

Wind Weather and Waves

Often times the weather in Resurrection Bay and Kenai Fjords National Park can be unpredictable. One minute it could be calm as glass and the next it could be blowing at 15 knots with waves up to 3 feet and white caps starting.

When conditions increase like that, they can be hazardous to kayakers for a few reasons.

- Wind can sideswipe your boat and carry you off course
- Waves created by the wind can broadside the kayak and cause a capsize
- Paddling in windy conditions can be stressful and not fun
- A prolonged period of rain and cold weather can cause hypothermia

Understanding the typical weather trends of Resurrection Bay and the Kenai Fjords National Park will help you predict how the weather might progress over the course of the day.

Seward sits at about 60 degrees latitude, and it turns out that is one of the places on the earth where the atmospheric winds shift. In our case, winds are converging from the pole and the lower latitudes, thus creating a belt of low pressure. If you ever wondered why it rains in Seward so much, that is the reason.

There is also a polar front that rests around the North Pole. Traditionally, winds in the polar front blow from the East. Below the Polar Front, the midlatitude westerlies are blowing. During the summer the Polar low and the midlatitude highs are “fighting” against each other. That is why we sometimes get such a difference in temperature during the summer and that is the result of a change in the frontal lines as they move more North or South over the 60 degree latitude line.

Another factor that affects the weather in Seward is the localized weather patterns. Without getting into extremely specific terms, when the sun is shining, the land absorbs the heat of the sun faster than the ocean. As the temperature gradient increases between the land and the ocean, the pressure over each body changes thus creating a breeze, and sometimes a pretty strong wind. So, when the land is cooler than the ocean there is a North wind (mornings and evenings), and when the land is warmer than the ocean there is a South wind (afternoons). These weather trends tend to only apply on sunny days when the sun is allowed to warm the Earth.

Another way to help predict the weather is the weather reports over the weather band radio. Often the weather Kodiak is experiencing will reach Seward in a couple days.

We also listen to the Weather report every morning. The Seward radio transmits on Band 1. Pretty regularly, the report will call Resurrection Bay with wind 15 knots and seas 3 feet. Generally it never reaches that condition, but sometimes it really will. Just being aware of the weather forecasts helps you make a decision on how you plan to run your trip for the day.

Not only do pre-trip preparations help, but it is also important to be aware of the weather while you are paddling. Generally if a small breeze starts up, especially from the South, the wind will keep picking up some more. Knowing where you are in the bay will help you determine if the waves are going to pick up at all.

Fetch is what determines the maximum height of a wave. It is determined by the wind’s velocity, how long the wind has been blowing, and the distance of open water the wind has been blowing across. The greater the number of either factor, the bigger the waves. By understanding this concept you can avoid areas where the waves might be bigger.

As far as paddling in waves, it is important to remember your boat design. If a boat is pointed into the wind, the wind really won't affect your direction, though paddling might not be very fun. When the wind is coming from behind the same idea applies. However, when waves are coming from behind you they can cause your boat to fishtail and possibly cause it to turn sideways too much and tip you over. Whenever you are paddling with the wind behind you make sure your customers have their rudders in the water, that way they will be able to maintain their course. Whenever the waves are hitting you from the side you run the risk of capsizing. In situations like this, especially with inexperienced customers, your best bet is to quarter the waves at a diagonal angle. Another factor with crosswinds is that kayaks are designed to naturally point into the wind. Often that can be adjusted with a few sweep strokes every once in a while, but beginning kayakers can get really frustrated, I was one of them. It is best to just set your rudder which will help immensely.

Topography

Knowing the topography of the land both above and below the water will greatly reduce the risk of an accident. When we do not know the lay of the land we could find ourselves paddling in an area with no landing beaches for breaks or emergencies. Topography also affects currents. Different types of ocean floors can cause boils, breakers, and falls which could surprise you any time.

The best way to avoid things like this from happening is to know the area you are paddling in. You could talk to the Miller's, they have been captaining the bay and area for years now, and they can tell you what to watch for. The first things to be aware of on your trips are proper landing beaches and how far apart they are. Often times a beach that looks perfect could turn into a disaster. If the proper wind picks up and a swell starts running into the beach you could start getting dumpers which can cause serious problems. Dumping beaches are the ones with a very steep slope from the ocean floor to the water line. When swells come rolling into the beach they hit the floor quickly and thus build quickly. By the time the swell hits the water line it is a big wave that will throw you onto the beach without notice then wash you back out to sea. Examples of dumping beaches are South Beach of Caines Head and North Beach in Thumb Cove (certain swells only). If you plan on using a dumping beach you must plan your timing correctly. Only go if there is a light breeze and it doesn't look like the wind will pick up to create swells.

Another thing to keep in mind while paddling is false beaches. You could be paddling at low tide and pull into a nice gravel beach with a neat waterfall tumbling onto the rocks and streaming into the sea. Two hours later you could find yourself swimming. Even though you would have probably had the time to get back into your kayaks and find another beach, what if you had been in the middle of an emergency and couldn't get into the boat, what would you do then? Or if you realized too late and the boats drifted away then the beach was gone and all you had were cliffs above you? Not fun. The best way to determine if a beach is false or not, is to look for washed up driftwood from the winter storm surges. If you look at the beach front at Miller's Landing you can see the huge logs resting way up near the picnic tables. If logs like that are where you are landing, and there is still more beach to go you can pretty much figure that you are safe on that beach.

Being aware of the topography below you can also help you paddle a safer trip. Large shoals and tidal flats become menacing when waves start rolling in and breaking. Tonsina Point is a perfect example of this. When the waves start picking up in the bay we like to give Tonsina a wide berth. Of course we don't want to go too far out into the bay, but often we have to because every year that shoal gets bigger and you could be a ways of the shore line and still be paddling in two foot deep water.

Other hazards can be rocks barely resting below the water line. As you are paddling up to the area you may not notice the rock, but if the right wave hits it could break and cause some turbulence. The best way to identify rocks like these is on nautical charts. Generally, the rocks big enough to cause serious problems are marked on charts because most boats have a deeper draft than one foot. By having a copy of a chart with you on your trip you can remind yourself where those rocks are. Another way to avoid these hazards is to keep a watch at least a half mile in front of you as you paddle. If you start seeing waves break occasionally then let everyone know and steer clear of the area.