KITEBOARDER'S HANDBOOK

Discovery

Preview

7th edition

IMPORTANT: This is a preview of the first few pages. To read the whole handbook, become a member of IKO.

Kiteboarder’s Handbook

DISCOVERY

INTERMEDIATE
INDEPENDENT
ADVANCED
EVOLUTION

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Disclaimer

Your use of the Kiteboarder's Handbook is at your sole risk. Kiteboarding is as fun and enjoyable as it can be an extreme sport. Do not alter kiteboarding equipment and always follow the manufacturer's instructions. Learn under the direction of a properly trained and certified IKO Instructor. Always do a preflight check of all your equipment before each practice time and assess the weather and local wind quality. If you do not know, ask for the help of an experienced professional. Wear flotation assistance, helmet and use kiteboarding equipment with safety systems (learn to use safety equipment and train often to apply the safety procedures). Practice kite flying as far away as possible from obstacles of any type.

The information in this handbook is a guideline only. It is your responsibility to make decisions in accordance with your equipment, the conditions and your level. IKO holds no liability or responsibility for any accidents or injuries arising from activities in association with the Handbook or with any other related information such as videos or content links provided in the kiteboarder's handbook series.

Why the IKO Kiteboarder's Handbook Series?

When you want to learn, getting input from different sources is the best thing. Watching, doing, reading, and talking regularly about what you have learned (or want to learn) allows you to retain information. As important as practice can be, improving your knowledge about kiteboarding leads to a better and faster progress.

The IKO Handbook series helps you define your needs and select

the appropriate skill you want to work on.

You can find other aspects in the Kiteboarder's Handbook series from the Discovery level to the Evolution one (including an appendix per categories: freeride, freestyle, wave riding, hydrofoil), along with all the safety procedures.

With that in mind the Kiteboarder's Handbook series are the perfect complementary tools, to increase the benefit of your kiteboarding lesson along a properly trained and certified Instructor.

Wishing you to get as many enjoyable hours kiteboarding as we do since 2001.

Frédéric Béné and Eric Beaudonnat
IKO co-founders

The Wind

To choose where to fly your kite, it is important to know:

1. Safe wind directions
2. Wind quality and speed
3. To assess the practice area

Where Is the Wind Coming From?

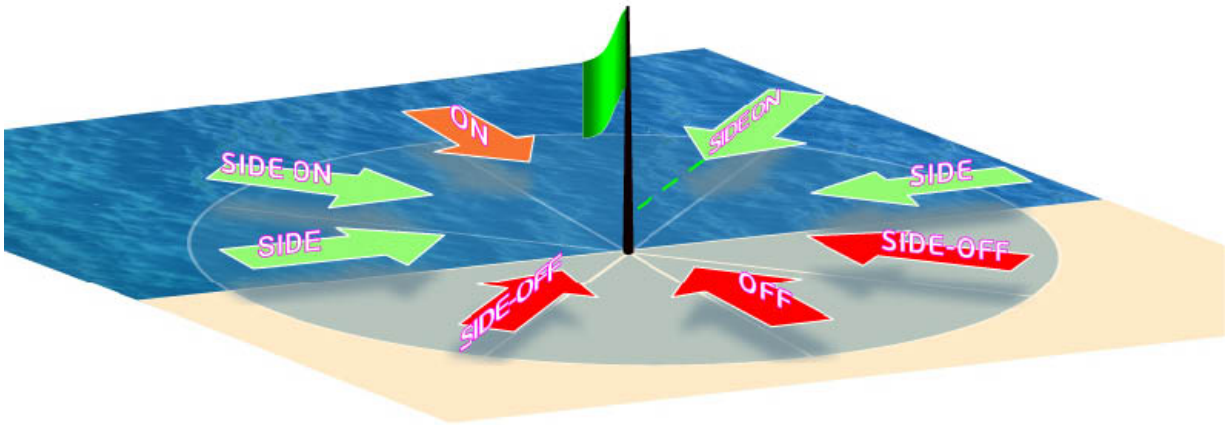
You can figure out the wind direction by using your senses.

When there is no visual reference available such as a flag or air sock, face into the wind. When you feel the wind flowing equally on both ears, you are facing upwind.

Well done! This simple skill is an important one for managing situations as a kiteboarder, since wind is the key element to kiteboarding.

