



Bottlenose Dolphin Occurrence off the Virginia Coastline and its Relationship to Sea Surface Temperature

As one of the most intelligent marine animals in the world, the Bottlenose dolphin, *Tursiops truncatus*, dominates its environment by being the top - level predator. Protected under the Marine Mammal Protection Act (MMPA) the preservation of bottlenose dolphins has been a primary concern of the government, researchers, and dolphin enthusiast alike. Over the years many scientists have dedicated their research to preserving dolphins, and devising better method in trying to locate them. It has been suggested that dolphins migrate toward areas of high chlorophyll concentration and relatively warm temperatures on the Atlantic coast. One of the methods the Navy is hoping to utilize is remote sensing. In compliance with the MMPA and the Office of Naval Research (ONR), this study explored the presence of dolphins using sea surface temperature (SST) and chlorophyll data from April 2000 to October 2001 using the Advance Very High Resolution

Radiometer (AVHRR). SST data from NOAA data station at Sewell's Point was used where temperature from (AVHRR) was not available. Field data was collected using the passive observation technique from small boat cruises on set transects. The 75 transects that were made, there were 39 encounters. The voyages took place on the Elizabeth River in Norfolk, Virginia, from May 2000 to October 2001.

There were no sightings of dolphins in sea surface temperature below 56°F. 92.3% of the sightings were made from SST within the range of 70F - 80F. 98.1% of the dolphins sighted were also within this range. According to our data set there was no correlation between chlorophyll and the presence or absence of bottlenose dolphins.