

Fundamentals of surfing forecasts

Choose where to surf by yourself!



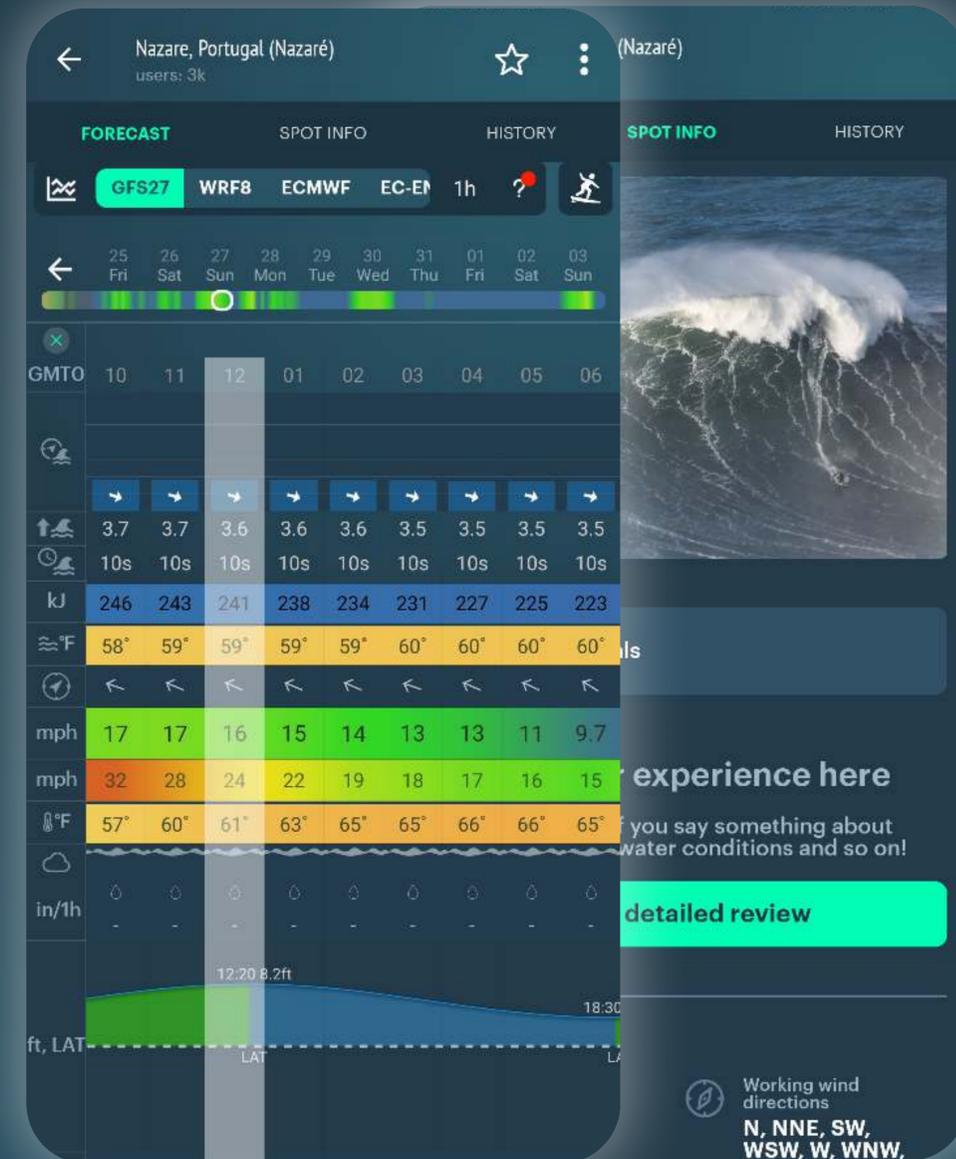
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Planning a surfing session

To see if you can have a safe and a productive surf session in a specific spot on a specific date, check this:

- Swell direction
- Swell height and period
- Tide (low/medium/high)
- Wind (direction & speed)
- Working wind and swell for this specific spot
- Type of break: beach break, point break, reef or river mouth
- Tips from locals