Wind Orientations in Relation to the Beach

Now that you are able to determine where the wind comes from, what matters to us kiteboarders is the angle between the wind and the shoreline. On the example drawing the wind comes at an angle to the beach, this is called side-on-shore wind; when talking we shorten it and say, “side-on”



Kiteboarders and sailors around the world use the following terminology to describe the wind orientations in relation to the shoreline.

Safe Wind Orientations

Side-shore:

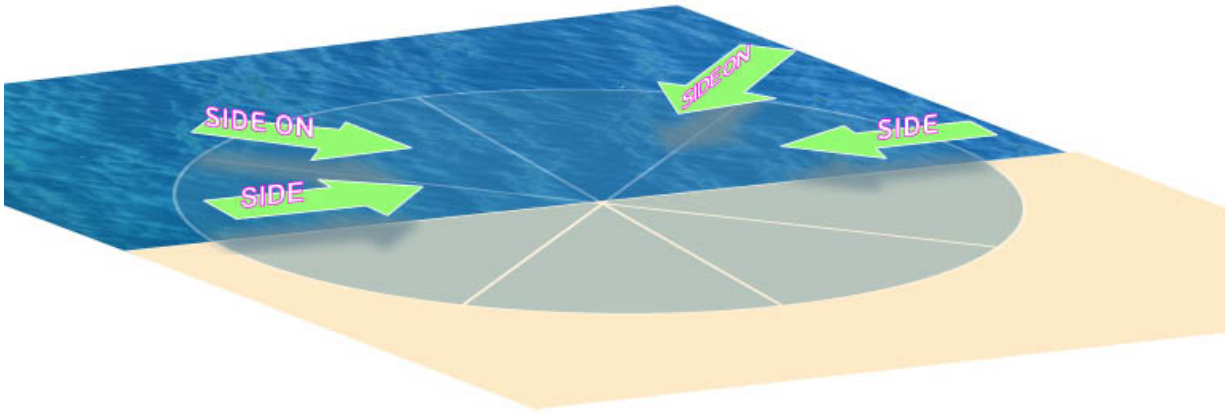
Wind blowing parallel to the beach from one side or the other of the sea.

Side-on-shore:

Wind blowing from the sea towards the land, slightly from one side or the other of the sea.

Side-shore and side-on-shore wind directions are the safest for kiteboarding. They allow safe return to shore and avoid potential accidents on land.

Whether you are a beginner or an independent rider, you should kite in this kind of wind.



Unsafe Wind Orientations

On-shore:

Wind coming from the water to the land perpendicularly to the beach.

On-shore wind can be dangerous, as you may be thrown onto the land if something goes wrong. Ensure that you are at a safe distance from the shore and from any obstacles before practicing (at least 80 meters or more).

Off-shore

Wind coming from the land to the water perpendicularly to the beach.

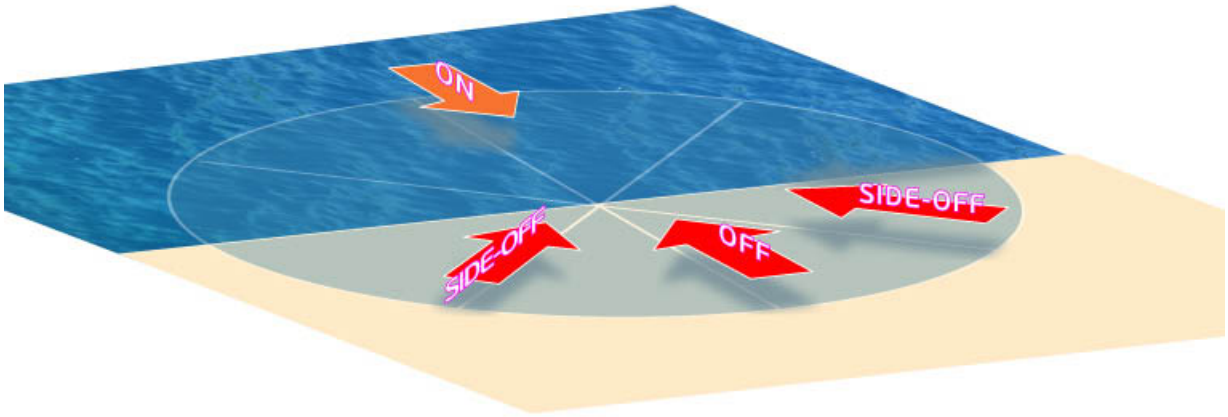
Side-off-shore

Wind blowing from the land towards sea slightly from one side.

