Wildfire Airspace Coordination
2003 Airspace and Air Traffic Seminar
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Risk Management and Airspace Coordination

Preparation for fire season and airspace coordination begins as soon as fire season ends.

End of season meetings, "hot fire analysis", and "lessons learned" documents are prepared and shared. Airspace issues are trended from SAFECOMS (Incident Reports).

Training sessions are planned and taught. Meetings include Airspace and Range Council meetings, Dispatcher Workshops, Aviation Awareness meetings and outreach programs.

As fire season begins in the south, education and awareness picks up nationwide. A new position was developed known as a Technical Specialist (Field Airspace Coordinator) to assist Incident Management Teams, Coordination Centers and the national Airspace Program Manager with field support.

Wildland Fires of 2002 Summary

2002 saw 71,160 fires that burned 7.1 million acres. This is nearly double the ten-year average. It proved to be the most challenging in history. New records were set in terms of acres burned, suppression costs and impact to people and communities. Firefighters were successful in suppressing 99% of all fires during initial attack with only about 610 fires escaping to become large fires. It was a tragic fire season with the loss of 21 people and several aircraft accidents. Aircraft accidents led to the grounding of some large air tankers.

45-50% of the country reported moderate to extreme drought conditions early in the season. Nearly 50% of the nations landmass continues to be in a moderate to extreme state of drought. This season will be remembered for its large timber fires. Colorado, Arizona (Rodeo-Chedisky fire was 468,638 acres) and Oregon recorded their largest fires in the last century.

National level of preparedness rose to the highest level possible (Preparedness Level V) five weeks earlier than before and set a record breaking level for 62 days.

By early July, 28,000 firefighters and support personnel were mobilized, several hundred aircraft and over 2100 engines, bulldozers and tenders. Military resources were requested including MAFF's units and 600 US Army troops in Oregon on the Monument fire. International assistance came from Canada, Australia and New Zealand.

Largely due to widespread lightning strikes, wildfires in Oregon and Washington burned more than a million acres. 375 fires were a result from three days of lightning strikes totaling 15,000 down strikes in early July. In SW Oregon alone, Federal agencies had 246 fires of which 4 became large fires. The Biscuit fire in SW Oregon and California threatened more than 17,000 people while it burned a half million acres and is believed to be the largest fire in Oregon in more than a century.

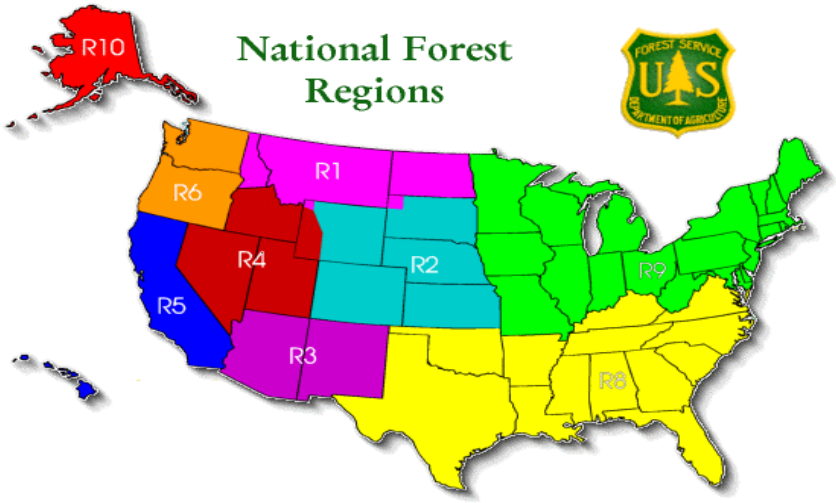
SAFECOMS

SAFECOMS is our method of tracking incidents involving TFR intrusions and Near Mid Air Collisions. Two websites are available to monitor airspace SAFECOMS and DoD involvement:

DOI: www.oas.gov (click on SAFECOMS)
USFS: www.aviation.fs.fed.us

An analysis of both USFS and DOI SAFECOMS reveals the following information:

