

For Elephant Seals, a Restful Downward Spiral

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OBSERVATORY

By HENRY FOUNTAIN

Northern elephant seals are long-distance mariners, voyaging for two to eight months at a time without making landfall. And when they are at sea, they spend up to 90 percent of their time on underwater dives.

So this question arises: How and when do they sleep, or even just rest?

Past research had identified certain types of dives that include a period of slow descent that might be a siesta of sorts, for resting or digesting. Now a study has revealed more information about these so-called drift dives that strongly suggests they are a resting period, with the animals spiraling down in the water like a falling leaf through the air.

Yoko Mitani of Hokkaido University in Japan and colleagues attached special data loggers to six young northern elephant seals off the California coast. In addition to the usual information like depth and water temperature, the loggers capture acceleration and magnetism data along three axes, providing a profile of a dive in three dimensions.

The data, published in *Biology Letters*, showed that during certain dives, after the seals swam to a depth of about 500 feet, they leveled off, turned over on their backs and coasted slowly down, rolling and yawing slightly as they descended. This slow phase lasted on average about 10 minutes.

Dr. Mitani said the seals occasionally even struck bottom without any apparent reaction — an indication that they might have been sleeping. She said the slow drifting dives probably allowed the seals to rest without descending so far that they would have to expend extra energy to resurface.