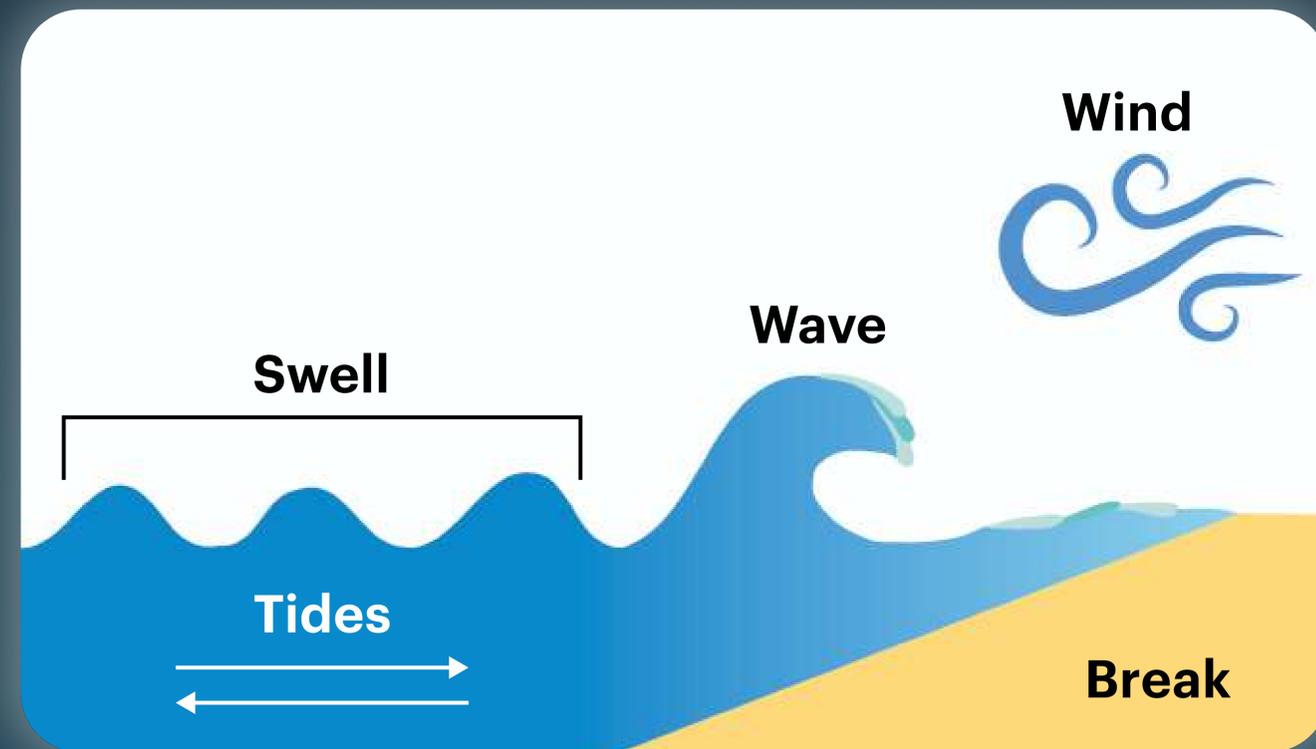


Waves are more than just swell!

A wave is formed by:

1. Swell
2. Tide
3. Wind
4. Type of break

The break doesn't change, it just depends on the spot, but other parameters can be forecasted or calculated.



When all factors are present, a so-called **groundswell forms**. That's a row of waves with a certain height and period, which appears after storm in the ocean. It often brings **clean, well formed surf**.



Windswell

When there's no swell, so called **windswell** is formed. It's typical for bays and gulfs.

It's created by less powerful wind and storms that occur closer to the shore. In this case, waves don't have enough distance to form clean patterns, so the **surf is often broken up**.

For educational purposes, let's learn to read a surf forecast for a spot that has swell, tides and wind.

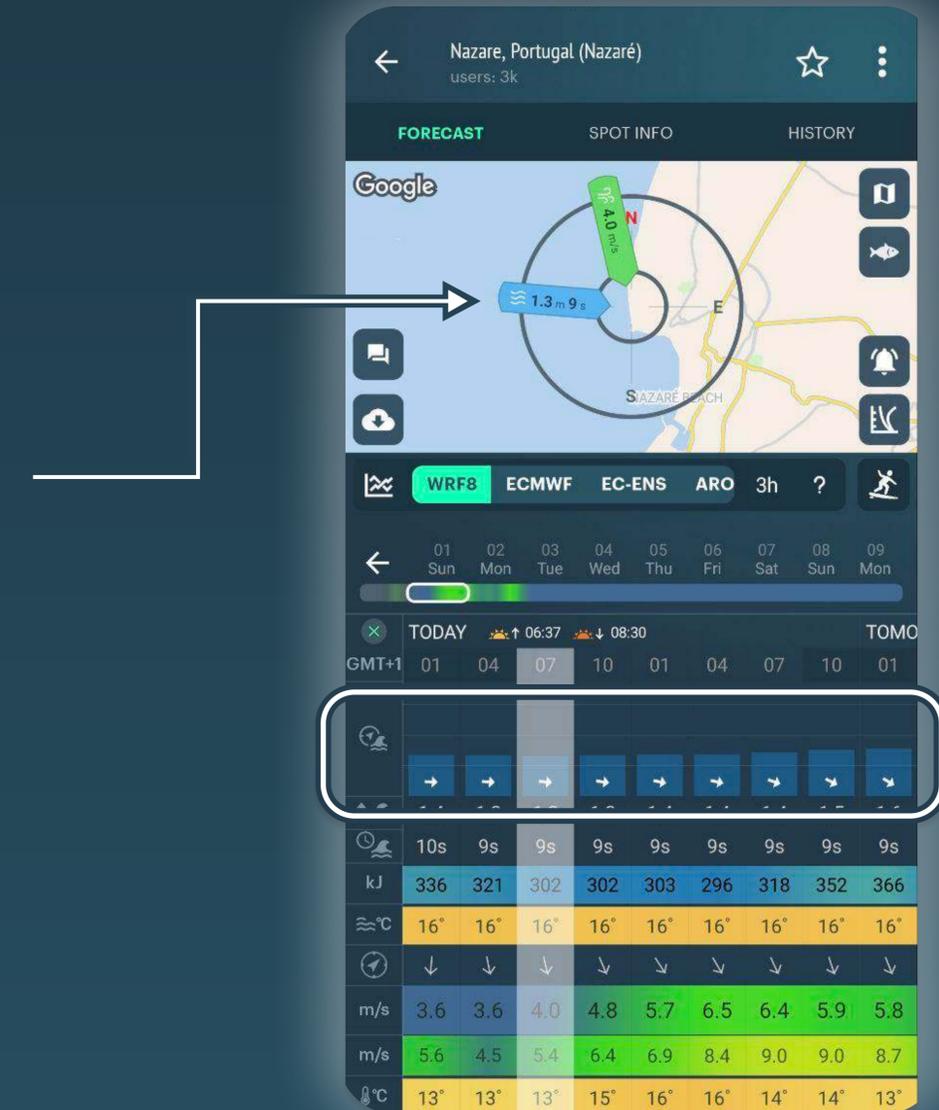


Wind forecast map



Reading swell forecast: direction

1. Swell direction shows you where the swell is coming FROM
2. Some spots are **very sensitive** to swell direction, for example:
 - located in a bay: if the direction is not right, the waves simply won't reach the shore.
 - the shape of the seabed could be such that if the swell comes from on the right, then the waves will be long and even, but if it is on the left, then the surf length will be short.
3. The **majority of spots** are not that sensitive to small variations, and many generally work in all directions of the swell.



