



La Nina: Preparation and risk management guide



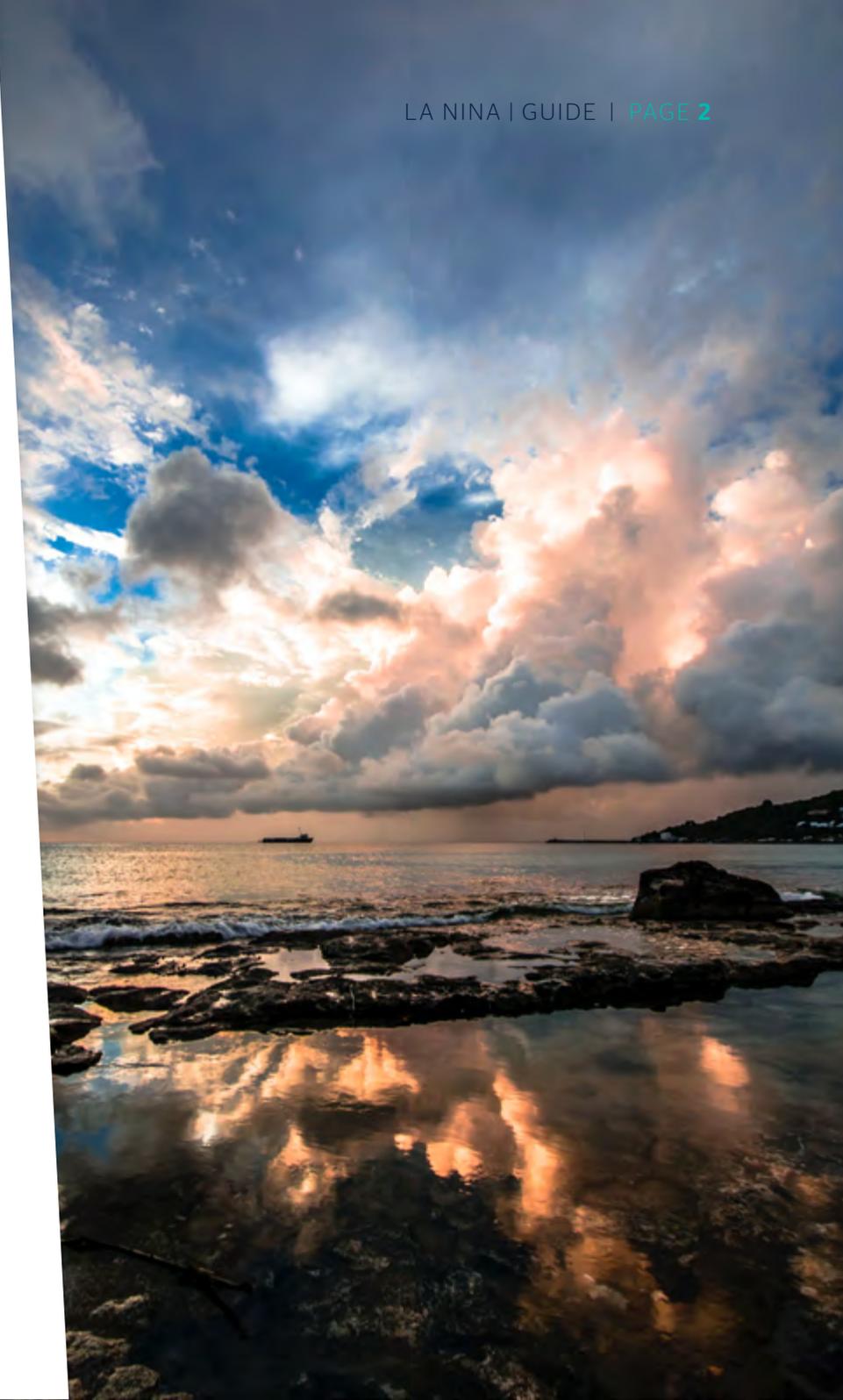
Every few years we hear about **La Niña** (the little girl) and its opposite, **El Niño** (the little boy)

They're a pair of weather patterns caused by the El Niño/Southern Oscillation (ENSO).

ENSO is a periodic but irregular change in air pressure over the Indo-Pacific region that affects equatorial winds and ocean temperature. But what does that mean for commercial vessel operators?

Most years, equatorial winds push warm surface water west from South America and the southwestern United States towards the South Pacific. As the warm water moves west, colder water is drawn up from below to take its place.

This cycle produces relatively stable weather for the Americas and the South Pacific, with the warm surface water heating the air above, producing clouds and rain.



WINDS OF CHANGE

In some years, however, ENSO may be stronger or weaker, meaning higher or lower differences in air pressure and therefore wind.

