

Coastbusters

The Cross Currents Newsletter for Mid-Atlantic Paddlers

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The 2023 Everglades Challenge: Seven Days, 220 Miles

Brooke Longval

The Everglades Challenge (EC) is an unsupported, expedition style adventure race for kayaks, canoes and small sailboats. This is a complex race with lots to prepare for – a common saying is that getting to the start beach is half the race. And it's completely true.

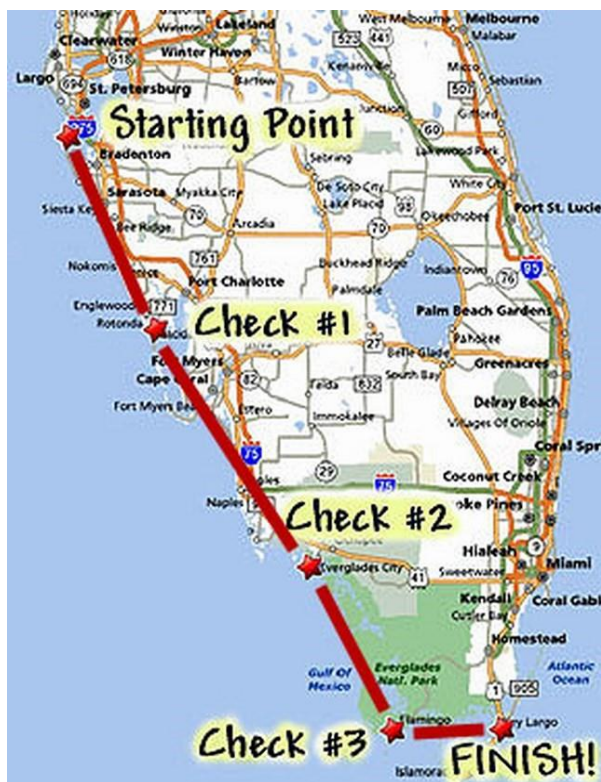
You have eight days to cover approximately 300 miles from Fort DeSoto in St Petersburg, FL to Key Largo. You are required to carry an extensive list of safety equipment, as planned resupply stops are not allowed. The event is run by the WaterTribe – an organization whose purpose is to “encourage the development of boats, equipment, skills and human athletic performance for safe and efficient coastal cruising using minimal impact human and wind powered watercraft based on kayaks, canoes and small sailboats”.

The race starts on the first Saturday in March and has run every year except one since 2001. There are various classes based on the type of boat, so that, for example, paddle craft are not competing against sailboats.

The Course

The Everglades Challenge course starts in Fort Desoto, and immediately crosses Tampa Bay and its shipping channel. The sailboats generally head southwest and out into the Gulf of Mexico, while paddlecraft head for the Intracoastal Waterway through Sarasota.

The route follows the coast south and into the 10,000 Island area and Everglades National Park. (Near Naples, there is a stretch of nearly 20 miles where the ICW doesn't exist and all competitors are out in the open Gulf.) There are two checkpoints in Everglades NP, one in Chokoloskee Bay (Checkpoint 2) and another at Flamingo (CP 3). To get from Chokoloskee Bay to Flamingo, the paddlers have options. They can take the shorter, 60-mile, more exposed outside route around Cape Sable (which is how the sailors go) or take one of two ‘inside’ routes that, while more protected, are also significantly longer (65 miles or 99 miles). From the checkpoint at Flamingo, the finish is a short 34 miles away across the shifting mud banks and myriad mangrove islands of Florida Bay. Once



Brooke and the boats race set up. Photo: Caroline Gorga

Race Summary

Since the Coast Guard called off the race in 2015 due to multiple rescues in nasty conditions at the start, the EC cannot start into a Small Craft Advisory. This year, it was extremely windy on set-up day (Friday) with winds gusting to 42 knots and a Gale Warning in place. The organizers issued an optional “Plan B”: any competitor who did not want to launch from Ft. Desoto could start anywhere north of Boca Grande. Since most of my paddling friends were taking this option, I did the same and started from the Manasota bridge, about 50 miles down the course. Of the 75 competitors this year, about 25 launched from the beach and the rest launched at various points down the course.

The weather for this year’s race was fantastic, after the wind on Friday died down. By Saturday morning at the start it was warm and sunny with light easterly breezes. The wind was north or northeast nearly all week which allowed me to use the sail about 75% of the race, which was a huge help. I still paddle when the sail is deployed but can make the same speed with much less effort and can stop paddling for a snack, drink or to check my charts and still keep moving. The great weather meant that only a handful of starters didn’t finish, which is very unusual – the finish rate is usually about 40%. Last year, with horrendous headwinds the whole week, only 29 out of 100 finished.

across, the radio tower behind the Pelican Cottages in Key Largo appears and a crowd of people are there on the beach to greet you at the finish.

Boat Setup

I have always paddled British-style skeg boats, but was told by several veteran WaterTribers that I really need a ruddered kayak for the EC. Since I knew I wanted to put a sail on the boat as well (less than one square meter to stay within Class 1 requirements) the rudder made even more sense. I was very lucky to find an older (2002) Kevlar Mirage 580 on consignment at Sweetwater Kayaks. Mirages are built in Australia and are well respected expedition boats in that part of the world but are not well known in the US. I made a few modifications to the boat – a new seat, new foot board, added the sail and made some minor repairs. At 19’ by 22” the Mirage is a huge boat – I fondly call it the Aircraft Carrier – but is a safe and very stable kayak that holds a ton of gear. They are also well known for being good sailing kayaks thanks to very high initial stability and a unique but large and effective rudder.



Crossing Charlotte Harbor, Day 1. Photo: Brooke Longval

I Just Had to Burp

On the very first day, my stomach was not happy with me as I was doing the first big crossing of Charlotte Harbor. This crossing is known for usually being a washing machine, but today it was gorgeous with light winds and calm conditions. I tried to enjoy it while also trying not to throw up. After reaching Bokeelia in the dark I decided to try to throw up to get it over with and discovered that I just had to burp – I was getting a lot of air in the hose from my hydration bladder which was making my stomach unhappy. After that I felt much better and had a nice paddle down the east side of Pine Island to Matlacha where I planned to camp that night. It was interesting using the GPS to navigate to channel markers and then discovering that most of them were gone as Hurricane Ian had passed right over this area only 5.5 months before. I arrived at my first camp just after 10PM having paddled about 35 miles.

Rough Water

The next day I was near the Sanibel Causeway with lots of manatees around. They made me very nervous – especially in the murky water in that area - because several EC paddlers have been flipped by manatees.

Once through the causeway, and heading down the coast, there was a lot of boat traffic, it was very rough, there were lots of dead fish due to the ongoing red tide bloom, and it became obvious that I was not going to make Gordon pass in the daylight. Gordon can be a nasty pass in *good* weather, so there was no way I wanted to run that pass at night in rough conditions. I had to stay nearly a mile offshore of the shoals at Lovers Key and eventually got to Wiggins Pass which at first did not look runnable but I finally saw a safe path in. Within minutes I was suddenly in calm water

with several other WaterTribers greeting me and helping me to pull my boat up on the beach! What a rollercoaster of emotions from not knowing what I was going to do, to being welcomed by a bunch of friendly faces. The beach was covered in dead, stinky fish so we all retired to our tents quickly. But it was a huge relief after 32 hard miles.

Spectacular Full Moon in the 10,000 Islands

Day 3 was much calmer; I covered the 11 miles down to Gordon Pass with no issues and cleared the pass easily. I saw a few other WaterTribers nearby as I sailed down the channels and into the Capri Fish House where I stopped for a bathroom break (a REAL bathroom!) and a much-needed grouper sandwich. Although my stomach was still not great, I was desperately craving protein and a cold soda! The food really perked me up. While eating I found out that some of my friends were camping on Panther Key, “just” another 20 or so miles down the coast, so I made that my destination for the night. I had a spectacular paddle down the uninhabited coast of the 10,000 islands under a full moon. I saw a light that I figured was a campfire and sure enough it was the group of paddlers I was looking for – they were watching for me and following me on the tracker as well. 42 miles! The longest day and by far the most fun day of the race.



Heading into Panther under a full moon. Photo: Longval

Gear, Clothes, Food

My Sea Dog sail is very easy to use and provides a lot of power for its small size (plus it's really fun). We are required to carry a VHF radio, Personal Locator Beacon and a tracking device (SPOT or Garmin InReach). I also had a GPS and my cell phone with Navionics loaded in. There is no cell service from just past CP2 to within a few miles of the finish.

I used a 2 person REI tent. I paddled in Sharkskin pants and a midweight shirt for the first few days and then switched to board shorts and a lighter shirt; the weather was quite warm with air temps in the 80s and water temps ranging from low 70s to low 80s.

For food I mostly ate Boost, dried mango, Clif bars, peanut M&Ms and canned lasagna. My stomach doesn't really like eating on these trips so I ate very little. I was able to stop for “real” food three times during the race.

On to Flamingo: The Wind Keeps the Bugs Away

Over the next two relatively uneventful days, we covered 20 miles (the shortest day) and then 30 miles. On Day 4 we hit Checkpoint 2 at Chokoloskee at close to high tide so we didn't have to deal with the knee-deep mud that the checkpoint is famous for at low tide. This was also a huge mental milestone since it meant I only had 90 miles to the finish. After a quick lunch, five of us (two tandem kayaks and me) headed out to Rabbit Key to camp for the night. It was very windy that evening which kept the bugs away but made for a loud night trying to sleep.

Day 5 was pretty boring: eight hours and 30 miles of mostly nothing. I arrived at my campsite at 4:30 and we tried to get a campfire going so that we could socialize for a bit and eat dinner. But the bugs were so bad we couldn't take it and were all in our tents by 6:30 PM.



CP2 at Chokoloskee, 10,000 Islands. Photo: Shawn Payment

The next day – after 12 hours in the tent (!) – we headed on to Checkpoint 3 at Flamingo. 27 Miles. This was a fun paddling day and interesting to see the chickee camping platforms that have been built by the National Park Service along the Joe River since there is no dry land at all.

As I was getting closer to Flamingo the wind picked up and the last eight miles was into a 20-knot headwind – but it wouldn't be the EC without some headwinds! Fortunately, the shoreline allowed places to duck out of the wind every mile or so. We found out later that two of our friends were battling the last section of the course across Florida Bay in that wind. It took them five hours longer than it took us to do the same route the next day! We were happy to reach Flamingo because it has real bathrooms and a food truck selling burgers. Another benefit was that the wind kept the bugs away and we only had one more day!

Finishing in the Dark

Day 7 – last day! We left Flamingo just after sunrise and our group of three boats stuck together today as navigating Florida Bay can be tricky. It was a gorgeous day, flat calm for part of it with a little wind later on – a bit too easterly for good sailing although I still tried.

After crossing Crocodile Dragover we had just 12 miles left to the finish, but those were the longest 12 miles ever! The sun set about 45 minutes before I finished so for the last few hundred yards it was very difficult to see where the finish beach actually was. As I got close, I started waving my flashlight as I knew people often stand out on the end of the dock looking for finishers coming in. Someone flashed back which turned out to be my friend Dave who had finished the day before on his seventh attempt! Finally, just after 7 PM having paddled 32 miles that day and 220 miles over the past seven days, I finished the 2023 Everglades Challenge. It was great to see my parents and friends on the beach, and the shower and pasta dinner afterwards followed by a night in a real bed was even better!

What Worked and What Didn't

I was generally happy with my gear. The kayak and sail were great, I was mostly comfortable during the long hours without getting out (back support still needs some tweaking) and I brought most of the right clothes. I still haven't found a pair of paddling shoes that work well for me for this race – my only physical ailment was my shoes rubbing on my feet.



