



OUTER CAPE ENVIRONMENTAL AWARENESS NEWSLETTER



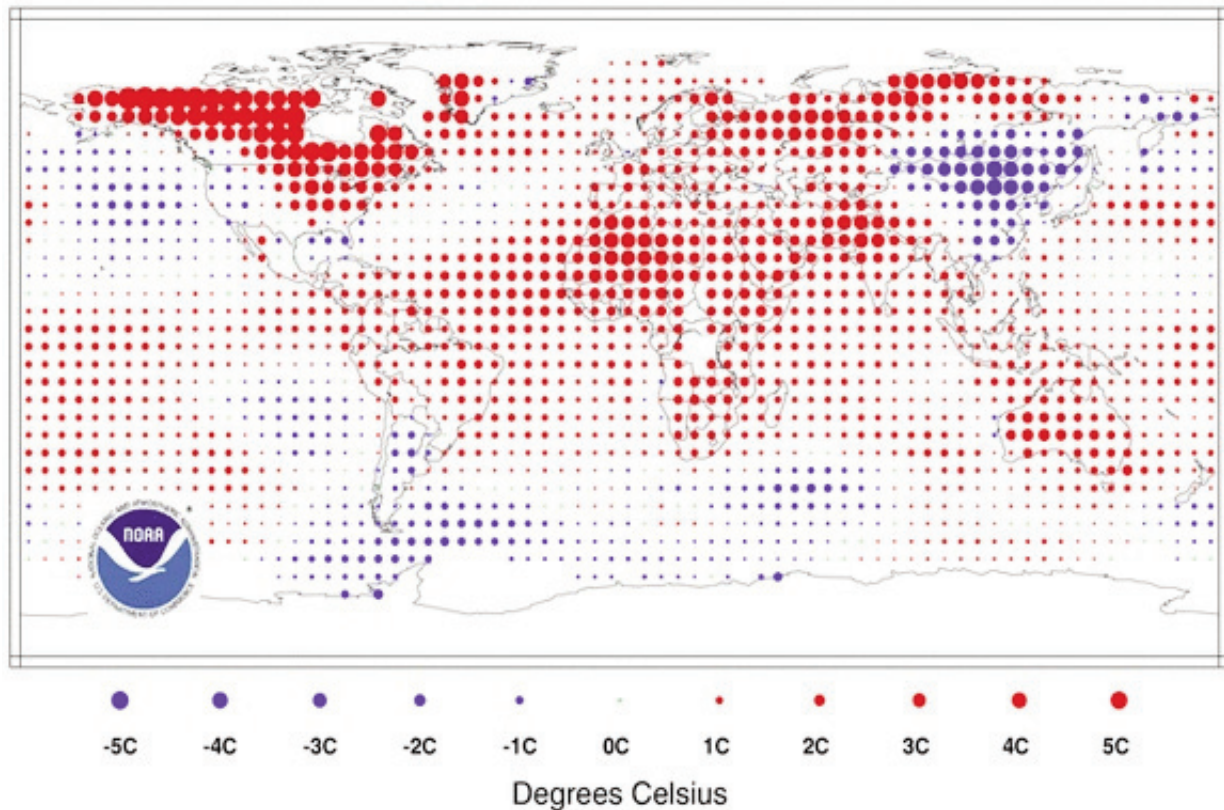
This e-newsletter was created by Safe Harbor to provide environmental links between Outer Cape environmental groups, towns, students and residents. We believe in collaborative solutions to our mutual environmental challenges. Collaborative efforts protect natural and financial resources. Thank you to our readers, who pass on this newsletter, supporting our efforts to protect our resources through education. A special thank you to Whitney Johnson of London, England for her generous contribution of effort and talent in the production of OCEAN.

~ Gordon Peabody, Editor

RECORD BREAKING TEMPERATURES

April 2010: warmest for the globe on record, since record keeping began in 1880, according to the National Oceanic and Atmospheric Administration's (NOAA's) National Climatic Data Center. The April temperature anomaly of 0.76°C (1.37°F) is illustrated in this NOAA image.

Temperature Anomalies April 2010 (with respect to a 1971–2000 base period) National Climatic Data Center/NESDIS/NOAA



CONSEQUENCES

New England Syrup Trouble

We decided to take a closer look at how this Climate Warming may affect our breakfast table. We've heard that warmer spring weather has had serious impacts on Maple Syrup and we wanted to find out exactly why.

Up until about 30 years ago, spring time in syrup country was characterized by freezing nights and warm days. In freezing weather, the tree will produce negative pressure, sucking moisture from the ground, which in turn helps create pressure within the tree when it warms up. Periods of alternating warm and cold weather create a higher differential in pressure between the branches and the roots, which increase sap flow during the days. When the weather is unusually warm for a number of days, the sap flow will reduce dramatically or stop running altogether.

Industry representatives however, told Safe Harbor researcher Effie Kostic that production has not dropped significantly. The reason, as we learned, was startling. Producers are now using "supplementary vacuum systems" to get a larger volume of sap. Most producers will now use them all the time.



