FLIGHT WATCH

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The new en route flight advisory service and how we can make it work for us

■■ A weak cold front has moved through Southern California. And, as is so often the case, clouds are stacked up on the northern and western slopes of the southern Sierra Nevada and Tehachapi mountains.

The terrain of central California's San Joaquin Valley slopes gently from near sea level in the San Francisco Bay area to around 500 feet near Bakersfield. However, west, south, and east of Bakersfield the terrain rises abruptly to between 7,000 and 10,000 feet. Cold, moist air in the northwesterly flow is lifted orographically, obscuring the mountains with clouds, often to above 12,000 feet. This area, sometimes known as the "Tehachapi Triangle," has claimed more than its share of unwary airmen.

We have obtained our preflight weather briefing and are heading south. The FSS specialist has advised us that, "VFR flight is not recommended below the clouds," and that, "the last tops were reported at 15,000 feet." However, tops are quite variable and Bakersfield is reporting and forecast to be clear or scattered clouds about 4,000 feet. As we approach Bakersfield, the cloud tops, 20 to 30 miles away, don't look all that high; but, distant cloud tops can be very deceiving. We decide to call "Flight Watch."

"Los Angeles Flight Watch, Cessna 1115R, Bakersfield, over."

"Cessna 1115R, Los Angeles Flight Watch, over."

"Cessna 1115R is on a VFR flight to San Diego. The clouds appear pretty high ahead of us through the Gorman area. Do you have any recent pilot reports?"

"Cessna 15R, the tops over Gorman have been reported to 13,000 and to 14,000 over Tehachapi. Radar is indi-