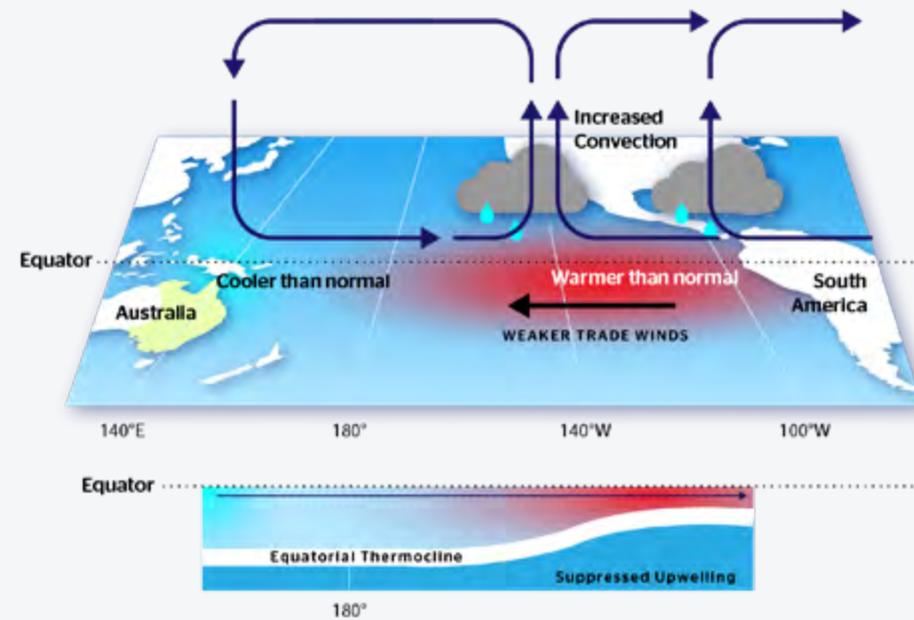
Less wind means an El Niño year.

The lower air-pressure difference pushes less water west, making conditions wetter, warmer and windier in South America. In the South Pacific the weather is stiller and drier.

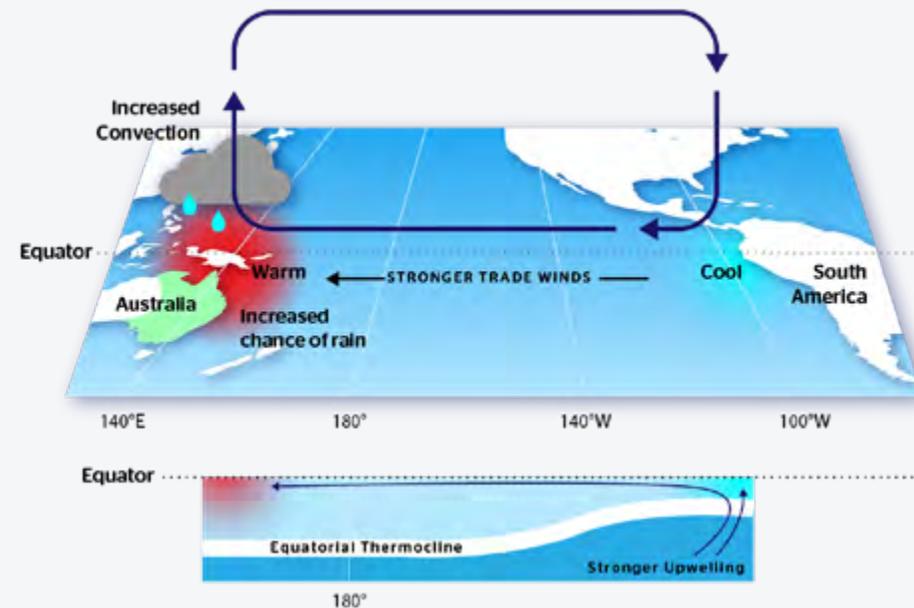
More wind means a La Niña year.

The higher air-pressure difference pushes more water west, making conditions wetter, warmer and windier in the South Pacific. In South America the weather is stiller and drier.

El Niño



La Niña



In a La Niña year, the temperature of the warm water north of Australia increases.

John James, Marine Protect's National Hull Product Manager, says the warmer water leads to warmer and wetter air and as a result, "we can expect the north-east of the country to have more rain, and possibly the same for central Australia as well."



Basically, we can expect heavier rainfall and an earlier start to the wet season.

— **John James**, National Hull Product Manager,
Marine Protect



HOW LA NIÑA IMPACTS AUSTRALIA

In a La Niña year, the warmer ocean temperatures in the South Pacific make the entire region, including Australia's north, more susceptible to rising air, cloud development and rainfall.

This typically means:

Increased rainfall across much of Australia:

Our six wettest winter-spring periods occurred during La Niña years.

Cooler daytime temperatures (south of the tropics):

Particularly in the second half of the year.