Reading swell forecast: height and period (1)

Let's say, the swell direction is good for this spot.
It's time to determine **wave size**.

It's based on:

- swell height (measured in meters/ft)
- wave period (measured in seconds)

The general rule is: The higher the swell, the more powerful the waves will be. Wave period (the time of the complete wave cycle) will determine the size of the waves.



Reading swell forecast: height and period (2)

To roughly estimate actual wave height, use this rule:

Swell period	Wave height
< 11 s	wave height < swell height
11-12 s	wave height = swell height
14-19 s	wave height > swell height
> 20s	wave height = 2 x swell height

Example:

If the swell is 1.7 meters high, and the period is 12 seconds, the wave will probably be approximately 1.7 meters or a little more.

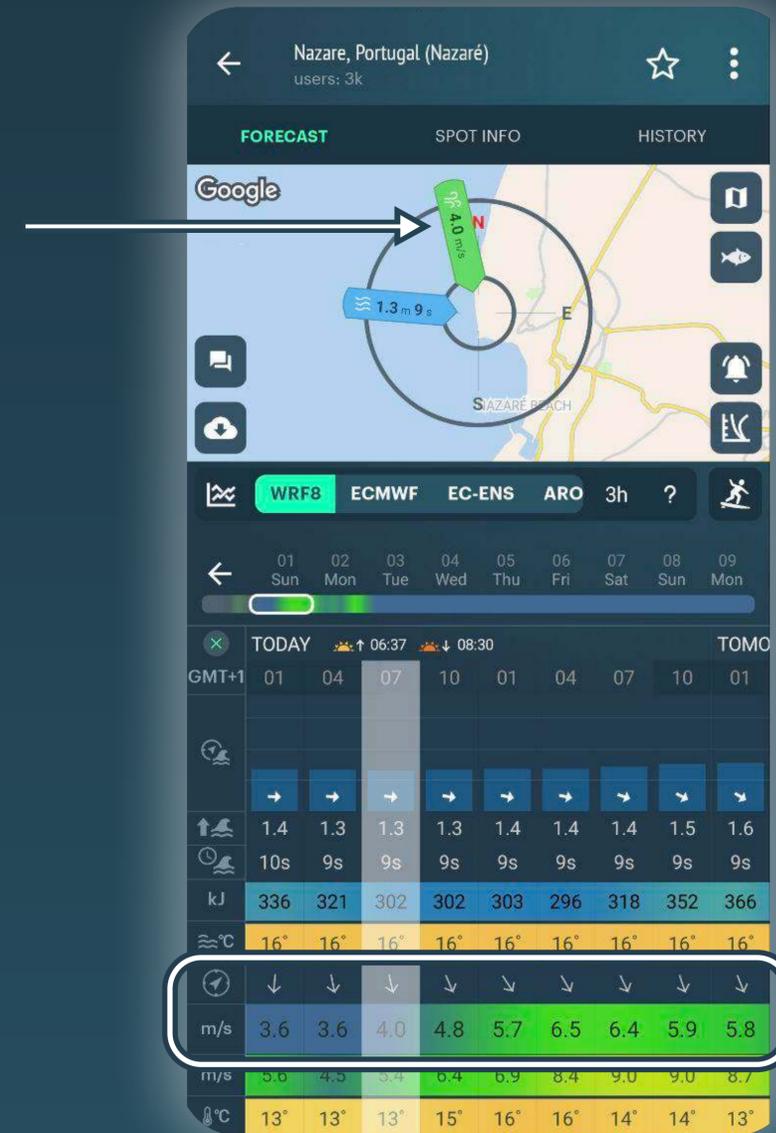


Wind for surfers (1)

Best wind = no wind! (glassy conditions)

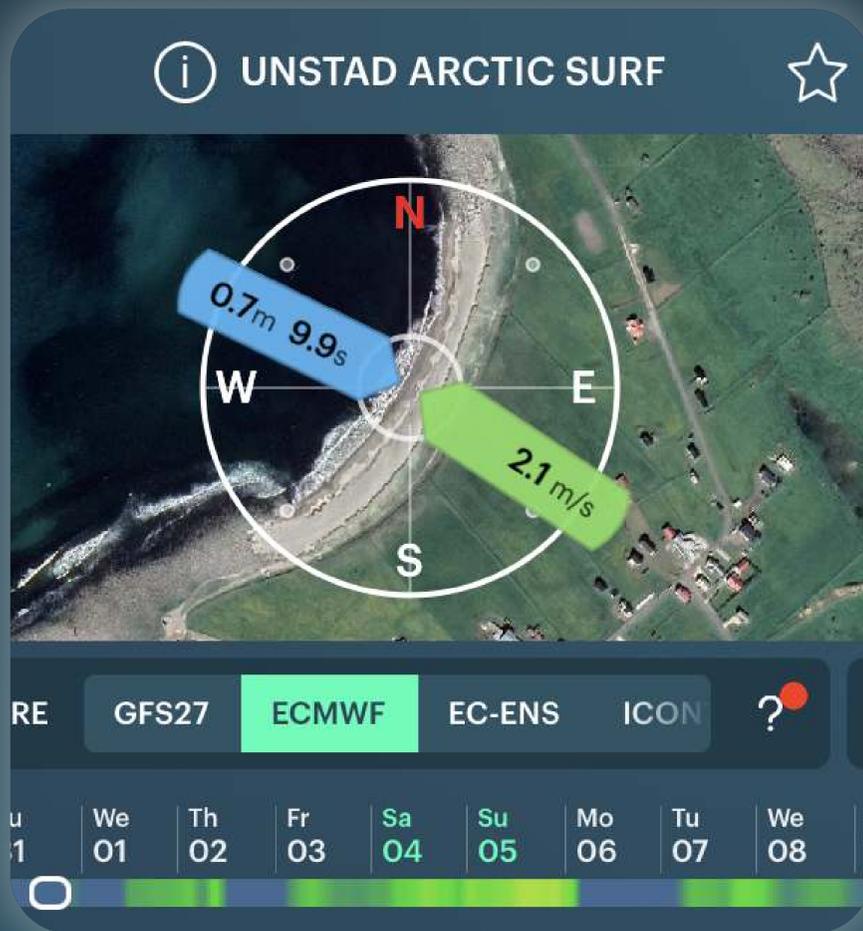
If there's wind, look at speed and direction