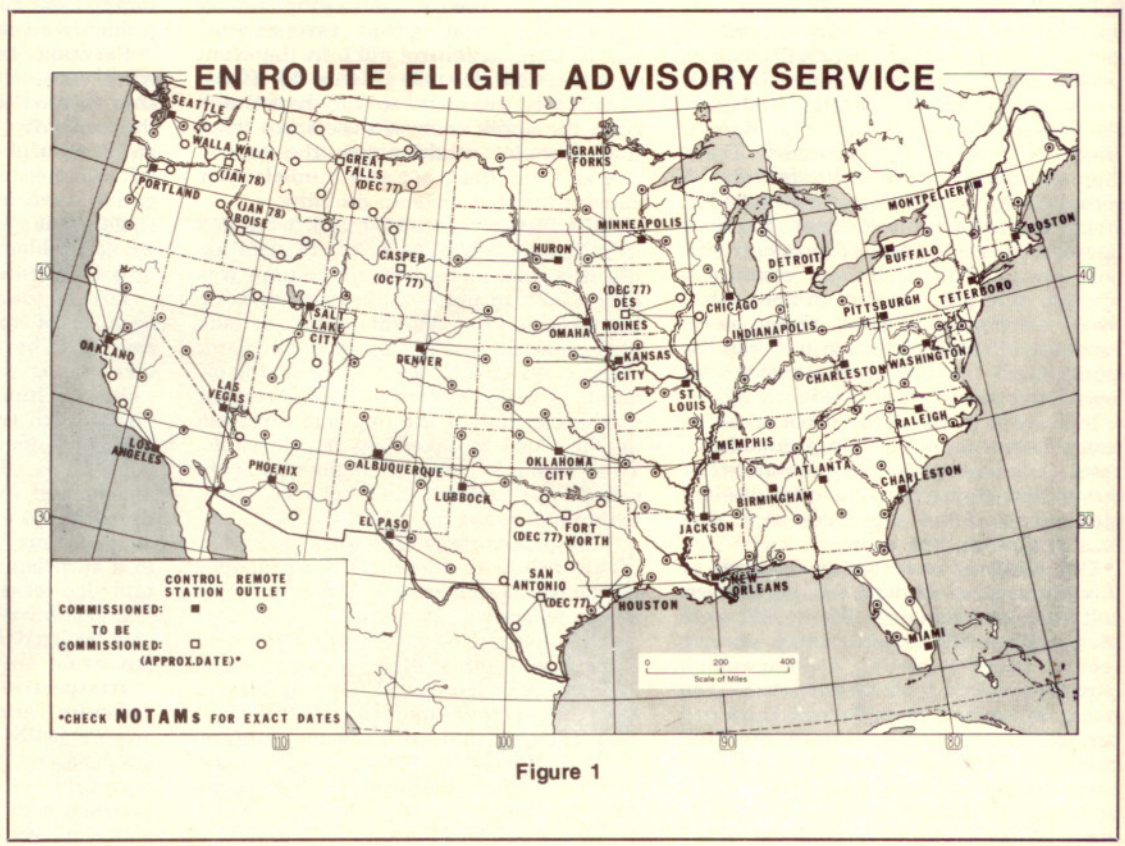

Figure 1

How will those forecasts hold up after you are in flight? A call to Flight Watch on 122.0 MHz will tell you.

cating an area of rain showers ahead of you and through the Tehachapi area moving from the northwest at 15 knots. Reports between Bakersfield and Santa Barbara, however, indicate broken tops between 9,000 and 10,000. Then, along the coast between Santa Barbara and San Diego clouds are scattered between 3,000 and 4,000 with unrestricted visibilities, over."

"Cessna 15R, roger. We will amend our route of flight and ETA with Bakersfield Radio, then keep you advised of the conditions along the route to Santa Barbara, thank you."

Flight Watch provided us with just the information we needed, just when we needed it most. They provided us with an alternate route of flight that enabled us to proceed to our destination with minimum loss of time and maximum safety. And now, Flight Watch is being expanded nationwide; but, just what exactly is Flight Watch?

Enroute Flight Advisory Service (EFAS), or *Flight Watch*, has been specifically designed to improve flight safety by providing timely and meaningful weather advisories during the en route phase of flight. The objective is to provide current, complete, and as-accurate-as-possible information in a way that will prevent unnecessary changes to a flight; and, that will permit the pilot to make the decision to continue, terminate, or alter course before adverse weather conditions are encountered. The FAA and the NWS (National Weather Service) have established special training requirements and have equipped specific Flight Service Stations to accomplish these objectives.

Flight Watch has been assigned the task of providing routine weather information, plus *en route flight advisories*, for that phase of flight that begins *after* initial climbout. En route flight advisories will include such hazardous weather as turbulence, icing, areas of below-VFR weather conditions, and thunderstorms as reported by pilots or observed on radar.

They will be presented as a narrative summary of the existing flight conditions along the pilot's proposed route using all available information, including appropriate surface weather observations, pilot reports, radar reports, and facsimile chart data. For example, an en route flight advisory might inform a pilot of the existence of thunderstorms along his route, such as, "radar indicates numerous thunderstorms along Victor 12 for the next 30 miles; Victor 12 is clear of thunderstorms." Or, it may advise the pilot that his destination is below VFR, such as, "Santa Monica is below VFR, flight not recommended into Santa Monica, pilot reports indicate the closest VFR airport is Agua Dulce."

As you can see these advisories are "briefings" on what is happening now along the pilot's intended route of flight, tailored to the type of flight operation being conducted.

As you have probably already gathered, Flight Watch is for meteorological information only. In this way the Flight Watch specialist does not have to divert his attention from the weather picture for other routine FSS inflight services. Flight Watch is not for filing, opening, or closing flight plans, making position reports, nor for providing initial weather briefings. Flight Watch should not be used to obtain aeronautical information, such as ATC (Air Traffic Control) or

navigation frequencies.

In addition, pilots desiring only one item of weather, such as a sequence report or a terminal forecast, should request this information on regular FSS frequencies. This will help alleviate congestion on the Flight Watch frequency and allow easier access for pilots requesting en route flight advisories or providing pilot reports. And, altimeter settings will only be provided on request. Pilots requesting other than en route flight advisory service will be advised to contact the appropriate Flight Service Station.

