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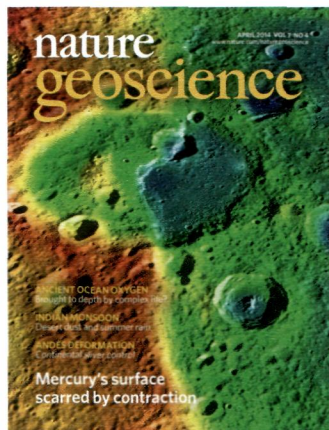
geoscience

ANCIENT OCEAN OXYGEN
Brought to depth by complex life?

INDIAN MONSOON
Desert dust and summer rain

ANDES DEFORMATION
Continental sliver control

**Mercury's surface
scarred by contraction**



COVER IMAGE

Observations of compressional structures on Mercury have fallen short of accommodating the global contraction that is required owing to cooling of the planet's interior. Mapping of folds and faults across Mercury's surface using MESSENGER spacecraft images reveals deformation consistent with a planet that has contracted radially as much as seven kilometres over its history. The image shows a 270-km-long lobate scarp named Carnegie Rupes, looking southeast. The scarp cross-cuts Duccio crater on Mercury. High elevation is shown in red, low elevations are blue.

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IMAGE: NASA / JOHNS HOPKINS UNIV. APPLIED PHYSICS LAB. / CARNEGIE INST. WASHINGTON

COVER DESIGN: DAVID SHAND

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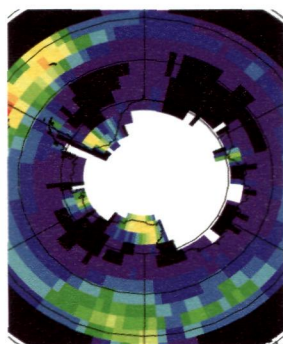
Paola Moffa-Sánchez, Andreas Born, Ian R. Hall, David J. R. Thornalley and Stephen Barker

Федеральное государственное
бюджетное учреждение науки
Центральная научная библиотека
Уральского отделения
Российской академии наук (ЦНБ УрО РАН)



As continents are stretched apart, deep rift valleys form and volcanoes can erupt both inside and outside of the valley. Numerical modelling suggests that gravitational unloading, caused by thinning of the stretched crust, can deflect rising magma towards the edges of the rift valley, causing off-rift eruptions.

Image: Derek Keir
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Low levels of iron limit primary productivity across much of the Southern Ocean. Measurements of dissolved iron levels combined with hydrographic data suggest that much of the iron in the surface waters of the Southern Ocean is supplied by deep mixing during winter.

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