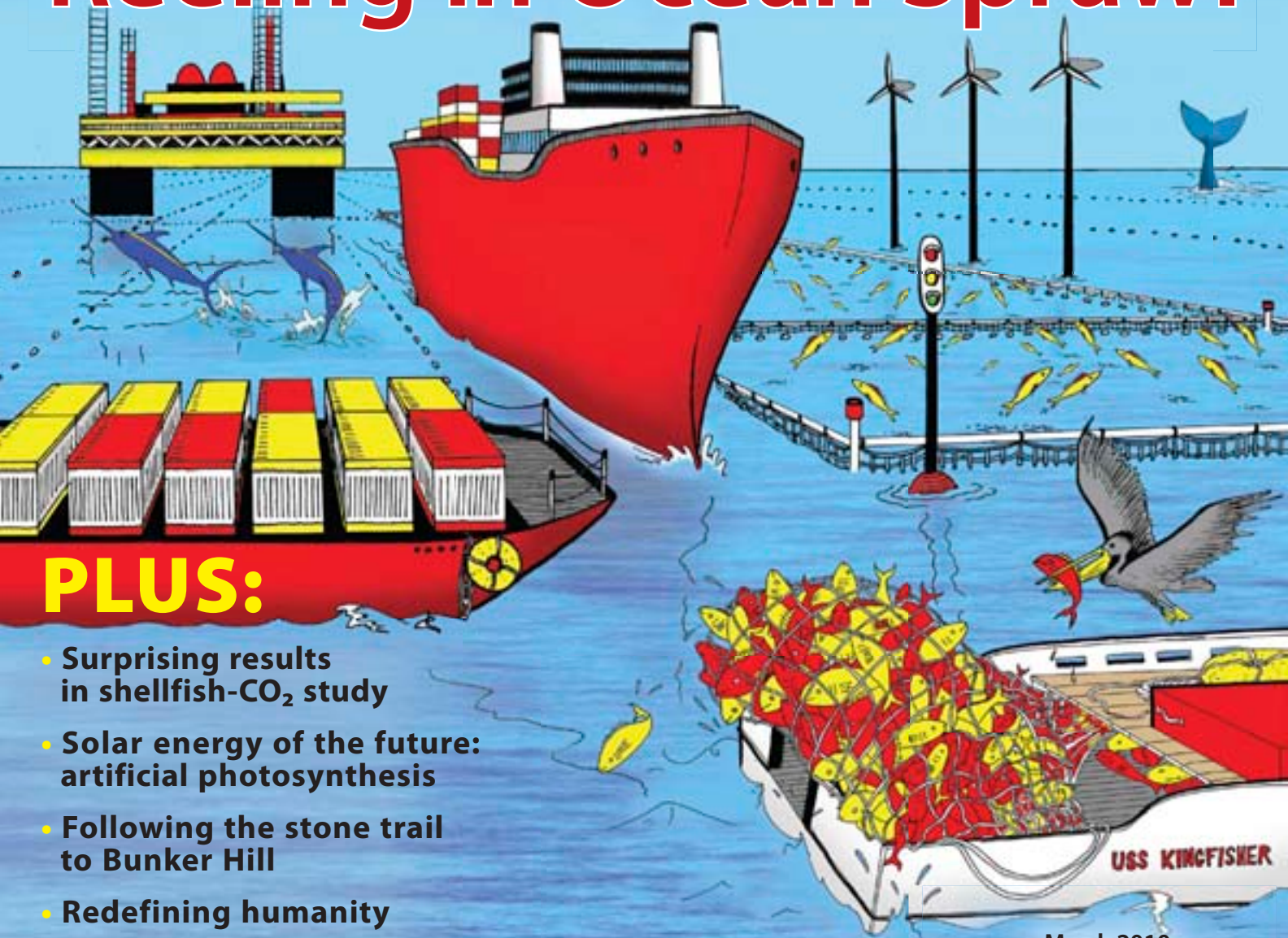


EARTH

Reeling in Ocean Sprawl



PLUS:

- Surprising results in shellfish-CO₂ study
- Solar energy of the future: artificial photosynthesis
- Following the stone trail to Bunker Hill
- Redefining humanity
- Aftershock count shocks scientists
- Wind farms learn from fish schools

DEFORESTATION NOT THE CAUSE OF MAYA DOWNFALL?



March 2010

www.earthmagazine.org

\$4.99US \$5.99CAN



FEATURE

SEA SPRAWL: INTO THE BLUE FRONTIER OF OCEAN DEVELOPMENT

Shipping, fishing and even oil and gas development have coexisted off our coasts for decades. But the oceans of the future may become busy and crowded as new industries, including aquaculture and wind farms, may also soon be seeking portions of the vast offshore real estate. Thus, the question is: Is a new policy approach called marine spatial planning the solution to sea sprawl?

Carolyn Gramling



FEATURE

SHELL-SHOCKED: MARINE CREATURES EXHIBIT VARIED RESPONSES TO OCEAN ACIDIFICATION

Carbon dioxide in the atmosphere is making the oceans more acidic — and may be making it harder for some marine organisms like scallops and clams to build their shells. New research examines how 18 different marine creatures react to rising carbon dioxide levels in seawater — and the results may surprise you.