Flight Watch will consist of 44 Flight Watch control stations. Each of these will generally have between one and eight remote communications outlets (see Figure 1). The area covered by the control station and the remote outlets will be that control station's Flight Watch area. Generally, Flight Watch service will be available to pilots flying at or about 5,000 feet agl, exceptions will be areas of very light activity or areas of relative inaccessibility. This service will normally be available 16 hours a day (6 a.m. to 10 p.m. local time), seven days a week, on the common frequency of 122.0 MHz.

In order to meet the objectives of EFAS, the Flight Watch specialist must have ready accessibility to meteorological information. As well as the standard "Service A" weather data (aviation weather reports and forecasts teletype circuit), the Flight Watch position will have its own National Facsimile Network drop. The National Facsimile Network will provide the Flight Watch specialist with surface, weather depiction, radar summary, and upper air analysis charts. In addition, 12-hour and 24-hour surface, winds aloft, and high level significant weather forecast charts will be available.

Some Flight Watch stations have video presentations of radar weather information, others will still temporarily use facsimile equipment until video radar presentations can be installed. The Flight Watch specialist will have direct lines of communication with the NWS forecast office, as well as the FSSs, towers, and centers within his Flight Watch Area. And, many Flight Watch stations will have direct lines to adjacent Flight Watch control stations.

The personnel manning the Flight Watch positions will be specially selected, trained, and certified by the FAA and the NWS. In order to be certified as a Flight Watch specialist, applicants must successfully complete a training course at the FAA Academy in Oklahoma City and be certified as qualified to provide Flight Watch services by the local facility chief. These specialists will be local aviation weather experts for their Flight Watch Areas.

The availability of Flight Watch is indicated on VFR and IFR aeronautical charts by triangles in the upper corners of navigation and communication boxes. Triangles in the corners of a heavy line box indicate a Flight Watch control station with the same name as the navigation aid (see Figure 2). Remote Flight Watch outlets are indicated by a thin line box, with triangles in the upper corners, containing the name of the Flight Watch control station (see Figure 3).

Since all Flight Watch Control Stations and remote outlets use the common frequency of 122.0 MHz, this frequency will only appear in the legend of aeronautical charts. Flight Watch control stations and remote outlets are also listed in Part 3 of the *Airman's Information Manual*. The commissioning of new Flight Watch control stations and remote outlets will be carried as a Notice to Airmen. Additionally, if for any reason Flight Watch service is unavailable, the outage will be advertised in a NOTAM.

Because only one frequency is assigned to Flight Watch, frequency discipline is a must. To obtain the best service from Flight Watch we should follow these procedures.

- Monitor the frequency before transmitting.
- Use the name of the Flight Watch Control Station and the words "Flight Watch."

In many areas Flight Watch coverage overlaps. By stating the name of the control station we will avoid having several control stations answering at the same time.

- State the full aircraft identification.
- State the aircraft position in relation to major topographical features or navigation aids.

This will allow the Flight Watch specialist to key the transmitter that serves your area. It should help eliminate interference with other aircraft calling other

A Flight Watch specialist, specially trained, certified and equipped to combine pilot reports and other weather information, serves as a local weather expert for his Flight Watch area.

stations and insure the best communications.

• Establish communications before proceeding with your request or message.

The Flight Watch specialist could be busy with another aircraft using another site.

• When requesting an Enroute Flight Advisory, provide the specialist with your cruising altitude, route, destination and IFR capability, if appropriate.

This will allow the Flight Watch specialist to tailor the advisory to your specific needs and capabilities.

Figure 2

Figure 3

An initial contact should go something like this: "Las Vegas Flight Watch, Aztec 12345, Morman Mesa, over." However, if you are not sure which Flight Watch Control Station serves your area, use the same procedure, but omit the station name. For example, "Flight Watch, Beech 23456, in the vicinity of Tucson, over." In this latter case the Flight Watch station that has responsibility for the Tucson area will reply.

Precise weather information is usually available for our departure airport, various surface locations en route and at our destination. This information comes from an extensive network of FAA and NWS weather observation stations. However, many times precise information on weather conditions en route is not available. Radar, satellite and pilot reports can fill in many of the gaps. Radar is limited to information on precipitation intensity, location, movement, tops and, at times, bases.