Decreased frost risk:

Due to increased cloud cover and hence warmer nights.

Earlier monsoon onset:

Usually two weeks earlier than normal.

Shift in temperature extremes:

Cool daytime temperatures are often associated with fewer extremely-high temperatures.

Warmer overnight temperatures (in the north):

Our six wettest winter-spring periods occurred during La Niña years.

Greater tropical cyclone numbers:

With more making landfall; in Queensland the only years with multiple severe tropical cyclone landfalls are La Niña years.

“

Part of La Nina's impact is an increased probability of cyclones. We've seen suggestions that northeast NSW might be prone to direct damage.

— John James, National Hull Product Manager, Marine Protect

“There's going to be a higher risk of flooding on the eastern side of the country,” John says.

“The Bureau of Meteorology issues a cyclone outlook in the second week of October. We always look out for that, **but the expectation is that there'll be more cyclones than usual.**”

BUSINESS RISKS

La Niña brings many risks to businesses and private property.

These risks stem from the greater likelihood of cyclones – which can cause hazards and property damage even if they don't make landfall. They include damaging winds, dangerous waves and storm surges.

“Boats may end up in places they're not meant to be.

– **John James**, National Hull Product Manager, Marine Protect

FLOODS

Even an offshore cyclone can do considerable damage, largely through flooding.

When Townsville and parts of Far North Queensland flooded in 2019, some 500,000 cattle were killed, representing perhaps 0.1-0.3% of gross state product (GSP). **Repair and reconstruction costs were estimated at more than \$600 million.**

“First of all, there's the material damage aspect,” John says. Winds and storm surges can damage boats and property, including marinas and port infrastructure.

“Where boats aren't kept in marinas but instead are kept on a swing mooring, there's a risk that the moorings may be dragged.

“The unfortunate result can be that some boats may end up in places they're not meant to be, and suffer grounding or collision damage.”

CYCLONES

Cyclones can devastate a region - who can forget Cyclone Tracy's destruction of Darwin over Christmas 1974?

More recently, Cyclone Debbie flattened houses, smashed boats, stripped and uprooted trees, and damaged roads and properties when it made landfall over Queensland's far north coast in March 2017.

It did around \$2 billion of damage and delivered further economic losses of around \$1.5 billion.

FINANCIAL RISK

Beyond property damage, extreme weather also creates risks around loss of income or ability to trade.

"As we've seen through COVID, vessels that can't operate - that can't take passengers out to the Barrier Reef, for example - can't generate income," John says. "So vessel owners may have a financial loss as well as the material damage loss."

The bad news is that the risks are getting worse. **Climate change is disrupting the normal cycle, making it less predictable, more extreme and farther reaching**, extending the risk to new parts of Australia.

"Because of changes to the climate, weather models need to do some catching up. We don't know, for example, how far south the impact of cyclones is going to be felt in future," John says.

“ We've seen suggestions that Brisbane and maybe even northeast New South Wales are moving into the area which may be prone to direct cyclone damage.

— **John James**, National Hull Product Manager, Marine Protect

HOW TO PREPARE

Preparation is the only way to minimise your La Niña-associated risks; once a cyclone or other extreme weather event hits, there's little you can do.

The first step is to ensure you have a cyclone-procedure plan and that it's up to date. The second step is to ensure your marina or port has a cyclone plan and that you know what you must do to comply with it.

John notes that boat owners should stay abreast of what's on the [Australian Maritime Safety Authority \(AMSA\)](#) website. It contains advice on preparations for severe weather, as well as various regional extreme-weather contingency plans.

SHIP-SHAPE

It's also imperative to adequately prepare your vessel, John says. "Make sure it's watertight and seaworthy. Check all the moorings, make sure they've been serviced and that they're in appropriate condition.

"Reduce wind loading, especially when the vessel is unattended. Make sure sails are removed, check your tender, and put covers and clears away."

If your vessel is going to stay in a marina, check the fenderings are adequate. Owners should also check their lines are of the correct size and in good condition. Check that batteries are charged and bilge pumps are working.

John also says owners should ensure their contact details are on the vessel for emergency services in case the worst happens.

Finally, make sure your insurance policy is up to date and adequate to cover your risks.

CYCLONE PREPARATION CHECKLIST

- Ensure your **vessel** is in a watertight, seaworthy state.
- Ensure your **mooring** arrangements are up to the job at hand.
- Reduce **wind loadings**, particularly when the vessel is unattended.
- Secure your **tender** and all **hatches**.
- Double up on **mooring lines** and check they are the correct size and in working condition.
- Test that all **batteries** are charged and **bilge pumps** (including automatic) are working.
- Check all **weatherproof storm covers** are in good order where applicable, and that all **self-draining holes** are clear.
- Leave your **contact details** on the vessel for emergency services.
- Make sure your **insurance policy** is current.
- Take heed of **local weather warnings** and **comply with instructions** from marinas / port authorities.