Wind direction	Influence on waves
Offshore	good wall of the wave
Onshore	more quickly closing out
Crossshore	possible current



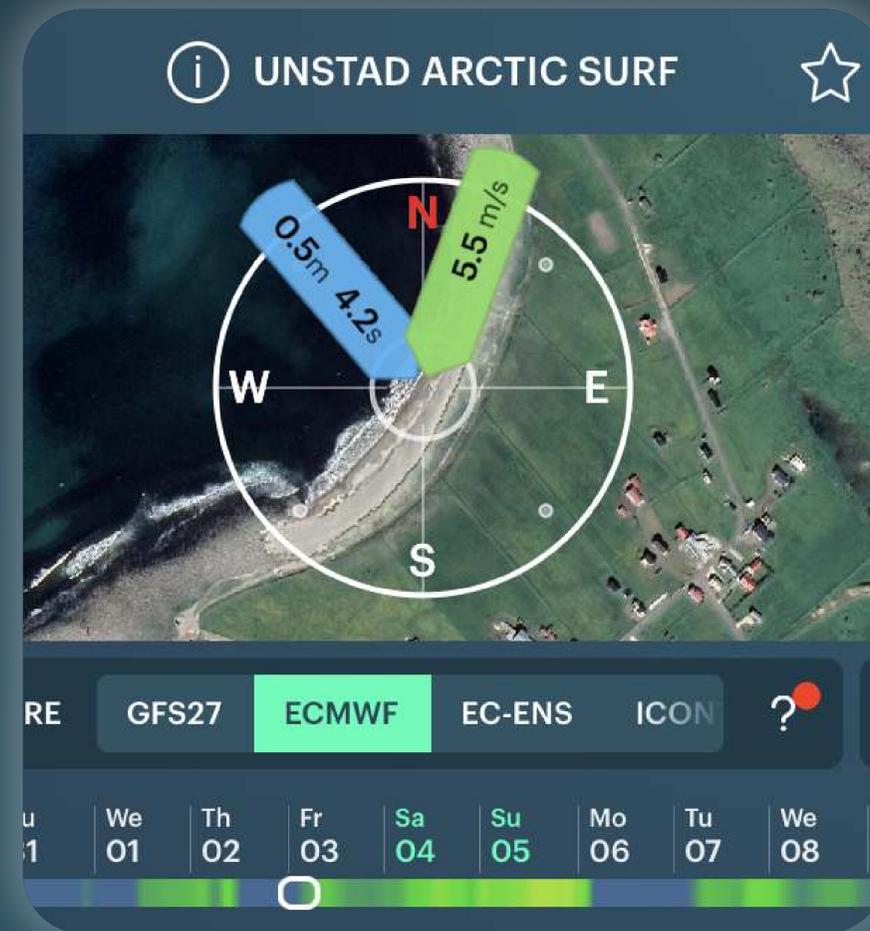
Wind for surfers (2)

OFFSHORE



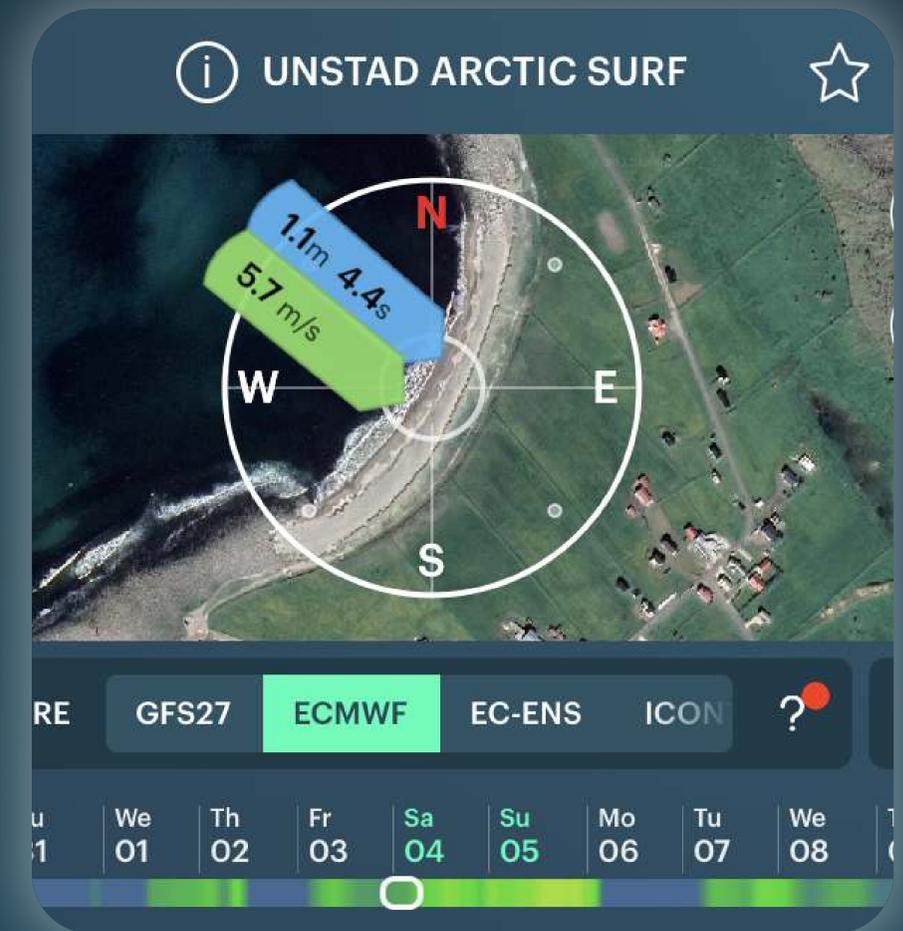
Wind is coming from the land, pushing against the face of the wave, creating neat and tidy conditions. The offshore wind helps waves get a clear shape. It's similar to "no wind" conditions.

