

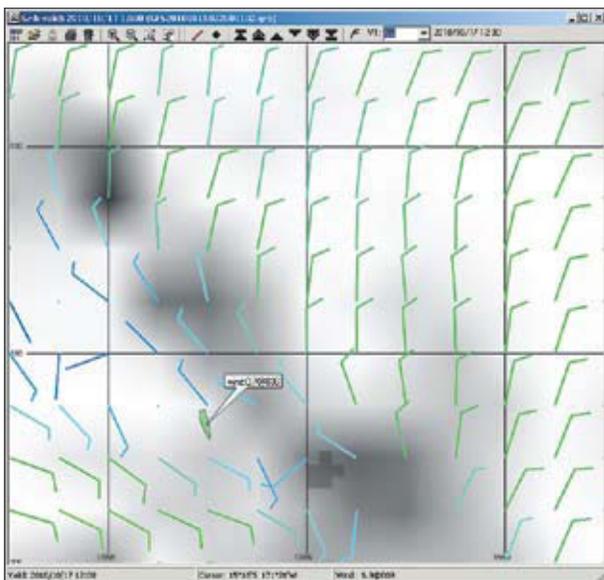
FAIR WEATHER SAILOR —

I've always thought a "real sailor" should be able to look at the sky, tap the barometer and know exactly what will be coming over the horizon. But no matter how many weather books I read, it just doesn't all fall neatly into place. Highs and lows on a two-dimensional weather fax are understandable, but throw in the troughs, ridges, 500 mb chart and the four dimensions that weather actually exists in, and, well, you can throw my comprehension to the wind.

The best sailors also seem to have a high tolerance for discomfort. Renowned solo circumnavigator Bernard Moitessier thought nothing of bashing hundreds of miles against the trades in a boat filled with chicken manure and kittens. No thanks. My wife Alene and I hate snotty weather. If we can avoid putting our books down and pulling the foulies on, we will. So steering clear of uncomfortable conditions is a priority aboard *Migration*. Sailing smoothly under a clear sky is elation. But bashing upwind, or bombing downwind in blustery conditions and pouring rain — not so fun.

During the past three years cruising the South Pacific, we've come to rely on a few easily understood weather products to help us sail in the weather we most appreciate, and to prepare for the stuff we don't. They are all products you can download from Saildocs, a free email-based document retrieval system. We use both SailMail and Winlink aboard *Migration* and it seems that most

Rain data in a GRIB makes it easy to spot this passing front. The forecasted wind speeds are rarely correct when you see a mishmash of wind arrows as below. But in normal trade wind conditions, the GRIBs are usually accurate to within 5 knots, generally forecasting slightly less wind than you'll experience.



cruisers these days use at least one of them. This article focuses on weather forecasting when Internet access is unavailable. But remember that Saildocs is available to any computer with an email connection — not just SailMail and Winlink users via an HF radio.

GRIBS

For most of us, GRIB files are to weather as GPS is to navigation. But just as an accurate GPS position with inaccurate charts can lead to disaster,

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so can relying on GRIBS as your sole means of forecasting. GRIBS are computer models that do a good job much of the time, an average job some of the time, and are dead wrong a bit of the time. AirMail (the computer program used to access Winlink or SailMail) makes requesting GRIBS easy. Most AirMail users are familiar with requesting GRIBS so I won't go into detail here.

Use them for an overview of the weather before and during your passages. Keep the boundaries limited to just the area you need: smaller in settled weather or for short passages, larger (increasing the data grid) when conditions are changing or for long hauls. That reduces your download time, which keeps the shared airwaves clear for other users. Don't bother downloading pressure (PRMSL) for small areas. Your file size will be increased with data that is irrelevant. Better to include RAIN data which is useful for spotting bad weather.

Spot GRIBS

Most of our time cruising is spent at anchor — usually with good shelter. But a change in the wind can turn a safe anchorage into a midnight muddle. I always want to know what to expect in the coming days so I can move to a safer spot if necessary. There's no need to download a GRIB that covers hundreds of square miles when I only want to know what will be happening above my head. That's where

the Spot GRIBS shine. A Spot GRIB is a text forecast extracted from the GRIB data for an exact location. They are very small (about 2 kbytes), thus giving you a quick download. Most importantly, the spots provide you with Lifted Index data. The Lifted Index (LFTX) is a measure of the vertical movement of air. As such, it's a good indicator of the chance of squalls, especially when coupled with rain forecasts. The more negative the LFTX, the faster and higher the cumulus clouds grow. You can't have squalls without cumulus. Generally, positive numbers represent settled weather, anything more negative than -3 means there is a potential for squalls. I subscribe to a Spot GRIB for the entire time I'm in a certain area. Obviously you don't have to change the Spot's location if you move to an anchorage only a few miles away.

