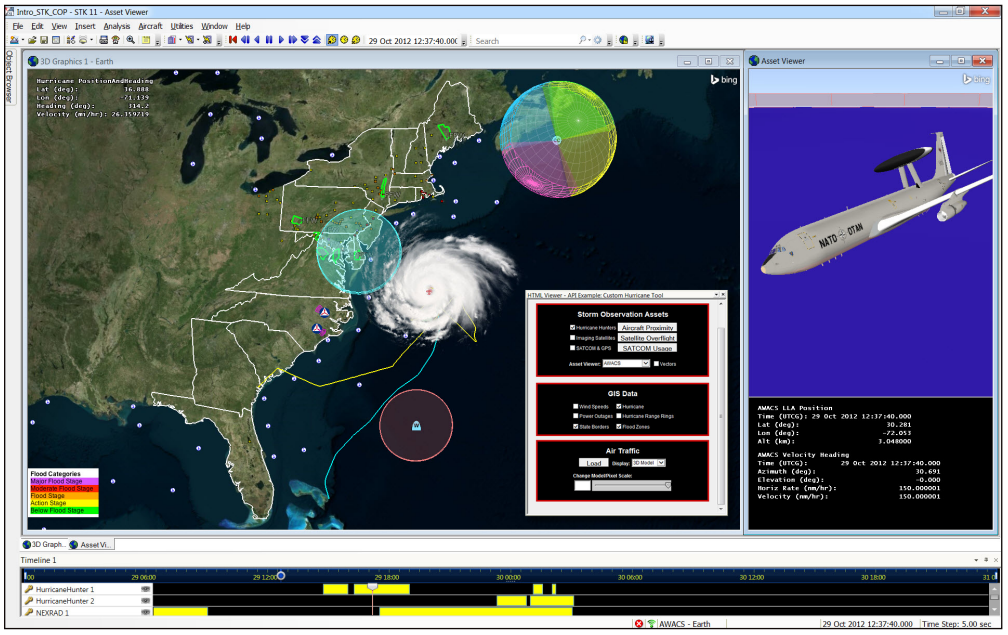
STK INTEGRATION MODULE

The Integration module enables you to interface with STK from other applications.

Using Integration, you can:

- Automate repetitive tasks.
- Integrate with other applications, such as MATLAB.



Automate

- Use Connect and the STK Object Model to build tools that control STK functionality from inside or outside the application.
- Use a command line or batch file to send Connect commands to STK.

Connect

Connect provides a simple string-based language to communicate with STK in a client-server environment.

- Easily allow applications to communicate with STK using a library shipped with STK.
- Generate optional diagnostic messages.
- Modify the standard messaging or use a custom messaging format for compatibility with third-party applications.

STK Object Model

The STK Object Model is an object-oriented programming interface to STK, built on Microsoft COM technology that can be used in conjunction with Connect. The STK Object Model contains these COM libraries:

- **STK Object.** Includes ability to create and manipulate all STK object properties as well as compute and report all analysis options such as access and coverage.
- **STK X.** Provides ability to embed STK analysis and visualization into any application.
- **STK Util.** Contains objects and enumerations shared by the STK X and STK Objects type libraries.
- **STK Graphics Primitives.** Contains ability to control 3D globe visualization by manipulating graphics constructs such as globe overlays, primitives, screen overlays, display conditions, pick callbacks, and camera controls.
- **STK Esri Display.** Used to integrate ESRI map documents and GIS functionality into custom STK X and STK Engine applications.
- **STK VGT (Analysis Workbench).** Used to construct and manipulate geometry, time, volume, and calculation components.
- **STK Astrogator.** Supports Astrogator technology.

Available environments

The STK Object Model is built on COM technology and can be used in environments supporting standard COM automation including:

- .NET (Visual Basic, C#, etc.)
- Java
- C++
- Python
- PowerPoint, Excel, Access
- Scripting languages supporting COM late binding

MATLAB

- Leverage the two-way communications pathway between STK software and MATLAB.
- Open a TCP/IP socket to STK from within the MATLAB workspace.
- Use more than 150 native MATLAB-formatted commands to model orbital, ballistic, and great arc trajectories and perform the analytical functions of STK.
- Parse STK data, including dynamic position, velocity and attitude data, back into the MATLAB workspace for further mathematical analysis.
- Create and manipulate objects in STK via Connect commands, and then use the data providers for MATLAB to optimize any single or combination of parameters.

Real-time GIS display and analysis

Integration and ArcGIS. Used with the ArcGIS Tracking Analyst, you can receive, process, analyze, and display real-time data, such as that received from the Global Positioning System (GPS).

Integration with the ArcGIS bundle. Enables you to:

- Conduct temporal and spatial GIS analyses in real-time.
- Visualize data in both STK and ArcGIS.
- Understand the association moving objects, such as military vehicles, aircraft, satellite sensors and ships, have within the GIS environment.