Warning!
Offshore wind can be dangerous: the wind quality is often very poor, because of buildings and land obstacles influencing the wind to become very gusty, which can lead to an accident on

land. In offshore and side-off-shore winds, you may be unable to return to the shore.

Is it Possible to Kiteboard in Offshore Wind?



It can be possible for advanced level riders, under supervision and respecting specific safety settings, so never try it, unless under professional supervision and respecting the following rules.

At least 2 persons know about the kiteboarder riding with offshore wind and one of them keeps an eye on him at all times. Have at least 2 motor boats available in the area (in case one has engine failure), have a wind quality that permits riding upwind efficiently and never ever disconnect from the kite.

Define the Wind Speed

To choose the right size kite, you need to know the wind speed.

Checking the forecast helps you to decide what to carry to the spot but make sure to use a wind speed meter at the beach to check the real wind speed. If you are training or riding at an IKO Center, they will have one on hand, so just ask them.

When no wind meter is available use the following chart based on the Beaufort scale, which provides a way to estimate the wind strength based on visual references (the same exists for land use).

For example: you see small waves, becoming larger; fairly frequent white horses, it is a 4 Beaufort, which corresponds to 11 to 16 knots of wind.

From that, you can take the corresponding kite, based on your weight and the kite manufacturer's wind range.

Always measure the wind speed away from obstacles that could affect the wind. Do it as close as possible to the shoreline to get a realistic result; for example, measuring the wind on top of a sand dune would show more wind than there is on the water.

Wind speed conversion table

This table shows basic wind speed conversions, and provides you with a few visual indicators that serve as further clues about the strength of the wind.

Knots	Beaufort	m/s	km/h	Label
1	0	0 - 0,2	1	Calm
Visual effect on sea Sea is like a mirror.				
1-3	1	0,3-1,5	1-5	Light Air
Visual effect on sea Ripples with the appearance of scales are formed, but without foam crests.				
4-6	2	1,6-3,3	6-11	Light Breeze
Visual effect on sea Small wavelets, still short, but more pronounced. Crests have a glassy appearance and do not break.				
7-10	3	3,4-5,4	12-19	Gentle Breeze
Visual effect on sea Large wavelets. Crests begin to break. Foam of glassy appearance. Perhaps scattered white horses.				
11-16	4	5,5-7,9	20-28	Moderate Breeze
Visual effect on sea Small waves, becoming larger; fairly frequent white horses.				
17-21	5	8,0-10,7	29-38	Fresh Breeze
Visual effect on sea Moderate waves, taking a more pronounced long form; many white horses are formed. Chance of some spray.				
22-27	6	10,8-13,8	39-49	Strong Breeze
Visual effect on sea				

Large waves begin to form; the white foam crests are more extensive everywhere. Probably some spray.				
28-33	7	13,9-17,1	50-61	Near Gale
Visual effect on sea Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind.				
34-40	8	17,2-20,7	62-74	Gale
Visual effect on sea Moderately high waves of greater length; edges of crests begin to break into spindrift. The foam is blown in well-marked streaks along the direction of the wind.				
41-47	9	20,8-24,4	75-88	Severe Gale
Visual effect on sea High waves. Dense streaks of foam along the direction of the wind. Crests of waves begin to topple, tumble and roll over. Spray may affect visibility.				
48-55	10	24,5-28,4	89-102	Storm
Visual effect on sea Very high waves with long over-hanging crests. The resulting foam, in great patches, is blown in dense white streaks along the direction of the wind. The whole surface of the sea takes a white appearance. The 'tumbling' of the sea becomes heavy and shock-like. Visibility affected.				
56-63	11	28,5-32,6	103-117	Violent Storm
Visual effect on sea Exceptionally high waves (small and medium-size ships might be for a time lost to view behind the waves). The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility affected.				
64-71	12	32,7-36,9	118-133	Hurricane
Visual effect on sea Very rarely experienced; accompanied by wide-spread damage. The air is filled with foam and spray. Sea completely white with driving spray;				

visibility very seriously affected.

