

Automated Flight Following

USDA Forest Service
Fire & Aviation Management



What is AFF?

Automated Flight Following (AFF) is a system that automatically transmits the location, altitude, course, and speed of an aircraft through commercial satellite segments. This information is provided in near real time to dispatchers, aviation managers, and other system users.



What is AFF?

- AFF is required in most agency and interagency owned and contracted aircraft.
- The program is made available using a secure login to other federal, state, local agencies and aircraft vendors.
- Today, AFF tracks more than 1,500 aircraft worldwide with 4,000-5,000 active users.



Why it was developed?

- Increase safety through timely and accurate location reporting.
- Reduce the workload of the dispatch center and pilot by reducing radio frequency congestion and traffic in high demand work areas.
- Create a common display for all aircraft, not restricted by frequency or agency.
- Increase efficiency/effectiveness and reduce costs through improved command and control and situational awareness.
- Remove geographic coverage deficiencies.



Program Implementation

- Established Steering Committee in 1999-2000:
 - USDA Forest Service
 - US DOI, Office of Aviation Services
 - US DOI, Bureau of Land Management (Alaska)
 - British Columbia Forest Service
- Established Data Standards
- Prototype in 2003 with full implementation in 2005



Data Standards Creation

- Leveraged existing information and established interagency partners;
- Released an RFI to industry;
- Solicited and purchased equipment;
- Performed testing (devices and system);
- Developed standards and policy;
- Phased in implementation;
- Once we set the standard, industry and other governments aligned with it.



Data Standards

AFF has established standards for data transfer from several commercially available providers which enables all aircraft to be viewed in a common environment.

- **Reporting Interval:** Once every 2 Minutes
- **Quality:** Fix Type and Dilution of Precision (DOP)
- **Latency:** Less than 5 minutes
- **Consistency:** 99.98%
- **Security:** Industry standard encryption end-to-end (128 bit)
- **System Health Validation:** End-to-end heartbeat



Program Costs

- AFF is a Forest Service funded program with marginal funding from one interagency partner
- Currently supported by 3 part-time FS employees.
- Hardware and Satellite Subscription Service
 - Varies widely based on provider



Lessons Learned

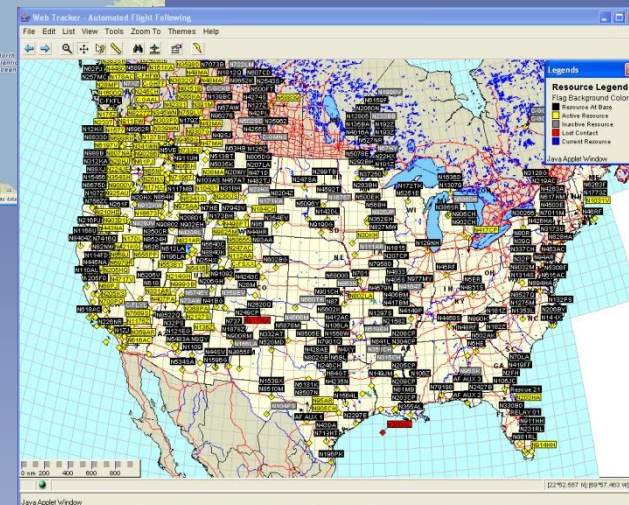
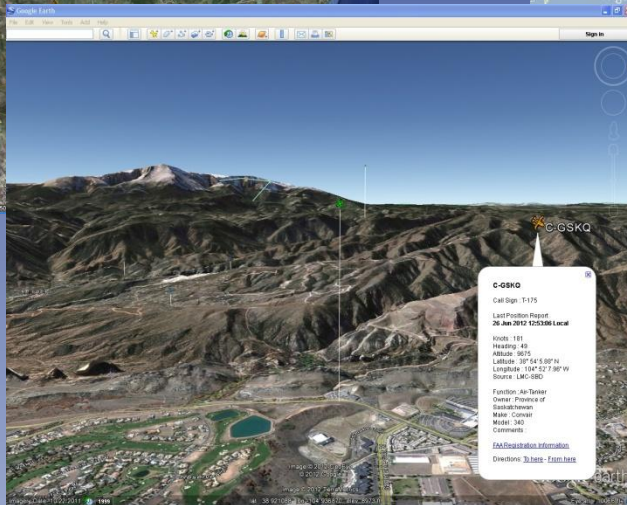
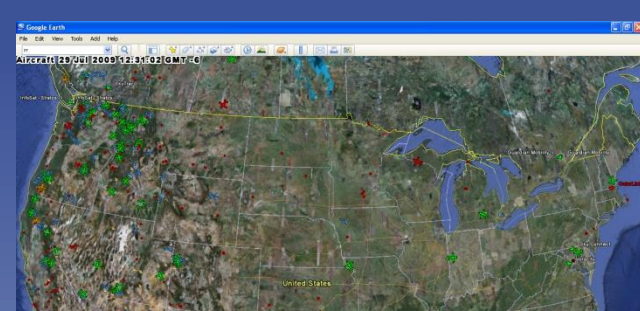
- The AFF standard has not significantly changed for 10 years.
- New capabilities and advancing technology require updated standards.
- Key component of quality assurance requires external antennae and aircraft power.
- “Automated” system requires a human element for flight following.



Summary

- AFF is more than just a box. It is a system that includes hardware, software, and **people**. All components of the system are required to take the 'search' out of search and rescue.
- AFF is not an airspace de-confliction tool.
- AFF is not an ELT.





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