



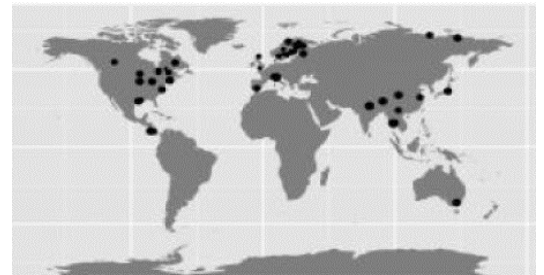
# Friends of Penzance B.S.A.C. Conservation Officer's Report, March 2014



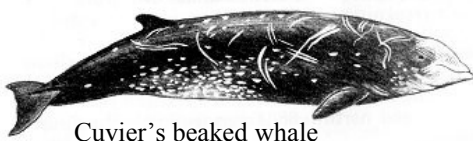
Scientists at the University of East Anglia have identified four new human-made gases in the atmosphere, all of which are contributing to the destruction of the ozone layer.. New research reveals that more than 74,000 tonnes of three new chlorofluorocarbons (CFCs) and one new hydrochlorofluorocarbon (HCFC) have been released into the atmosphere They made the discovery by comparing today's air samples with air trapped on polar snow - which provides a century-old natural archive of the atmosphere. Measurements show that all four gases have been released into the atmosphere recently, and that two are significantly accumulating. Emissions increases of this scale have not been seen for any other CFCs since controls were introduced during the 1990s. But they are nowhere near peak CFC emissions of the 1980s which reached around a million tonnes a year.

When the sun sets on a remote desert outpost and solar panels shut down, what energy source will provide power through the night? A battery, perhaps, or an old diesel generator? Perhaps something strange and new. Scientists now envision a new device that would harvest energy from Earth's infrared emissions into outer space. Heated by the sun our planet is warm compared to the frigid vacuum beyond. Thanks to recent technological advances, researchers say that heat imbalance could soon be transformed into direct-current (DC) power, taking advantage of a vast and untapped energy source.

While carbon dioxide is typically painted as the bad boy of greenhouse gases, methane is roughly 30 times more potent as a heat-trapping gas. New research indicates that for each degree that Earth's temperature rises, the amount of methane entering the atmosphere from microorganisms dwelling in lake sediment and fresh water wetlands — the primary sources of the gas — will increase several times. As temperatures rise, the relative increase of methane emissions will outpace that of carbon dioxide from these sources. To provide an accurate way for climate modelers to account for methanogenesis researchers analysed nearly 1,600 measurements of temperature and methane emissions from 127 freshwater ecosystems across the globe, some of which are shown on this map.



Distributed throughout the worlds oceans, the Cuvier's beaked whales' frequent dives deep into the ocean make them difficult for researchers to study. Previous studies using short term tags indicated that this deep diving species might be the most extreme breath-holding diver in the ocean. To better understand this behaviour, scientists analysed data from satellite-linked tags that recorded the diving behaviour and locations of eight Cuvier's beaked whales off the Californian Coast collecting over 3,000 hours of diving data including depth and time of each dive and monitored record breaking dives to depths of nearly two miles below the oceans surface and some dives lasting to over two hours.



Cuvier's beaked whale

There were only a small number of cetacean sightings reported during March. There were no reports of Bottlenose, but 5 reports of unidentified dolphins were probably that species,. They were of a single dolphin fin seen in Newlyn harbour at 9a.m. on the 9th; 3 dolphins passing through The Tribbens, the water way between The Cowloe and Sennen Harbour, on the 14th; a single heading across Mounts Bay from Jubilee Pool toward Newlyn Harbour on the 16th' and it was reported that it had a tatty dorsal fin and the skin on its back had marks and scars; also three seen jumping off Gwennap Head NCI Lookout on the 19th; and 4 seen jumping while heading south, well off Penzance prom on the 31st. Harbour Porpoises were seen on four occasions, singles off The Cowloe, Sennen on the 4th and 29th; 3 north of The Brisons on the 5th and 5 off The Boscastle NCI Lookout on the 8th. A very interesting report came in on the 19th of 7

Dusky Dolphin



dolphins, 3 adults and 4 juveniles with no beaks having black backs and white undersides, The juveniles were jumping in pairs as they headed forth and back between Newlyn and Mousehole during the afternoon. The reporter thought they might be Dusky Dolphins, but Dusky Dolphins are not usually found in this area, but a southern hemisphere species.