Assess the Wind Quality

The wind quality matters for kite flying; without disturbances the wind flows parallel to the ground or water and may occasionally vary in direction, which has a low impact on the kite flying and therefore our safety.

However, obstacles deviate the wind and create turbulence, which can affect the kite flying and therefore your safety.

There are many effects that can influence the wind trajectory; here are the 2 main wind effects that you need to know how to assess.

It is important to understand the wind effects below before launching a kite at any site.

The wind shadows

Influence of mountains, hills, buildings and trees or any similar obstacle.

What happens to the wind?

Upwind to an obstacle

Wind speed varies and starts moving upward to pass above the obstacle

On sharp objects (wall, buildings) there can be turbulence.

It is called the upwind shadow.

Downwind to obstacles

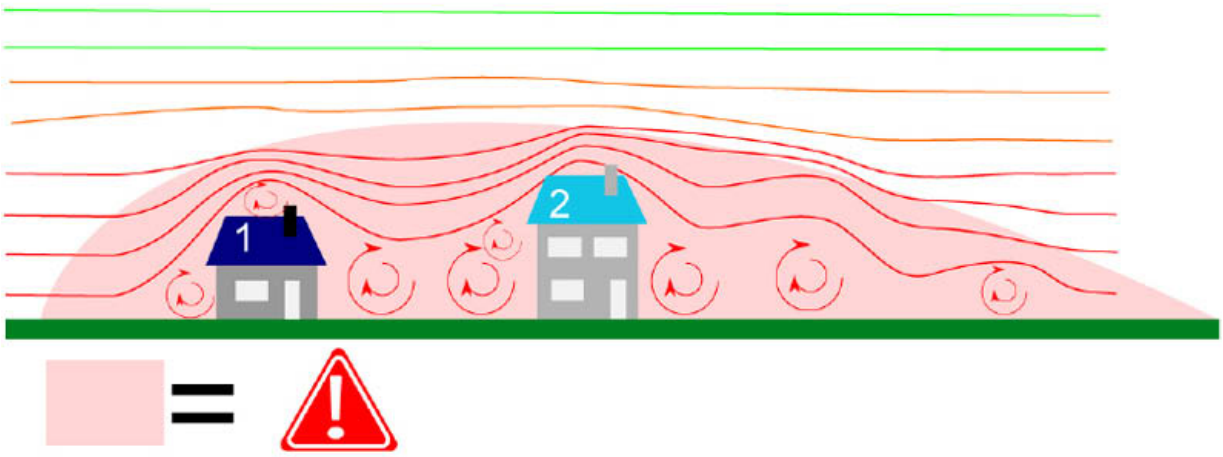
There can be rolls/whirlpool that can create sudden downdraft or updraft that can lift up and drop the kite and kiteboarder.

After the rolls, there is turbulence. This is called the downwind shadow.

On top and around obstacles

Wind changes direction and accelerates.

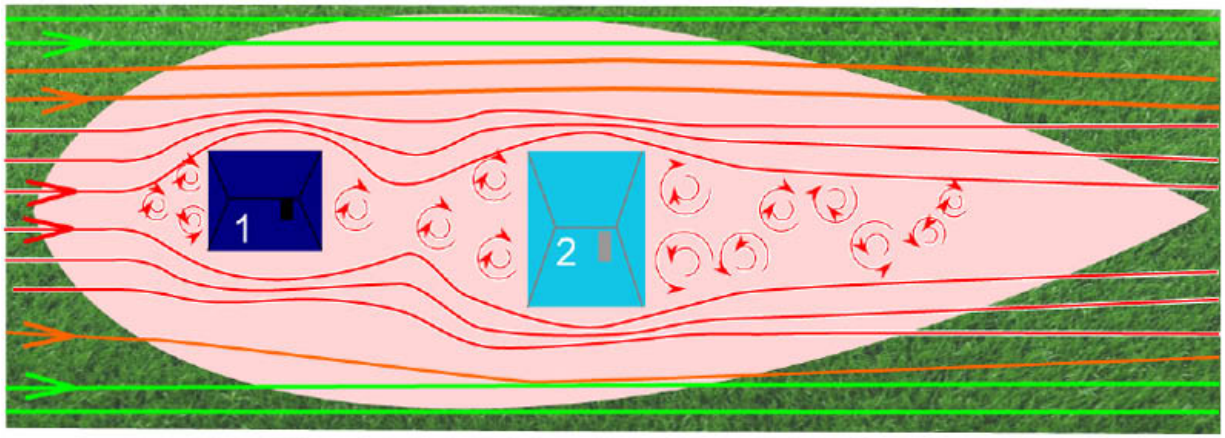
Wind passing on a house (view from side).