CROSSSHORE



Wind is coming from the sides of the break. Depending on the strength of the wind and the type of break, the wave can be still surfable, however it's shape tends to get messed up. It can create or affect the current.

ONSHORE



Wind is coming from the ocean. It is the worst type of wind, since the wind is pushing the wave from the back and messing it up. If the wind is light, the wave can still be surfable.



Tides for surfers

Determine the best time of day to ride!

- Most surf spots are **sensitive** to changes in water levels. See **spot info** for the working tide level. even if a spot works on all tides, the **quality of waves** can change with the water level.
- Tides don't need to be predicted, they are **determined by the moon and the sun** and can be calculated
- General rule: waves on a low tide are sharper than on a high tide
- Depending on tides, the currents on a spot can change.

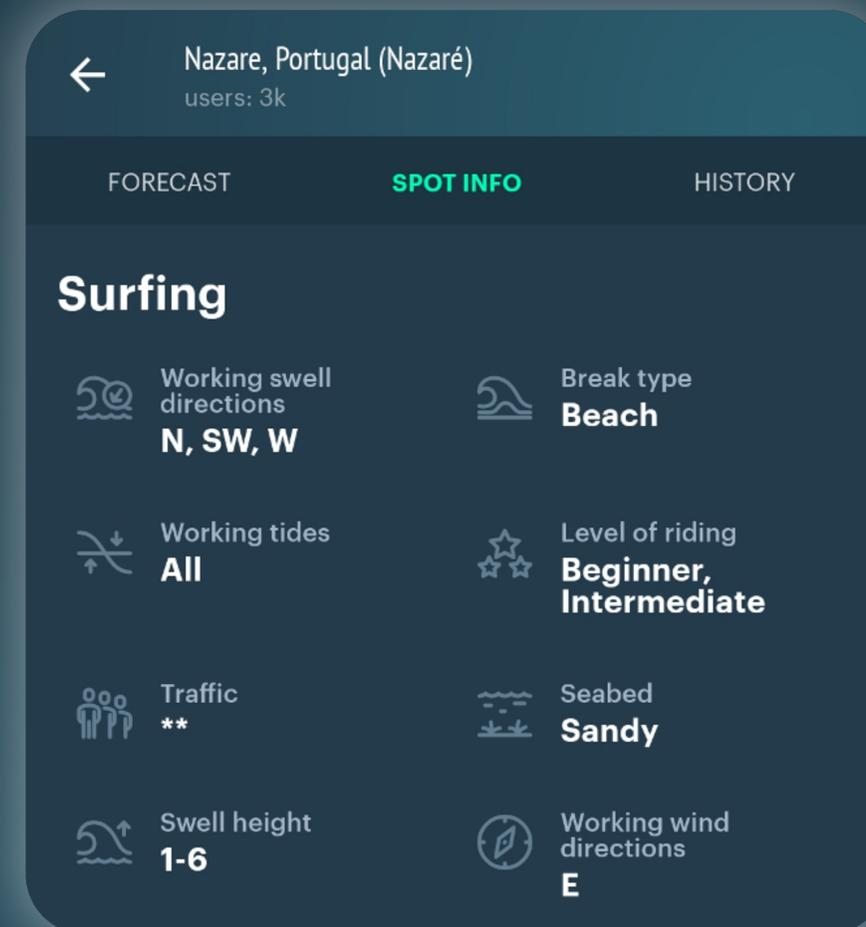


How to choose a spot: when the spot is working

Check out the SPOT INFO section or other resources to learn about a certain spot.

Crucial parameters are:

- Working swell directions
- Type of break
- Working tides
- Working wind directions



How to choose a spot: types of break (1)

On point breaks:

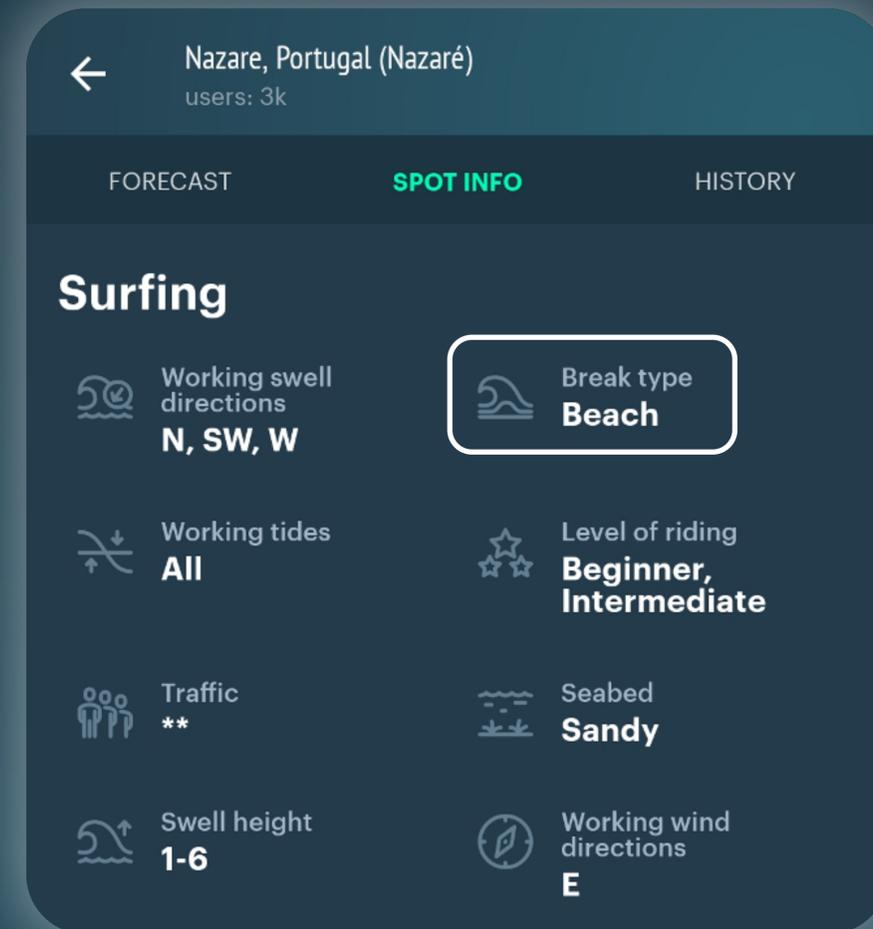
the waves rise due to the part of the land that protrudes into the ocean. It can be an island, a small peninsula, a cape, a ridge of stones.

