Supplemental Information B: Significant predictors and malaria prevalence maps by model

Table 1: Significant predictors under the SPDE-INLA. A predictor is statistically significant if its coefficient's 95% credible interval does not contain zero. Positive and negative sign indicate that the predictor is positively or negatively correlated with malaria prevalence. Sp = Spatial setting, ST = Spatio-temporal setting, BF = Burkina Faso, ML = Mali, MW = Malawi, NG = Nigeria, UG = Uganda.

	BF		ML		MW		NG		UG	
	Sp	ST	Sp	ST	Sp	ST	Sp	ST	Sp	ST
Population			-	-						-
Aridity	-	-								
Built-up index	-	-					-	-	-	-
Enhanced Vegetation Index								+		
Nighttime light	-	-				-		-		
Precipitation		+								
Elevation					-	-				-
Temperature			-	-		-	+	+		
Accessibility (urban center)		+								
Latitude	-	-					+	+		
Longitude	-	-	+	+				-		
Year		-						-		-

Table 2: Significant predictors under the GAM. A predictor is statistically significant if its coefficient has a p-value of less than 0.05. Positive and negative sign indicate that the predictor is positively or negatively correlated with malaria prevalence. Sp = Spatial setting, ST = Spatio-temporal setting, BF = Burkina Faso, ML = Mali, MW = Malawi, NG = Nigeria, UG = Uganda.

	BF		ML		MW		NG		UG	
	Sp	ST	Sp	ST	Sp	ST	Sp	ST	Sp	ST
Population			-	-						-
Aridity				-		+		-		-
Built-up index		-	-	-		-	-	-	-	-
Enhanced Vegetation Index	+	+	-				+	+		+
Nighttime light	-	-		-		-	-			
Precipitation	+	+	+				-		-	-
Elevation	-	-	-		-	-		-		-
Temperature				-			+	+		
Accessibility (urban center)		+	+		+	+				
Lattitude								-		
Longitude	-		-							

