ENVIRONMENTAL CORRELATES OF BREEDING IN THE CRESTED CARACARA

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ABSTRACT**.** We evaluated the influence of weather on reproduction of the Crested Caracara (*Caracara cheriway*) in an agricultural landscape in south-central Florida. We used a mixed logistic regression modeling approach within an information-theoretic framework to examine influence of total rainfall, rainfall frequency, and temperature on the number of breeding pairs, timing of breeding, nest success, and productivity of caracaras during 1994-2000. The best models indicated an influence of rainfall frequency and laying period on caracara reproduction. More caracaras nested and more pairs nested earlier during years with more frequent rainfall in late summer and early fall. Pairs that nested later in each breeding season had smaller clutches, lower nest success and productivity, and higher probability of nest failure. More frequent rainfall during early spring months usually characterized by water deficit (March - May), more frequent rainfall during the fall drawdown period (September - November), and a shorter winter dry period showed some association with higher probability of brood reduction and lower nest success. The proportion of nests that failed was higher in "wet" years, when total rainfall during the breeding season (September - April) was > 10% above the 20-year average. Rainfall may influence caracara reproduction indirectly through food resources. As total rainfall increased during February - April, when most pairs are feeding nestlings or dependent fledglings, the proportion of drawdown-dependent species (those that become available as rainfall decreases and wetlands become isolated and shallow) in the caracara's diet declined, perhaps indicating reduced availability of foraging habitat for this primarily terrestrial raptor.