On reef break:

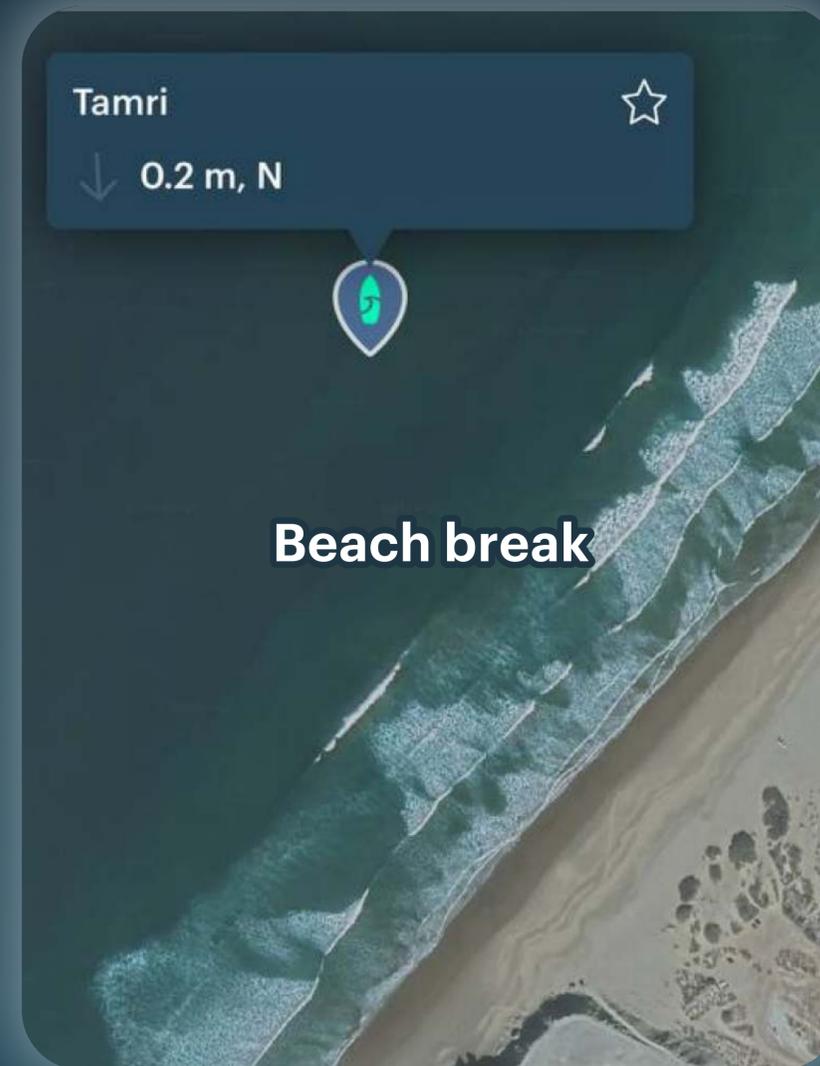
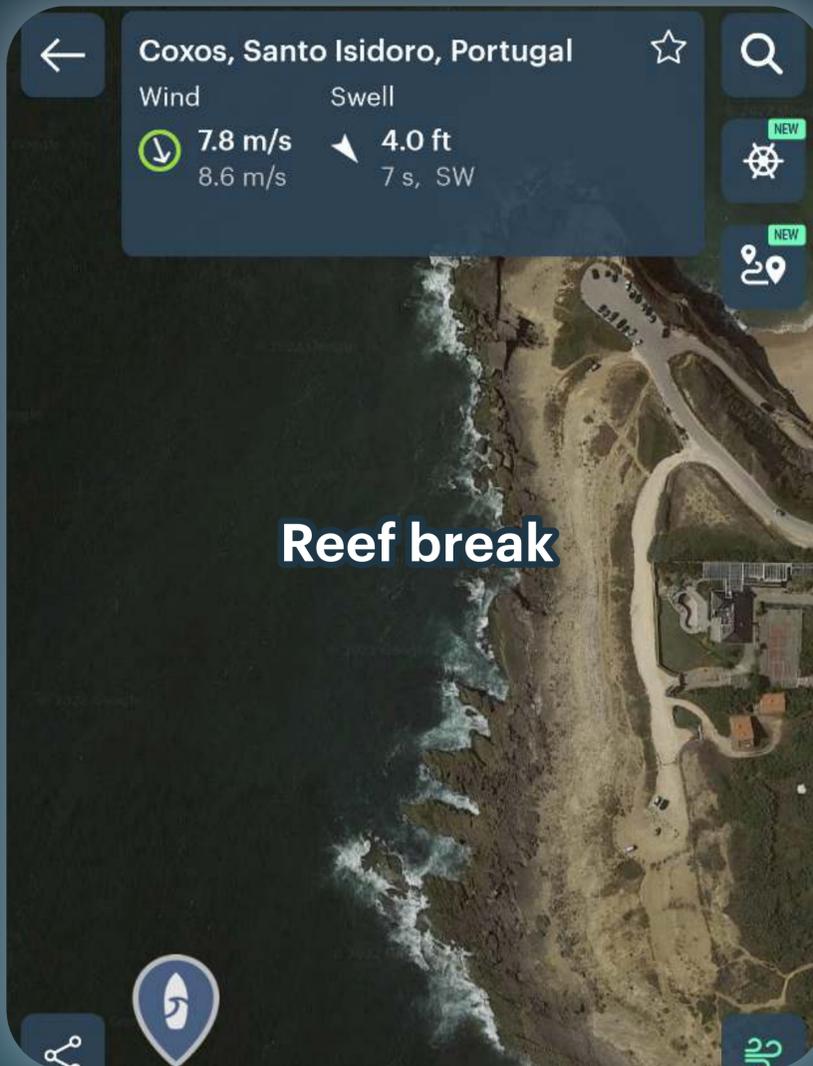
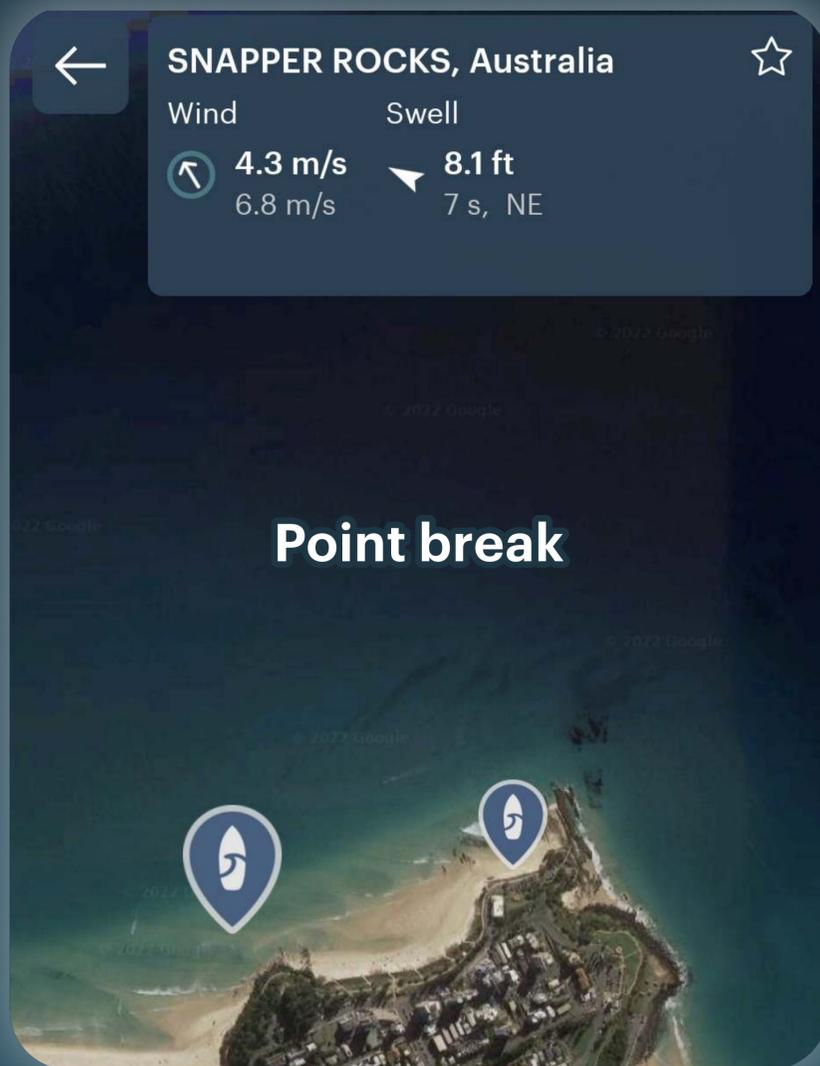
Waves rise up colliding with the reef or coral shelf. Due to the fact that the reef remains unchanged, waves like that have more constant shape and size.

