

Getting in the Game – Real-time Visualization of Data from Earth, the Solar System and Beyond*

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Abstract

NASA's program of scientific missions extends from Earth to the planets and even beyond to worlds around distant stars thousands of light-years from home. Whilst much of the engineering and science data behind these missions is made available via the web, the learning curve to see, interpret and understand it has always placed it out of reach for the general public. NASA's Jet Propulsion Laboratory has pioneered the use of real time computer game technology to unlock that data and share it with the public via their home computers and mobile devices (Figure 1, Figure 2, Figure 3, Figure 4). What challenges are faced in making complex scientific or engineering concepts accessible to the public? How can a one-ton rover landing on the surface of Mars have 800,000 backseat drivers along for the ride? As the world becomes more mobile, can our data become mobile too?

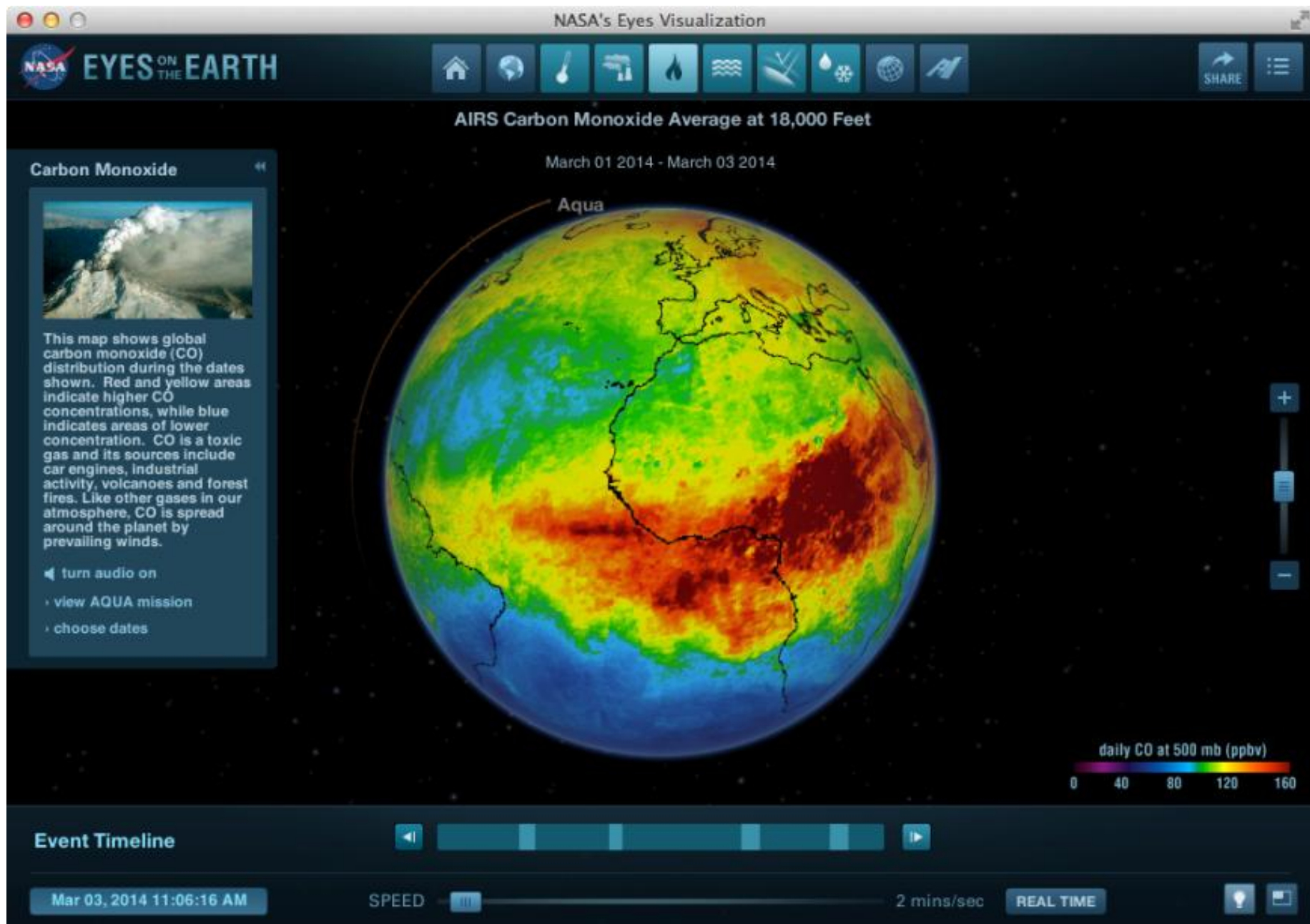


Figure 1. Screenshot of AIRS CO data from March 2014 in “Eyes on the Earth”.