With my parents at the finish line Photo: Tom Glenz



Low tide at Rabbit Key. Photo: Brooke Longval

While I could fit everything in the kayak, I still had too much stuff and can definitely improve on my packing. Food was a challenge – I really ate very little despite burning probably 5000 calories a day. Boost Plus and dried mango were about the only things I could consistently eat which left me craving protein by the third day. Fortunately, I was able to get some real food but if the timing was different I might not have had that option.

I felt that my training was more than adequate. I had been going to the gym to do weights and cardio two-three times per week. I paddled 20-40 miles per weekend, including long paddles up to 30 miles and back-to-back long paddles (20 miles two days in a row). I thought I was prepared with navigation but I need to add more detail to my charts and notes. My SPOT tracker, which worked flawlessly for every training paddle for two years, did not work for most of the race, which really stressed out my parents. I will switch to an InReach for the next race.

Thinking About the Future

Of course, the first thing everyone asked me after I finished (literally within 5 minutes) was if I would do the race again. At the time my answer was a definite “no” but time has a way of turning Type 2 fun into Type 1 fun and you quickly forget about the bad (boring, scary, buggy, hot, sick) parts. This race is addictive and now that I have done it, I know I *can* do it, and I know *how* to do it – even more reason to do it again! I am going to take a year off and volunteer as a checkpoint captain at CP2 - the training for this race takes over your life and after two years I would like a winter off with time to do more sailing and other things. I will be back on the beach in 2025, hoping for a beach (Plan A) start and do the full 270 miles this time. After that I may do it again in a kayak but plan to eventually switch to a Hobie Tandem Island; the race strategy is very different when you’re sailing vs. paddling.

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SF Bay. Photo: Bill Vonnegut

No Need to Think? Testing AI for Trip Planning

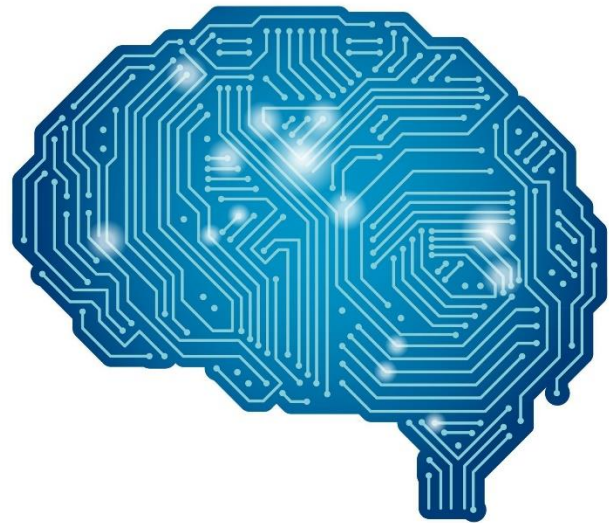
Ricardo Stewart and Rick Wiebush

Can Artificial Intelligence (AI) technology benefit the sea kayaking community? AI has been the hot topic of late in the high-tech world, with some arguing it will hasten the destruction of all humanity and others fearing it will replace most knowledge-based jobs. With over 35 years of experience in the computer industry, I (Ricardo) have always heard rumors of the eventual replacement of software and computer-related jobs by AI-generated technology. This year, the rumors around AI really grabbed my attention.

After months of ignoring all the buzz around AI (ChatGPT), I identified a real-world sea kayaking application where AI technology could potentially solve problems. The question is: can AI technology successfully and accurately calculate complex route planning for an open water sea kayaking expedition, including acknowledging the effects of tides and currents? This test case is easily defined and easily verifiable for accuracy.

AI Apps

When I started this little project, I did not know how to access ChatGPT or that there were other competing AI apps to play with. A quick Google search directed me to ChatGPT's website at chatgpt.openai.org. Eventually, I also discovered Google's AI website at bard.google.com. At present, the free version of ChatGPT, version 3.5, responds to prompts based on a static data repository from 2021. This fact is important, since ChatGPT 3.5 cannot search data outside the repository, and the data contained within the repository could be



outdated. This means that accessing NOAA tide and current data for 2023 or 2024 would be impossible. However, Bard, Google's AI engine, has no such restrictions and can access current data across the internet. Due to the limitations of ChatGPT 3.5, I decided to focus the research on Google's AI chatbot, Bard.

ChatGPT (Chat Generative Pre-trained Transformer) is a [chatbot](#) developed by [OpenAI](#), based on technology (GPT) initially developed by Google. The Bard wiki page notes the following: "Bard is a conversational generative artificial intelligence chatbot developed by Google. Based on a [large language model](#), it enables users to refine and steer a conversation towards a desired length, format, style, level of detail, and language.

Successive prompts and replies, known as [prompt engineering](#), are considered at each conversation stage as a context.”

Working with any GPT-based algorithm is an iterative process primarily based on providing an initial prompt, followed by subsequent prompts that further refine the request. This process continues until the solution is deemed acceptable based on the requirements. It is rare for an AI chatbot to respond with the correct solution without further refinement.

The Test: Circumnavigation of Manhattan

I wanted feedback on my first test of AI for sea kayak trip planning (a Florida trip), so I shared what I was doing with (co-author) Rick Wiebush. He provided feedback, got intrigued by what I was doing, and asked to be involved in the process. After some discussion, we decided that testing AI on a trip plan for circumnavigating Manhattan might be an interesting test. Our questions were straightforward: 1) can AI serve as a handy and reliable tool for trip planning: 2) especially for somewhat complicated undertakings that require precision and accuracy?

Paddling a circumnavigation of Manhattan requires careful and detailed planning. There are three rivers involved (East, Harlem, Hudson) all of which have strong currents – from 1.5 knots on the Harlem River to, frequently, three knots on the Hudson, and up to four knots at times on the East River. In addition, although they are both on the east side of Manhattan, the Harlem and East Rivers *flow in different directions* during the same tidal cycle. That is, when the current is ebbing, the Harlem River flows north, while the East River flows south.

Moreover, there is a crux move in the circumnavigation – at Hell’s Gate. At times other than total slack, the conditions there can be so rough that even power boats wait for slack to cross through that section. For sea kayaks it is critical to time the circumnavigation so that the crossing through Hell’s Gate is done exactly at, or very close to, slack. ***Given the complexity of planning the circumnavigation, this test of AI is a tough one.***



Creating an Assessment Framework

To assess the completeness and accuracy of AI responses, Rick W. went through the planning process that he has used in doing the Manhattan circumnavigation on five occasions.

The basic strategy is straightforward and has two key elements: 1) time things so that you are always getting a boost from the current, and 2) go through Hell’s gate at slack.

Rick's preference is to put in at Hallett's Cove in Queens, which is directly adjacent to Hell's Gate. And to get on the water right when it is slack before the ebb starts. That approach insures crossing through Hell's Gate during the brief period of slack and sets you up (when circumnavigating counterclockwise) to: 1) ride the ebb north on the Harlem River, 2) continue riding the ebb south the whole way down the Hudson to the Battery at the southern tip of Manhattan, and 3) by that time, the flood has begun on the East River, allowing you to ride it back north to the put in at Hallett's.

January 10 Paddling Plan Using Traditional Planning Methods

We picked January 10 as our test date because slack before the ebb (SBE) at Hallett's is at 8:30 AM, allowing a full day to make the 25 nautical mile circumnavigation. The basic paddling plan is shown in Figure 2 opposite. Note how the average paddling speed of 3 kts is increased dramatically for each leg (between 3.9 and 5.4 kts) due to the boost from the current. Note also the 20-minute wait at South Cove before rounding the Battery and heading for the Brooklyn Bridge – done to minimize exposure to the last of the ebb on the East River.

Figure 1 NOAA Current Data Jan 10, 2024

Hell's Gate, East River

Slack 8:30 Max ebb 11:24, - 4.48kts

McComb's Dam, Harlem River

Slack 8:18; Max ebb 11:14, -1.5 kts

GW Bridge, Hudson River

Slack 10:18; Max ebb 2:00, -3.1 kts

Brooklyn Bridge, East River

Slack (before flood) 2:54; Max 5:30, 2.8 kts

Figure 2 The Circ Plan

8:30 - Slack before ebb at Hell's Gate.

Launch from Hallett's at 8:15 to go < 1 nm and cross Hell's Gate right at slack.

8:30 – 10:30 – ride the ebb north 7.5 nm on Harlem River to confluence with the Hudson. Speed = 3.9 kts., aided by average ebb current of just under one kt. 45 minute break at confluence.

11:15 – 11:30 – ride ebb on Hudson south 1.6 nm to Geo. Washington Bridge. Speed = 4.7 kts, with 1.7 kt average push from current.

11:30 – 2:05 – ride ebb on Hudson south 9.2 nm to South Cove, near the Battery. Speed = 5.3 kts with average 2.3 kt push from current. Time period includes 45 min break at 79th St marina.

2:25 – 2:55 – after 20 min break at South Cove, head around Battery to Brooklyn Bridge. 1.4 NM at 2.5 kts, slowed by last of ebb on East River.

2:54 Slack before the flood at Brooklyn Bridge

3:30 – 4:30 – after 35 min break on beach, ride flood north on East River 5.3 nm to Hallett's. Speed = 5.4 kts, with average 2.4 kt boost from current. Take out at 4:30.

AI: Initial Iterations

So that's what a traditionally-formulated plan would look like for January 10th. We now turn to what happened when we wanted to see what kind of plan AI would come up with. This section describes Ricardo's series of AI prompts.

The initial prompt included the following excerpt: "Using the tide and current tables provided by NOAA...", indicating that the response should reference the documented tide and current information in its analysis. The engine responded with this refined version of that excerpt:

"In planning the route, refer to National Oceanic and Atmospheric Administration (NOAA) tidal predictions for The Battery, New York, NY, and Roosevelt Island, NY for accurate data."

But that was it and very little actual data were provided. Ricardo then refined his prompt and resubmitted. This generated another, more detailed response that included the tide and current information.

The AI plan also contained statements about 1) when to launch; 2) target times for reaching the start point for each successive leg; 3) when to expect slack or strong current flow; 4) when the current would switch directions; 5) estimated speed for each leg and 6) and general statements about safety considerations.

Some of the AI responses in these very first iterations were disturbing. There was confusion in some cases about *direction*. For example, one response said to "head north toward the East River from Hallett's Cove". Since Hallett's Cove is on the East River, this made little sense. There were also significant errors related to *time and distance*. For example, one AI response indicated that it would take 1.5 hours to get from the launch at Hallett's Cove to Hell's Gate. In fact, Hell's gate is one-quarter mile from Hallett's. It takes 10 minutes to get there.

Issues such as these led us to use an iterative process characterized by repeated refinement or elaboration of the prompts, based on the AI response to preceding prompts.

The following prompt represents the final set of requirements for the test case and is based on the initial prompt and three sets of refined prompts.

