Confusion Matrix for NOAA, CCI, GCM and Coral Core predictability of Coral Bleaching

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Table 1: Confusion Matrix for predictability of bleaching using Degree Heating Week values from CCI data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Browse Island	0.90	0.81	0.22	1.00	0.80	0.12	1.00	0.90	0.85	0.95	0.18	0.32	0.03	0.22	0.03
Cocos (Keeling) Islands	0.84	0.92	0.67	0.75	0.94	0.60	0.97	0.84	0.68	1.00	0.62	0.62	0.08	0.14	0.11
Houtman Abrolhos	0.88	0.76	0.19	1.00	0.76	0.11	1.00	0.88	0.83	0.93	0.15	0.28	0.03	0.26	0.03
Ningaloo Reef	0.60	0.79	0.17	0.38	0.82	0.11	0.96	0.60	0.41	0.78	0.09	0.11	0.02	0.19	0.06
Scott Reef	0.80	0.85	0.52	0.75	0.86	0.40	0.96	0.80	0.73	0.88	0.44	0.47	0.08	0.21	0.11

Table 2: Confusion Matrix for predictability of bleaching using Degree Heating Week values from NOAA data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Browse Island	0.82	0.66	0.15	1.00	0.65	0.08	1.00	0.82	0.76	0.88	0.10	0.23	0.03	0.38	0.03
Cocos (Keeling) Islands	0.62	0.91	0.40	0.25	1.00	1.00	0.90	0.62	0.46	0.79	0.37	0.48	0.03	0.03	0.12
Houtman Abrolhos	0.85	0.72	0.18	1.00	0.71	0.10	1.00	0.85	0.80	0.91	0.13	0.27	0.03	0.31	0.03
Ningaloo Reef	0.65	0.77	0.22	0.50	0.79	0.14	0.96	0.65	0.46	0.83	0.13	0.17	0.03	0.23	0.06
Scott Reef	0.70	0.67	0.36	0.75	0.65	0.24	0.95	0.70	0.62	0.78	0.21	0.27	0.09	0.40	0.12

Table 3: Confusion Matrix for predictability of bleaching using Degree Heating Week values from GCM data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Browse Island	0.44	0.86	NaN	0.00	0.89	0.00	0.97	0.44	0.41	0.48	-0.05	-0.06	0.00	0.11	0.03
Cocos (Keeling) Islands	0.50	0.89	NaN	0.00	1.00	NaN	0.89	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.11
Houtman Abrolhos	0.43	0.84	NaN	0.00	0.86	0.00	0.97	0.43	0.39	0.47	-0.05	-0.07	0.00	0.14	0.03
Ningaloo Reef	0.50	0.94	NaN	0.00	0.99	0.00	0.95	0.50	0.49	0.50	-0.01	-0.02	0.00	0.01	0.05
Scott Reef	0.67	0.83	0.37	0.47	0.87	0.31	0.93	0.67	0.59	0.76	0.28	0.29	0.05	0.17	0.11

Table 4: Confusion Matrix for predictability of bleaching using Degree Heating Months values from CCI data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Browse Island	0.83	0.67	0.14	1.00	0.66	0.08	1.00	0.83	0.77	0.88	0.10	0.22	0.03	0.36	0.03
Cocos (Keeling) Islands	0.86	0.75	0.47	1.00	0.72	0.31	1.00	0.86	0.80	0.91	0.36	0.47	0.11	0.36	0.11
Houtman Abrolhos	0.86	0.72	0.17	1.00	0.71	0.09	1.00	0.86	0.80	0.91	0.12	0.25	0.03	0.31	0.03
Ningaloo Reef	0.72	0.69	0.21	0.75	0.69	0.12	0.98	0.72	0.47	0.97	0.13	0.21	0.04	0.33	0.06
Scott Reef	0.73	0.71	0.36	0.75	0.70	0.24	0.96	0.73	0.65	0.80	0.23	0.30	0.08	0.35	0.11

Table 5: Confusion Matrix for predictability of bleaching using Degree Heating Months values from NOAA data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Browse Island	0.74	0.50	0.11	1.00	0.48	0.06	1.00	0.74	0.68	0.80	0.06	0.17	0.03	0.53	0.03
Cocos (Keeling) Islands	0.80	0.84	0.55	0.75	0.86	0.43	0.96	0.80	0.64	0.97	0.46	0.49	0.09	0.22	0.12
Houtman Abrolhos	0.90	0.81	0.25	1.00	0.81	0.14	1.00	0.90	0.85	0.95	0.21	0.34	0.03	0.22	0.03
Ningaloo Reef	0.62	0.72	0.18	0.50	0.73	0.11	0.96	0.62	0.33	0.91	0.09	0.13	0.03	0.28	0.06
Scott Reef	0.63	0.54	0.29	0.75	0.51	0.18	0.93	0.63	0.55	0.71	0.11	0.17	0.09	0.52	0.12