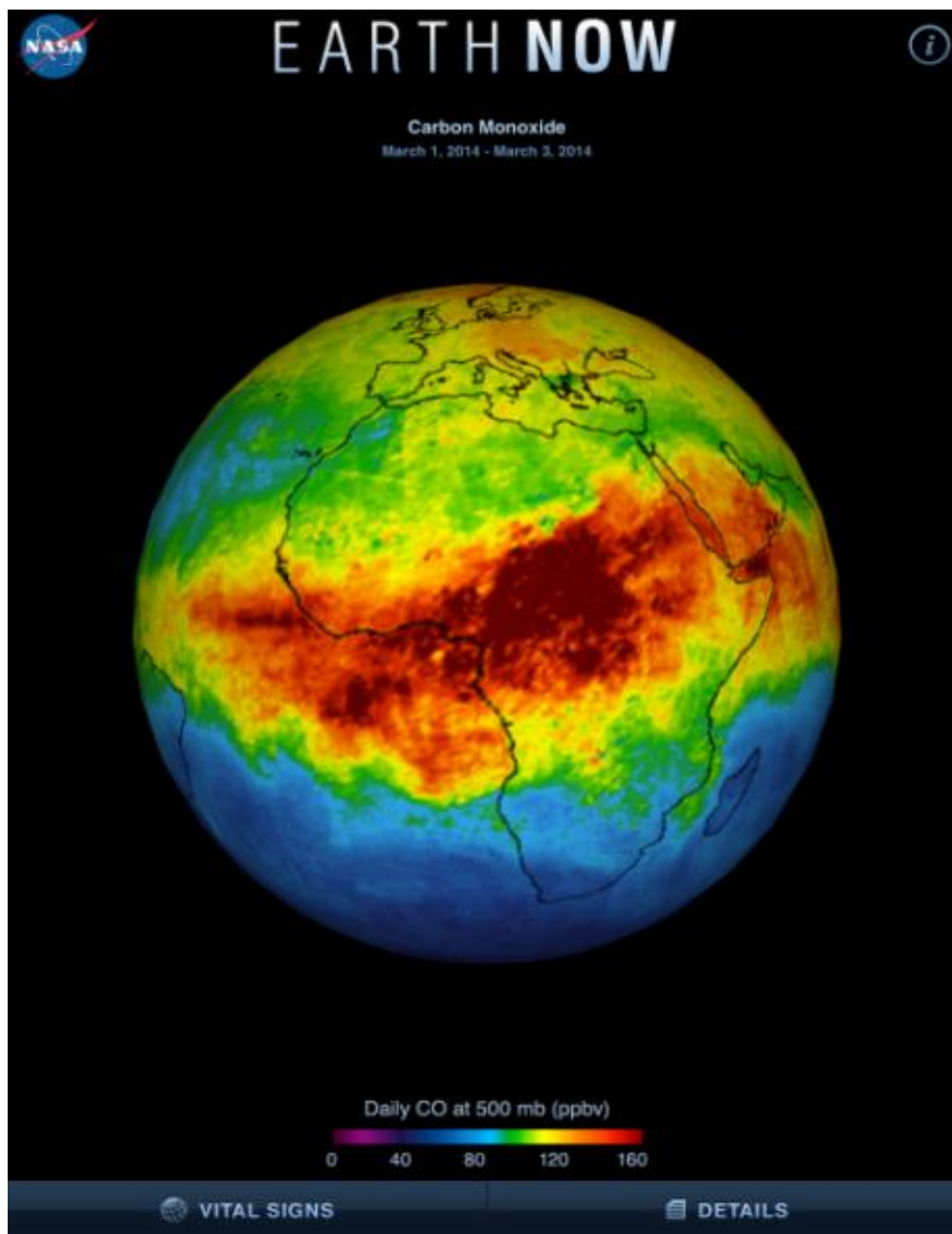


Figure 2. Screenshot of AIRS CO data from March 2014 in “Earth Now”.



