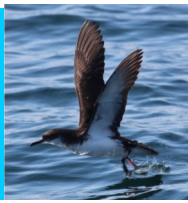
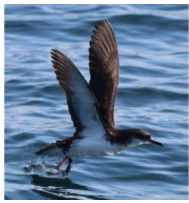


Friends of Penzance B.S.A.C. Conservation Officer's Report August 2015



The mean solar day—the average length of a day, based on how long it takes the Earth to rotate—is about 86,400,002 seconds long. That's because Earth's rotation is gradually slowing down a bit, due to a kind of braking force caused by the gravitational tug of war between Earth, the moon and the sun. The day was officially a bit longer than usual on Tuesday, Jun 30th 2015, because an extra second, or leap second was added. Earth's rotation is gradually slowing down, so leap seconds are a way to account for that. Strictly speaking, a day lasts 86,400 seconds. That is the case, according to the time standard that people use in their daily lives. Coordinated Universal Time or UTC. which is “atomic time”, the duration of one second is based on extremely predictable electromagnetic transitions in atoms of cesium.



These transitions are so reliable that the cesium clock is accurate to one second in 1,400,000 years. The volume of Arctic sea ice increased by a third after an unusually cool summer 2013. Researchers say the growth continued in 2014 and more than compensated for losses recorded in the three previous years. The scientists involved believe changes in summer temperatures have greater impacts on ice than thought, but they say 2013 was a one-off and that climate change will continue to shrink the ice in the decades ahead. Satellite observations have documented a decrease of 40% in the extent of sea ice cover in the Arctic since 1980. While the extent of the retreating ice has been well recorded, the key indicator that scientists want to understand is the loss of sea ice volume. Researchers have been able to use data gathered by Europe's Cryosat satellite over the past five years to answer this question. The



polar monitoring spacecraft has a sophisticated radar that allows the scientists to accurately estimate the volume. The researchers used 88 million measurements of sea ice thickness from Cryosat and found that between 2010 and 2012, the volume of sea ice went down by 14%. Other researchers lowered a geothermal probe through a borehole in the West Antarctic ice sheet to measure temperatures in the sediments beneath half a mile of ice. The amount of heat flowing toward the base of the ice sheet from geothermal sources deep within Earth is surprisingly high. The results provide important data for

researchers trying to predict the fate of the ice sheet, which has experienced rapid melting over the past decade. Bottlenose dolphins were only seen 3 times during August, a pod of 18 and a single in Fal Bay and 2 off Gwennap Head. 19 sightings of Common Dolphins mainly in Mounts Bay and Fal Bay ranged in pod sizes from singles to a pod of 200 or more in Mounts Bay on the 23rd. There were 9 reports of Risso's Dolphins, with pod sized of 5 to 20. 35 sightings of Harbour Porpoises with pod sizes ranging from 1 to several in the 20s, 40, and 60s an even one sighting of over 100 in Mounts Bay on the 8th. 3 Minke Whales were seen in Fal Bay and another off Porthgarra, and a Humpback Whale in Mounts Bay. There were 37 sightings of Ocean Sunfish. Blue Fin Tuna were seen breaching on three days, on 15th it was described as 9 sq miles of fish breaching in Mounts Bay.. There were 3 sightings of Blue Sharks, 37 of Grey Seals. and almost daily sightings of Barrel and Compass Jelly Fish. On August 24th The National Oceanographic Centre was carrying out a marine mammal survey on UK vessel RRS James Cook a couple of hundred Km off south west Cornwall with Prof Russell Wynn, watching 7 Fin Whales when a Blue Whale surfaced. The first of this species recorded in British waters. Also seen in the area was a Broad Billed Swordfish.