Table 6: Confusion Matrix for predictability of bleaching using Degree Heating Months values from GCM data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Browse Island	0.82	0.65	0.13	1.00	0.64	0.07	1.00	0.82	0.76	0.88	0.09	0.21	0.03	0.38	0.03
Cocos (Keeling) Islands	0.55	0.59	0.21	0.50	0.61	0.13	0.91	0.55	0.36	0.75	0.05	0.07	0.05	0.41	0.11
Houtman Abrolhos	0.88	0.76	0.18	1.00	0.75	0.10	1.00	0.88	0.82	0.93	0.14	0.27	0.03	0.27	0.03
Ningaloo Reef	0.41	0.78	NaN	0.00	0.83	0.00	0.94	0.41	0.37	0.46	-0.09	-0.11	0.00	0.16	0.05
Scott Reef	0.80	0.77	0.44	0.83	0.76	0.30	0.97	0.80	0.73	0.87	0.34	0.40	0.09	0.30	0.11

Table 7: Confusion Matrix for predictability of bleaching using Degree Heating Months values from Coral Core CCI data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Cocos (Keeling) Islands	0.5	0.92	NaN	0.0	1.0	NaN	0.92	0.5	0.50	0.5	0.00	0.00	0.00	0.00	0.08
Ningaloo Reef	0.7	0.88	0.29	0.5	0.9	0.2	0.97	0.7	0.21	1.0	0.23	0.26	0.02	0.12	0.05

Table 8: Confusion Matrix for predictability of bleaching using Degree Heating Months values from Coral Core NOAA data

Reef	Balanced Accuracy	Accuracy	F1	Sensitivity	Specificity	Pos Pred Value	Neg Pred Value	AUC	Lower CI	Upper CI	Kappa	MCC	Detection Rate	Detection Prevalence	Prevalence
Cocos (Keeling) Islands	0.50	0.92	NaN	0	1.00	NaN	0.92	0.50	0.50	0.50	0.00	0.00	0	0.00	0.08
Ningaloo Reef	0.49	0.93	NaN	0	0.98	0	0.95	0.49	0.46	0.51	-0.03	-0.03	0	0.02	0.05

Table 9: Degree Heating Week Confusion Matrix

Reef	CCI DHW				NOAA DHW				GCM_DHW			
	Balanced Accuracy	Sensitivity	Specificity	AUC	Balanced Accuracy	Sensitivity	Specificity	AUC	Balanced Accuracy	Sensitivity	Specificity	AUC
Browse Island	0.90	1.00	0.80	0.90	0.82	1.00	0.65	0.82	0.44	0.00	0.89	0.44
Cocos (Keeling) Islands	0.84	0.75	0.94	0.84	0.62	0.25	1.00	0.62	0.50	0.00	1.00	0.50
Houtman Abrolhos	0.88	1.00	0.76	0.88	0.85	1.00	0.71	0.85	0.43	0.00	0.86	0.43
Ningaloo Reef	0.60	0.38	0.82	0.60	0.65	0.50	0.79	0.65	0.50	0.00	0.99	0.50
Scott Reef	0.80	0.75	0.86	0.80	0.70	0.75	0.65	0.70	0.67	0.47	0.87	0.67

Table 10: Degree Heating Month Confusion Matrix

Reef	CCI DHM				NOAA DHM				GCM_DHM			
	Balanced Accuracy	Sensitivity	Specificity	AUC	Balanced Accuracy	Sensitivity	Specificity	AUC	Balanced Accuracy	Sensitivity	Specificity	AUC
Browse Island	0.83	1.00	0.66	0.83	0.74	1.00	0.48	0.74	0.82	1.00	0.64	0.82
Cocos (Keeling) Islands	0.86	1.00	0.72	0.86	0.80	0.75	0.86	0.80	0.55	0.50	0.61	0.55
Houtman Abrolhos	0.86	1.00	0.71	0.86	0.90	1.00	0.81	0.90	0.88	1.00	0.75	0.88
Ningaloo Reef	0.72	0.75	0.69	0.72	0.62	0.50	0.73	0.62	0.41	0.00	0.83	0.41
Scott Reef	0.73	0.75	0.70	0.73	0.63	0.75	0.51	0.63	0.80	0.83	0.76	0.80

Table 11: Degree Heating Month Confusion Matrix for Coral Core

	CCore CCI DHM				CCore NOAA DHM			
Reef	Balanced Accuracy	Sensitivity	Specificity	AUC	Balanced Accuracy	Sensitivity	Specificity	AUC
Cocos (Keeling) Islands	0.5	0.0	1.0	0.5	0.50	0	1.00	0.50
Ningaloo Reef	0.7	0.5	0.9	0.7	0.49	0	0.98	0.49