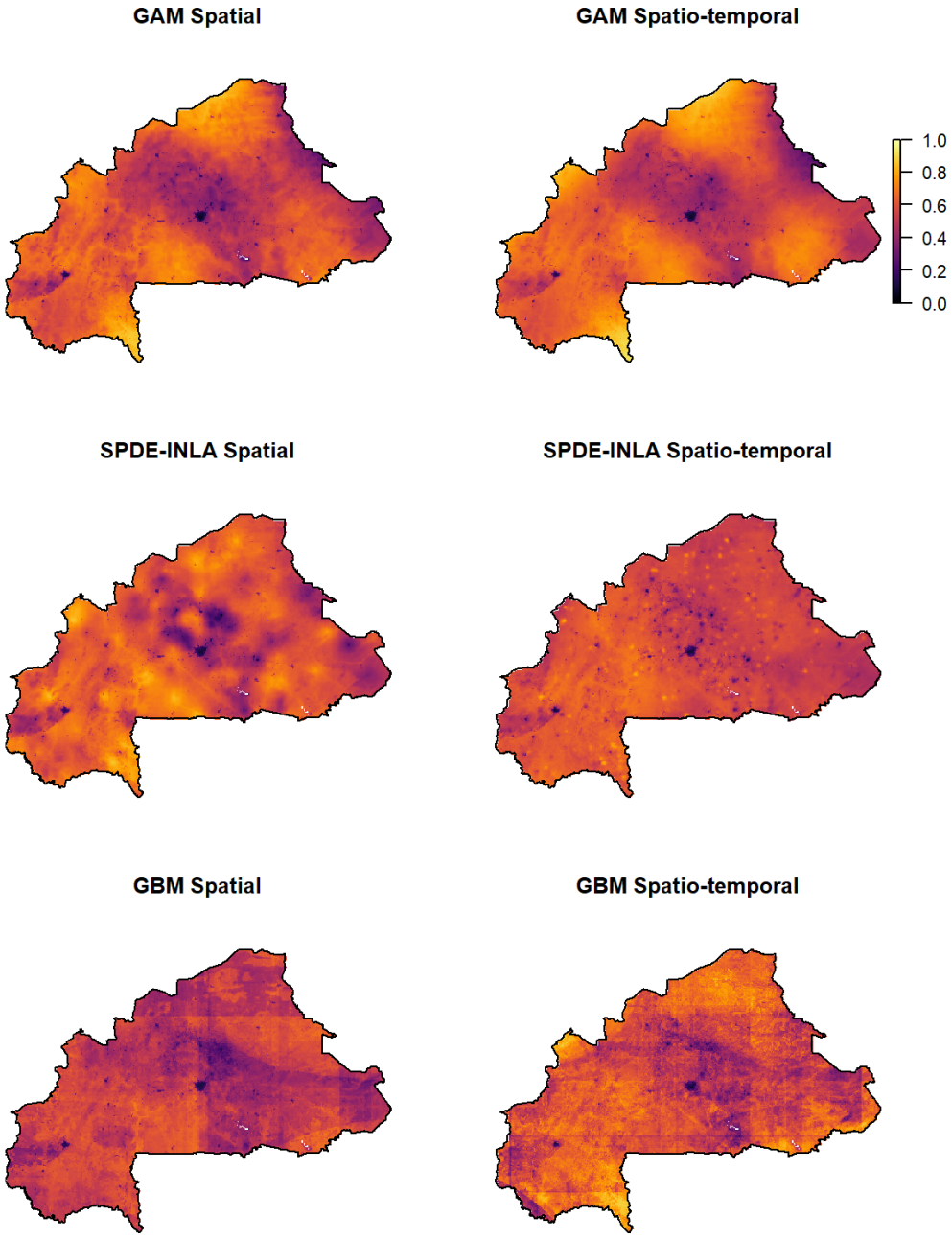

Figure 1: Predicted prevalence of Burkina Faso in 2014, by model and setting.

