IN BRIEF
12 Roundup of the week’s news

IN DEPTH
16 NEW PROTEINS MAY EXPAND, IMPROVE GENOME EDITING
Mining bacterial immune systems yields two new editing tools and has the potential to contribute many more By E. Pennisi

17 TALKING SCIENCE AND GOD WITH THE POPE’S NEW ASTRONOMER
Guy Consolmagno, director of the Vatican Observatory, wants to show the world that religion supports astronomy By E. Cartlidge

18 EUROPE’S RIFTS OVER TRANSGENIC CROPS DEEPEN AT KEY DEADLINE
Policy differences among 28 E.U. member states come into sharper focus in the wake of major reform By T. Rabesandratana

20 HAVE PHYSICISTS SEEN THE DYING FLASH OF DARK MATTER?
Dark particle decays could explain tantalizing x-ray signal seen in multiple galaxies, including our own Milky Way By E. Cartlidge

FEATURES
22 THE STORM KING
A mysterious tropical weather pattern called the Madden-Julian oscillation fuels El Niños and triggers rain, heat waves, and hurricanes around the globe By E. Hand

25 Taking the pulse of the tropics
By E. Hand

26 POOLING RESOURCES
Ecologist Aram Calhoun forges creative alliances in her quest to protect ephemeral vernal pools By J. U. Adams

21 HOLLAND’S GIANT WAVEMAKER HAS SPLASHY DEBUT
Delta Flume will allow researchers to study how coastal defenses fare against powerful surf By M. Enserink

INSIGHTS

LETTERS
30 NEXTGEN VOICES

PERSPECTIVES
32 SAFER FUELS BY INTEGRATING POLYMER THEORY INTO DESIGN
Jet fuels are stabilized with polymers assembling in solution By M. Jaffe and S. Allam
► REPORT P. 72

33 LOCKING DOWN THE CORE OF THE PORE
A highly stable heterotrimeric protein complex lines the central channel of the nuclear pore By K. S. Ullman and M. A. Powers
► RESEARCH ARTICLE P. 56; REPORT P. 106

34 THE IPCC AT A CROSSROADS: OPPORTUNITIES FOR REFORM
Increase focus on policy-relevant research By C. Carraro et al.

36 ADDED VALUE FROM IPCC APPROVAL SESSIONS
Flexible, creative author teams are critical By C. B. Field and V. R. Barros

37 A TREE OF THE HUMAN BRAIN
Genomes of single neurons trace the developmental and mutational history of the brain By S. Linnarsson
► REPORT P. 94

38 HOW STABLE ARE FOODwebs DURING A MASS EXTINCTION?
Fossil data provide a detailed view of how food webs changed across the Permian-Triassic mass extinction By C. R. Marshall
► REPORT P. 90

39 EYING UP A JUPITER-LIKE EXOPLANET
Extreme adaptive optics systems enable the direct imaging of exoplanetary systems By D. Mawet
► REPORT P. 64

Science Staff .................................................. 8
New Products .............................................. 114
Science Careers ........................................... 116