, Albedo, Temp, Radar-VV (Fall)	0.6079	0.6518
208	NDVI, NDWI, Albedo, Slope (Fall)	0.6071	0.6498
209	NDVI, NDWI, Albedo, Temp 1 (Fall)	0.6061	0.6484
210	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer)	0.6057	0.6470
211	NDVI, NDWI, Albedo, Entropy (Fall)	0.6045	0.6383
212	NDVI, NDWI, Albedo, Temp, Alpha (Fall)	0.5990	0.6232
213	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer2)	0.5975	0.6148
214	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer2)	0.5963	0.6049
215	NDVI, NDWI, Albedo, Temp 2 (Summer)	0.5960	0.5995
216	NDVI, NDWI, Albedo, Alpha (Fall)	0.5914	0.5951
217	NDVI, NDWI, Albedo, Slope (Spring)	0.5820	0.5950
218	NDVI, NDWI, Albedo, Radar-VV (Fall)	0.5735	0.5922
219	NDVI, NDWI, Albedo, Radar-VH (Fall)	0.5590	0.5909
220	NDVI, NDWI, Albedo (Spring)	0.5531	0.5897
221	NDVI, NDWI, Albedo (Fall)	0.5529	0.5896
222	Top 5 [16,22,21,7,10]	0.5088	0.5878
223	Bottom 8 [2,3,46,12,18,30,29,17]	0.4917	0.5182
224	Bottom 6 [2,3,46,12,18,30]	0.3853	0.3840
225	Bottom 4 [2,3,46,12]	0.3638	0.3621
	Nearest Neighbor Classifier	Producer Accuracy(%)	Kappa Value
206	NDVI, NDWI, Albedo, Alpha (Summer)	0.5264	0.6151
207	Top 5 [16,22,21,7,10]	0.5244	0.5932
208	NDVI, NDWI, Albedo, Temp2, Radar-VV (Fall), Slope	0.5227	0.5974
209	NDVI, NDWI, Albedo, Alpha (Fall)	0.5186	0.6042
210	NDVI, NDWI, Albedo, Entropy (Fall)	0.5170	0.6112
211	NDVI, NDWI, Albedo, Slope (Fall)	0.5170	0.5873

212	NDVI, NDWI, Albedo (Spring)	0.5152	0.6115
213	NDVI, NDWI, Albedo (Fall)	0.5065	0.6106
214	NDVI, NDWI, Albedo, Radar-VH (Fall)	0.4974	0.5996
215	NDVI, NDWI, Albedo, Radar-VV (Fall)	0.4972	0.5920
216	Bottom 12 [2,3,46,12,18,30,29,17,40,36,41,39]	0.4898	0.5852
217	Bottom 8 [39,40,41,42,37,38,47,48]	0.4892	0.5780
218	Bottom 10 [39,40,41,42,37,38,47,48,44,46]	0.4606	0.5493
219	Bottom 12 [39,40,41,42,37,38,47,48,44,46,45,35]	0.4555	0.5393
220	Bottom 16 [39,40,41,42,37,38,47,48,44,46,45,35,29,13,3,27]	0.4522	0.5276
221	Bottom 14 [39,40,41,42,37,38,47,48,44,46,45,35,29,13]	0.4383	0.5223
222	Bottom 10 [2,3,46,12,18,30,29,17,40,36]	0.4012	0.4746
223	Bottom 4 [2,3,46,12]	0.2697	0.1994
224	Bottom 8 [2,3,46,12,18,30,29,17]	0.2515	0.1716
225	Bottom 6 [2,3,46,12,18,30]	0.2217	0.1039
	Support Vector Machine	Producer Accuracy	Kappa Value
206	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer), Slope	0.5342	0.5561
207	Bottom 10 [2,3,46,12,18,30,29,17,40,36]	0.5336	0.6677
208	NDVI, NDWI, Albedo, Temp, Entropy (Summer)	0.5332	0.5821
209	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer), Slope	0.5326	0.5586
210	NDVI, NDWI, Albedo, Temp, Alpha (Summer)	0.5325	0.5825
211	NDVI, NDWI, Albedo, Temp2, Radar-VV (Summer2), Slope	0.5296	0.5569
212	NDVI, NDWI, Albedo, Entropy (Fall)	0.5286	0.6454
213	NDVI, NDWI, Albedo, Radar-VH (Fall)	0.5283	0.6403
214	NDVI, NDWI, Albedo, Temp 1 (Summer)	0.5258	0.5760
215	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer2), Slope	0.5231	0.5821
216	NDVI, NDWI, Albedo, Alpha (Fall)	0.5214	0.6317
217	NDVI, NDWI, Albedo, Temp, Radar-VH (Summer2)	0.5164	0.5700
218	NDVI, NDWI, Albedo, Temp2, Radar-VH (Summer2), Slope	0.5150	0.5483
219	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer2)	0.5149	0.5726
220	NDVI, NDWI, Albedo, Temp, Radar-VV (Summer2), Slope	0.5132	0.5661
221	NDVI, NDWI, Albedo (Spring)	0.5015	0.5869
222	Top 5 [16,22,21,7,10]	0.4731	0.5243
223	Bottom 8 [2,3,46,12,18,30,29,17]	0.4355	0.5539
224	Bottom 6 [2,3,46,12,18,30]	0.4122	0.4473
225	Bottom 4 [2,3,46,12]	0.3979	0.4453
	Naive Bayes	Producer Accuracy	Kappa Value
206	NDVI, NDWI, Albedo, Temp, Radar-VV (Fall), DEM	0.5167	0.6325
207	Bottom 4 [39,40,41,42]	0.5151	0.6520
208	Bottom 10 [2,3,46,12,18,30,29,17,40,36]	0.5128	0.6762
209	NDVI, NDWI, Albedo, Temp, Radar-VH (Fall), DEM	0.5074	0.6247

210	NDVI, NDWI, Albedo, Entropy (Fall)	0.5065	0.6320
211	NDVI, NDWI, Albedo, DEM, Slope (Summer)	0.5040	0.6539
212	NDVI, NDWI, Albedo (Fall)	0.4990	0.6225
213	NDVI, NDWI, Albedo, DEM (Fall)	0.4918	0.6216
214	NDVI, NDWI, Albedo, DEM, Slope (Fall)	0.4913	0.6268
215	NDVI, NDWI, Albedo, Alpha (Fall)	0.4867	0.6177
216	NDVI, NDWI, Albedo, Temp 2 (Spring)	0.4726	0.6478
217	NDVI, NDWI, Albedo, Temp 1 (Spring)	0.4643	0.6424
218	NDVI, NDWI, Albedo, DEM, Slope (Spring)	0.4638	0.6160
219	NDVI, NDWI, Albedo, DEM (Spring)	0.4634	0.6055
220	Bottom 8 [2,3,46,12,18,30,29,17]	0.4573	0.6102
221	NDVI, NDWI, Albedo, Slope (Spring)	0.4337	0.5761
222	Top 5 [16,22,21,7,10]	0.4198	0.4514
223	NDVI, NDWI, Albedo (Spring)	0.4033	0.5437
224	Bottom 6 [2,3,46,12,18,30]	0.3432	0.3808
225	Bottom 4 [2,3,46,12]	0.3105	0.3502