The largest phocids in the Pacific ocean are northern elephant seals, *Mirounga angustirostris*. Elephant seals breed on islands and peninsulas along the western coast of North America from mid-Baja California, Mexico to the Farallon Islands near San Francisco, California. The two largest rookeries are Isla de Guadalupe in Mexico and San Miguel Island in southern California; these two islands account for approximately 75% of the population's annual pup production. Three long-term studies during the breeding season have been in progress on this species over the period during which El Niño 1982–83 occurred. Stewart and Yochem (Chap. 25) present data from their studies on San Miguel and nearby San Nicolas Islands in the southern California Bight which span the period 1981–1988. Huber, Beckham and Nisbet (Chap. 24) present data from their study on the Farallon Islands near San Francisco that has been ongoing since 1974. Le Boeuf and Reiter (Chap. 23) summarize findings from Ano Nuevo, California, collected during the period 1968–1988.

Because the effects of El Niño were primarily on the marine environment, it is useful to consider the context and period that elephant seals of both sexes and various age groups are at sea. Elephant seals lead a pelagic existence at sea and apparently forage individually. They are deep divers that appear to feed off the continental shelf along the west coast of North America from mid-Baja California to the southern Aleutians in Alaska.

Females spend about 34 days onshore from December to March giving birth, nursing their pups, and copulating. After weaning their pups, females spend approximately 2.5 months at sea feeding before coming back to land to molt, a process that takes about 1 month. Females spend the rest of the year, an 8-month gestation period that extends from about May to December, feeding at sea before returning to land to give birth.

Elephant seal pups are weaned in January, February, and March at 1 month of age. They remain on the rookery for an additional 2.5 months fasting and learning to swim and dive until about mid-May. By this time, all of them have gone to sea where they remain until the following fall or spring. During this first trip to sea, individuals feed only so much as to maintain their departure mass (Mason, Morris and Le Boeuf, unpubl. data).

Males present on the rookery during the breeding season, ranging in age from 5 to 14 years, spend March to July and September to November feeding at sea. Juveniles are at sea feeding from December to March and from about May to September.