



# THOUGHTS ON MEETING NOAA'S FUTURE MISSION WITH SCIENCE AND TECHNOLOGY

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*Science Journals*

# Mission Elements

- Weather and climate prediction
- Weather-related hazard warnings and risk mitigation (tornados, hurricanes)
- Ocean ecosystem protection and fisheries management

## From NOAA's Website

“NOAA’s core mission functions require satellite systems, ships, buoys, aircraft, research facilities, high-performance computing, and information management and distribution systems.”



Genes behind embryonic  
aneuploidy pp. 260 & 263

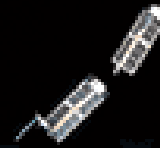
Closing the Central American  
Seaway early pp. 200 & 206

Chemical imaging of  
membrane lipids p. 271

# Science

\$10  
10 APRIL 2015  
science.org

AAAS

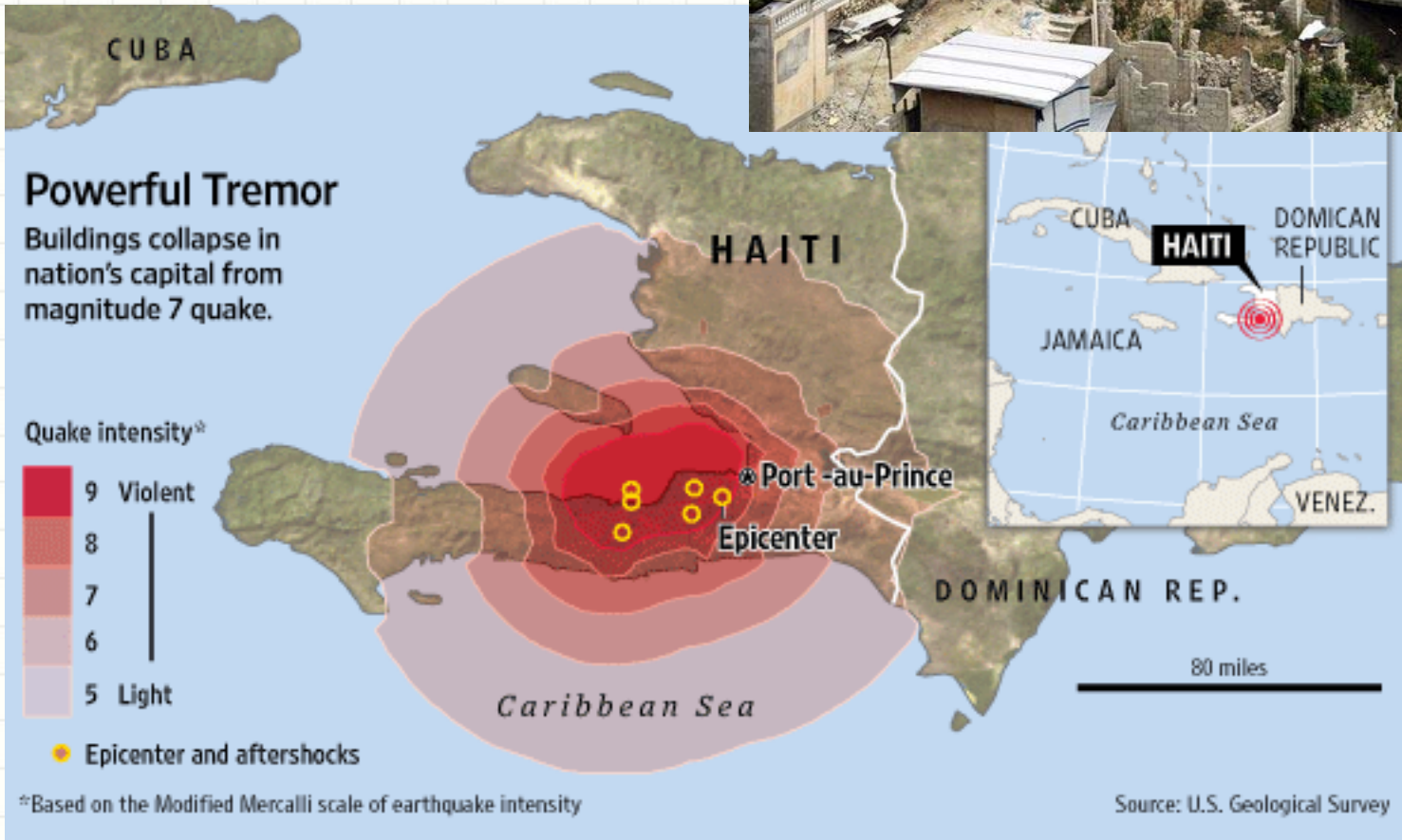
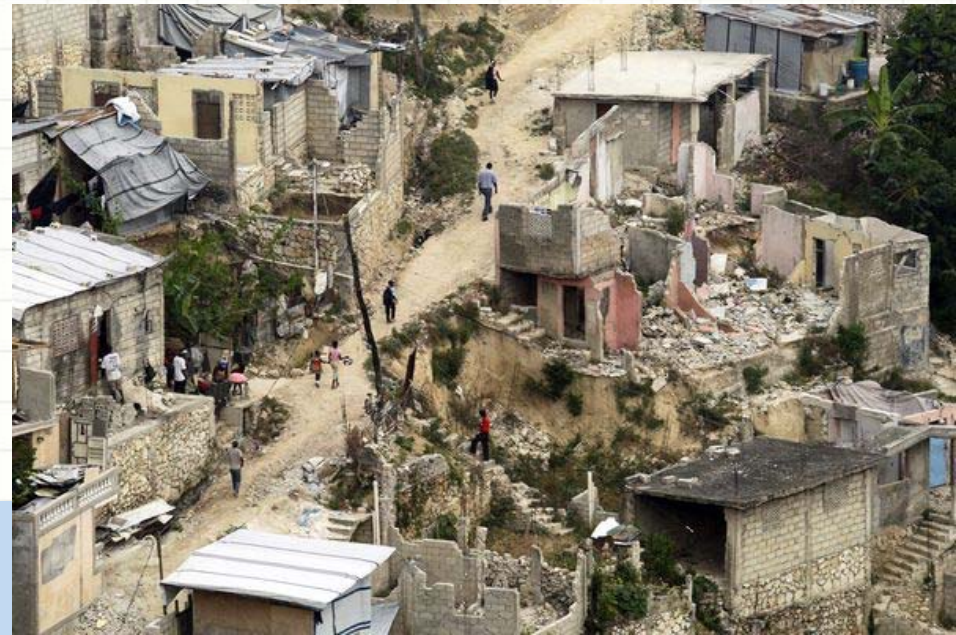
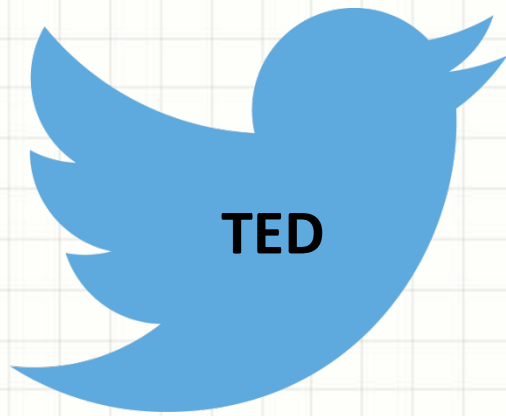