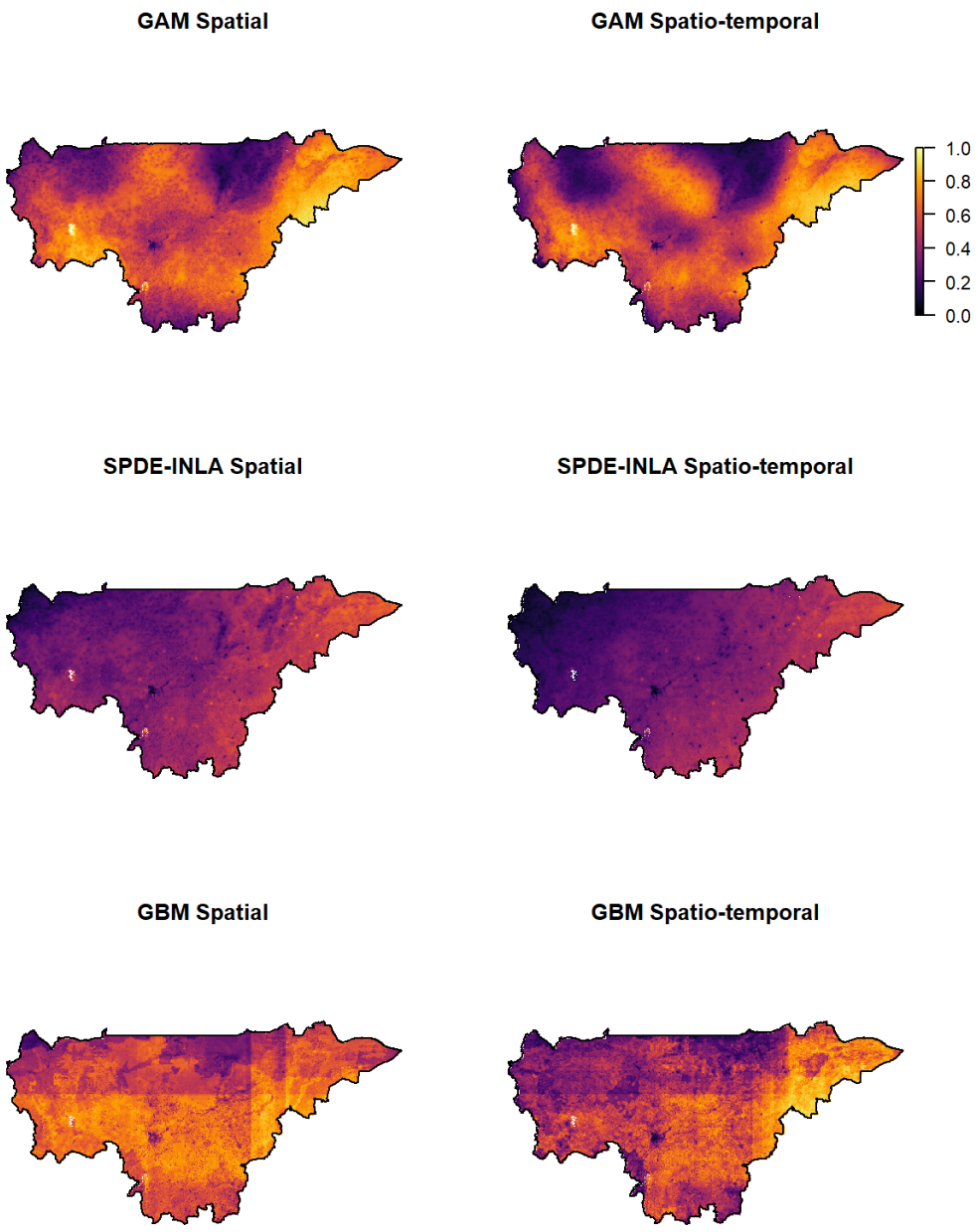

Figure 2: Predicted prevalence of southern Mali in 2014, by model and setting. The northern three regions of Mali are excluded.