The light red area schematically shows the maximum danger volume.

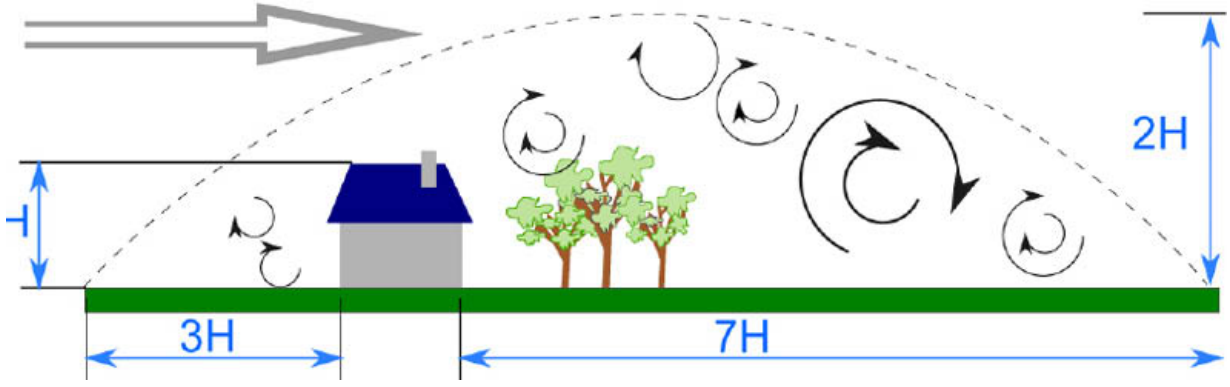
Therefore, you must not launch, land or ride upwind or downwind of trees, buildings or other large obstacles since it could result in a serious hazard. Wind flows are also turbulence all around the obstacle, never fly or let fly a kite above or close to any wind obstacles.

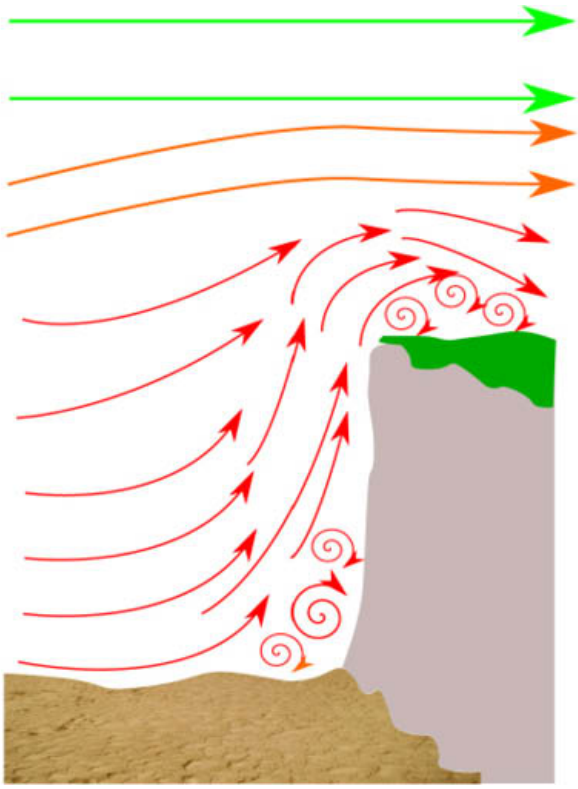
Wind passing on a house (view from the sky).



Up and downwind shadow rule of thumb

The wind shadow area downwind of an obstacle, is on average 7 times the height of the obstacle (H in the drawing), and 3 times the height of the obstacle upwind.
This increases or decreases according to the speed of the wind and specificities of the obstacle.





The compression effect

This wind effect appears in the upwind part of cliffs, dykes or buildings. It is important for kiteboarders to be aware of it as too often people tend to believe they are safe as long as they stay upwind of any obstacle.