Airspace SAFECOMS received: 162
Number of TFR intrusions: 75
Number of Mid Air Collisions identified: 32
Evasive Action Documented: 17
TCAS alarms: 5
Military Involved SAFECOMS: 26 (Note – this figure has doubled from last year)



Location of Airspace SAFECOMS

OAS: 15	Region 4: 14	Region 9: 3
Region 1: 1	Region 5: 19	Region 10: 1
Region 2: 22	Region 6: 20	States: 14
Region 3: 32	Region 8: 21	

DOD INVOLVED SAFECOMS: Airspace SAFECOMS involving DOD rose from 10 to 26 this year. I contacted several Military Representatives and sent them a detailed breakdown of all SAFECOMS highlighting safety issues (available upon request). The US Air Force through Mr. Pease has initiated an invitation to establish monitoring procedures with Air Force Safety Officers. The US Navy was extremely responsive and sent the following to all flight crews nationwide.

Wing Operations Officers,

1. It's Fire Fighting season! Fire fighting aircraft (helo and fixed wing) typically operate at or below 3000' AGL between the airspace around the fire and the airspace around the water source (lake, river, ocean).

2. Remind your pilots of the mid-air collision hazard that exists near fires. Avoid smoke and fire by at least 5NM.

3. Avoid a flight violation! The airspace around a fire is often protected by a Temporary Flight Restriction (TFR). If you enter a TFR without clearance you may receive a flight violation.

A. IFR Flight. Air Traffic Control will vector nonparticipating IFR traffic around TFRs.

B. VFR Flight. If you are flying VFR you are responsible for avoiding TFRs. Check NOTAMS for TFRs before you fly. Go to http://www.fs.fed.us/r6/fire/aviation/airspace for a visual display of fire fighting TFRs. Call the nearest Flight Service Station (FSS) on deck at 1-800-992-7433 (or 1-800-WX BRIEF), or airborne on VHF 122.2, or UHF 255.4 to confirm there are no TFRs along your route of flight.

C. MTRs (Military Training Routes). Check for TFRs along your MTRs or stereo routes.

4. Request you forward this info to your squadron operations officers. Recommend squadrons brief at pilot training and post info in flight planning office. US Forest Service Poster: See attached file: gaposter.pdf)

5. FYI. Email below from Ms. Stewart gives more info on DoD TFR violators.

Very respectfully,
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Naval Representative FAA
(Western-Pacific, NW Mountain, AK Regions)
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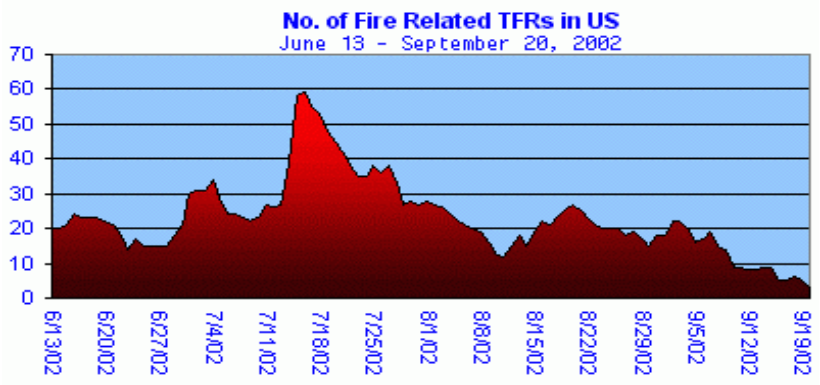
TFR COORDINATION

TFRs were reflective of the size and complexity of our wildfires. Sometimes they were a simple 5 NM radius. Often they were enlarged when the fire increased in size. And then there were legendary TFR's such as Colorado's TFRs, the Rodeo Chediski fire in Arizona and the Oregon fires that challenged both our airspace coordinators, the FAA, DOD and General Aviation in coping with many complex situations.

The number of TFR's reached a peak in July with a total of 59 fire related TFR's on July 15th. Many TFR's were consolidated by the Field airspace Coordinators to reduce their impact on general aviation. We were grateful for the outstanding support we received from the many DoD units in cooperating with assisting with our program. Highlights include coordination with the US Air Force Academy in Colorado, and all other units in Colorado, Arizona, New Mexico, California, Washington and Oregon.