CONSEQUENCES

British Flower Trouble

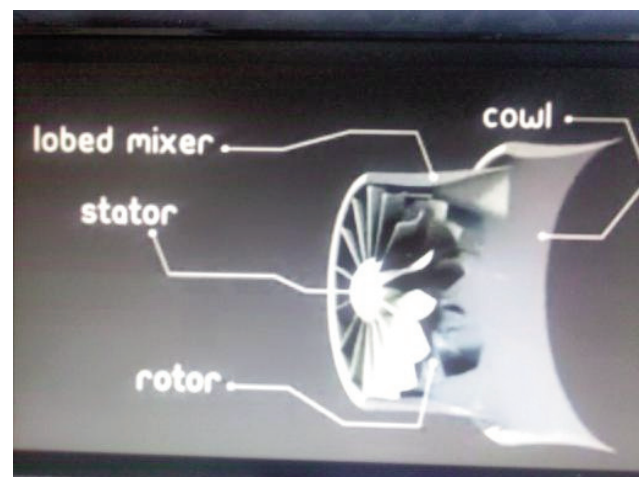
British researchers stitched together nearly 400,000 first flowering records covering 405 species across the nation. Plants are flowering earlier now than at any time in the last 250 years, according to new analysis. First blooms have been showing 11 days earlier than 30 years ago. This change in timing may stress relationships between blossoms, insects and birds.

Reference: <http://news.bbc.co.uk/go/em/fr/-/2/hi/science/nature/8606406.stm>

LOOKING BEYOND PROPELLORS

During the Renaissance, Leonardo Davinci invented the "Wind Screw". Today, we may be ready for a change. Propeller blade energy systems need to move air around the blades, requiring compensating design and energy loss. Fan blade (turbine) energy systems, such jet engines, move wind through them. Fan blade turbines are now being developed for next generational wind energy systems. One particular, award winning system is named "Flo Design". Turbine systems may be 4x more productive, quieter, bird safe and require less height. We have been tracking this "new" concept, which actually pre-dates Davinci, because it uses the "Archimedes Screw" principle. The video is worth watching.

Reference: <http://www.alternative-energy-news.info/wind-turbine-concept-jet-engines/>



STORM DISPATCHES

Snowmageddon

This winter's Atlantic Coast storm track changed and record snowfall closed down Washington DC. Here is Erin Aycock's photo of the snowed-in Naval Memorial.



Natural Disaster Ends Record Australian Drought

During our northern hemisphere winter, our favorite southern hemisphere city of Perth, in Western Australia, had been suffering a record, summer dry spell. Very few residents had ever experienced what happened next.

Reference: <http://www.abc.net.au/news/stories/2010/03/22/2853076.htm>

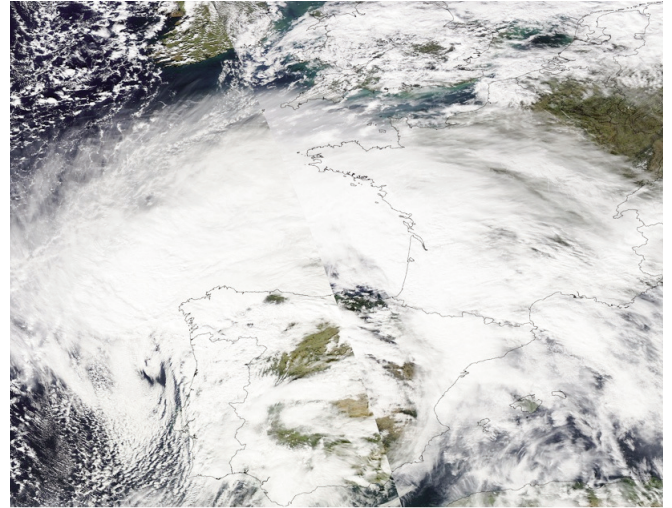


Winter Hurricane Shuts Down Europe

From Portugal to Holland, hurricane force winds and high waves devastated areas as far inland as Paris. The end of February Storm, with winds clocked at 200 km/hr (125 mph), took at least 58 lives and was so significant that it was given a name "Xynthia". One million people were without power and some coastal towns were inundated by a 25 foot high storm surge.

Continued

Winter Hurricane Shuts Down Europe *Continued*



AP Associated Press

Mon Mar 1, 8:46 AM

HERRING RIVER SALT MARSH RESTORATION

Healthy oysters need healthy salt marshes. Thanks to Genevieve Eustis for this photo. The largest proposed salt marsh restoration on the East coast is being planned right here on Cape Cod. Visit Friends of Herring River, www.friendsofherringriver.org/news.htm for updates about what's going on with the marsh restoration.



NEWS UPDATES

Student Interns Available

If your organization is interested in hosting an intern for a specific project from 70–210 hours, which would relate to the environmental or clean energy fields. Please contact Valerie Massard, Program Coordinator, Environmental Technology/Clean Energy at Cape Cod Community College, vmassard@capecod.edu.

Micro Wind Web Site

The Micro Wind web site is now back on line: <http://www.masscec.com/index.cfm?pid=11093>.