What could happen to the kiteboarder?

If you were flying a kite in an updraft, you could get lifted and swing forcefully toward the obstacle that created the updraft.

In a downdraft the kite can suddenly drop (front stall), drift down and right back in the middle of the wind window, where the lines will be under tension again, the rider is pulled upward and downwind, with serious risk of injury upon landing and even death if meeting an obstacle on the course.

Do not fly a kite upwind or downwind of any obstacle that could significantly alter the wind and therefore your safety.

Assess the Spot

Now you know where the wind comes from, which orientation it has in correspondence to the shore, how strong it is and even how to assess its quality.

It is time to check that the area is adapted for kiteboarding, as it should be done before any kiting session:

Do the SEA Assessment

Each spot has a different configuration, therefore it is necessary to evaluate and minimize risks.

S.E.A. stands for Site, Environment and Activity
Remember to check these 3 most important aspects of a spot each time you will be kiteboarding.

Thank you for reading this IKO Handbook Preview. This is just the first few pages of the eBook.

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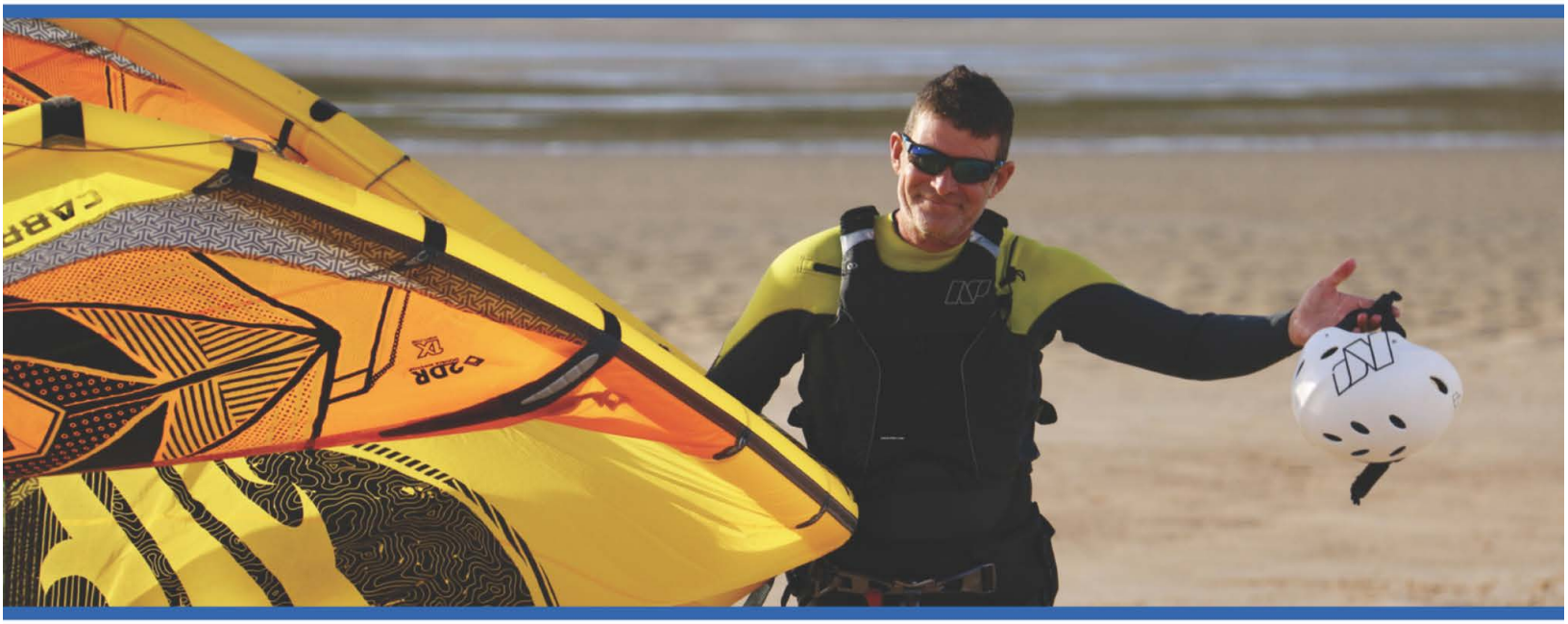


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