AI: The Final Set of Prompts

Manhattan Circumnavigation - Using the tide and current tables provided by NOAA, create a kayaking plan for circumnavigating Manhattan, NY counterclockwise on January 10, 2024. In planning the route, refer to National Oceanic and Atmospheric Administration (NOAA) tidal currents predictions for accurate data. The trip should begin and end at Hallett's Cove, in Queens, NY. Please indicate the launch times required to paddle with the currents. Further stipulations include:

1. Use January 10, 2024 data
2. Launch at Hallett's Cove
3. Circumnavigate counterclockwise, traveling due north from Hallett's Cove towards the Harlem River
4. Use NOAA data for tidal currents only
5. Start at slack before the ebb at Hell's Gate
6. Use the current on the Hudson River to quickly travel southward to The Battery
7. Use the strong flooding tide on the East River to assist traveling northward to Hallett's Cove to end the circumnavigation
8. Use the data on the currents for Hell's Gate, GW Bridge and Brooklyn Bridge
9. Calculate the average speed for each leg of the trip

AI Response And Our Comments

In this section, we show the plan as specified by AI in response to the above set of prompts. It also includes our comments on and critique of each segment of the AI-generated plan for the circumnavigation. *All language in black is the AI plan. Our comments are in red.*

Updated Manhattan Circumnavigation Plan - Counter-clockwise (January 10, 2024)

Goal: Circumnavigate Manhattan Island counterclockwise, starting and ending at Hallett's Cove, Queens, NY, leveraging tidal and current data to optimize the journey.

Date: January 10, 2024

Route and Launch Times:

1. Hallett's Cove to Hell's Gate

Launch at **8:15 AM**: Take advantage of the early slack water at Hallett's Cove and head north towards the East River. Monitor currents at Hell Gate: Aim for slack or favorable outgoing currents during your northward approach.

The thrust of this is accurate – you want to take advantage of slack at Hell's Gate. But it is also misleading. Yes, you want to aim for slack at Hell's Gate, but there is no “or favorable currents”. Any currents other than slack can get you in trouble. Hence this advice is problematic.

2. Hell's Gate to George Washington Bridge (Harlem River):

Aim to arrive at Hell's Gate around **9:30 AM** for minimal slack current (occurring at 9:42 AM).

There are two important issues here. First, it's apparent that AI has problems with distances between places. Hallett's and Hell's Gate are adjacent to each other. It cannot take 1hr,15 minutes to go about one-quarter mile. More importantly, AI advises that arrival at 9:30 will



Heading north on the Harlem River, just above Hell's Gate.
Photo; Rick Wiebush

coincide with slack. That contradicts the earlier statement about slack occurring around 8:15. It also indicates the app has a problem understanding NOAA tables since slack at Hell's Gate on this day is listed as 8:30, not 9:42. Someone expecting to hit slack at 9:42 would get themselves in big trouble.

Navigate the Harlem River with the outgoing current (slack at 9:45 AM) towards the George Washington Bridge.

Riding the ebb out toward the GWB is the right idea, but 9:45 is an hour into the ebb, not slack.

3. George Washington Bridge to The Battery (Hudson River):

Aim to reach the George Washington Bridge around **11:00 AM** to catch the outgoing Hudson River current (strong flow starts at 10:52 AM). Utilize the strong outgoing current for a swift journey down to The Battery.

Yes, in general the idea is to catch the strong ebb southward, so that's good. However, there's no information provided by NOAA that indicates “when strong flow starts”. 10:52 would seem to be an invented time.



Heading south toward the Battery on the Hudson River.
Photo: Rick Wiebush

4. The Battery to Brooklyn Bridge (East River):

Anticipate a change to incoming East River current around **1:00 PM** (flood starts at 12:51 PM). Adjust your paddling direction slightly westward to compensate for the incoming current.

Yes, the East River will start flooding in the afternoon, but not until 2:54. So following this information would put people in the position of fighting the last two hours of the ebb on the East River. Max ebb is at 11:15 and 3.2 kts. That means at around 1 PM it will be at 90% of max, or 2.9 kts. No one should try to fight an ebb of that strength.

It makes zero sense to “adjust direction westward” to compensate for a flooding current.

5.. Brooklyn Bridge to Hallett's Cove (East River):

From **2:00 PM onwards**, capitalize on the strong flooding East River current to speed back towards Hallett's Cove.

The spirit of this – capitalizing on the strong flood – is absolutely correct. It's just that the flood won't start until about 3 PM, an hour later than indicated.

Estimated Arrival: Aim to arrive at Hallett's Cove around **4:00 PM - 5:00 PM** depending on your paddling pace and potential current variations.

This is accurate. Our plan showed an arrival at Hallett's at 4:30 PM.

Average Speeds: All of the speeds for following legs are reasonably accurate estimates.

Hallet's Cove to Hell's Gate: 3-4 mph (influenced by wind and tide). **Since it's one - quarter mile at the beginning of the day, 3 kts is reasonable.**

Hell's Gate to George Washington Bridge: 3-5 mph (depending on Harlem River current strength). **We calculated an average speed of 3.9 kts for this leg, so 3 – 5 mph is in the ballpark.**

George Washington Bridge to The Battery: 5-7 mph (strong outgoing current boost). **We calculated an average speed of 5.3 kts for this leg.**

The Battery to Brooklyn Bridge: 3-4 mph (adjust for incoming current). **Due to fighting the end of the ebb, we calculated a speed for this leg of 2.5 kts. AI recognized this leg would be slower.**

Brooklyn Bridge to Hallett's Cove: 4-6 mph (strong flooding current assistance). **Yes. We calculated an average speed of 5.4 kts for this leg.**



Last break at the Brooklyn Bridge before rocketing up the East River to Hallett's Cove. Photo: Rick Wiebush

Conclusion

This was a first experiment (for us) in using AI-generated information to plan a somewhat complicated sea kayaking trip – a circumnavigation of Manhattan. We learned a lot about how these applications, or at least the one we used, work. In particular, we saw that it is important to keep refining our instructions/input and to make them as clear and detailed as possible. Successive, more refined iterations seemed to produce better results than the earliest attempts.

Some Good

There are some positive findings emerging from our last iteration. First, it's clear AI in some general way is able to work with NOAA current data – it determined in what direction the currents would be moving and, in a VERY general sense, knew when the currents would be moving in which direction. It knew the sequence of rivers on which we'd be paddling: north on Harlem, south on Hudson, north on East. We also saw that it did a good job of estimating the speed of the current for each leg of the trip and therefore how long the trip would take. Using our traditional methods, we started at 8:15 at Hallett's and got back there at 4:30. AI estimated 8:30 to sometime between 4 and 5, so those are almost identical estimates.

A Lot Problematic

We also encountered some really bad information that would have an extremely negative and potentially dangerous impact if it were followed. This seems to have resulted primarily from a misread of when currents would be changing from slack to ebb to slack to flood. For example, it is not at all clear how AI could generate two very precise times (12:51 and 2 PM) for the beginning of the flood on the East River, when they conflicted and when both were incorrect (the correct time being two hours later at 2:54).

The potential negative impact of following this information is that people could start heading up the East River expecting to ride with the flood, but would instead be faced with an extremely strong (close to 3 kts) and physically exhausting ebb for at least one to two hours. As a result, during the last stretch, after having already paddled 20+ miles, they would be paddling against a current that would not allow them to make any progress.

Finally, AI gave incorrect and dangerous advice about the timing of the slack at Hell's Gate. This is one of the most dangerous parts of the trip due to strong currents that can produce confused standing waves at times other than slack. And the slack window in that area is short. There is about a 20-minute window to get through Hell's Gate on slack before things start to get crazy. Yet the AI plan indicated that slack would occur at 9:42, more than an hour after the correct time of 8:30. At 9:42, the ebb would be at the end of its first hour and therefore running at 50% of its maximum speed. Since max on January 10 will be an incredibly strong 4.4 kts, someone trying to get through at 9:42 would be facing chaotic, dangerous conditions.

Caveats

All that said, we need to be careful about indicting or dismissing the potential of AI for paddlers. We used one application for our test, and it was a free version. It was also our first experience with it. Although we did multiple runs, it may be the case that we are missing one or more key steps that would produce better results. Moreover, there are other AI applications that are available for a fee and it is possible that these other versions may be more refined and produce better results. Finally it is likely that Bard was designed primarily for purposes other than trip planning.

If you have had different, more positive experiences with using AI for trip planning, please let us know so that we can report on different views of this new form of "intelligence."

Feeling the Pressure: The Value of a Barometer

Mark Thornton

Introduction

Most larger boats – power and sail – have a reliable barometer on board. Sea kayakers should understand what barometers are used for, understand what they tell us, and have some method to monitor changes in barometric pressure.

Invented by Italian physicist and mathematician Evangelisato Torricelli in 1643, a barometer helps a weather-wise boater or paddler stay abreast of developing weather patterns. The approach of a strong low-pressure system with high winds, a squall line, or a hurricane is typically signaled by falling barometric pressure. The steepness of the decline in pressure provides valuable insight into the strength of the approaching system. In contrast, rising barometric pressure usually heralds the arrival of fair weather and light winds. The ability to measure the rise and fall of barometric pressure only scratches the surface, however.

What *is* barometric pressure, and what does it represent?

Barometric Pressure Defined

Weather occurs in the troposphere, the lowest layer of the atmosphere that extends upward from the Earth's surface to a height of between four and twelve miles. (The height of the troposphere varies by latitude. It is highest near the Equator and shortest at the poles.) Although it seems counterintuitive, air molecules within the troposphere have mass, and their weight can be calculated. A one-inch square column of air extending from the Earth's surface to the top of the troposphere weighs approximately 14.7 pounds. Barometric pressure is simply a measure of the

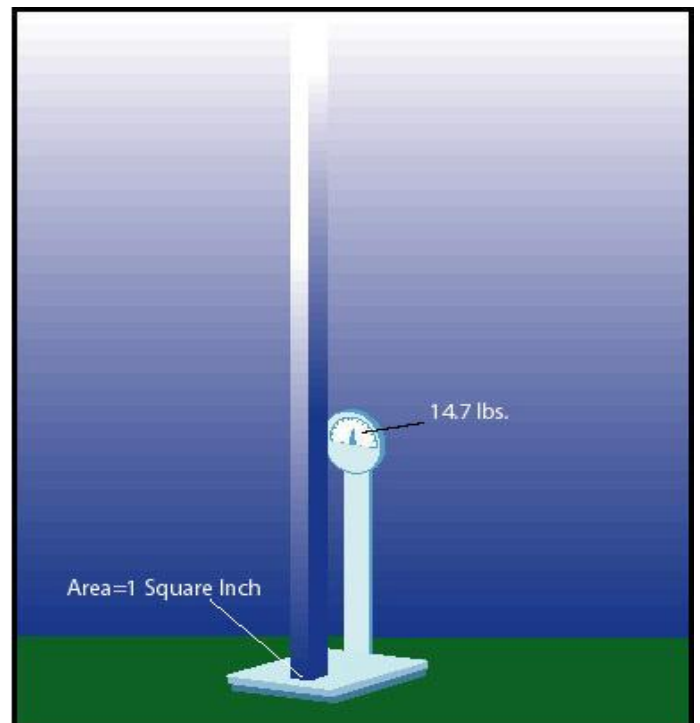


Figure 1: The weight of a 1" x 1" air column from the surface to the top of the troposphere

force exerted by the weight of air molecules pressing down on the Earth's surface.

For a moment, let's assume that the height of the troposphere is consistent across the United States. Since barometric pressure is essentially the weight of air above a location, Denver would almost always observe lower barometric pressure than a city located near the coast, because Denver is approximately one mile above sea level. The much shorter air column above Denver contains fewer air molecules and therefore weighs significantly less than a city at sea level.

In order to simplify analysis and forecasting of weather patterns across the country, weather maps are adjusted to sea level pressure. Sea level pressure is calculated by increasing the observed pressure at a station by a factor based upon the station's altitude.

The traditional method of expressing barometric pressure is inches of mercury (inHg). However, the majority of meteorologists and modern forecast graphics use millibars (mb). A website for converting between inches of mercury and millibars can be found [here](#).