## *CubeSats take flight*

Cheap, miniature satellites  
democratize space p. 172









# Did You Feel It?

**M6.0 earthquake**  
*Central California*  
Sept. 28, 2004

**M5.8 earthquake**  
*Central Virginia*  
Aug. 23, 2011

*Stars show epicenters  
and dots show where  
people reported at least  
weak shaking.*

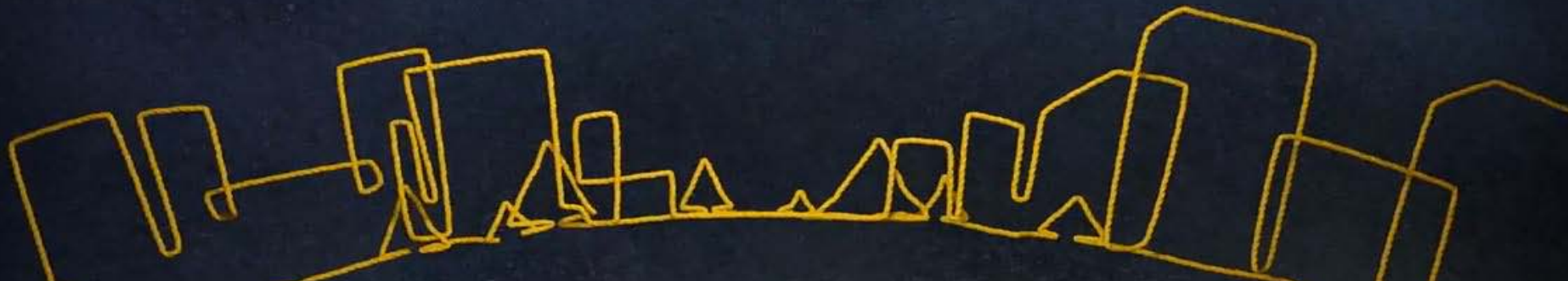




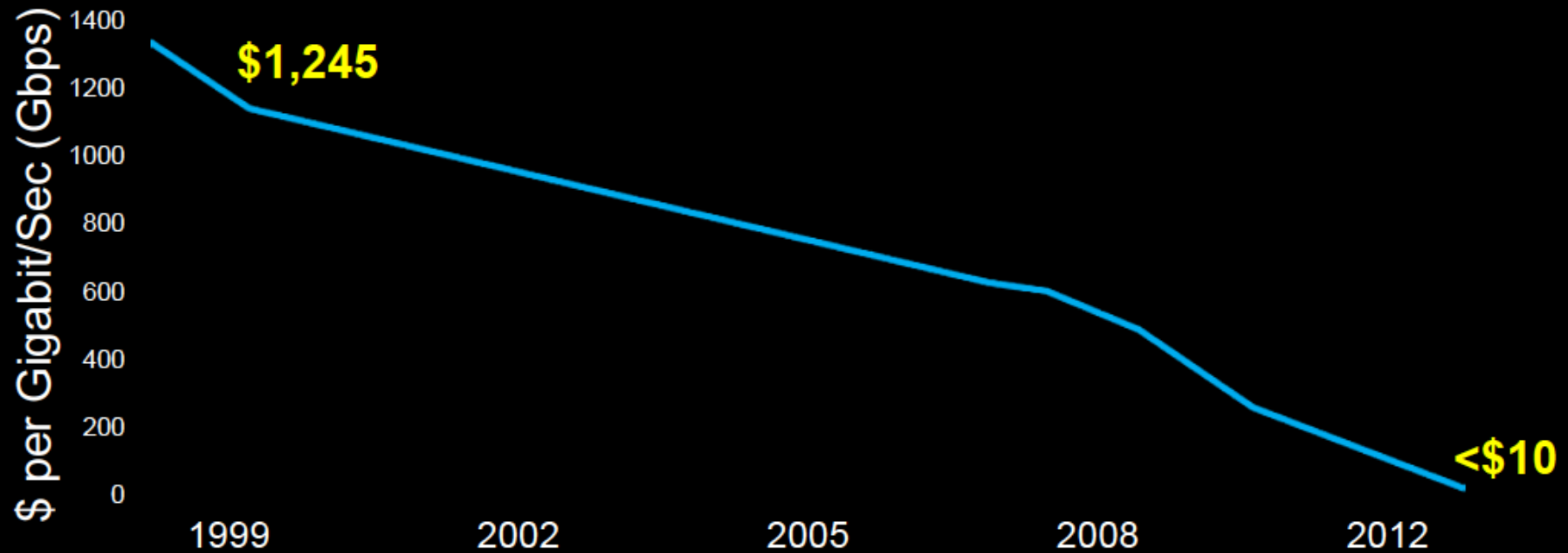


# Google-loons!

Balloon Powered Internet for Everyone



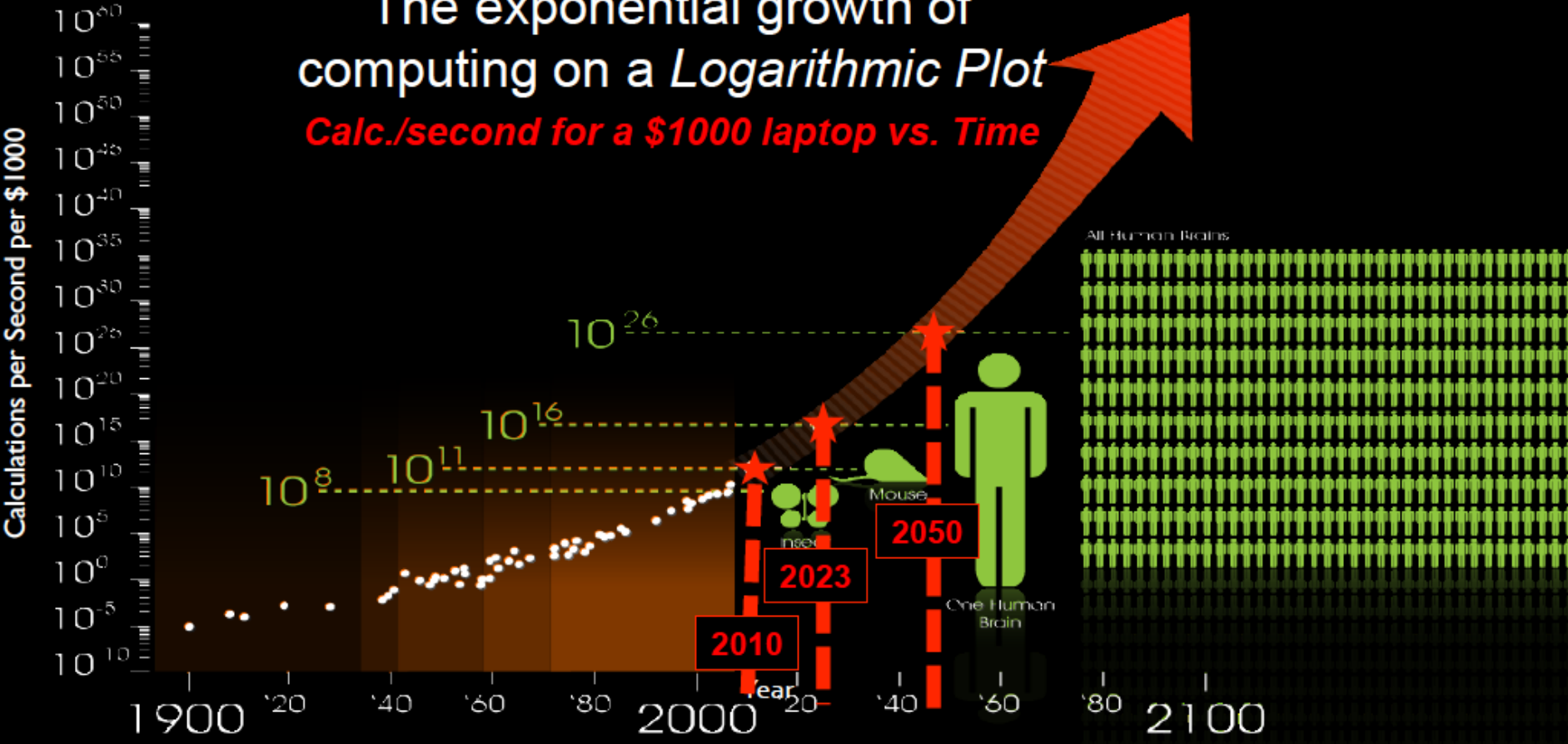
# Bandwidth Cost-Performance (1999-2012)