Justin B. Ries

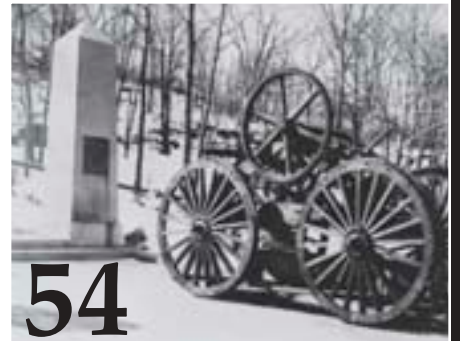


FEATURE

FOLLOWING THE STONE TRAIL OF THE BUNKER HILL MONUMENT

The monument to the Revolutionary War soldiers who bravely fought in the Battle of Bunker Hill towers just north of downtown Boston. But the monument has its own tale to tell: one of an enigmatic stonemason, a state prison, a railroad, artistic differences and a statuesque stone.

David B. Williams



TRENDS AND INNOVATIONS

ENGINEERING PHOTOSYNTHESIS: MAKING FUEL FROM SUNLIGHT

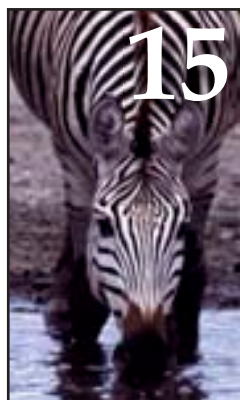
Currently, sunlight can only be used as a direct energy source during the day. But scientists are working to find a cheap, efficient way to store solar energy or to convert it into fuels that can be used at any time. Artificial photosynthesis may be the answer.

Megan Scudellari



NEWS

- 7 NEWS SHORTS
- 8 NEW TECHNIQUE COUNTS AFTERSHOCKS
- 9 EVOLUTION: CONSTANT OR PULSED?
- 10 QUIET SUN COOLS EARTH'S UPPER ATMOSPHERE
- 11 DETERMINING THE ORIGINS OF EARTH'S GASES
- 12 WIND FARMS LEARN FROM FISH SCHOOLS
- 13 DINOSAUR-KILLING IMPACT BROILED — NOT SEARED — EARTH
- 14 STONE FOUNDATION OF JERUSALEM LED TO MONOTHEISTIC RELIGION
- 15 A ZEBRA IN A HORSE'S CLOTHING
- 16 DID THE MAYA SEE THE FOREST FOR THE TREES?
- 17 FAULT TYPE PLAYS ROLE IN PREDICTING QUAKES?
- 18 SCIENTISTS FIND WATERY SUPER-EARTH
- 19 THE DARK SIDE OF SATURN'S MOON
- 19 EARLY BIRDS LIGHTENED THEIR LOAD BY LOSING TEETH
- 20 ICELAND'S HYDROTHERMAL VENTS REVEAL WHAT LIES BENEATH THE ATLANTIC
- 21 FOSSIL DISCOVERY HONES IN ON EARLY DINOSAUR EVOLUTION
- 22 ANIMALS MIX IT UP IN THE OCEAN
- 24 YELLOWSTONE'S EXPLOSIVE POTENTIAL
- 27 SATURN'S ORBIT CONTROLS TITAN'S LAKES



- 28 TOBA ERUPTION NEARLY KILLED OFF HUMANS
- 28 ANCIENT SEA COW COULD OPEN FLOODGATES TO A UNIQUE PAST
- 29 MINERAL RESOURCE OF THE MONTH: CESIUM

VIEWS

- 86 **A COMMENT**
LANDSLIDES: THE UNINSURABLE HAZARD
Earthquakes, floods, tsunamis and hurricanes: all hazards for which people can get insurance. Missing from the list is landslides, as some people have found out the hard way.
Scott Burns
- 87 **A COMMENT**
REDEFINING HUMANITY THROUGH ENERGY USE
Definitions of what distinguishes humans from other animals keep changing — from our ability to make and use tools to our use of language. It's time for a new definition based on our control of energy.
Michael E. Webber
- 88 **GEOLOGIC COLUMN**
BUSTING MYTHS: GLOBAL WARMING EDITION
Myths usually hold a grain of truth, and myths about global warming are no exception. Let's bust through those myths and figure out what's really true.
Fred Schwab

DEPARTMENTS

- 4 **FROM THE EDITOR**
- 6 **LETTERS: PERSPECTIVES FROM READERS**
- 64 **GEOMEDIA**
Books: Examining the What-Ifs in "What If the Earth Had Two Moons?"
Web: Twitter Gives Users — and Officials — Heads-Up on Earthquakes
Books: Elucidating Landscapes in "Of Rock and Rivers"
- 68 **CROSS-SECTION: A PUZZLE**
- 69 **WHERE ON EARTH?**
- 70 **BENCHMARKS**
March 23, 1821: Bauxite Discovered



- 73 **DOWN TO EARTH WITH ...**
STRUCTURAL GEOLOGIST, DEAN SHARON MOSHER
- 76 **GEOMARKETPLACE**
- 80 **CLASSIFIEDS: CAREER OPPORTUNITIES**