Weather Forecasting Graphics

Figure 2 is an example of a graphic that is used to display and analyze barometric pressure. Referred to as a "surface forecast", the red "L"s and blue "H"s that appear identify the center of areas of low

and high pressure. Each high or low has a four-digit number nearby indicating its barometric pressure in millibars. For example, the low in eastern Washington State was forecast to have a pressure of 1013 mb, while the high straddling the Dakotas was forecast to be 1023 mb. (A legend and description of the rest of the meteorological shorthand that appears on the chart can be found here.)

Except at the extremes, there is no barometric pressure threshold that marks the distinction between low and high pressure. The low in eastern Washington is shown as 1013 mb, but I could have easily provided an example where 1013 mb was associated with a high. Highs and lows depend on the season and the overall weather pattern across the country. Furthermore, lows may have frontal boundaries, such as cold and warm fronts. Highs, on the other hand, never have frontal boundaries.

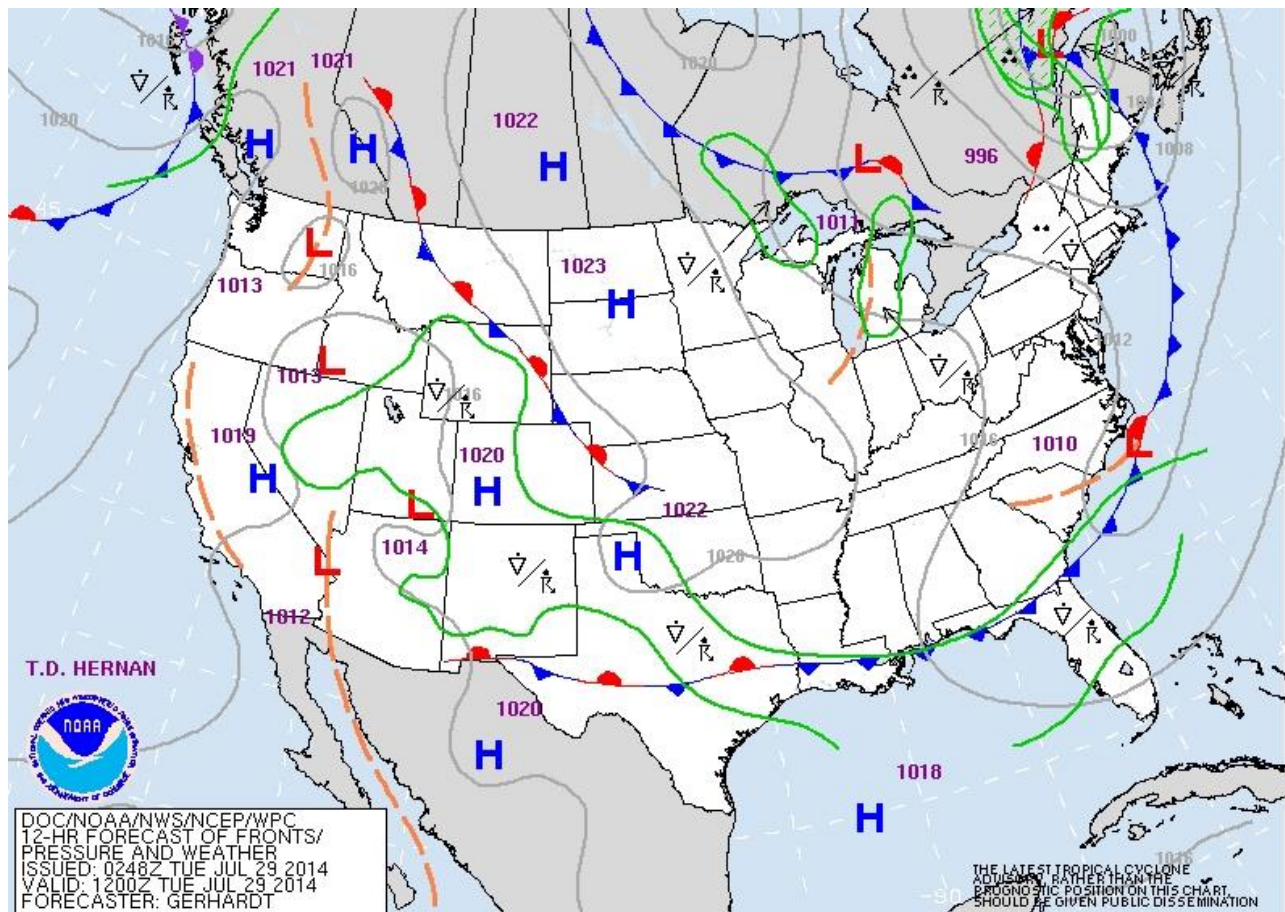


Figure 2. Example of a surface forecast, showing areas of high and low pressure. Source: NOAA.

Using A Barometer

Although traditional decorative barometers report pressure, a modern digital barometer offers many advantages. Digital barometers, such as the Weems & Plath model 4002, display pressure in either millibars or inches of mercury on an easy-to-read screen. Most digital barometers also maintain a record of observations for 48 hours or longer and display the pressure trend on a graph. The ability to compare the current pressure to observations from the previous 24 or 48 hours is extremely valuable in weather forecasting, and the digital barometer provides a clear advantage over traditional non-recording barometers. Some digital barometers also have an alarm setting which can alert you when the barometric pressure is falling faster than a specified rate. Let's review a few examples where access to a barometer would have alerted you to approaching inclement weather.

Hurricane Arthur

Hurricane Arthur was an early season tropical cyclone that brushed the Carolinas before heading out to sea. See Figure 3. NDBC Buoy 41036 was located close to the storm's track and recorded the precipitous drop in barometric pressure as it passed. See Figure 4 opposite.

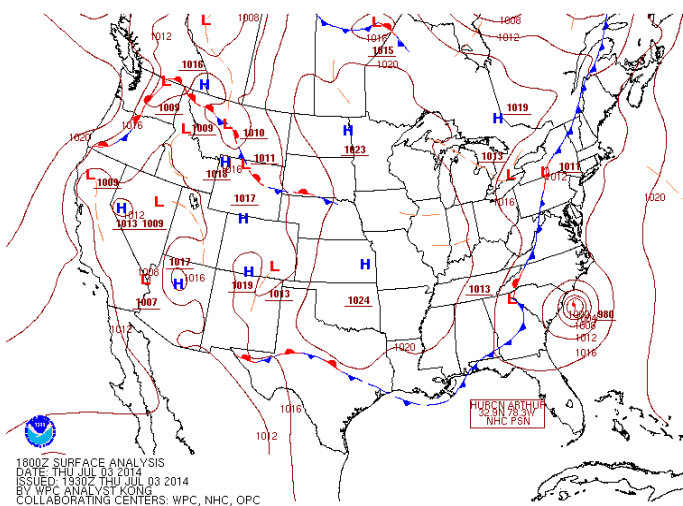


Fig 3 showing location of low-pressure system associated with Hurricane Arthur off the southern Outer Banks

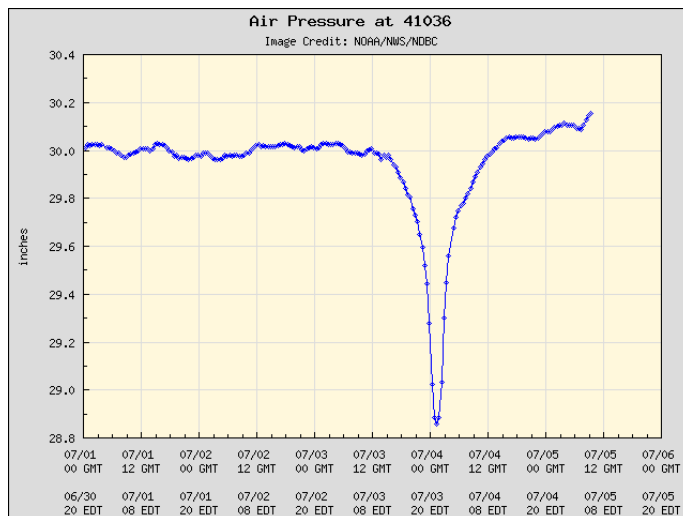


Figure 4. Sharp drop in pressure as storm passed by. NOAA

Figure 5 below shows the combined air pressure and wind speed observations during the hurricane. The dramatic increase in wind speed (red lines, gusts up to 70 knots) was directly associated with the drop in barometric pressure (green line in Figure 5; blue line in Figure 4 above).

(Ed note: The graph below also shows that a paddler paying attention would note the steady drop in air pressure starting on July 3 and the associated significant increase in wind speeds that date. It was a heads up for what was to come.)

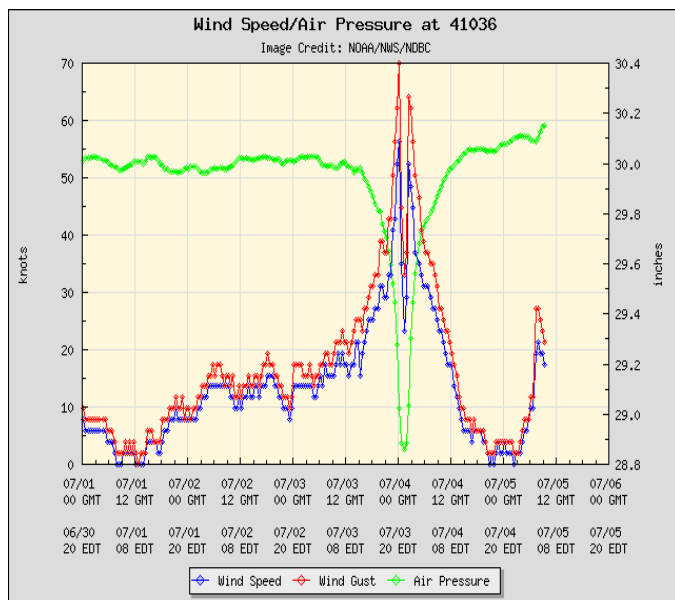


Figure 5. Combined air pressure and wind observations associated with Arthur. NOAA

Hurricane Sandy: October 2012

Hurricane and later Superstorm Sandy was a large late season Atlantic storm that brought destruction to a broad area in the mid-Atlantic states. NDBC Buoy 44009, which marks the entrance to Delaware Bay, captured the dramatic drop in pressure and corresponding high winds as the storm passed. See Figure 6 below, in which the green line represent the air pressure and the blue line, which shows wind speeds increasing to over 50 kts.

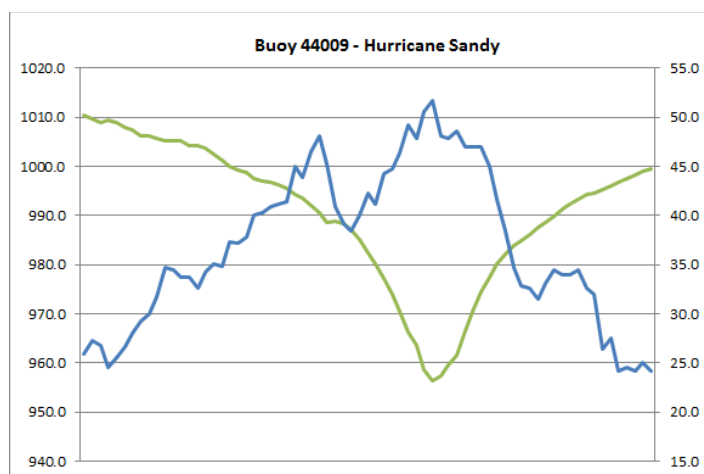


Figure 6. Air Pressure and wind speed associated with Superstorm Sandy. NOAA



Impact of Sandy on Seaside Heights, NJ, October 2012

A Tool for Paddlers

One potential tool that paddlers could easily carry to monitor air pressure, wind speed and other environmental issues is the Kestrel 5000. It is handheld and waterproof, with data logging and graphing capabilities. Optional Bluetooth connectivity to mobile devices and computers. Cost: \$259. (Neither the author nor the editor have any stake in Kestrel.)