On beach break:

Wave are formed due to the alluvium of the sandy bottom which generate "sand banks". Unfortunately, beach breaks have much more instability and mobility than point and reef waves, as the shape, length and peak of the wave is constantly changing.



How to choose a spot: types of break (2)



Sometimes you can also check the type of break using the satellite map view.



How to choose a spot: reviews from locals

Why are they worth reading:

1. They come from people with first-hand knowledge of the spot.
2. There could be local tips like optimal swell energy for this spot or wetsuit thickness recommendation
3. There could be information on the current situation on the spot (restrictions, trash on the shore and etc.)

Thousands of surf spots have reviews from other surfers in Windy.app.

Reviews

zagoven_lineupsurf

23 February, 2022

Good quality beach break with many peaks over coastline. The most famous spots to surf - in front of 2 main surf schools. First one - Snowave Kamchatka was developed in 2010. Second one is Quiksilver Surf School, was opened later, in front of another spot, called also Halaktyrskyi beach. Quiksilver Kamchatka also opened another school called Locals Only for teaching surfing local people more, than tourists.

Best seasons to surf at Kamchatka is july-august, the warmest season. The water temperature differ from 9 to 17 degrees celsius that time. But local surfers could surf all year around, water temperature could be below zero in winter.

In summer waves breaks better from middle to hight tide, but if you prefer steep waves you can enjoy surfing at low tide also.

In winter waves more steep and hard due to the temperature of the water.