To request a Spot GRIB, click on the crosshairs symbol on the left side of AirMail's GRIB Request Window. Click your location on the chart, then select the Request button to set forecast times and the data desired. GRIB data is released at 0000, 0600, 1200, and 1800 UTC. Set up your subscription to deliver the Spot just after one of these times. I like to pick up my weather in the morn-



SOUTH PACIFIC WEATHER SIMPLIFIED

ing, so in Tonga, which is UTC+13, I request the Spot for 1815 UTC. Then, if I connect to SailMail at 0800 local time, the Spot data will be only 45 minutes old.

Fleet Codes

GRIBS don't deal well with convergence zones, troughs, and squalls. Often they will forecast light winds while you are hanging on by your teeth in confused seas and driving rain. The tool I use to help decipher GRIB anomalies is the Fiji Met Service Fleet Code.

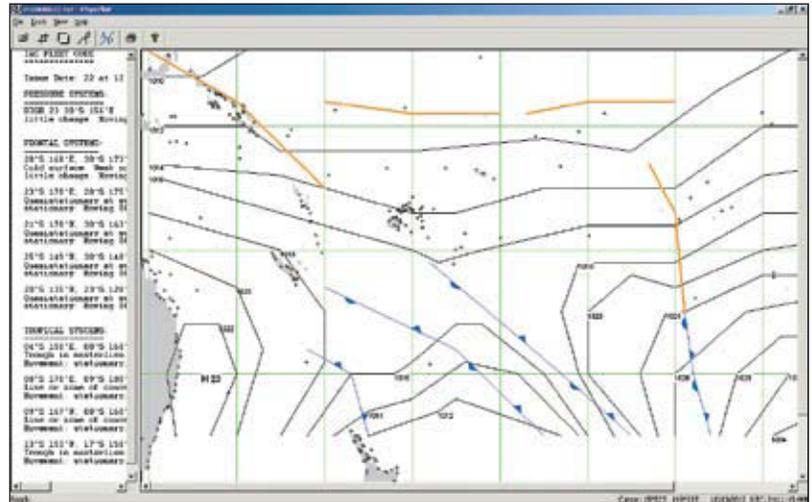
Fleet codes are an old system developed to transmit weather maps in a numeric format. In fact, they used to be sent via Morse Code. The benefit of the fleet code is that you get a surface analysis chart of the tropical South Pacific in about 2 kbytes. In contrast, a weatherfax downloaded from the Winlink catalog is 10-20 times larger. Create a daily subscription to the fleet code for the entire time you're travelling in the tropics. It will definitely help your understanding of the weather patterns. Most importantly, it lets you know where the convergence zones, troughs and fronts

These days, access to modern weather forecasting data gives sailors advance warning of threatening storms and squalls like this one.

are. These are what usually create rainy, squally, and windy weather.

To use the fleet codes, you must download the free PhysPlot program from the Internet before you go offshore (Google: download physplot). Create a shortcut to PhysPlot on your desktop. Next, request the fleet code from Saildocs (see sidebar). To view the chart, drag and drop the email you receive onto the PhysPlot shortcut. Make sure you've selected Tools - Atlantic/Pacific Centre in order to center the PhysPlot map on the South Pacific. You can drag the frame divider on the left side of the chart toward the right to display text that gives information on the strength, motion, and behavior of charted items.