Graphic TFR information is available through several sources including The Interagency Airspace Website, BLM and the FAA. Several branches of the FAA are working towards a graphic TFR website. We have been assisting them with our technology.

USFS: http://www.fs.fed.us/r6/fire/aviation/airspace
BLM: http://airspace.blm.gov

FIELD AIRSPACE COORDINATOR ASSIGNMENTS

We have had great success with our program with our Field Airspace Coordinator Program during 2002. The Coordinators consist of current government employees (or "AD" contractors – see me if you are interested!) who travel to fire assignments and assist with airspace coordination in service to the FAA, DoD, Dispatch organization, Coordination Centers, Incident Management Teams and Area Command.

Last summer, 24 airspace coordinators filled 55 assignments from May to September.

As part of their assignment, the Field Airspace Coordinator performed an outreach program to all neighboring airports and FBO's. Posters, and cards were distributed with the Interagency Airspace URL. Several airspace coordinators were assigned to outreach at local fly-ins. Pilots were extremely interested in receiving information about TFR's especially graphical depictions. Highlight of the season – Coordination with Air Force One!!!

We outreached at a booth at the Oregon Air Fair and taught an airspace forum. Three Airspace Coordinators received Air Awards for their outstanding accomplishment this past summer. Here is an excerpt from two airspace coordinators who led our program in Washington and Oregon:

"Outreach was conducted between 7/14/01 and 8/18/02. During this period fifty airports in Oregon and Washington were visited, contacts were made with approximately 93 schools, aviation businesses, aviation organizations, and aviation related government offices; 5 university/college associated flight schools, 4 pilot associations: 80 flight schools and aviation related businesses). In excess of 900 pilots were individually contacted during these visits and during four fly-ins. Pilots and flight instructors contacted during this outreach were universally enthusiastic about easily accessible, web based, graphically depicted TFRs displayed on sectionals. Several flight school CFIs indicated they intended to use materials provided in upcoming lessons with students. In addition, CFI's at several flight schools said they intended to use materials provided for ongoing continuing education for pilots."

ADDITIONAL ACCOMPLISHMENTS

1) New MOU with FAA for Temporary Tower Service for the NW Mountain Region.

2) Presentation at the GPS International Conference – Notams for GPS Outages

3) NEW TFR Form – Coordinated with the US NOTAM Office
Will add the fire name into the NOTAM
Standardized Lat/Long issue seems resolved

4) FTA Traffic Area - clarified Fire Traffic Area policies which contribute to safety standards.

5) Updated information on the Interagency Airspace Website

6) Coming soon – Interagency Airspace Coordination Guide, 2003 Final Version

2003 OUTLOOK

Our fire season is changing in complexity. Our "can do" attitude and our ability to get missions accomplished quickly has moved us into the realm of All Risk response. Previously, we have responded to earthquakes, hurricanes and other natural disasters. September 11th saw the activation of many agency personnel to assist in recovery including our Incident Management Teams (IMTs).

2003 has already seen the activation of more than 300 agency personnel involved in the Exotic Newcastle Disease (END) Eradication Campaign. Area Command and Incident Management Teams have been mobilized and they are managing incidents in Nevada, Arizona and California.

The tragic loss of the Columbia Shuttle has resulted in the mobilization of more than 5200 personnel from various agencies across the nation. All activities are being conducted under a Unified Command of FEMA, NASA, EPA, and the State of Texas. There are 5 Incident Management Teams located in Palestine, Nacogdoches, Hemphill, Corsecana and Longview. And estimates 2,104 overhead resources and 151 crews are committed. Air operations are based out of the Angelina County Airport with 36 helicopters and 10 fixed wing aircraft.

To date, air operations have searched and cleared 132 grids, a total of 436,260 acres. On average, each helicopter has covered 1,983 acres per day for an average total of 33,000 acres cleared per day.