Weather Forecasting Webinars

Mark Thornton offers a whole series of webinars related to weather forecasting for boaters and paddlers. See here for topics related specifically to the Chesapeake Bay:

http://www.lakeeriewx.com/Seminars/Event_Marine_Weather_101_Chesapeake/Marine_Weather_101.html

Winning Photographs: The 2024 Cross Currents Calendar Contest

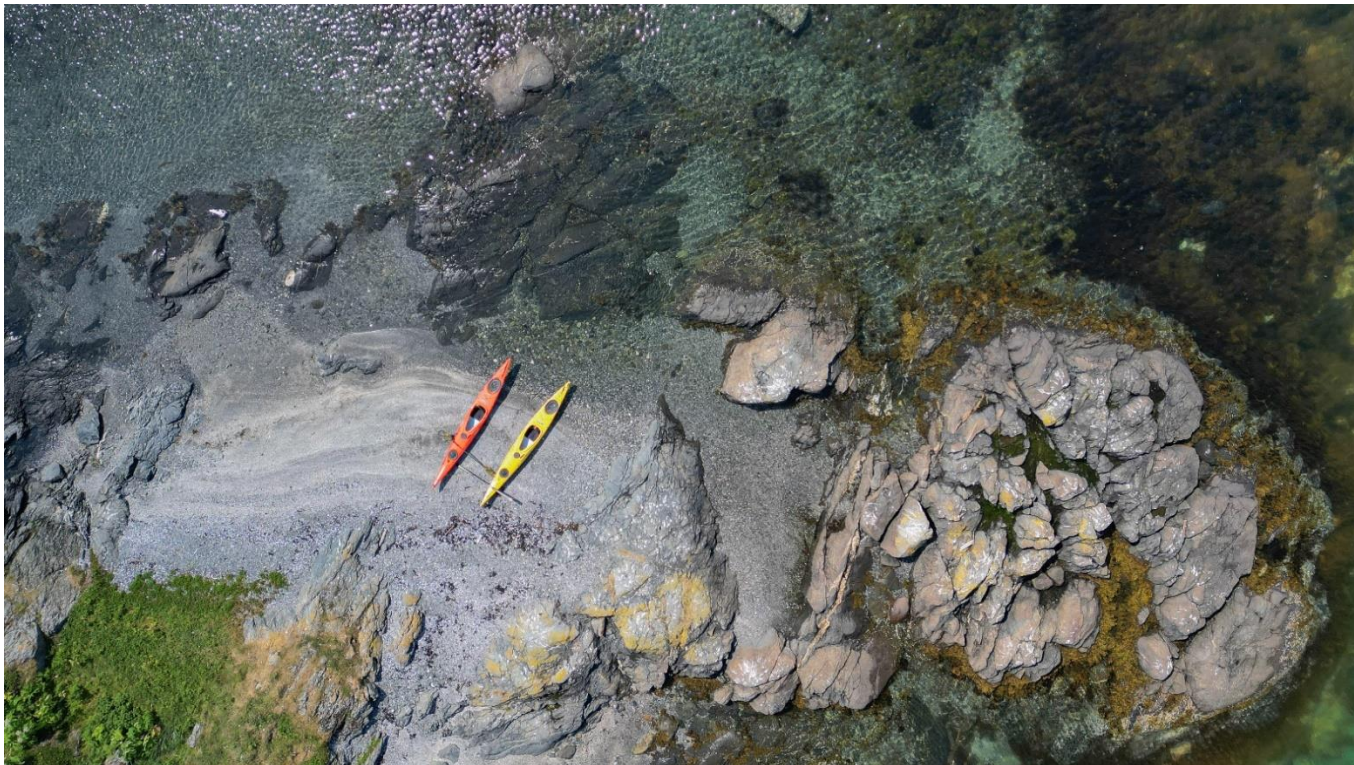
Rick Wiebush

Every year we hold a contest to select photos for inclusion in the following year's Cross Currents calendar. For the 2024 contest, we received 72 photos from 30 different photographers. They represented 16 states and five different countries. The photos were reviewed and voted on by a panel of judges who selected their favorites – and had a hard time doing it - during two rounds of judging.

Thank you to this year's judges: Richard Essex, Cathy Smith, Laurie Collins, Ginni Callahan, Ricardo Stewart, Luci Hollingsworth and Karen Wilson. The following pages show the 13 winning photos (12 months + cover), the winning photographer, and where the photographer is from. Congratulations to the winners and thanks to all who participated!



Baja Beach – Ginni Callahan (MX)



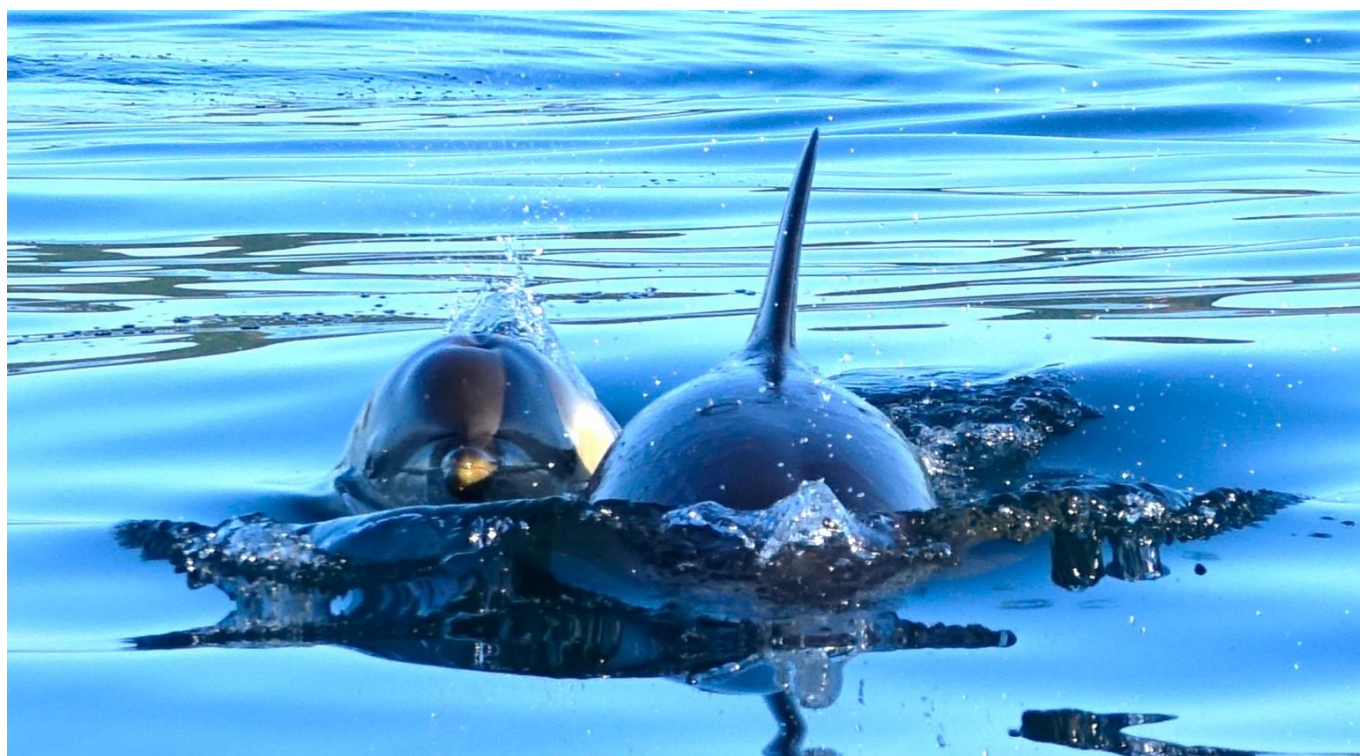
St. Lunaire, Newfoundland – *Julio Perez (MD)*



Anglesey, Wales – *Simon Osborne (UK)*



Isla Carmen, Baja – *Ginni Callahan*



Cornwall, UK – *Rupert Kirkwood (UK)*



Smith Island, Chesapeake Bay – *Mike Allison (PA)*



North Channel, Lake Huron, Ontario – *Linda Decker (IN)*



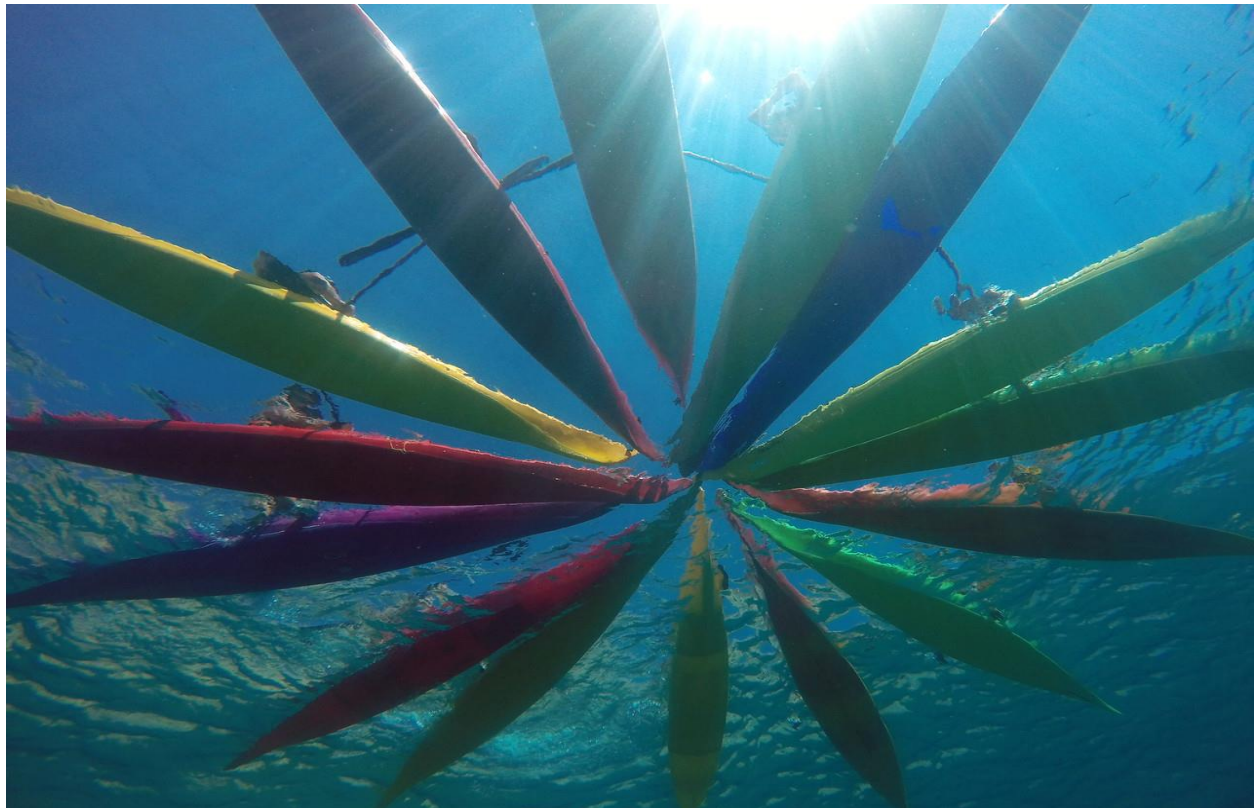
Narragansett Bay, RI – *Ricardo Stewart (MD)*



String Lake, Grand Tetons – *Beth Emery (CT)*



Pokagon State Park, Angola, IN – *Linda Decker (IN)*



Milos Greece – *Rod Feldtmann (GR)*



La Bufadora, Baja – *Bill Vonnegut, OR*



Trent-Severn Waterway Locks, Ontario – *Parks Canada*

The Long Journey Home for a Greenland Kayak

Paul Caffyn

Forty years after Kenneth Taylor took his made-to-measure seal skin kayak – the progenitor of the *Nordkapp* - from Greenland back to Scotland, Conrad Edwards and I paddled two state of the art kevlar *Nordkapps* into the village of Igdlorsuit, Greenland, completing a full circle around the world, back to the source from where these marvelous kayaks had slowly and progressively evolved. It was August, 1999.