Safe Harbor Staff Update



Safe Harbor 2009 fall Intern **Vida Hamnquist**, recently graduated Summa Cum Laude from Lesley University. Vida and her brother have opened the Nor' East Beer Garden in Provincetown.

2010 Conservation Commission Directory

The 2010 Conservation Commission Directory has information on submission requirements, deadlines and communications with Commissions from Chatham and Brewster to Provincetown. In downloadable pdf format.

Reference: <http://safeharborenv.com/2010/04/17/2010-conservation-commission-directory/>

RECORD CAPE COD GROUND WATER

March's 3" average precipitation bumped up to 9" this year, contributing to record ground water levels on Cape Cod. Safe Harbor is developing a "Good Neighbor Storm Water Guide" with easy ways for homeowners to direct rain to the ground water table, instead of discharging it onto the streets. Thanks to Alice Neiley for this beautiful photo.



SAFE HARBOR AND THE GULF OIL LEAK

How unusual are oil leaks?

Safe Harbor researcher Rosemary Mullane uncovered multiple, large spill events on the African Coast. In the links below, note one instance where the oil company declared Force Majeure, a legal term absolving it of responsibility for an unprecedented and unexpected leak.

References:

<http://www.guardian.co.uk/world/2010/may/30/oil-spills-nigeria-niger-delta-shell>

http://axisoflogic.com/artman/publish/Article_59935.shtml

How much oil?

Willful misrepresentation of oil discharge volume seems to represent "business as usual". When the East Timor oil leak began in August '09, it was reported to be "only 400 barrels per day". The actual volume turned out to be nearly 2,300 barrels. This link discusses the actual, possible volume of the Gulf leak

Reference: <http://www.npr.org/templates/story/story.php?storyId=126809525>

How did it happen?

Good investigative journalism.

Oil Spill Blame Game Over: 60 Minutes Uncovers Severe BP Negligence Led to Explosion (Video).

WGBH Investigates

Gordon Peabody of Safe Harbor was interviewed live, along with MA Congressman Ed Markey, by the Emily Rooney show on WGBH regarding our experiences with BP. The Peabody interview begins about a third of the way into the program.

Reference: <http://www.wgbh.org/programs/programDetail.cfm?programid=854&featureid=11904&rssid=4>

What does the future look like?

Use this link for predictions of oil spread in Gulf of Mexico and the Gulf Stream. The link goes to four models. We adjust the play rate to continuous loop and slow it down. Click play to start. We believe there will be oil for everyone: Mexico; Cuba; the Bahamas and even some for our Atlantic Coast. Currents only play part of the role of distribution, wind is also an important factor.

Reference: http://ocg6.marine.usf.edu/~liu/oil_spill_ensemble_forecast.html

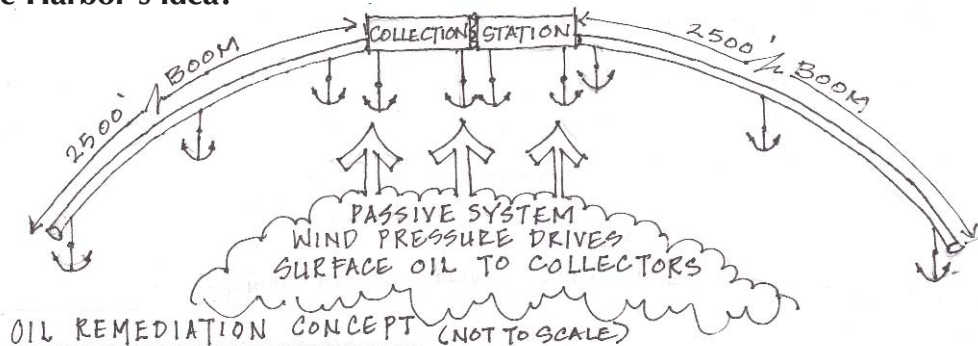
What about the animals?

Animal species (birds, shrimp, fish, porpoises and turtles, don't exist individually but within natural resource systems that support them. The success, or sustainability of these species are dependant on the system's ability to adapt to changing conditions. When resource systems are overwhelmed (such as we may be witnessing), they may reach a tipping point where the overall system collapses and the individual species can no longer be supported. Collapsed resource systems may reconfigure in generations, a century, or longer.

What could we be looking at?

Even if we could say, rescue 34,000 oil soaked birds on just one island in the Gulf, there would be no system to return them to. Translocating rescued species, at some point, will begin stressing other resource systems. We may need to consider the unthinkable, that animal populations in collapsed resource systems may be lost.

What was Safe Harbor's idea?



OIL REMEDIATION CONCEPT (NOT TO SCALE)

UTILIZING EXISTING TECHNOLOGY

AVAILABLE MATERIALS & SUSTAINABLE ENERGY MAY 1ST 2010

CONCEPT BY: GORDON PEABODY, SAFE HARBOR www.safeharborenv.com

ASSISTED BY: AUSTIN BECKER, PHD CANDIDATE, STANFORD UNIVERSITY

JOY CUMING, SUSTAINABLE ARCHITECT, www.alinearchitecture.com