If there's a front, trough, or convergence zone near you (or approaching), you can count on a change in the weather. Since this is a simple article,



Presto! PhysPlot can transform a text email into a surface analysis chart of the South Pacific. Notice how the front south of Tahiti has pulled the trough down to join its tail.

we won't discuss the intricacies of these weather systems. But remember these points:

- Strong highs (130mb or more) to the south create strong (reinforced) trade winds (the winds around highs rotate counterclockwise in the southern hemisphere).
- Generally, the southwest side of a convergence zone/trough has stronger, more southeasterly winds. The northeast side will have lighter and more easterly winds.
- If your GRIBS show very light winds switching directions quickly and the fleet code shows a convergence zone, trough, or front approaching, be on the lookout for difficult weather. You probably will not have the light winds forecast by the GRIBS. Watch for squalls.
- Fronts passing to the south often suck convergence zones/troughs down towards their tails.
- When fronts pass, be prepared for embedded squalls with higher winds than the GRIBS forecast. Thankfully, these are usually short-lived.
- The unsettled weather around convergence zones/troughs doesn't always create strong winds. But flopping around in light winds interspersed with rain showers doesn't make for enjoyable passage-making.
- Convergence zones, fronts, and

Web Resources for South Pacific Weather

- Soggy Paws' website: www.svsoggypaws.com/pacwx-understanding.htm
- Bob McDavitt's Met Pack (excellent book on So Pac Weather): see Soggy Paws' website
- Mr. John's Guides: links found at yachtmrjohn.blogspot.com
- Jim Corenman's '94 Latitude 38 weather article: see Features at www.latitude38.com



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troughs are often stationary or quasi-stationary. Rather than waiting for them to pass, you may have to change location to change your weather.

The Fiji Marine Weather Bulletin

Saildocs and South Pacific Weather

Any email client can request documents from Saildocs. Below is an example that retrieves the products discussed in this article: GRIB, Spot Grib, Fleet Code, Fiji Marine Weather Bulletin, and McDavitt's Weathergram.

TO: query@saildocs.com

SUBJECT: <leave blank>

MESSAGE BODY:

SEND GFS:18S,22S,176W,169W|1,1|0,6..120|WIND,WAVES,RAIN

TX SEND Spot:18.7S,174.0W|5,6|WIND,RAIN,LF

SEND fleet.nadi

SEND nadi.sopac

SEND nz.wgrm

Other Useful Saildocs Products for the Tropical South Pacific:

• NWS Hawaii High Seas: (0 to 25S, 120W to 160E): FZPS40.PHFO

• Fiji Met Service South Pacific (0 to 25S, 160E to 120W): nadi.sopac

(nadi.sopac) is a useful accompaniment to the Fleet Code as it provides information on the width of the convergence zones and fronts.

- Australia MetArea 10 High Seas (0 to 28S, 142E to 170E): Met.10ne
- NZ Met Service Subtropical High Seas: nz.subtrop

Regional:

- French Polynesia (in French) fr.poly
- Cook Islands: nadi.cooks
- Niue: nadi.niue
- Fiji: nadi.fiji
- New Caledonia (in French): ncal.marine

Saildocs also delivers web pages, first stripping out the HTML and graphics. Precede the URL with the word SEND. If you find a useful weather web page, test it when you have an internet connection to make sure it translates legibly. Here are a few examples:

Samoa: send <http://weather.noaa.gov/pub/data/raw/fz/fz50.nstu.cwf.ppg.txt>

Tonga: send http://www.met.gov.to/index_files/routine_forecast.txt

For more information on using Saildocs and GRIBS, see www.saildocs.com.

McDavitt's Weathergram

Bob McDavitt is the Weather Ambassador for the New Zealand Meteorological Service (Met Service). Subscribe to his weekly (each Sunday) discussion of South Pacific tropical and sub-tropical weather. His Weathergram is a great tool for learning how South Pacific weather works, and to help find a weather window to or from New Zealand. Looking out an entire week, he can't be spot on all the time, but if he says "Don't go," I'd listen.

Other Tools

I guarantee the day will come when you'll be hit by weather you didn't expect. It even happens to professional weather forecasters. Weather is incredibly complicated, and the method we use on *Migration* is far from perfect. There are plenty of other weather products that you should be familiar with and use as needed — especially for the passage to New Zealand (see sidebar).