Why on earth would a couple of Kiwi paddlers spend an inordinate amount of time and money to fly their New Zealand made kayaks to West Greenland? On all my previous odysseys, I had paddled a fibreglass kayak whose lines were taken from a West Greenland Eskimo sea-hunting kayak. Dugouts and sailing canoes were the former traditional mode of transport for my Antipodean odysseys (New Zealand, Australia and New Caledonia), and kayaks were not used in the old days in either Japan or Great Britain.

To gain experience in sea ice and view traditional Arctic Inuit skin boats, I set off around Alaska from 1989 to 1991, but had sightings only of two skin kayaks in the villages of Hooper Bay and Tununak.



Rotting kayaks. Photo: Paul Caffyn



Old kayaks alongside outboard motors. Photo:; Paul Caffyn

Distinctly lacking appropriate tender-loving care, these wooden framed boats were stored on fish drying racks with canvas skins drooping forlornly in tatters. I had long dreamed of meeting an Inuit paddler on the water, sadly however, fast runabouts with powerful outboard motors had totally superseded the old Alaskan skin kayaks.

Why Greenland?

My appetite for paddling in Greenland was whetted by articles in *Sea Kayaker* by John Heath, George Gronseth and Lone Madsen, which talked of a renaissance both of kayak building and instruction of paddling skills by the Inuit. In an article on 'The Greenland Kayak Club', kayak historian John Heath wrote that 'by the middle of the twentieth century, the kayak had fallen into disuse, and a whole generation of Greenlanders had virtually no knowledge of them.'

John penned a moving tribute following the death of legendary paddler Manasse Mathaeussen, who was largely responsible for initiating the Greenland renaissance. John noted that:

'Manasse was in demand for kayak demonstrations from the 1960's until he retired. He took his kayak all over Greenland and to Europe, Canada and Alaska. He did more than any other person to keep interest in traditional kayaking alive.'

I began building up a database of information and investigated the logistics of transporting my New Zealand built boat to Greenland. My bank balance suffered through acquisition of some of the Greenland classics: *Northern Lights* and *Watkins' Last Expedition* by F. Spencer Chapman, *Greenland by the Polar Sea* by Knud Rasmussen, and H.C. Petersen's *Skinboats of Greenland*. The more I read, the greater became my desire to paddle in Greenland. Unfortunately, the logistics problem and cost of transporting the boats proved insurmountable.

By a stroke of luck, or maybe it was synchronicity, at a New Zealand sea kayak symposium I met a long-bearded American paddler whose lifestyle I could only envy. In the northern summers he worked on the Greenland icecap and spent the southern summers in the Antarctic, mixing in plenty of sea kayaking between work contracts and thus totally avoiding any winter months in either hemisphere. Kevin Killilea's slides of what he termed 'boring days in Disco Bay' were visually stunning, glassy seas festooned with

humungous glassy icebergs. He also easily solved our logistics problem with airline schedules and contact addresses.

Paddling partner Conrad Edwards is a natural athlete, tall, lean with an enviable body that has no puppy fat. Of British birth, his misspent youth was spent in the Army although he took up kayak racing in earnest while he was at university. He is a grand companion on a mission, seldom perturbed by sea and weather conditions, smoked a pipe, and had developed an interest in Arctic literature. My only criticism of the 'young fella' is that he has an alarming English Pointer dog instinct of making a beeline for the most distant point on the horizon whereas that instinct has long been bred out of me in advancing years. I am more like an old black Labrador now, wanting to sniff and pee on all the beaches.

Our 700-mile journey south in 1998 was a corker, highlighted by a close encounter with a pod of sei whales, meeting paddlers and kayak builders with local clubs at Manitsoq and Nuuk, visiting village museums to photograph old skin kayaks and equipment, paddling in awe through densely packed icebergs, and soaking up 1,000-year-old Norse History at Gardar and Brattahlid. Kayaks safely stashed in an old wartime building at Narsarsuaq, we flew home to plan the 1999 mission.



Disko Bay Greenland. Photo: Paul Caffyn



Igdlorssuit. Photo: Paul Caffyn

Life in Igdlorssuit

The outstanding highlight of our 1999 trip was a stay in the small Inuit village of Igdlorssuit. At a latitude of $71^{\circ}15'$, the village lay on the north-east coast of Ubekendt Ejland, where colourful Danish style houses, predominantly blue, red, green and yellow, lie dotted along a narrow coastal plain below a steep barren escarpment rising inland to over 1000m.

We arrived late morning on a gloriously calm day, no wind, blue skies and the sea dotted with huge lumps of ice from calving glaciers across the sound. Fish drying racks and parked up komatiks were spread between the houses, close to the beach, while staked out sled dog teams seemed to take up the rest of the space on the narrow strip. Paddling along the beach towards a small wharf or loading dock, we observed several skin kayaks stored cockpit down on the fish racks, perched safely out of reach of the hungry dogs. Although it was Sunday, we had hoped to stock up food for the next long leg to Søndre Upernavik but

unfortunately the shop had just closed its doors. This was a good excuse to stay till next morning, a chance for my paddling muscles to recuperate and a great photographic opportunity, given the glorious weather and scenery.



Igdlorssuit

Hans

As we maneuvered around the old skin kayaks with our cameras, five in total between us, a grey-haired Danish chap in blue overalls stopped to chat. As our grasp of both Danish and Greenlandic was rather spartan, we were chuffed Hans spoke English, so we could learn more about village life and its history.

For over 20 years Hans had lived at Igdlorssuit and currently worked as a mechanic/engineer for the Royal Greenland fish processing plant. His father, a doctor specializing in tuberculosis, had spent several summers treating Inuit patients at the Thule trading post established by Peter Freuchen and Knud Rasmussen in 1909. Old, faded photographs taken at Thule by his father inspired Hans to visit Greenland where he worked for three years at the US Airforce base at Kangerlussuaq. A compatriot wished to return home to Denmark but lacked funds for an air ticket. Although Hans offered to lend him money, the chap refused but said he owned a dog team and komatik at Igdlorssuit - and that is why Hans first visited the village, to check out his new team and sled! He stayed, married a lass from Upernavik, and learned to fish and drive his team of dogs.

With a population of 120 people and 550 dogs, fishing was the mainstay of the village, carried out throughout summer, and in winter through the sea ice. Autumn, Hans told us, was the worst time for fishing with bad weather. The latest two graves in the hillside cemetery were fatalities from a fishing dinghy capsizing in freezing waters.

In summer the tethered dogs were only fed every three days. We watched an elderly Inuit chap with his six-year-old son feeding fish from a wheelbarrow to his team. Larger fish were cut in half, while smaller fish were thrown whole to the ravenous, excited dogs who caught their meal in mid air. Two large fish were carried to a patiently waiting bitch suckling a mob of tiny pups. Minutes later, the barrow load of fish had disappeared with nary a scale, fin or fish bone left on the ground, and the chap wheeled his barrow into the sea to wash it clean.



Igdlorssuit sled dogs. Photo; Paul Caffyn

In winter the dogs were fed daily as they had to haul heavy freight komatiks (sleds) out to the ice fishing holes. Fledgling tourist operations were trialed in several villages either for the experience of travelling behind a dog team or hunting for polar bears. Hans related a story involving a German couple travelling on a komatik from Ilulissat. When the Inuit driver was not satisfied with the behaviour of one of his team, to the horror of the watching couple, he shot the dog with a rifle, proceeded to remove the pelt with his skinning knife, then threw the bloody pelt on the komatik. Word spread quickly afterwards and that was the end of winter tourist dog driving in Ilulissat!

Family Time with Hans

Late one evening, I joined Han's two young children on the gravel beach where Louise was wading through shallows to catch small fish with her bare hands to feed an attentive, clustered group of young pups while Hendrik towed a replica of a fizz boat through the shallows. These replicas were cut from a piece of 5" x 1" timber, bow end trimmed to form a triangle, and a small knob of wood nailed to the stern as an outboard motor. A 3' length of string from a nail at the bow was attached to the end of a short pole which was used to swing the replica in fast arcs over the sea. Attaching a second boat with a short tow-line and loading pebbles as ballast added to Hendrik's pleasure with this simple toy. Wherever I saw these common kid's toys, or indeed at the village of Arsuq,



Photo: Paul Caffyn

where we watched youngsters playing delightedly in blue and yellow plastic inflatable rafts, I was saddened by the fact that they were not playing in kayaks. Cable television, beamed in from Nuuk, seems to have taken precedence with adults in the evenings whereas perhaps in the old days, the adults immersed the kids in the art of kayaking.

We joined Hans and his wife for a late evening feed of boiled seal meat on the bone, and were settling into our sleeping bags on the floor of his living room, when Hans called out to look through the window. Although it was midnight, the lighting across a glassy sea was magnificent, a soft golden glow of dusk falling on majestic icebergs in the sound, with a distant backdrop of valley glaciers and broad icecaps. Close to the beach, a white Igdlorssuit kayak was gliding past, a black-haired Inuit in a white parka moving the boat seemingly effortlessly along. What a magic moment!

Onward toward Thule

Ten gnarly days later, we slid into the harbour at Upernavik where we decided to pull the pin on paddling further north to Thule.

Days of mind-numbing concentration on a compass bearing through pea-soup fog, violent buffeting winds off vertical rock headlands and two gripping eight-hour days on the outside coast, dodging rolling icebergs on breaking seas, were too much for my old black Labrador instincts.

We spent hours in the local museum soaking up the sight and smell of the old skin kayaks and umiaks, and stood totally absorbed by beautiful colour prints taken by Danish paddler John Andersen of village life in north-west Greenland.

Although disappointed at not fulfilling the mission to Thule, from two summers and 1400 miles of paddling along west Greenland's coastline, we gained an insight to the sea and weather conditions in which both Inuit skin kayaks and paddling and rolling skills evolved over the centuries. Well-designed kayaks and bombproof rolling or bracing were mandatory for survival.

Best of all, our modern kevlar boats were able to visit their ancestor mum and dad skin kayaks in the small traditional Inuit village of Igdlorssuit.

The Evolution of the Nordkapp

Paul Caffyn

While in Igdlorssuit, we observed seven old kayaks in the village, most with white painted canvas skins, but one traditional seal skin kayak still in remarkable condition. I marveled at its similarity in profile to our modern kevlar kayaks but had no comprehension that this village was the source of a skin kayak that was taken to Scotland 40 years earlier, and from which the fibreglass *Nordkapp* kayak evolved.

