



Actual EA SPORTS Active users
Individuals remunerated



Wii

- News
- Articles
- Videos
- Images
- Books
- Search

Science News

[Share](#) [Blog](#) [Cite](#) [Print](#) [Email](#) [Bookmark](#)

Out Of Africa: Large Quantities Of Saharan Dust Help Fertilize Massive Plankton Blooms

ScienceDaily (Apr. 6, 2006) — Large quantities of Saharan dust are helping to fertilize the massive plankton blooms that occur in the tropical eastern Atlantic, a research project has confirmed.

See Also:

Plants & Animals

- Marine Biology
- Ecology Research
- Nature

Earth & Climate

- Severe Weather
- Storms
- Air Pollution

Reference

- Dust storm
- Ocean current
- House dust mite
- Dust devil

A team including researchers from the School of Environmental Sciences at the University of East Anglia has been studying the desert dust, which is rich in nitrogen, iron and phosphorus, and its effect on the ocean's nutrients, plankton production and the food chain.

The £600,000 project, is part of the Surface Ocean Lower Atmosphere Study, UK SOLAS, funded by the Natural Environment Research Council, NERC, and involves co-ordinating samples taken at sea with atmospheric measurements made from a research aircraft.

Visitors to The Science Museum in London will be able to participate in a hands-on exhibition, which includes

satellite images and a dust sample, as well as getting the chance to ask scientists about the project this week (April 4 and 5).

The researchers carried out the first combined ship and aircraft campaign in the tropical Atlantic around the Cape Verde islands last month. A BAe 146 research aircraft made sorties from Dakar, Senegal over the Cape Verde islands to investigate the composition, radiative properties and deposition of the dust flowing from west Africa over the tropical Atlantic.

Dr Ellie Highwood of the University of Reading and her team in the aircraft sampled dust at different heights over the ocean while UEA's Claire Powell and researchers from other universities were stationed on a ship collecting dust particles falling into the ocean.

The total quantity of dust involved, about 500 million tonnes per year, is sufficient to affect the climate. By partly absorbing and partly reflecting sunlight, the dust particles heat the air but cool the ocean surface.

The dust particles also encourage cloud formation, which reinforces the reflection of light back into space. Such effects can be far-reaching: hurricanes in the Caribbean begin their life off north-west Africa, with atmospheric dust being one of many factors influencing their early development.

Investigators confirmed that wind-blown dust from the Sahara desert plays a crucial role in fertilizing large areas of the Atlantic Ocean. The delivery of nutrients, and some metals common on land but scarce in the open ocean, stimulates the production of massive plankton blooms.

Dr Phil Williamson, project coordinator at UEA's School of Environmental Sciences, said: "This study shows how important the links are between the different parts of the climate system.

"Dust storms are sporadic events and Saharan dust can come from many sources – it can be mixed with soot, from grassland and forest fires; and it can change its chemical and physical properties as it is carried in the atmosphere, at different heights and different moisture conditions. These complications make it difficult to include the dust effects in climate models."

The UK SOLAS studies involve researchers from the National



Large quantities of Saharan dust are helping to fertilize the massive plankton blooms that occur in the tropical eastern Atlantic, a research project has confirmed. A team including researchers from the School of Environmental Sciences at the University of East Anglia has been studying the desert dust, which is rich in nitrogen, iron and phosphorus, and its effect on the ocean's nutrients, plankton production and the food chain. (Image courtesy of University Of East Anglia)

Ads by Google

Autism Research Findings
Explore recent findings from worlds largest online research database
[IANProject.org](#)

Research Ford F-250
Official Site. Exclusive Offers.
Research the Ford F-250 Online.
[FordVehicles.com/SuperDuty](#)

Free Trial- Phytoplankton
Highest Quality Pure Multi-Strain Phytoplankton (1 Bottle \$29.95)
[www.MarinePhytoplankton5000.com](#)

New medications/treatment
Studies to find new treatments for diabetes arthritis cholesterol more
[www.diablocinical.com](#)

Related Stories

Dust Storms In Sahara Desert Trigger Huge Plankton Blooms In Eastern Atlantic (Feb. 10, 2008) — Scientists are at sea studying the Saharan dust that blows off the coast of Africa - triggering huge plankton blooms in the eastern Atlantic. Saharan dust is rich in nitrogen, iron and phosphorus and ... > [read more](#)

Acidic Clouds Nourish World's Oceans (Oct. 6, 2009) — Acidic clouds are feeding bioavailable iron to the oceans -- a discovery which sheds light on the natural processes that remove carbon dioxide from the ... > [read more](#)

