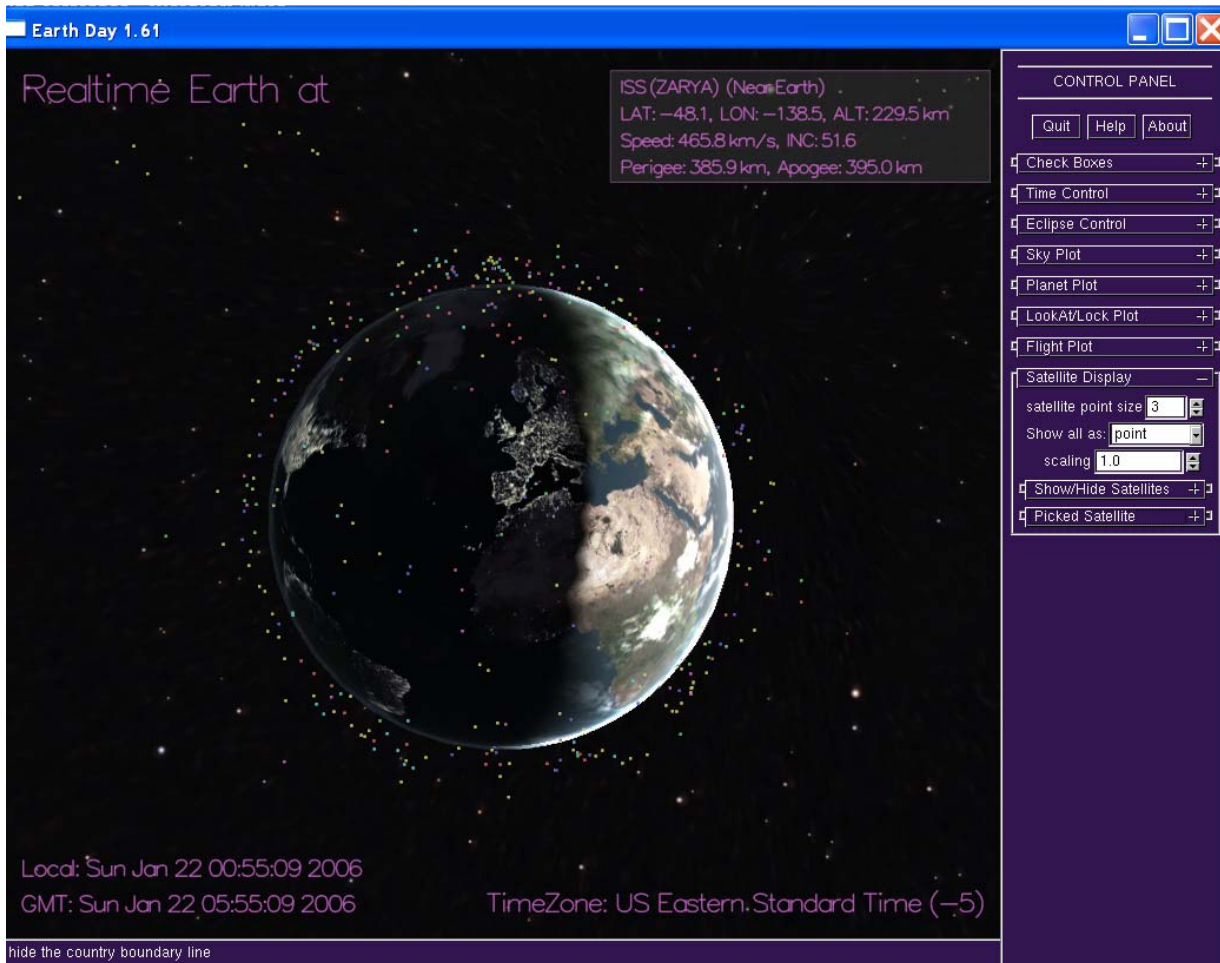


earthDay REFERENCE SHEET

earthDay focuses on exploring the spatial environment surrounding the Earth, and provides a variety of ways of looking at the Earth, the moon, the artificial satellites, and the planets on a particular day at a particular time.



FEATURES

- The Earth, Moon, and Sun with correct lighting.
- Visualization of the current time and day over the surface of the Earth to see the effect of the International Dateline. This is particularly interesting on New Year's Eve.
- Display of a wide selection of Earth-orbiting artificial satellites, including color coded satellite functions and a 3D model of the International Space Station.

- Accurate simulation of umbra, penumbra, and Solar Eclipses. By turning on the various eclipse display options and selecting a date and time during an eclipse, one can get a very compelling visualization of the eclipse geometry. It is possible to look either up at the eclipse itself, or down at the shadows traversing the surface of the Earth.
- Landmarks on Earth: major cities, time zones, flight paths, etc.
- Planetary trajectories and simulation of retrograde motions with precise time control
- Sky context with stars , Milky Way and constellation lines

Data Sources:

Satellite, planet, and ephemeris data are based on JPL and NASA web sites, including http://www.jpl.nasa.gov/solar_system/planets, <http://ephemeris.com>, <http://ssd.jpl.nasa.gov/horizons.html>, and <http://www.celestrak.com/NORAD/elements/>.
ISS space station model: <http://spaceflight.nasa.gov/gallery/vrml/station/>

See also Astronomy Picture of the Day, <http://antwpr.gsfc.nasa.gov/apod/ap030714.html>, for an animation based on EarthDay.

Credits:

Software development lead: Philip Chi-Wing Fu. Additional software: Yinggang Li. Documentation: Yinggang Li, Philip Chi-Wing Fu, Andrew Hanson, Priscilla Frisch. Supported in part by "Journey of the Sun" NASA grants NAG 5-8163, NAG 5-13558, NAG 5-11999, awarded to the University of Chicago with subcontractor Indiana University.