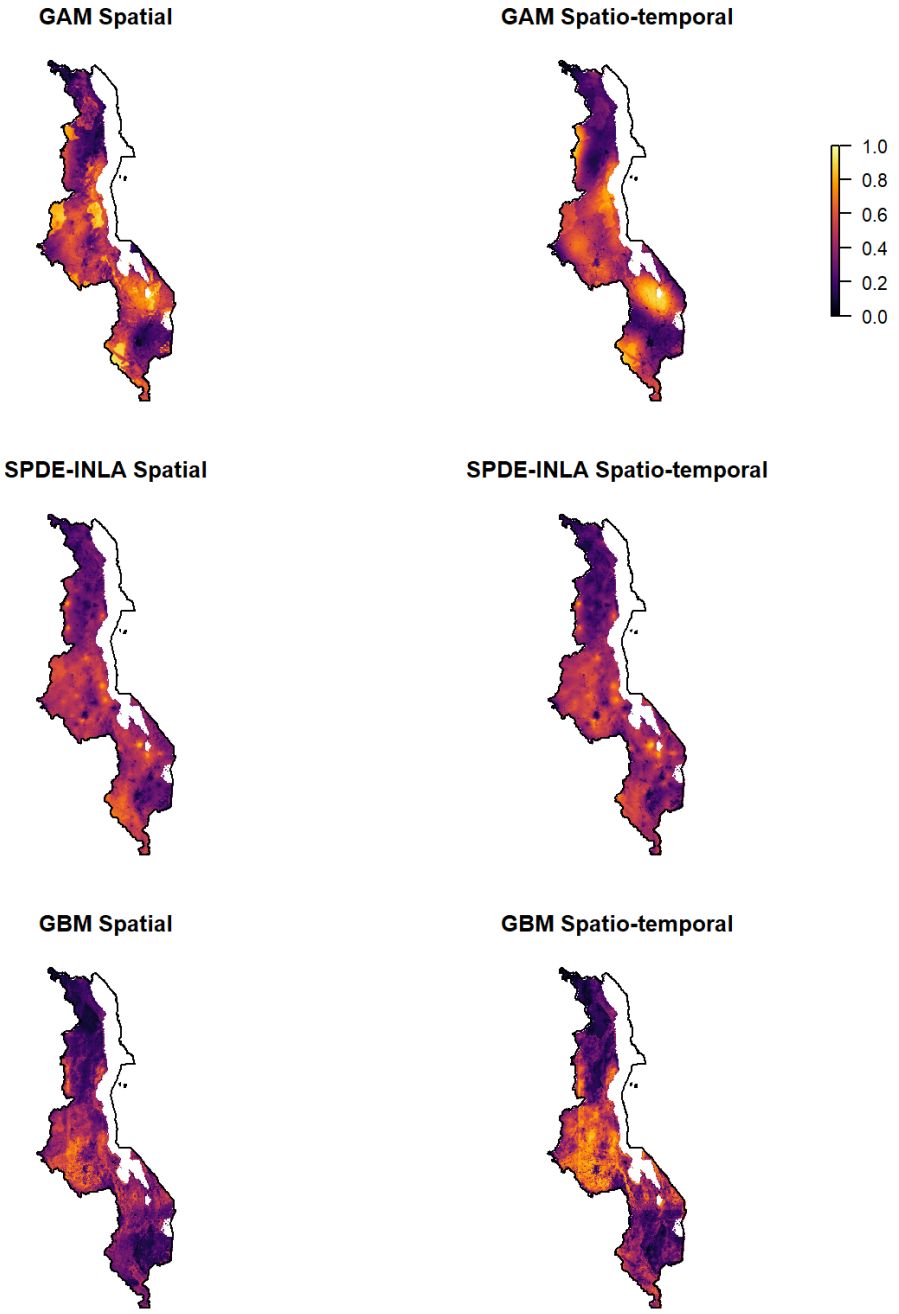

Figure 3: Predicted prevalence of Malawi in 2015, by model and setting.

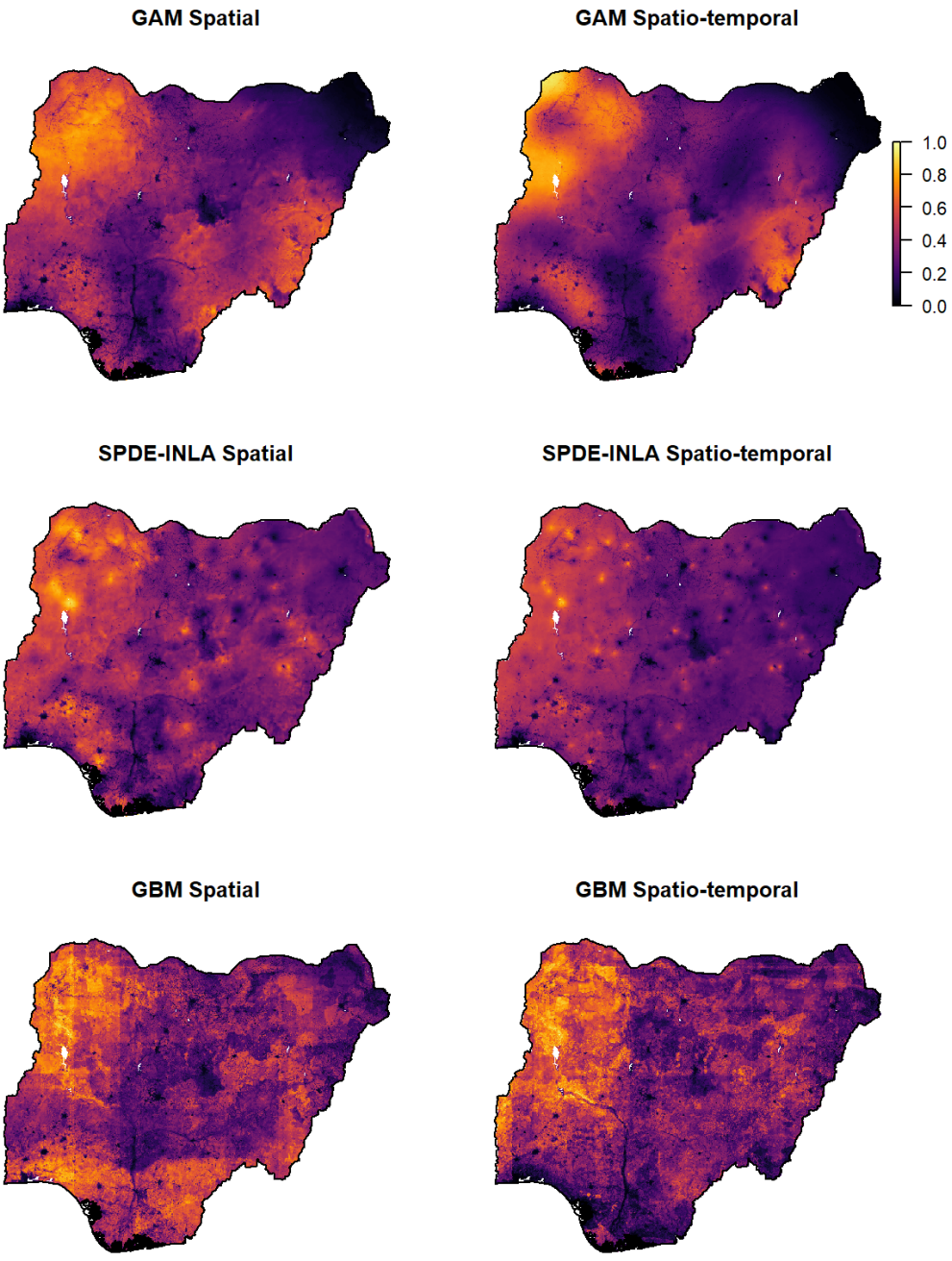

Figure 4: Predicted prevalence of Nigeria in 2015, by model and setting.