Pollen Proves Beneficial For Northern Lakes (June 12, 2006) — Mention the word pollen to most people and it triggers thoughts of their battle against allergic reactions. However, a University of Alberta

Just In:
Primates' Social Intelligence Overestimated

Science Video News



Dust Storms And Hurricanes

Meteorologists have found a new discovery may boost the accuracy of the forecasts. The surprising factor is dust, researchers have found that years. ... > [full story](#)

[Atmospheric Physicists Develop Dust Storm Forecasting System](#)

[Physicists Spot Interstellar Shock Wave Using Spitzer Telescope](#)

[Astrophysicists Search Skies For A Moon Like Earth's](#)

[more science videos](#)



Breaking News ... from NewsDaily.com

NASA hauls shuttle to launch pad, despite cold

Study turns up 10 autism clusters in California

Tombs to lift lid on Egypt's ancient middle class

One in 10 births around world premature: WHO

Relic of Antarctica's first plane found on ice-edge

[more science news](#)



Ads by Google

Autism Research Findings

Explore recent findings from worlds largest online research database
[IANProject.org](#)

Don't Panic Its Organic

Earth friendly garden supplies & much more, buy online today.
[www.gardeningzone.com](#)

In Other News ...

Three dead in Missouri factory shooting

Plane bomb suspect joined al Qaeda in London: Yemen

"Shock" U.S. report due on attempted airline attack

U.N. experts urge Iraq, U.S. to pursue Blackwater case

New medications/treatment

Studies to find new treatments for diabetes arthritis cholesterol more
[www.diablocinical.com](#)

Free Trial- Phytoplankton

Highest Quality Pure Multi-Strain Phytoplankton (1 Bottle \$29.95)

(University of Reading), in collaboration with the UK Meteorological Office, the African Monsoon Multidisciplinary Analysis (AMMA), German SOLAS researchers and other international research groups.

For more information, visit the Science Museum's website at: <http://www.sciencemuseum.org.uk/antenna/saharandust/>

Email or share this story: | [More](#)

Story Source:

Adapted from materials provided by [University Of East Anglia](#).

Need to cite this story in your essay, paper, or report? Use one of the following formats:

- APA University Of East Anglia (2006, April 6). Out Of Africa: Large Quantities Of Saharan Dust Help Fertilize Massive Plankton Blooms. *ScienceDaily*. Retrieved January 8, 2010, from <http://www.sciencedaily.com/releases/2006/04/060404202937.htm>
- MLA

Note: If no author is given, the source is cited instead.

Number of stories in archives: 79,704

Change Predictions (Mar. 24, 2008) —

Most oceanographers have assumed that the iron needed to fertilize infrequent plankton blooms in the high-nutrient, low-chlorophyll regions of the world's oceans comes almost entirely from wind-blown ... > [read more](#)



Dust Storms In Sahara Desert Sustain Life In Atlantic Ocean (July 19, 2008) —

Saharan dust storms help sustain life over extensive regions of the North Atlantic Ocean. Scientists mapped the distribution of nutrients including phosphorous and nitrogen and investigated how ... > [read more](#)

Ads by Google

APRA's Platinum Sponsor
Recession weary? Let WealthEngine help with your research. Free trial www.WealthEngine.com

Marine Biology Degree
Interested in Marine Biology? Gain Hands On Experience at OSU OregonState.edu/MarineBiology

Poly Water Tanks
Poly Water Storage Tanks Sale Shop Online or Call 866 310 2556 Plastic-Mart.com/PolyWaterTanks

Web Data Extraction
Timely. Automated. No Coding Easy to use! Free 2-week Trial www.Connotate.com

[screened](#)

[Anti-Brown putsch](#)

[fizzles, but UK's](#)

[Labor damaged](#)

[Man threatening Jews hauled off flight in Miami](#)

[more top news](#)

Copyright Reuters 2008. See [Restrictions](#).

Free Subscriptions ... from ScienceDaily

Get the latest science news with our free email newsletters, updated daily and weekly. Or view hourly updated newsfeeds in your RSS reader:

[Email Newsletters](#)

[RSS Newsfeeds](#)

Feedback ... we want to hear from you!

Tell us what you think of the new ScienceDaily -- we welcome both positive and negative comments. Have any problems using the site? Questions?

Your Name:

Your Email:

Comments:

Click button to submit feedback:

Find with keyword(s):

Enter a keyword or phrase to search ScienceDaily's archives for related news topics, the latest news stories, reference articles, science videos, images, and books.