PREPARING FOR THE FUTURE

The events of September 11th are still close in mind to all of us. The unprecedented Ground Stop saw the nation's airspace empty. But it was still fire season and our aircraft needed to be able to respond to fires. Through exemptions listed in SCATANA or ESCAT, we were able to keep fire fighting aircraft in the sky. We also responded with multiple Incident Management Teams assigned to both New York City and Washington DC. Liaison work with the Air Traffic Systems Command Center continued for 21 days. Preparations for Homeland Security continue. Fire Season will arrive and will need to be coped with no matter what our security level is.

2003 "SEASONAL WILDLAND FIRE OUTLOOK"

The National Interagency Coordination Center has issued a "Seasonal Wildland Fire Outlook" for March through August of 2003. The report is located at www.nifc.gov.

Northwest -- Potential: Normal to Above Normal.
Drought conditions extend across eastern Oregon and the western slopes of the Oregon Cascades. Mountain snowpacks are expected to melt 2-3 weeks earlier than usual, around the middle of May. This will result in an early green-up even at higher elevations allowing an early spring prescribed fire season. Fuel moistures are expected to drop below critical values in early July resulting in an early and extended fire season. A high risk of long duration, large timber fires is likely, even at higher elevations, which normally have a low risk. Two to three episodes of dry lightning can be expected. Eastern Oregon and the Oregon Cascades are likely to experience a very active fire season resulting in a higher than normal demand for resources.

Northern Rockies -- Potential: Normal to Above Normal.
The Northern Rockies is entering its 5th consecutive year of drought. Overall, snowpack is currently running between 50-70% of normal. Live fuel moistures are showing signs of significant stress. Mountain pine beetle, spruce budworm, and Douglas-fir bark beetle outbreaks are increasing and expecting to expand. The area should experience normal spring green-up. A normal season drying pattern in July will set the stage for an active fire season by August. Fire activity during July and August will exhibit characteristics of the extended drought with large fire growth taking place during the latter half of August. "August Singularity" storms can be expected to place a slowing effect on fire activity. A drying trend is expected to re-establish in early September and continue into the fall. Two prescribed burns in the Little Snowy Mountains on the Lewis & Clark National Forest in early January at 5500 feet reported 75-degree temperatures and 13% relative humidity. Spring prescribed burning could be limited due to abnormally dry conditions and stressed vegetation.

Great Basin -- Potential: Normal to Above Normal.

On-going drought conditions since 1999 have created progressively drier fuels each fire season. Below normal snowpacks each winter followed by drier and warmer springs have led to earlier than normal green-up and curing of fuels across most of the Great Basin. This has resulted in some post-green-up frost kill in oak brush fuels. Tree mortality is becoming evident in the following areas: southwestern Utah and northern Arizona forests and rangeland (up to 20%), eastern Utah forests, and northern Idaho forests (2-3%). In southern Utah and northern Arizona, drought induced mortality is 20% in pinyon-juniper and brush fuels (see image). On the Arizona Strip, up to 30% mortality has occurred in ponderosa pine occupying shallow soil sites. These areas currently have a high potential for large fire growth, with dead aerial and horizontal fuels causing problems under any weather scenario. Low to normal spring rainfall will be insufficient to produce the fine fuels necessary to drive fires in the grass/brush fuels, unless accompanied by high winds. In higher elevation timber fuels, a variety of factors will combine to produce above normal fire potential. Extremely dry large fuels and heavy fuel loadings resulting from increasing timber mortality will increase fire potential at the higher elevations in Utah, western Wyoming, and central Idaho.

Alaska -- Potential: Normal to Above Normal.
Based on the consensus forecast along with lower than average snowpack, many areas will be snow free about 2-3 weeks earlier than normal. This will lead to an increased probability of early human-caused fire occurrence, particularly along accessible transportation routes, spring hunting areas, and wildland-urban interface areas. Early season human-caused fires commonly occur in interface areas that have more values to be protected than later occurring lightning-caused fires.

Southwest -- Potential: Normal to Above Normal.

Precipitation events are anticipated in March and April, yielding a normal spring green up and averting an overly active early season. Fire danger across some areas of the Southwest Area is expected to be above average due to long-term drought, the likelihood of above normal temperatures, low amounts of winter snowpack at the mid-elevations, and widespread vegetative dieback due to insect and disease damage. Expect normal initial attack activity through mid-May, with an increase likely from late May to early July. Annual and perennial fuels will undergo a normal spring green-up and become available to carry surface fire as they cure during the typical dry late spring and early summer period. More grass and brush fires are anticipated this season than in 2002. Resources needed for initial and extended attack, and potential project fires will be greater than usual from May to the start of the monsoon. At this time, there are no clear indications about the strength or timing of the monsoon.