The main problem of the spots is wind. Coastline is straight and good waves could be easily destroyed by blowing wind. For that reason i prefer surf here at sunrises and sunsets.

The main advantages is the view from lineup at volcanoes and cute small seals swimming with surfers early morning. You can see even whale here.

If you want to know more about Kamchatka surfing and nature - feel free to contact me any time.



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Bonus: how to forecast the swell (as big wave surfers do)

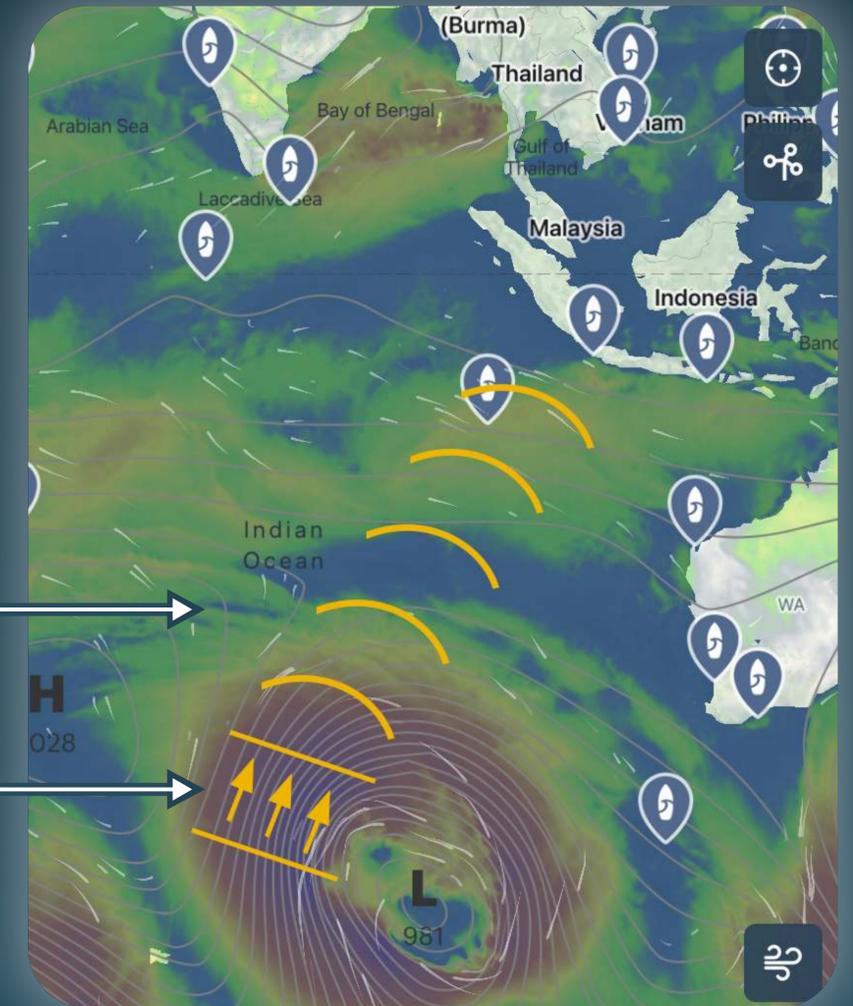
The strongest storms are associated with cyclones (low pressure areas, the center is marked by the letter "L"). Winds blow along isobars (lines around the letter "L"). The closer the isobars are to each other, the stronger the winds.

These storms produce swell.

If you know where the cyclone is, you can predict where the swell will be in advance.

Swell direction

Wind direction



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Bonus: swell propagation on the map

T+00h



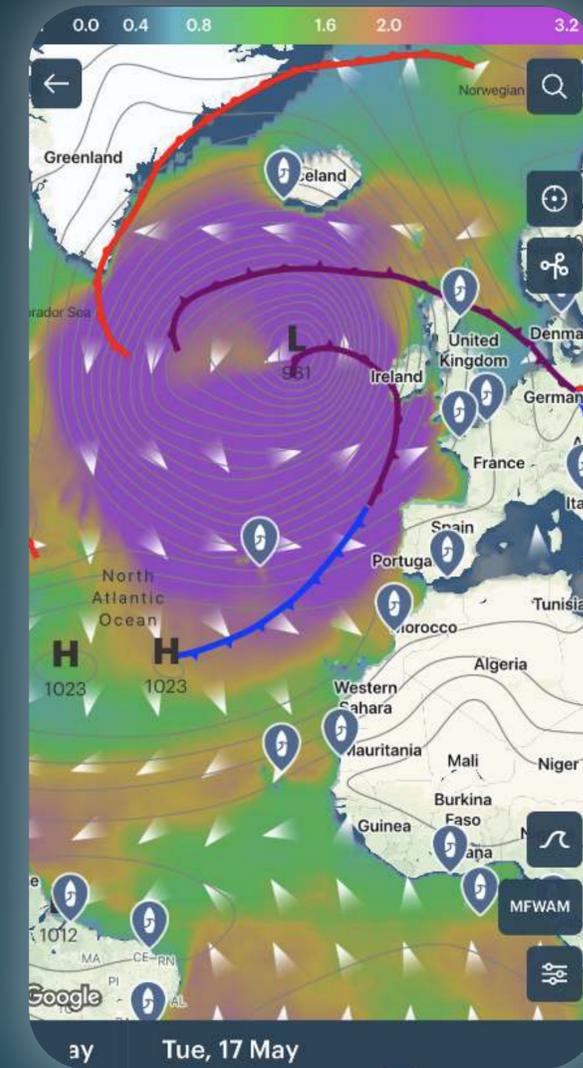
T+12h



T+24h



T+36h



Recap

Always check:

1. Spot working conditions
2. Swell direction
3. Swell height and period
4. Wind speed and direction
5. Tides

-> **Go surfing :)**

Now you know how to check the surf forecast by yourself.
Good luck!