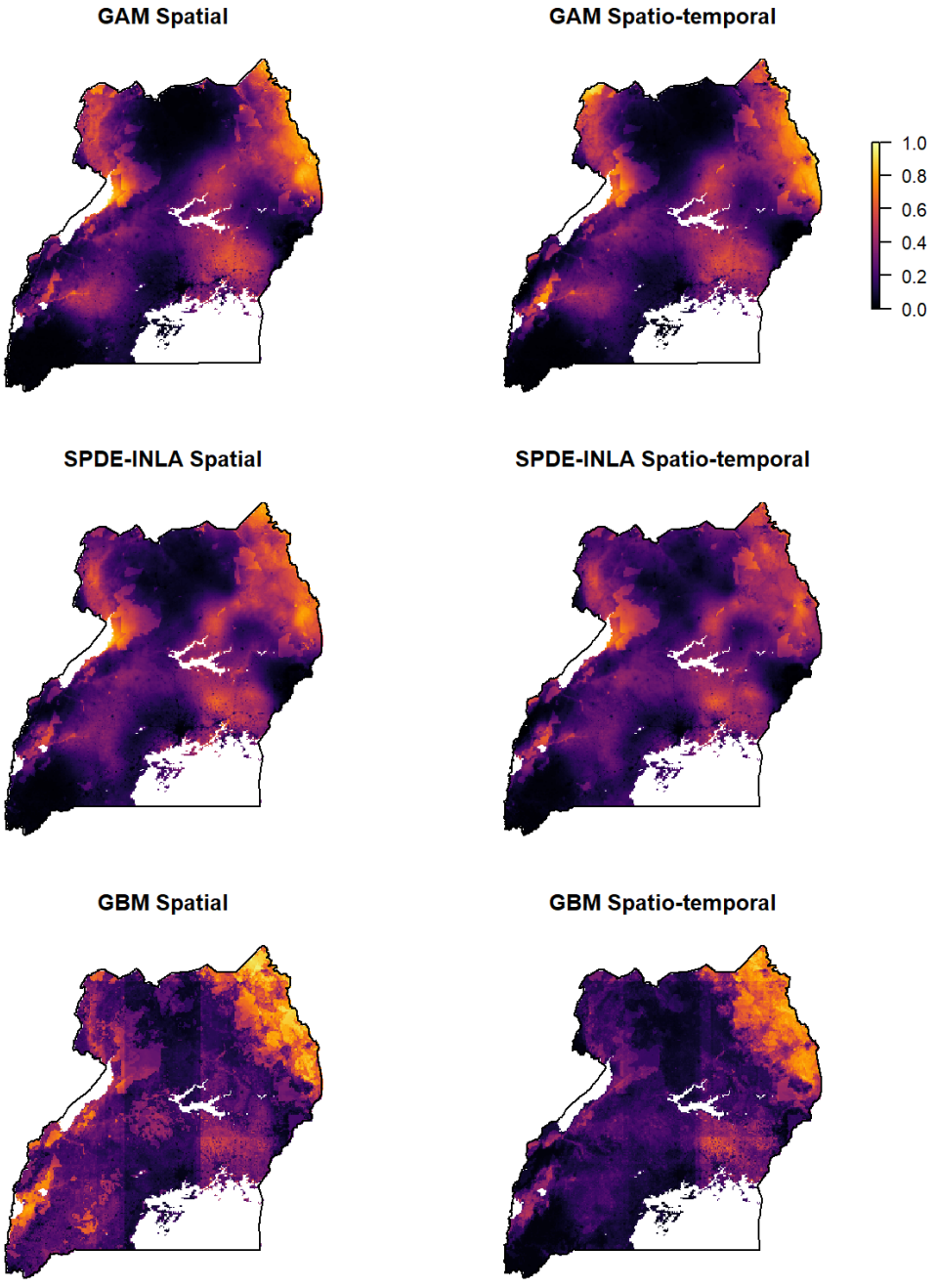

Figure 5: Predicted prevalence of Uganda in 2015, by model and setting.