Satellites are providing information on the extent, type and tops of cloud formations. However, at the present time, pilot reports are the only way of directly observing turbulence, icing and most upper cloud layers. And, Flight Watch is the central collection and distribution point for pilot reports.

Every time we fly we become weather observers. Not only should we report unforecast weather conditions (required for pilots flying IFR), but we should routinely report conditions through mountain passes, in remote areas and at airports without weather reporting service. These reports are as important as reports of unforecast weather.

However, it is not enough just to make pilot reports. Our reports must be objective. This is especially true for reports of turbulence and icing. The definitions of the intensities of turbulence and icing and the classifications for the duration of turbulence can be found in many aviation publications, including Part 1 of the *Airman's Information Manual.* Unless the report means the same to all users, the report is all but useless.

The Flight Watch specialist is required to continually solicit reports of turbulence, icing, temperature, wind shear, and upper winds, regardless of weather conditions. In this way, he can keep himself, other pilots, FSS and NWS weather briefers and NWS forecasters up to date on current weather conditions. And, if unforecast, or hazardous, weather conditions are reported, he can immediately notify all involved. To accomplish this task our participation is essential.

What is in the future for Flight Watch? With most of the Flight Watch control stations already commissioned, more remote outlets will be established to achieve the goal of Flight Watch service over most of the country. Flight Watch may be assigned two or more discrete frequencies. This would allow adjacent stations to have different frequencies; or, one frequency might be assigned for low altitude use and another for high altitude. This would help alleviate interference and frequency congestion.

Weather radar displays will be installed at Flight Watch control stations that are not as yet so equipped. The FAA's Western Region control stations at Los Angeles, Oakland, Las Vegas, and Phoenix are scheduled to have weather radar displays installed by 1978 or 1979.

The FAA has also announced that it plans to install 10 GOESFAX (Geometric Orbital Equatoral Satellite Facsimile) receivers. FSS and Flight Watch specialists will be trained to interpret these half-hourly satellite photographs, which will help them assess cloud conditions in mountainous and remote areas. Also, these photographs will be helpful in detecting the initial development of cumuliform clouds before precipitation is detected on radar—especially helpful to VFR pilots or pilots who have limited IFR capability.

The FAA and the NWS have established a program to alert en route pilots of severe thunderstorm activity. At the present time the Severe Thunderstorm Alert Test is limited to the New York-Washington area. When a severe thunderstorm is identified on radar the information is forwarded to ATC facilities for dissemination to pilots. VFR pilots can expect to receive this information from Flight Watch. The results of this test could determine if the program is to be expanded.

Flight Watch is for obtaining Enroute Flight Advisories and providing Pilot Reports. Although routine weather information is available, we should avoid congesting the Flight Watch frequency if all we require is a single item of information that we can obtain from regular FSS sources.

The Flight Watch specialist will provide us with all available information; however, we can not expect detailed information outside of his Flight Watch area. For example, Phoenix Flight Watch will not have the latest radar information for western Kansas. Denver Flight Watch, which has responsibility for this area, will have the latest and most detailed reports.

Flight Watch is not to be used for non-meteorological information; nor should it be used to obtain an initial weather briefing. Attempting to use Flight Watch for an initial briefing would be like coming into a theater after the story has already begun. The Flight Watch specialist has neither the information nor responsibility to provide this service.

Statistically Flight Watch is accomplishing its goals. During the period that Flight Watch was only available on the West Coast, those areas showed a significant decrease in weather related accidents when compared with those areas where Flight Watch was not available. But now that Flight Watch is being expanded nationwide, the real test will come.

Will Flight Watch be the answer to reducing weather related accidents? Will we use Flight Watch for what it was intended or will it become a hodgepodge of pilots cutting out each other with requests for other than Flight Watch service?

Our participation in Flight Watch is essential. However, we must use it for what it was intended. We asked for Flight Watch, now we have it; the success or failure of this program is up to us. □