



## Digital Earth PC

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### Project Objectives

- Create an application that allows highly interactive viewing of geo-referenced NASA earth data using low-cost computers equipped with typical PC graphics technology.
- Use a virtual, on-screen mouse-manipulable 3D earth as the user interface metaphor for data selection and viewing.
- Provide the ability to connect to existing network accessible NASA databases and data archives to extract data for visualization. Emphasize in particular GLOBE program data and curricula.

### Sample Use Cases

- Museum visitors roll and pan the digital earth on a large projection screen to identify land forms and locations. They select population growth, cloud cover or other time-series data for display and comparison.
- School media-center students manipulate the digital earth annotated with resource or scientific data to complement related classroom study and assignments.
- A classroom of students participating in the GLOBE program upload data they collected to an OWS-compliant data server and use the Digital Earth PC on a classroom computer to visualize that in-situ data in earth context.

### Customers

- Informal education providers:
  - School media centers.
  - Museum curators.

### Deliverables for Phase 1

- Digital Earth application:
  - Tuned for interactive visualization on a PC,
  - Interacting with networked NASA databases,
  - Using standards-based access protocols,
  - Distributed via the Web.
- Basic testing of application and above features.
- Performance benchmarks & platform specs.
- Determination of platform viability for application.

### Milestones for Phase 1

	When	What	Confidence
ET.2-L.2-DEP.1	1 Jan 03	Assess features to port from Digital Earth Workbench. Define benchmarks.	Green
ET.2-L.2-DEP.2	1 May 03	Port to PC. Visualize locally hosted data.	Green
ET.2-L.2-DEP.3	1 Jul 03	Web-service access for some selected data archives.	Green
ET.2-L.2-DEP.4	30 Aug 03	Level-of-detail. Ready for GLOBE testing.	Green

### People

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### Partnerships

- NASA Geographic Interoperability Office
- GLOBE program

### Technologies

- [Digital Earth Workbench](#)
- 3D graphics toolkits with LOD capability
- Commodity PC graphics hardware
- OGC Web Services ([OWS](#)) for data access
- [GLOBE](#) program

### Quality Assurance

- Project team to perform basic, in-lab testing of application features.
- GLOBE development team to test and evaluate.
- Partner with NASA GIO for remote access QA.

### Dependencies

- LOD-capable, high performance 3D graphics library for Linux PC operating system.
- Publicly accessible and network accessible (via OWS) NASA data servers and databases.

### Assumptions

- Current commodity PC, PC graphics and networking technology is adequate to task.