Back in New Zealand I began digging through sea kayak magazines and old files for more information on the evolution of the Nordkapp. In the British magazine *Ocean Paddler* I stumbled on an article with a drawing showing 'Lines of the Igdlorssuit Kayak' with an address for the kayak surveyor, Duncan Winning. Hot on the trail, I penned a letter requesting more information and was chuffed to receive a package of photocopied articles from Duncan to whom I am indebted for the following information.

A professor from St. Andrews University in Britain, Harald Drever, had a long association with Igdlorssuit and he persuaded a young Scottish university student and paddler, Kenneth Taylor, to undertake a one-man expedition to the village where he would study the kayak and its place in Inuit culture. In 1959 Kenneth arrived in the village with his own rigid kayak, a PBK 15 designed by Percy Blandford, but later had a slimmer beam skin kayak built for him by 50-year-old Emanuel Kornielson. Faced with initial shyness from the villagers, after a week spent recovering from the 'flu', Kenneth concentrated on a working Greenlandic language, which quickly helped break down shyness barriers with the locals. He camped in a ridge tent and was extremely comfortable and warm between two reindeer skins lent to him by the village headman, Ludwig Quist.

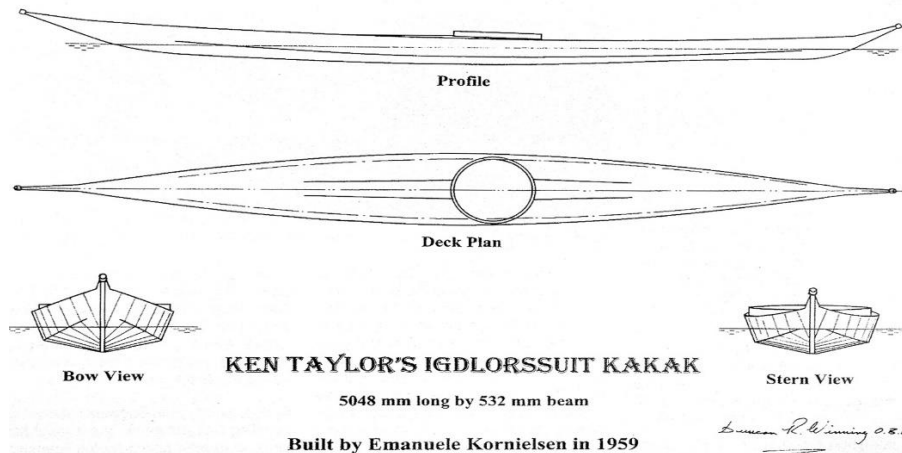


Ken Taylor. Photo: Duncan Winning

In a 1962 article in *American White Water*, Kenneth noted that most village kids between the age of 9 and 12 were instructed in the art of kayaking by a paid instructor, in a specially built kids' kayak but it was rare for boys to own their own kayak before the age of 18. On a seal hunting trip with two villagers he capsized, but was rescued and his cockpit sponged out using support from a raft of three skin kayaks. In a footnote to Kenneth's article, John Heath noted that of the 18 active kayakers in Igdlorssuit, 13 could roll but most knew several methods. One of the three experienced hunters who could not roll confided that he was such a good paddle bracer he did not believe it mattered.

At the end of summer, Kenneth returned to Scotland with his Igdlorssuit skin kayak where Duncan Winning took photographs and made a drawing, which led to the development of several canvas-covered and plywood replicas. After Kenneth moved to the USA in 1964, Joe Reid and Duncan carefully surveyed the skin kayak and Duncan produced a longitudinal profile and cross sections.

Duncan passed the drawing onto Geoff Blackford in the early 1960's, who increased the boat length,



enlarged the cockpit and raised the foredeck to produce a plywood boat called an *Anas Acuta*. Why on earth this name was used is beyond me, sounds more like a pain in the posterior, however in 1972 Frank Goodman began commercially producing this boat design in fibreglass.

In 1975, Colin Mortlock planned an expedition around the North Cape (Nordkapp) of Norway, and was seeking a kayak with better load carrying capabilities than the *Anas Acuta*. He approached Frank Goodman of Valley Canoe Products who rounded out the hard chines of the *Anas Acuta* to produce a new round bilge fibreglass model, with bulkheads, deck accessible storage compartments and a pump, which he called a *Nordkapp*. Word of the success of Colin Mortlock's expedition spread as far as New Zealand where in 1977, a trip was planned in secret by three Nelson, New Zealand paddlers around the south-west extremity of the South Island, a wild and rugged section of coastline with a

reputation for gales and huge seas which is known as Fiordland.

Grahame Sisson, a Nelson kayak builder, imported a *Nordkapp* mould from Great Britain for the Fiordland expedition in early 1977 and began building boats for New Zealand paddlers. The August 1977 Fiordland expedition paddled only 90 miles before abandoning their trip. Huge seas and sharks dampened the Fiordland paddlers' enthusiasm however the boats performed a treat in the big seas, which led to Max Reynolds and myself trialing and purchasing two of these kayaks.

That boat – with various modifications – was the one I used to complete the circumnavigation of New Zealand's South Island, then around Australia, then the Japan expedition. It was my bosom buddy, having paddled it for 22 years and some 35,000+ miles. Then ultimately, I took it back "home" to Greenland.



Paul Caffyn in his Nordkapp off the coast of Greenland. Photo: Conrad Edwards

Catch Righteous Waves – Without Breaking Boats or People

Tom Noffsinger

Note: this article originally appeared in the March 2019 Coastbusters.

For sea kayakers, paddling in breaking waves is dangerous. Beach breaks, sandbars, pour-overs and large wind-driven waves all create breakers that can take us from in control to out-of-control in an instant. And once the wave is in control, we are at the mercy of the sea.

Playing in the waves is where the magic happens - you get the rush of surfing the ocean's power and smiles that strain your face. The challenge is enjoying the energy without hurting yourself or others. When I was a stand-up surfer, the joke was "every time you paddle out you enter the food chain." With kayaking, every time you paddle out you run the risk of breaking gear and people with 50 pounds of fiberglass or plastic. So how do you play safely? You start safe and stay safe by following some simple tips to keep out of trouble:

First, be aware - pay attention and always keep an eye out to sea. Don't just look at the incoming wave - look at the next 4-5 and predict what's going to happen. Know where your escape zones are: to the shoulder of the break, out to sea beyond the break, into a rip or channel where the waves aren't breaking, etc. Don't let a wave catch you unaware.

Location - When surfing, stage yourself just outside where the waves are breaking. Look for the white foam/bubbles on the water after a wave goes by - that's the break zone. Set up about two boat lengths to the ocean side of the foam and you'll be in a good

spot. Too close and the wave will be too steep. But keep an eye out! Larger-than-usual sets will break farther out, so be ready to move fast.

Orientation – Keep your bow or stern perpendicular to the wave face. Paddling out, it's much easier to build up power and punch through an incoming wave if you're already oriented the right way. The same applies to catching the wave. If you are facing down wave (toward where they are breaking), be sure to keep an eye over your shoulder in case you need to reverse through a wave quickly.

Listen and communicate - Shout out if a big set is coming. Just because you see it, doesn't mean your paddling friends do.

Don't Form a T - Kayaks in the surf zone should never be in a T formation (perpendicular to each other). All it takes is one unexpected wave to send one of the kayaks side surfing into the other. If you



Oops – in a T and needs to capsize. Photo: Cass Kalinski

need to go around or paddle past someone, go 6-8 boat lengths away before you go past them, and tell them you're coming by. They may see you, but not realize what you're doing.

Capsize – If another kayak is surfing or being surfed toward you and collision is likely, capsize and let the wave go by. The down-wave paddler (the one closest to the beach) is the one who capsizes.

Magnet Eyes – Look where you want to go. If you are trying to surf or maneuver around someone or an object, don't look at them!

Rescues in the Surf Zone

The best rescue in the surf is a self-rescue. A roll if possible, but if you're out of your boat, the priority is getting back in as fast as possible. That's usually a re-enter and roll. If that fails, try a cowboy/cowgirl scramble. Get in your boat, get your skirt on, and paddle to safety. You can dump the water out later in a safe area. If you can't do one of those rescues, the options are to swim the boat to the beach, or sandbar if it's close, or get assistance.

Avoid assisted rescues in breaking surf if at all possible. Sometimes it's the only option - the undertow or ebb current has someone trapped in the break zone, for example, and they can't swim out. If you must perform a rescue, here are some tips:

All other paddlers - stop surfing, get to a safe zone if possible, and keep your bow or stern facing into the waves. Hold your position. If the others need help, they'll let you know.

Swimmer - Get to the bow of your boat, hold the toggle and let the boat swing down-wave from you. Float with your pfd (and your paddle). Floating ensures the kayak and you both move with the surface of the water. This reduces strain on you and allows more predictable movements for the rescuer. **DO NOT STAND UP** if you are being rescued. If it's waist-deep or less, you don't need an assist -

– stand up and do a self-rescue (unless you're injured).

Rescuer - get down-wave from the swimmer (the beach side). If you are up-wave (ocean side), paddle in through the surf in control with plenty of distance between you and the swimmer. Don't head directly for them - get down wave. Then, turn so you are paddling into the waves, facing the swimmer and their kayak. The boats are now aligned parallel - this approach minimizes the potential of collision. Approach deliberately but safely. Communicate with the swimmer!

Once you are parallel to their boat, commit to holding on to their boat and tell the swimmer to move back to their cockpit (swimming not walking). The swimmer should re-enter as quickly as possible. If a wave comes, shout a warning and stay committed to their boat. You may get rolled, but it's less likely if you started facing into the waves. Don't empty the boat - get them in, get the skirt on. Ideally, both kayakers are still facing the incoming waves, and you can both paddle out of the surf zone - powering up forward to get through any breaking waves. Note, your fastest route to safety may mean paddling backwards.

Following these tips won't make you a pro surfer or solve all the surf zone challenges, but you will be safer and less likely to break kayakers or body parts!



*Punching out perpendicular to the waves and in parallel.
Photo: Rufus Ward Jr*

Wavepaddler Spring Sea Kayak Gathering

Jeff Atkins and Ashley Brown



Wavepaddler has now been recognized as an SKUK Expedition Center! To celebrate, we are hosting a fabulous Spring paddling event that will be held over five days (April 2 – 7, 2024) at Seabrook Island, one of South Carolina's beautiful barrier islands. This will be a great opportunity to get back on the water and improve your skills for the upcoming paddling season!

This immersive experience will include lodging, meals, coaching, skills development and touring. Come and join us whether you want to play in calmer waters, or test your skills in the surf and bumpy Atlantic! There will be a variety of opportunities to make the most of your adventure.

What a venue! The Edisto River flows into the Atlantic between Botany Bay and Seabrook Island. Deveaux Banks is a protected rookery at the inlet mouth, which has sand bars and breaking surf. This beautiful spot has creeks, rivers, and the mighty Atlantic Ocean, all in view from the beachfront where we will be staying. Most days we will leave our kayaks on the sand and launch right from the beach.

Classes and trips will be geared toward intermediate and advanced paddlers. Although no certifications are required, paddlers should be at approximately the ACA L3 level or above. We have a great coaching line up, including Jeff and Ashley, Dale Williams, Bev Coslett, Rick Wiebush and Chris Rezac. And we expect additional commitments from similar high-quality coaches in the near future.

We'll be based at Camp St. Christopher on Seabrook Island. The camp is a unique place to visit since it's beach front and has a maritime forest with trails. There is a wonderful sense of isolation and peacefulness. Yes, it's a camp, but the lodge rooms we'll be using are similar to hotel rooms with two double beds (but no TVs or mini-bars)! There is a cafeteria where we will have breakfasts and dinners, as well as a nice gathering space where we can get together in the evenings (if we aren't out on the beach!).

