California's northern Pacific rattlesnakes, *Crotalus oreganus*, have experienced stress in the form of severe drought, low food availability, and habitat disturbance at construction sites. We aim to investigate whether the effect of such long-term stressors change the composition and effectiveness of a rattlesnakes most important tool- venom. We will conduct a field and laboratory study in which half of the snakes will be implanted with time-release capsules of the stress hormone corticosterone, and the other half with a placebo implant. We will draw blood samples before, during, and after treatment to confirm experimental elevation of corticosterone. We will extract venom samples before treatment and at two-week intervals during treatment to analyze changes in venom protein composition. Our hypothesis is that venom in snakes with elevated corticosterone will change in protein composition. Understanding the mechanisms of the stress hormone corticosterone will give insight into the physiological and behavioral effects of exposures to long-term stressors. If venom varies within an individual snake or between treatment groups, it will give insight into the evolution of different venom components. It may also revise current antivenin protocols, as differences in individual snake venom composition may alter the effectiveness of antivenin for medical treatment in humans.