Figure 3. Screenshot of MSL EDL data in “Eyes on the Solar System”.

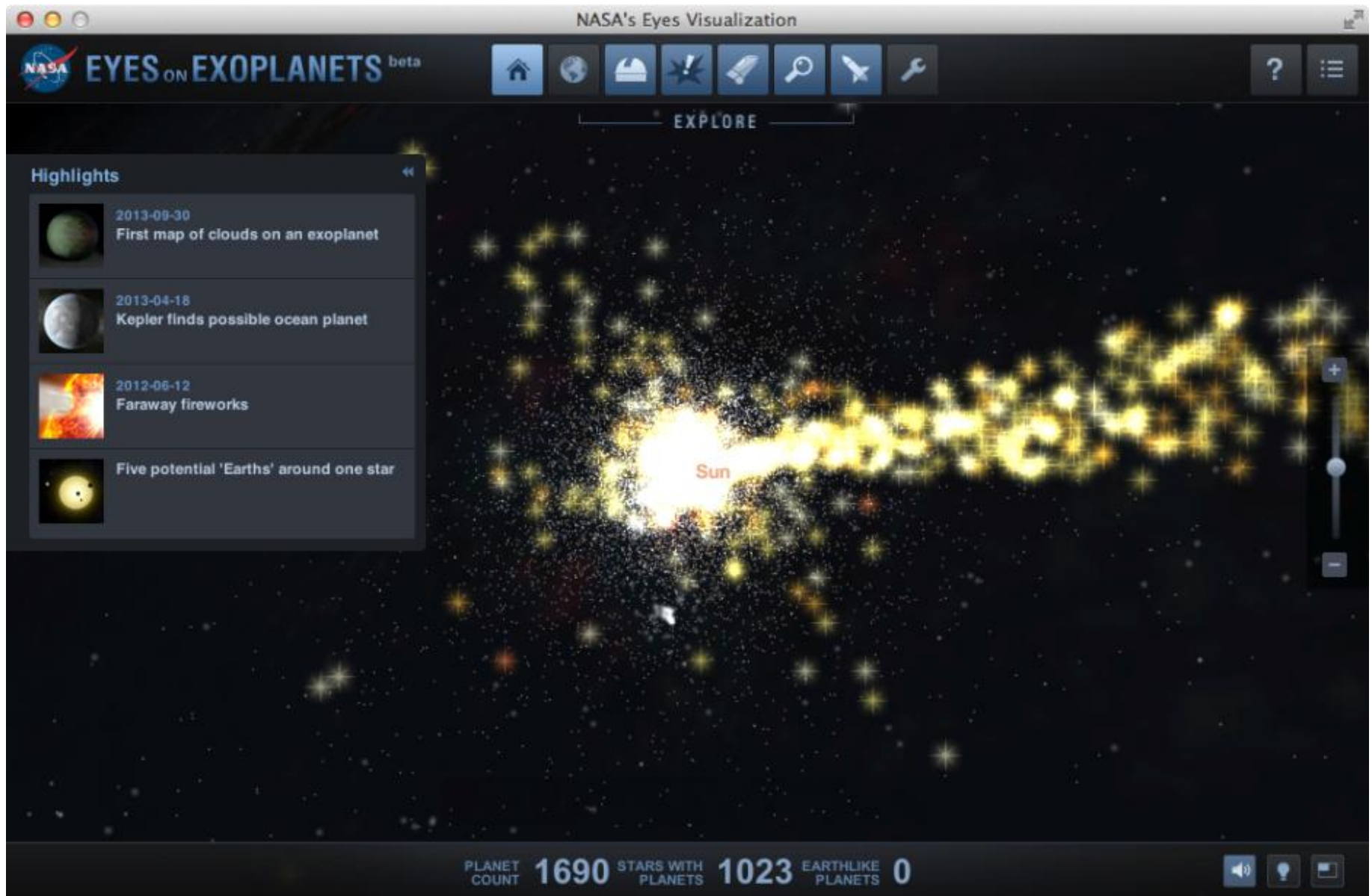


Figure 4. Screenshot of Exoplanet data in “Eyes on the Exoplanets”.