There are, however, two tools that you already have that don't require a

The Newest Class on the Bay

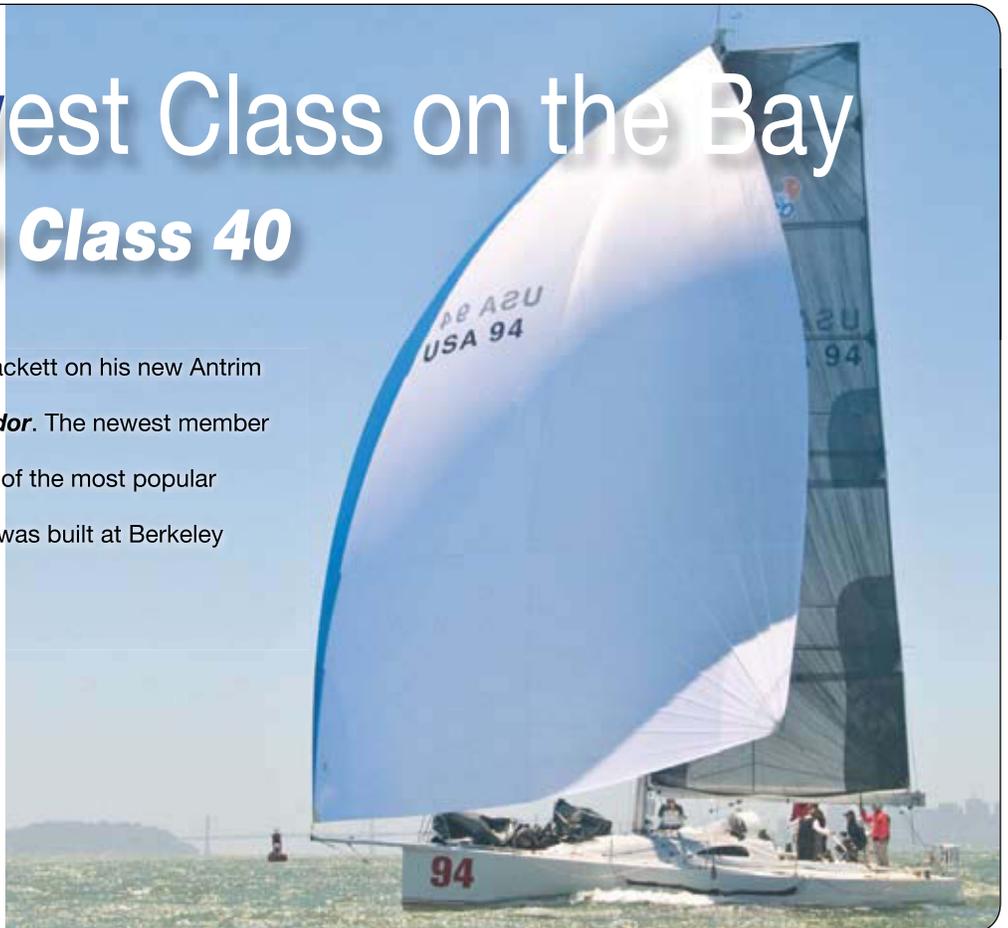
The Antrim Class 40

Congratulations to Buzz Blackett on his new Antrim Class 40, **California Condor**. The newest member of the fleet, which is already one of the most popular ocean racing classes in Europe, was built at Berkeley Marine Center.



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download.

Your Eyes: Regardless of what the GRIBS say, if it looks nasty outside, and you have a bad feeling in your gut, don't go. Don't let the herd mentality overcome your common sense.

Your Schedule: When you have the ability to wait for the weather you want, it makes all the difference. Sure you might be forced to stay several extra days at an island that you feel you've 'done'. It's your choice: stay another couple of days in the same place, or leave in the nasty stuff just to get to the next port.

We've met people who've told us "We don't watch the weather that closely. We just deal with what we get out there." More power to those hardy



MIGRATION

That's more like it: sunny skies and big puffy clouds. Days like that help you to forget the truly nasty stuff.

types! We're not that kind of sailor. Call us wimps, chickens, cream puffs. It's OK. If you want, you can even call us fair weather sailors. Our response? May it always be so!

— **bruce balan**

I've kept this simple in order to provide info to a broad audience, and have tried to make it as complete as possible within its limited scope. The passage to New Zealand leads you out of the tropics and into weather patterns that aren't addressed here. Nor are cyclone seasons. Thanks to Bob Mc-Davitt, Jack of Whoosh, John of Mr John IV, March of Passages, Sherry & Dave of Soggy Paws, and Susanne of Cheshire, for their help with this article. And to Jim Corenman, the creator of Saildocs, without whom none of this would be possible.



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