



Diversion Decisions

What can ATC do for me?

There is an expression among pilots who fly airplanes with retractable gear, and it goes something like this: “There are those who have and those who will.” It refers to landing with the gear up, and some folks believe that the chances are good that a pilot flying an airplane with retractable gear will, at some point, land with the gear up.

The same principle holds for flight into adverse weather. Unless you restrict your flying to a simulator, it is likely that, at some point, you will find yourself in weather conditions that were not forecast or expected. Having seen this situation from both sides of the microphone, as a pilot and as an air traffic controller, I can offer my fellow aviators a few observations and tips for mitigating the risk if and when it happens to you.



If weather makes your airport of choice not an option, ATC can reroute you to another airport.

How Can It Be?

When I became an air traffic controller, I also became obsessed with weather. Visual meteorological conditions (VMC) on a weekend meant lots of visual flight rules (VFR) pilots who wanted flight following and traffic advisories. Thunderstorms meant delays and lots of reroutes. Snow meant runway and airport closures.

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Weather affected my working conditions, so I paid close attention to it.

Weather also affected my “working conditions” as a pilot. Consequently, I monitored weather for many days before a flight. I made sure to get weather briefings from Flight Service. Careful as I was, though, I can recall several flights where conditions were not as forecast, and I needed assistance from ATC to safely complete the flight. I felt betrayed, and I was angry. How could this happen when I was so thorough?

If I were a betting woman, I would bet there are many pilots like me: Very conscientious about preflight weather briefings, yet sometimes landing (so to speak) in a position where the in-flight weather conditions were not the same as forecast or anticipated.

What Can I Do?

You should never depart with the expectation that if the weather forecast is wrong, ATC will come to your rescue. As the pilot in command, you alone are responsible for the safe operation of the aircraft. ATC services are a very valuable resource available to you. When a pilot requests assistance in adverse weather conditions, controllers will provide whatever assistance they can. ATC services are a resource you should know how to use.

That said, what can and can't air traffic control (ATC) do for you in adverse weather conditions?

What ATC Can Do?

Issue an IFR clearance. Normally, you should file your flight plan with Flight Service before departure. This is a primary Flight Service function, and it is set up to accept flight plan information. If, however, your flight conditions have deteriorated and you would prefer to continue under instrument flight rules (IFR), you may request to file your flight plan while airborne. ATC will likely ask if you are instrument rated and equipped, but controllers generally assume that if you are requesting an IFR clearance, you are qualified to fly IFR.

Remember, if you file with ATC while airborne, it is likely that the frequency you are using is also the frequency ATC is using to separate and control air traffic. Know what you want to say before you transmit and keep it brief. The controller may ask you to contact Flight Service on another frequency to provide flight plan information (e.g., pilot name, color of aircraft) that is not necessary for navigation.

Forward and solicit pilot reports. When weather conditions are unstable or fluctuating, controllers regularly request and receive pilot reports (PIREP). PIREPs provide up-to-the-minute accurate information that in many cases has not yet even reached a Flight Service Station. Be a good aviation citizen and make it a point to make PIREPs. If you need PIREPs, tell ATC your route of flight, altitude, and destination and ask if they have any relevant PIREPs. If ATC does not have recent information, they will solicit it for you if there are other aircraft in the area.

I found this service invaluable on one flight my husband and I made in our Mooney several years ago. We had obtained preflight weather information and we expected the weather to be IFR at our destination. Based on the forecast, we also expected that it would improve by the time we arrived. Unfortunately, the ceiling and visibility were right at minimums and we had to execute a missed approach. I asked the controllers for the nearest airport where aircraft were able to land. They quickly provided that information and issued a clearance to that airport. Knowing what to ask for saved time and fuel and contributed to the safe completion of our flight.

Provide weather information as observed on radar. Most ATC radar facilities have some

weather information depicted on their radar, such as heavy rain and thunderstorms. ATC radar has some limitations, though, and capabilities vary depending on the facility. ATC can tell you what weather is depicted on the radar and controllers can suggest headings around those areas. Keep in mind, however, that ATC radar is not “official weather radar” such as that used by many airlines, and that it is not the same radar that is used for weather forecasting. The [July/August 2005 FAA Aviation News](#) article, “Thunderstorms/Pilots/AFSS and ATC,” talks about this.

Issue a Special VFR (SVFR) clearance. A SVFR clearance authorizes a pilot to operate under VFR when the flight visibility or distance from clouds is less than that described in Title 14 Code of Federal Regulations (14 CFR) section 91.155. SVFR only applies within airspace contained by the upward extension of the lateral boundaries of controlled airspace designated to the surface for an airport. See 14 CFR section 91.157 for more information on SVFR weather minimums.