California -- Potential: Normal to Above Normal.

There are two particular areas of concern regarding fuel conditions in California. One is the drought-affected, large dead fuel moistures of the Eastern Modoc plateau and eastside of northern California. The second concern is the significant brush mortality and drought/bug-killed timber areas of Southern California (see image). The Los Padres, Angeles, and Cleveland National Forests have low to moderate levels while the San Bernardino NF has moderate to high levels of brush and timber mortality. These are likely to cause extreme fire behavior even under moderate fire weather/fire danger conditions. Indications from the current weather and climate outlook are that fire season will start in the typical time frames across much of California. However, the drier eastside areas will see fire season start earlier and be of longer duration than normal. Fire danger is expected to be above average in all parts of the state except the western two-thirds of northern California. Lightning occurrence in Northern California has a very good chance of exceeding that in 2002, as last year was well below the 10-year average amount.

Rocky Mountain -- Potential: Normal to Above Normal.

Confidence is high that the full onset of the 2003 fire season in the RMA will not be as early as 2002 even if they receive only 75% of average spring precipitation. Currently the area has better snowpack than in 2002 and forecasts show that Colorado, southeast Wyoming, southwestern Nebraska and western Kansas will have average amounts of spring precipitation. Even with the expected spring precipitation, potential remains high for an **above average 2003 fire season**, especially in northern Wyoming, the Black Hills Region, the Northern Front Range, Southeast Wyoming and northwest Colorado. This is due to the vulnerability of the fuels from long-term drought conditions and ERC projections in June, July and August considering even average precipitation.

Eastern Area -- Potential: Below Normal to Above Normal.

The Eastern Area outlook only addresses expected conditions for March through May of 2003. Fairly frequent and significant precipitation events during the winter of 2002-03 provided relief to the long-term drought, which was in place across the Mid-Atlantic States and eastern seaboard at the end of 2002. Meanwhile, precipitation deficits across much of the Great Lakes and northern Big Rivers Compacts have expanded drought conditions into these areas since October 2002. Above normal rainfall over portions of the Great Lakes Compact through the summer and fall of 2002 created an abundance of fine fuels. Below normal winter snow depths across much of the Great Lakes area have left fine grass fuels uncompressed and still standing. These fuels are expected to remain highly receptive to ignition and spread. Fires in peat soils are expected to be problematic, burn deeper and require extensive mop up operations. Fire season initiation could be as much as 2 to 3 weeks ahead of normal in the Lake State area and northern Maine.

Southern Area -- Potential: Below Normal to Normal.
The Southern Area outlook only addresses expected conditions for March through May of 2003. Wetter than normal weather conditions over the majority of the Southern Area have continued to dampen fire potential through the beginning of March, which is historically one of the most active periods in the Southern Area. Green-up and curing is expected to be later than normal this year. Hundred and thousand hour dead fuels are at normal to above normal moisture levels with the majority of the area at all time maximum values for this time of the year. Overall fire risk during the spring months should remain in the normal to below normal range. This should allow successful prescribed fire implementation over the next several months. Dr. Gray's (University of Colorado) current forecast calls for a very active tropical storm season, which could result in an above average number of hurricanes that impact the area and diminish fire risk through the summer months.

CLOSING THOUGHTS

Coordination and cooperation is the key to preventing mid air collisions. Times and priorities are changing yet we still need a safe airspace to work in. We are grateful for your cooperation and consideration when we are working to save our nation's resources. This cooperation comes from a common desire to be safe and effective in a high risk environment.

Remember that one out of five intrusions became Near Mid Air Collisions. One out of Three Near Mid Air Collisions resulted in evasive action taken! **Our goal is to prevent a mid air collision through a concerted effort** of our agency leaders, FAA, DoD, our aviation community, our dispatch coordinators and most importantly, those who fly in the National Airspace System.

QUESTIONS