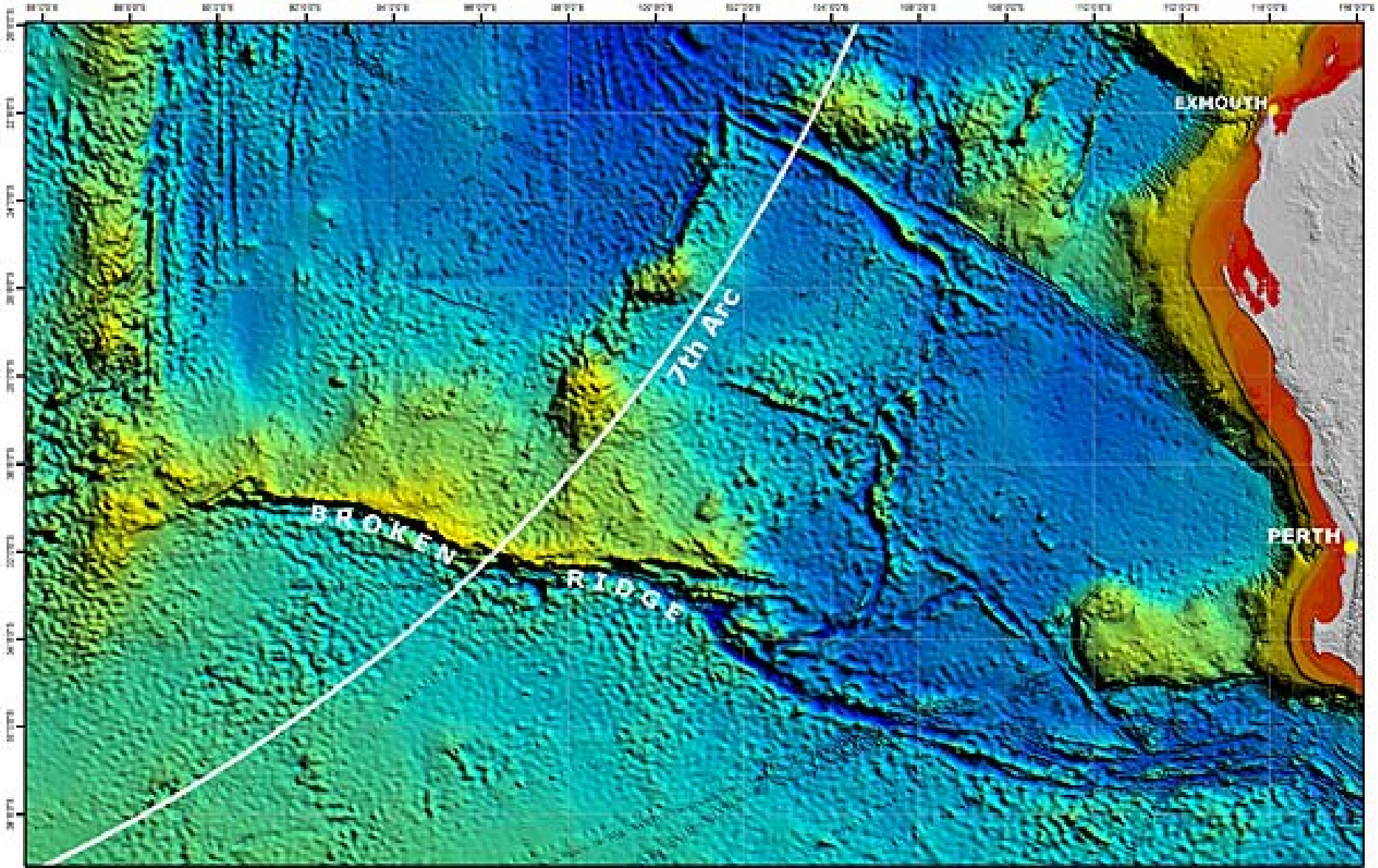


# The exponential growth of computing on a *Logarithmic Plot*

*Calc./second for a \$1000 laptop vs. Time*



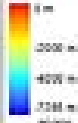
From Peter Diamandis: *Abundance: the Future is Better Than You Think*



Oceanic Australia Bathymetry and Topography 2007 (Scale 1:2000)  
 Bathymetry of the area covered is based on the ETOP01 and ETOP02000 data supplied by the National Oceanic Data Center,  
 US Department of Commerce (2000) (units: eight digit grid). There are also additional depth lines in the grid that are  
 sourced from higher resolution multibeam swath survey data from Geoscience Australia beam surveys.  
 The grid has been reprojected to a 2025 decimal degree resolution, to an equidistant grid at 2025' or 1/2000' of the equator.  
 The 0 2025m grid also is, in deep water areas, for no reason of the equidistant grid size for some of the depth data used, but to  
 approximate the higher resolution multibeam data. This grid is not suitable for use as an aid to navigation, for it contains any errors  
 present in the Australian bathymetric source. Geoscience Australia produces the 0 2025m bathymetric grid of Australia  
 primarily to provide regional and national scale context for research and industry projects, and public education.



# MH370 Underwater Search Planning Map



  
 Date: 2014/06/05

# 2015 PRIZE: OCEAN MAPPING

**X-PRIZE**