According to this provision, SVFR operations may only be conducted with an ATC clearance, clear of clouds, and (except for helicopters) when flight visibility is at least one statute mile. In addition, except for helicopters, according to 14 CFR section 91.157, SVFR is not authorized between sunset and sunrise unless the pilot is instrumented rated and the aircraft is equipped for instrument flight.

An important point to remember is that ATC is not permitted to initiate an SVFR clearance. The pilot must explicitly request it.

Provide radar vectors to a nearby airport. If you decide that the best course of action is to land, ATC can usually provide radar vectors to your destination airport. In addition, controllers can quickly provide airport information, UNICOM frequency, and other pertinent information if needed. In the IFR flight I described above, my husband and I deviated from our filed destination airport, Hanscom Field,

Massachusetts, to Bradley International, Connecticut. I really appreciated ATC’s ability to provide the airport information so quickly. Apart from the fact that we were busy with flight duties, who knew to look for instrument approaches at Bradley International Airport under “W,” for Windsor Locks?

What Can ATC Not Do?

No matter how helpful controllers try to be, there are still limitations on what ATC can offer. Here are the major things ATC *cannot* do.

Make decisions for you. As pilot in command, you are directly responsible for safe operation of the aircraft. You are the final authority. You alone know your flight conditions, your fuel

status, your experience, and your comfort level for flying in adverse weather conditions. Communicate your situation; don’t hesitate if you need help. As noted already, controllers will provide information to assist you, but you are responsible for the final decision as to the safe operation of your aircraft. If you want an opinion, controllers may be able to provide one based on information they have on hand.

You cannot delegate your responsibility as PIC or your decisions to ATC.



Nevertheless, never forget that the safe operation of the aircraft is in your hands. You cannot delegate your responsibility as PIC or your decisions to ATC.

Waive regulations. ATC cannot authorize flight in instrument meteorological conditions (IMC) for VFR-rated pilots. If you are not on an IFR flight plan, you must comply with cloud-clearance requirements as contained in 14 CFR section 91.155 on basic VFR weather minimums. If a controller issues a heading that would take you into clouds, the magic word is “unable.” Advise the controller that you are operating under VFR and that the suggested or assigned heading would take you into IMC. Unless you have requested and received an IFR clearance, you must maintain basic VFR weather minimums.

Pay special attention to this fact, because it is all too easy for an IFR-rated pilot to assume it is okay to follow a heading into the clouds. It happened to a friend of mine several years ago. He had recently earned his commercial certificate with instrument rating, and he was carrying his first paying passenger.

If, as pilot in command, you conclude that an emergency exists, do not hesitate to declare an emergency with ATC.

There were scattered storms in the area, so he requested radar vectors from ATC.

The assigned heading took him into IMC. Being an instrument-rated pilot, he confidently accepted the heading and told me later what a fine job he had done keeping the aircraft in straight and level flight. When I asked how he flew in clouds while on a VFR flight, he slowly turned beet red as he realized he had not received an IFR clearance. Remember, an assigned heading does not equate to a clearance to fly into IMC!

Initiate a SVFR clearance. This one bears repeating: Controllers are not authorized to initiate a SVFR clearance. The pilot must explicitly request it. Because SVFR operations are conducted in weather conditions that are below basic VFR weather minimums, this particular flight operation is challenging and appropriate only in limited circumstances.


Assume it is an emergency. Pilot requests for assistance due to adverse weather conditions are very common, especially during the hot hazy days of summer. It may feel urgent to you, but it is important

to understand that ATC will not handle your flight as an emergency or give priority, unless you declare an emergency or your radio transmissions lead the controller to believe you are in an emergency situation. Controllers do have the authority to declare an emergency for you if they have reason to believe conditions warrant such action.

This is important: If, as pilot in command, you conclude that an emergency exists, do not hesitate to declare an emergency with ATC. Pilots sometimes fear there is a lot of paperwork associated with declaring an emergency, which they do not want to complete. Although the FAA may request information about the incident in some cases, the benefit far outweighs the risk. Even assuming there is paperwork, which is not necessarily the case, I would rather be safe at home with my family completing a report than flying in adverse conditions with the safe outcome of the flight in question.

Speak Up!

As a student pilot, I never tangled with adverse weather. I left that until after I earned my pilot certificate. Even though I had been a controller for four years at that point, I managed to get lost on at least three different occasions. Each time I had to ask ATC for help. On one occasion, I called Flight Service to close my VFR flight plan and casually mentioned I landed at a different airport than what I had filed. The kind man asked me what I did for a living and when I told him I was an air traffic controller, he laughed and laughed. Later that day, when I had to file my return flight, I got the same gent on the phone. He noted that he would never forget me and said I had made his day. As a controller I was embarrassed to have such poor navigation skills, but a little embarrassment is a small price to pay when your safety is at stake.

In summary, remember the safest course of action is not to continue flight into adverse weather conditions in the first place. But, if you need help, admit it, and contact ATC without delay. 

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