

## **AIR FORCE COMMAND EXERCISE SYSTEM (ACES) and ACCELERATED COMBAT TIMELINE (ACT)**

### *MODEL SUMMARY:*

The Air Force Command Exercise System (ACES) is the largest, most advanced and most versatile computer-driven wargame model provided by the Air Force Wargaming Institute. It is a joint, theater campaign-level combat simulation model used by the AFWI to support capstone wargames played by Air Force, Army, Navy, Marine Corps, and international officers attending professional military education (PME) schools. The ACES focuses on the operational level of war--the level of war at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theaters. The ACES simulates large-scale, highly detailed, joint and combined force combat operations. Forces modeled include air forces, ground units and naval assets. The ACES computer model is typically used in theater-level wargames in which the participants are assigned to teams in the roles of combined force command and staff members during the first days of a notional war. Each team develops its own theater campaign plan and executes its plan by directing force apportionment, logistical movements and mission tasking. Game moves are made via computers using an advanced graphical user interface (GUI). The ACES computer model performs combat adjudication responding to each individual team's air, ground and naval orders.



There are two GUIs that can interact with the ACES model: a tactical-level interface and an operational-level interface. The tactical-level interface accepts tactical inputs from the player. Some examples of orders given with this interface are airplane packages, time-on-target assignment and move orders to individual brigade-level units. Additionally, the tactical interface can “jump” no longer than 48-hours down the combat timeline per game cycle. The operational-level interface consists of software designed to satisfy two requirements: provide computer adjudication to operational-level wargaming and allow wargaming for all phases of warfare, from initial deployment to end-state determination. The operational-level interface allows a wargamer to address the strategic and operational levels of war. It allows rapid time jumps from 1-30 days or more to allow for a more accurate portrayal of combat and allows a user to move towards a desired end state. The AFWI continues to refine the ground and naval portions.

The ACES model is a generic computer adjudication tool and must have a theater specific database. Theater scenarios and databases exist for Korea (Dragon), Southwest Asia (Phoenix) and two fictional geographic settings (Pegasus and Atlantis). The model permits two-sided wargaming for multiple, simultaneous, independent wargames. Air Force Wargaming Institute controllers use the ACES computer model to simulate combat and provide feedback to participants via on-screen and printed reports. Participants analyze outputs, then continue or alter their campaign plans.

***MODEL CUSTOMERS:***

During the 2004 wargaming season, ACES will be used to support Joint Air Exercise, Blue Thunder, Theater Campaign Warfare, JCLASS, the Joint Services Command and Staff College (UK), and the Australian Defence College (ADC). Descriptions of each of the wargames/exercises that use the ACES model are included in this compendium.

***OBJECTIVES/PURPOSE:***

The ACES combat simulation model aids a warfighter's understanding and appreciation for:

- a. The principles of war in a theater wartime exercise.
- b. Air Force doctrine in a theater wartime exercise.
- c. The concepts of air campaign planning.
- d. The synergistic effect of well-integrated air, land and sea component plans.
- e. The command and staff relationships involved in combined operations.
- f. Intelligence and logistics functions relative to theater force application.

***GENERAL INFORMATION:***

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- b. The ACT program manager is Lt Col Ron Sweat, Air Force Wargaming Institute, CADRE/WGOO, DSN: 493-6169.
- c. The ACES/ACT project manager is Capt Jon DiLeo, Air Force Wargaming Institute, CADRE/WGTD, DSN: 493-1231.