The cost is \$945, which includes five days of instruction and guiding, a double occupancy room, and breakfast and dinner. For more information or to register, contact Jeff Atkins at wavepaddlerjeff@gmail.com or Ashley Brown wavepaddlerashley@gmail.com.



Book Review
A Complex Coast, by David Norval

Paul Caffyn

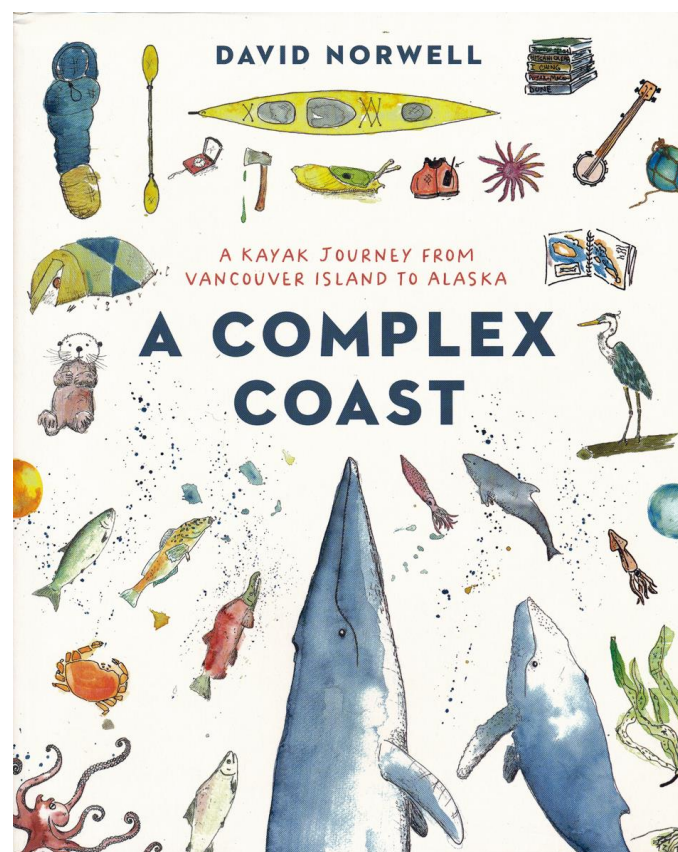
Buying paddling books these days on-line is a hit or miss process, with only a cover or dust-jacket thumbnail image and a brief text description. My latest *Fishpond* delivery was both hit and miss. The miss was misadventures down the Mississippi River while the hit is an absolute cracker.

Although the cover of David Norwell's *A Complex Coast* implies it is a kid's book, the images surrounding the title are just a hint as to what is inside this visually stunning illustrated diary of a two summers kayak journey from Victoria, Vancouver Island, north through the Inside Passage to Gustavus in Alaska.

In a single sea kayak, the 24-year-old geography student set off in April 2014 for a remarkable journey of self-discovery, not only jotting down personal thoughts in his journal but recording coastal landscapes, flora and fauna encountered in daily watercolour sketches.

The book is so much more than just a paddling narrative, with David's views on life, liberty and the pursuit of happiness; 'How to Love Better', 'Unsolicited Relationship Advice', and a new love interest in his life. Plenty of definitions in text with washes of kayak kit, important tucker, clouds and wee beasties in the ocean. David's father joins him paddling from Prince Rupert to Ketchikan, along with a banjo carried in a deck-attached rubbish bag.

The Canadian publisher Heritage House has worked magic with page layout, some watercolor washes span two pages, some just a single page, some down



to single column details. The double column text format works really well, with the daily text diary mixed with painted 'snapshots' of plant and animal species, camping kit and coastal folk he met on the paddle.

Maps - so important with sea kayaking narratives and often omitted to cut down on page numbers. David's passage maps, hand-drawn to scale, I can't find fault with. They show his paddling route, places overnighed, with the place names big enough to read for older eyes.

The appendix includes galleries of photos, a Pacific Northwest Crossword, ‘The Davidism Dictionary’ with a few new words like ‘Chowser’, Acknowledgements and Endnotes.

What I found mildly disturbing was that David Norwell wasn’t even born yet when I started out from Prince Rupert on my paddle around Alaska in 1989.

The year he was born, I headed out from Elfin Cove – where our paddling paths crossed – on my way to Nome. To see and hear of the sights and sounds he recorded is a marvellous time warp for me.

To see such a fresh approach made to portraying a sea kayak voyage, with a wondrous mix of water colour washes and superb descriptive text, *A Complex Coast* is a sheer delight to dip into.

(Sketches by David Norwell)



Title: *A Complex Coast*

Subtitle: *A Kayak Journey from Vancouver Island to Alaska*

Author: David Norwell

Published: 2023

Publisher: Heritage House Canada

Contents: pp 212, colour images throughout

Cover: softcover

ISBN: 978-1-77203-449-3

Availability: Amazon, \$21.96

Preliminary 2024 Schedule of Cross Currents Courses

Rick Wiebush

Day/Date	Course	Location	Instructors/Guides	Cost
May 18 – Aug. 4	UnCon I	Ches. Bay, Potomac River, Metompkin Inlet, Cape Charles	Paula Hubbard, Laurie Collins, Rick Wiebush	\$1,295 (12 days)
May 4 – Oct. 26	UnCon II	Pine Barrens, OBX, Metompkin, Rhode Is., GA Barrier Islands	Rick Wiebush, Mike Hamilton, Kathryn Lapolla	\$1,895 (19 days)
Fri – Sun March 1 - 10	Belize	Lighthouse Reef, Belize Jungle, Guatemala	Laurie Collins, Rick Wiebush	\$2,135 + airfare
Mon – Fri Mar 18 - 22	10,000 Islands FL Expedition	Everglades City, Tiger Key, Pavilion Key	Rick Wiebush, Jeff Atkins	\$550
Fri – Fri Mar 22 - 29	The Florida Sun Coast	Dunedin, FL; Anclote Key, Honeymoon Is. Ft DeSoto, Egmont Key, inter alia	Rick Wiebush, Jeff Atkins	\$850 + housing
Tues – Sun Apr 2 – 7	Wavepaddler Spring Gathering	Seabrook Island, SC	Jeff Atkins, Ashley Brown, Dale Williams, Bev Coslett, Chris Rezac, Rick Wiebush	\$945 incl. housing, meals
Sat – Sun May 11 - 12	Navigation Practicum On/off-water	Janes Island State Park, Crisfield, MD	Paula Hubbard	\$195
Sat. June 1	Intro to Kayaking	Rocky Gorge Reservoir, Laurel, MD	Denise Parisi, Shelly Wiechelt	\$125
Sat – Sun June 8 - 9	Intensive Intermediate Skills	Kent Island, MD	Denise Parisi, Shelly Wiechelt	\$225
Tues – Tues May 22 - 28	Outward Bound Staff Training (Private)	Lower Chesapeake Bay	Rick Wiebush	n/a
Sat – Sun June 29 - 30	Women's Weekend: Paddle Smarter	Chestertown, MD	Paula Hubbard, Laurie Collins, Marilyn Cooper	\$225
Sat. July 6	Introduction to Kayaking	Rocky Gorge Reservoir, Laurel, MD	Denise Parisi, Shelly Wiechelt	\$125
Sat. July 13	Greenland Skills	Rocky Gorge Reservoir, Laurel MD	Mike Hamilton	\$125
Thurs – Fri July 25 - 26	Surf Camp with Ginni Callahan, Part I	Cape Charles, VA	Ginni Callahan	\$295 + housing.
Sat – Sun July 27 - 28	Surf Camp with Ginni, Part II	Cape Charles, VA	Ginni Callahan	\$295 + housing
Sat. Aug 3	Introduction to Kayaking	Rocky Gorge Reservoir, Laurel, MD	Denise Parisi, Shelly Wiechelt	\$125
Sat – Sun Aug 10 -11	Intensive Intermediate Skills	Rocky Gorge Reservoir, Laurel, MD	Denise Parisi, Shelly Wiechelt	\$225
Sat. Aug. 24	Risk Assessment and Incident Management	Chestertown, MD (Sassafras River)	Paula Hubbard, Marilyn Cooper	\$125
Sat – Sun Aug 28 - 29	Intensive Intermediate Skills	Rocky Gorge Reservoir, Laurel, MD	Laurie Collins, Denise Parisi, Shelly Wiechelt	\$225
Weds - Thurs Sept. 18 -19	Intermediate and Advanced Surf Camps	Cape Charles, VA	Dale Williams, James Kesterson, Jeff Atkins, Ashley Brown	\$275
Fri – Sun Sept 20- 22	11th Annual Kiptopeke Symposium	Cape Charles, VA	Dale Williams, James Kesterson, Ashley Brown, Jeff Atkins ,Bev Coslett, Kathryn Lapolla, Paula Hubbard + more	\$435 + housing

Contributors

Paul Caffyn - lives on the west coast of New Zealand's South Island. In addition to being the first person to circumnavigate Australia in a sea kayak, he has circumnavigated the British Isles, New Zealand, New Caledonia and Japan and has done major expeditions in Alaska (the whole coast) and Greenland. Paul also has an extraordinary collection of sea kayaking-related books from around the world. Check out his website at <http://paulcaffyn.co.nz/>

Brooke Longval - started sea kayaking in 2002 after many years of rowing and sailing. She worked for The Kayak Centre in Wickford, Rhode Island and Sweetwater Kayaks in St Petersburg, Florida. She enjoys paddling, exploring and photographing Florida's coastal waters and spring fed rivers. She has been a full time liveaboard on a 38' sailboat for the past five years.

Tom Noffsinger - has been involved in water sports his entire life, beginning with canoeing, surfing and windsurfing, before discovering sea kayaking. He is an ACA Advanced Open Water Instructor (L-5) and has been teaching for nearly 20 years, with an emphasis on surf zones and rough water paddling. Tom and his wife Amy are currently nomads in their Airstream travel trailer, exploring the US while he works remotely.

Ricardo Stewart - originally from Trinidad and Tobago, "Rick" is a Maryland resident and a recent graduate of Cross Currents' "UnCon" program. He has primarily paddled in the Chesapeake Bay region, with occasional excursions to Florida, Georgia, New Jersey, and Rhode Island. He is also an amateur photographer who has had photos selected for the 2023 and 2024 Cross Currents calendars.

Mark Thornton - has been sailing for more than 25 years and is also a paddler. He is the president of LakeErieWX LLC, a company dedicated to providing marine weather education and forecasting resources for recreational boaters, Mark also publishes a marine weather blog and teaches basic forecasting seminars to recreational boaters. He conducted a fabulous marine weather forecasting seminar for 34 Cross Currents folks in March 2020. His website is www.lakeeriewx.com

Rick Wiebush - runs *Cross Currents Sea Kayaking* and is the editor of *Coastbusters*. Rick has been paddling for 25 years, and is an ACA L3 IT and British Canoeing 4* Sea Leader. Rick lives in Baltimore.

Coastbusters welcomes submissions of trip reports, incident descriptions and analyses, skills and "how-to" articles, boat and gear reviews, book and video reviews, and sea kayaking-related photographs. We are interested in receiving submissions from all paddlers. It just so happens that some of this month's contributors are instructors. That is not a requirement. Articles should be limited to about 1,000 – 1,500 words and submitted in Word. Photos should be submitted in .jpg format. Please send your submissions to Rick Wiebush at rwiebush@gmail.com.