*JAGS code for estimating the effects of variables that influence behavioral intentions*

#priors for the standard deviations of independent variable groups

sdA ~ dunif(0, 1000)

sdB ~ dunif(0, 1000)

sdC ~ dunif(0, 1000)

sdD ~ dunif(0, 1000)

sdE ~ dunif(0, 1000)

#priors for the precisions of independent variable groups

tauA <- 1/(sdA\*sdA)

tauB <- 1/(sdB\*sdB)

tauC <- 1/(sdC\*sdC)

tauD <- 1/(sdD\*sdD)

tauE <- 1/(sdE\*sdE)

#prior distribution for the effects of 12 landowner characteristics

for(i in 1:12){

A[i] ~ dnorm(0, tauA)

}

#prior distribution for the effects of 4 geographic characteristics

for(i in 1:4){

B[i] ~ dnorm(0, tauB)

}

#prior distribution for the effects of 3 climate change/sea-level rise beliefs

for(i in 1:3){

C[i] ~ dnorm(0, tauC)

}

#priors for the effects of 2 variables related to incentives

for(i in 1:2){

D[i] ~ dnorm(0, tauD)

}

#priors for the effects of 2 attitudes toward marsh attributes

for(i in 1:2){

E[i] ~ dnorm(0, tauD)

}

#prior for the regression equation intercept

#four intercepts are required for ordered logistic regression with five groups

for(i in 1:4){

Int4sort[i] ~ dnorm(0, 0.001)

}

Int[1:4] <- sort(Int4sort[])

#prior for Dirichlet distribution used to describe the priors for Likert scale variables

for(j in 1:5){

alpha[j] <- 1/5

}

#parameters for the distributions of independent variables (used for data augmentation)

#indicator variables are distributed according to Bernoulli, Likert scale items are categorical, and continuous variables are normal

#landowners characteristics

sdAcov[1] ~ dunif(0, 1000)

tauAcov[1] <- 1/(sdAcov[1]\*sdAcov[1])

psiA[1] ~ dunif(0, 1)

psiA[2] ~ dunif(0, 1)

sdAcov[2] ~ dunif(0, 1000)

tauAcov[2] <- 1/(sdAcov[2]\*sdAcov[2])

sdAcov[3] ~ dunif(0, 1000)

tauAcov[3] <- 1/(sdAcov[3]\*sdAcov[3])

psiA[3] ~ dunif(0, 1)

psiA[4] ~ dunif(0, 1)

#geographic characteristics

sdBcov[1] ~ dunif(0, 1000)

tauBcov[1] <- 1/(sdBcov[1]\*sdBcov[1])

sdBcov[2] ~ dunif(0, 1000)

tauBcov[2] <- 1/(sdBcov[2]\*sdBcov[2])

psiB[1] ~ dunif(0, 1)

psiB[2] ~ dunif(0, 1)

#climate change/sea-level rise beliefs

pC[1:5, 1] ~ ddirch(alpha[])

pC[1:5, 2] ~ ddirch(alpha[])

sdCcov[1] ~ dunif(0, 1000)

tauCcov[1] <- 1/(sdCcov[1]\*sdCcov[1])

#variables related to incentives

pD[1:5, 1] ~ ddirch(alpha[])

pD[1:5, 2] ~ ddirch(alpha[])

#attitudes toward marsh attributes

pE[1:5, 1] ~ ddirch(alpha[])

pE[1:5, 2] ~ ddirch(alpha[])

#for 1002 respondents

for(i in 1:1002){

#distributions of independent variables (used for data augmentation)

#landowner characteristics

assval[i] ~ dnorm(0, tauAcov[1])

primres[i] ~ dbern(psiA[1])

gend[i] ~ dbern(psiA[2])

age[i] ~ dnorm(0, tauAcov[2])

edu[i] ~ dnorm(0, tauAcov[3])

repub[i] ~ dbern(psiA[3])

dem[i] ~ dbern(psiA[4])

#geographic characteristics

acresGIS[i] ~ dnorm(0, tauBcov[1])

marshdist[i] ~ dnorm(0, tauBcov[2])

sandy[i] ~ dbern(psiB[1])

protected[i] ~ dbern(psiB[2])

#climate change/sea-level rise beliefs

floodbelief[i] ~ dcat(pC[1:5, 1])

newmarshbelief[i] ~ dcat(pC[1:5, 2])

SLRisreal[i] ~ dnorm(0, tauCcov[1])

#incentives

incent[i] ~ dcat(pD[1:5, 1])

fairprice[i] ~ dcat(pD[1:5, 2])

#attitudes towards marsh attributes

floodprotect[i] ~ dcat(pE[1:5, 1])

wildlifehome[i] ~ dcat(pE[1:5, 2])

#covariate vector for landowner characteristics

Amat[i] <- A[1]\*natland[i] + A[2]\*natwild[i] + A[3]\*localland[i] + A[4]\*localwild[i] + A[5]\*hunt[i] + A[6]\*assval[i] + A[7]\*primres[i] + A[8]\*gend[i] + A[9]\*age[i] + A[10]\*edu[i] + A[11]\*repub[i] + A[12]\*dem[i]

#covariate vector for geographic characteristics

Bmat[i] <- B[1]\*acresGIS[i] + B[2]\*marshdist[i] + B[3]\*sandy[i] + B[4]\*protected[i]

#covariate vector for climate change/sea-level rise beliefs

Cmat[i] <- C[1]\*floodbelief[i] + C[2]\*newmarshbelief[i] + C[3]\*SLRisreal[i]

#covariate vector for variables related to incentives

Dmat[i] <- D[1]\*incent[i] + D[2]\*fairprice[i]

#covariate vector for attitudes toward marsh attributes

Emat[i] <- E[1]\*floodprotect[i] + E[2]\*wildlifehome[i]

#regression equation for ordered logistic regression incorporates all covariate vectors from above

log(mu[i]) <- Int - (Amat[i] + Bmat[i] + Cmat[i] + Dmat[i] + Emat[i])

p[1, i] <- mu[1, i]

for(j in 2:4){

logit(mu[j, i]) <- Int[j] - (Amat[i] + Bmat[i] + Cmat[i] + Dmat[i] + Emat[i])

p[j, i] <- mu[j, i] - mu[j-1, i]

}

p[5, i] <- 1 - mu[4, i]

#the response variable is multinomial distributed (1-5, strongly unlikely - strongly likely)

easement[,i] ~ dmulti(p[1:5, i], 1)

}

*JAGS code for estimating spatial variation in behavioral intentions*

#prior for the intercept of the regression equation

Int ~ dnorm(0, 0.001)

#prior for the variance term of the hexagon-level random effect

sdHEX ~ dunif(0, 1000)

tauHEX <- 1/(sdHEX\*sdHEX)

#hexagon random effect, for 60 hexagons

for(i in 1:60){

hexRE[i] ~ dnorm(0, tauHEX)

}

for(i in 1:length(LikelyorStronglyLikely)){

#regression equation; HEX is a vector that indexes hexagon for respondent i

logit(mu[i]) <- Int + hexRE[HEX[i]]

#response variable is 1 if landowner reported being most likely participate in an agreement, 0 if most likely to not participate

consagree[i] ~ dbern(mu[i])

}