INSURANCE

Businesses should consider two types of insurance to protect against La Niña: material damage cover for the hull and loss of earnings protection.

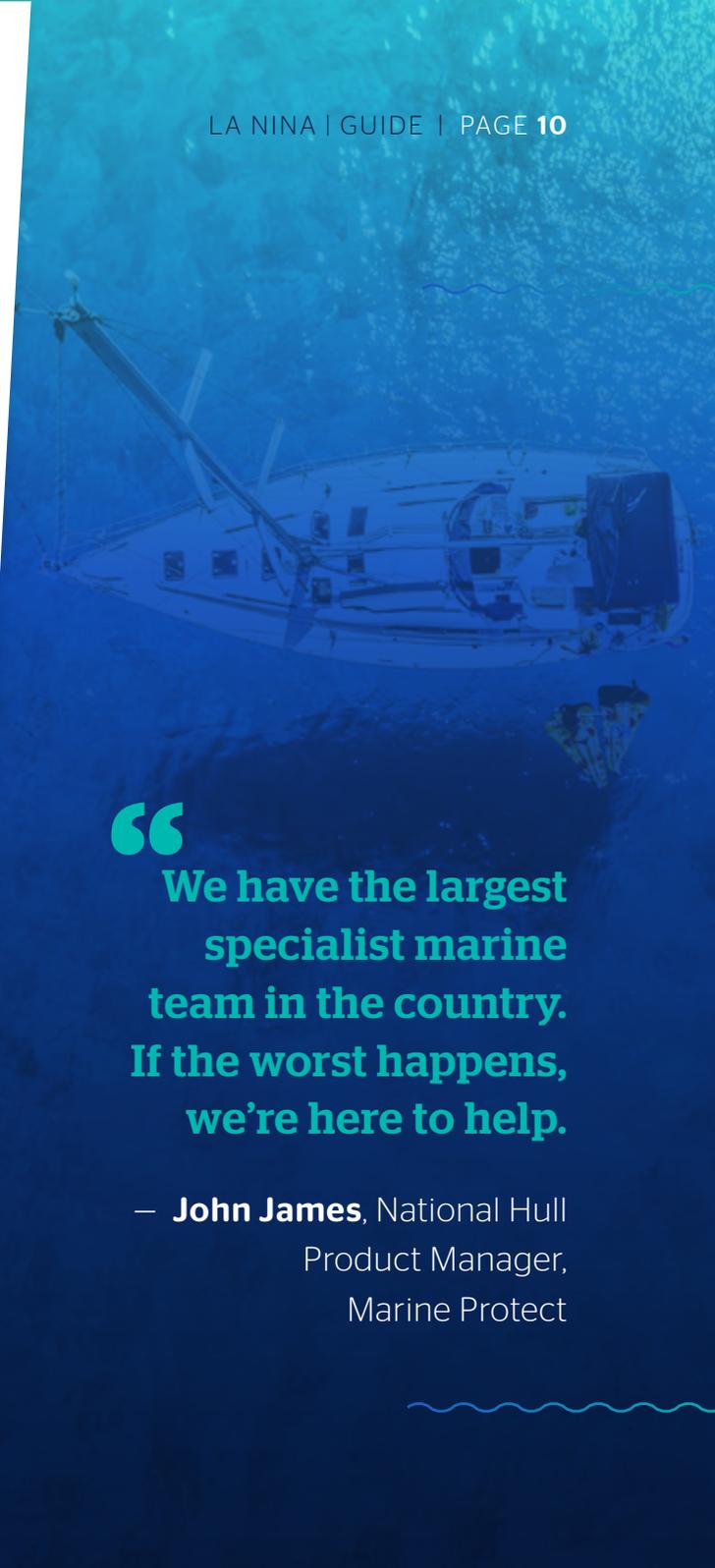
“Our Hull Protect policy provides cover against material damage caused by heavy weather, including cyclones,” says John. “No one knows a boat like its owner does, but we can provide guidance around preparations. And if the worst happens, we always look to use experienced surveyors who actually live in the area.”

We’ve got the largest dedicated specialist marine-claims team in the country to assist people through the whole process.

“They have an immense amount of local knowledge. They’re ‘Johnny-on-the-spot’, so they can be there very quickly if anything happens. We’ve found in the past that’s a great advantage.”

Loss of earnings cover is also available. It’s an optional extension and it responds in the event of a material damage loss due to heavy weather. John recommends checking your policies to make sure you’re comfortable with your cover.

“The overarching message is to check your plans and be prepared.”



“We have the largest specialist marine team in the country. If the worst happens, we’re here to help.”

— **John James**, National Hull Product Manager, Marine Protect