



Overseas Navigation

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Submitted by Dave McCampbell, *sv Soggy Paws*

If you are preparing for an overseas cruise, especially across the Pacific, this information is for you. Many cruisers on small boats have crossed oceans since the 1940s using just the sun, stars and a sextant. Some had little information about where they were going and knew that both their fixes and charts contained significant errors. So, they skipped some great cruising areas like the Tuamotus in French Polynesia, most of Micronesia and much of SE Asia.

Satellites and improved navigation technology have brought us far better tools than existed even 10 years ago. But many of the excellent navigation tools and aids, useful along the US coasts, are a luxury you won't find many other places overseas, especially in third world countries. There, charting accuracy and details, navigation aids, and obtaining up-to-date information are big problems.

Digital commercial charting doesn't always have the accuracy you will need to navigate safely in the many places adventurous cruisers want to go. Guide books, magazine articles and even cruiser reports are either nonexistent or soon obsolete unless constantly fed updates for these locations. There are tens of thousands of islands and possible safe anchorages to choose from, but which have the protection, depth and bottom type you want? Let's have a closer look at these issues.

Charting. Currently there are many commercial navigation and charting software companies competing for your navigation dollar. There are several issues with these for CLOSE IN overseas navigation:

- In many places they have variable accuracy, sometimes off hundreds of yards
- Some lack shore line and bottom detail
- They are relatively expensive
- Their data is cumbersome or impossible to share with other cruisers.

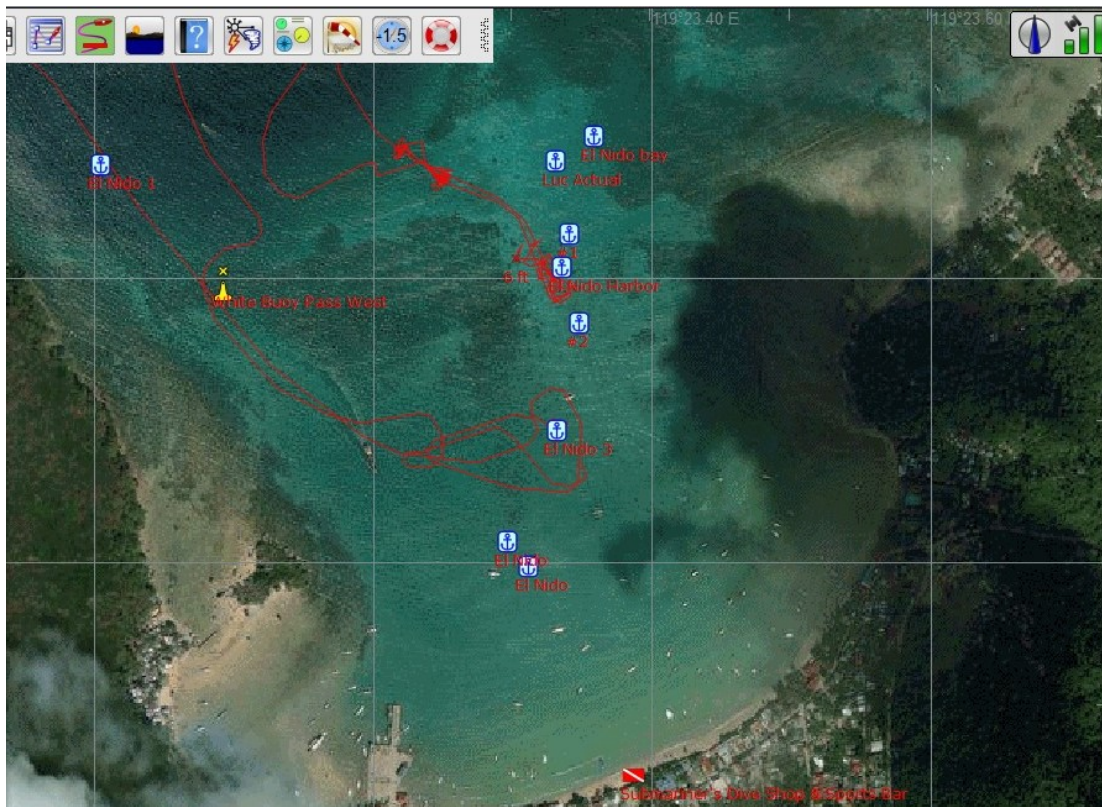
Some of these issues are probably fine, if you only want to visit the larger ports and make long ocean passages in between. But overseas coastal, reef and harbor navigation is often a problem. See more details in *Soggy Paws* presentation "Electronic Navigation Alternatives" in the references below.

There is a good solution to this problem, but it involves a computer, good internet speed and some work on your part. First, obtain FREE copies of the latest open source OpenCPN and

GE2KAP programs from the internet. OpenCPN is a full featured navigation program that can display most commercial digital charts and satellite images, and it does a lot more. GE2KAP allows you to take satellite images displayed on your computer, quickly geo-reference them and then convert them to charts for use on your computer. The imbedded help files on the two programs and numerous sources on the internet provide instructions, several of which are listed at the bottom of this article.

Then, when online with decent internet speed, start making your own Google Earth or SAS Planet (GE/SP) satellite image charts, or use some of the thousands of those done by others. In OpenCPN you can navigate with these just as you would with any navigation program without being online. You can make low elevation anchorage charts or even do whole coast lines at higher elevations with a few keystrokes. And if the latest image has cloud cover, go to the historical file and pick a better image from an earlier satellite pass. If done properly they are highly accurate worldwide and usually reliable enough to determine bottom type and relative depth. Supplement these with your favorite commercial charts. You can then toggle between Vector, Raster and GE/SP charts if you want. Finally, explore OpenCPN's multiple 'Plugins', which are additional features that greatly improve your navigational planning and weather analysis capabilities. Once done, you will have the finest precision navigation tools available, and at little cost to you. See the GE, which is untypically-dark, Garmin, Navionics, and CM93 chart comparison below.

Google Earth (GE)



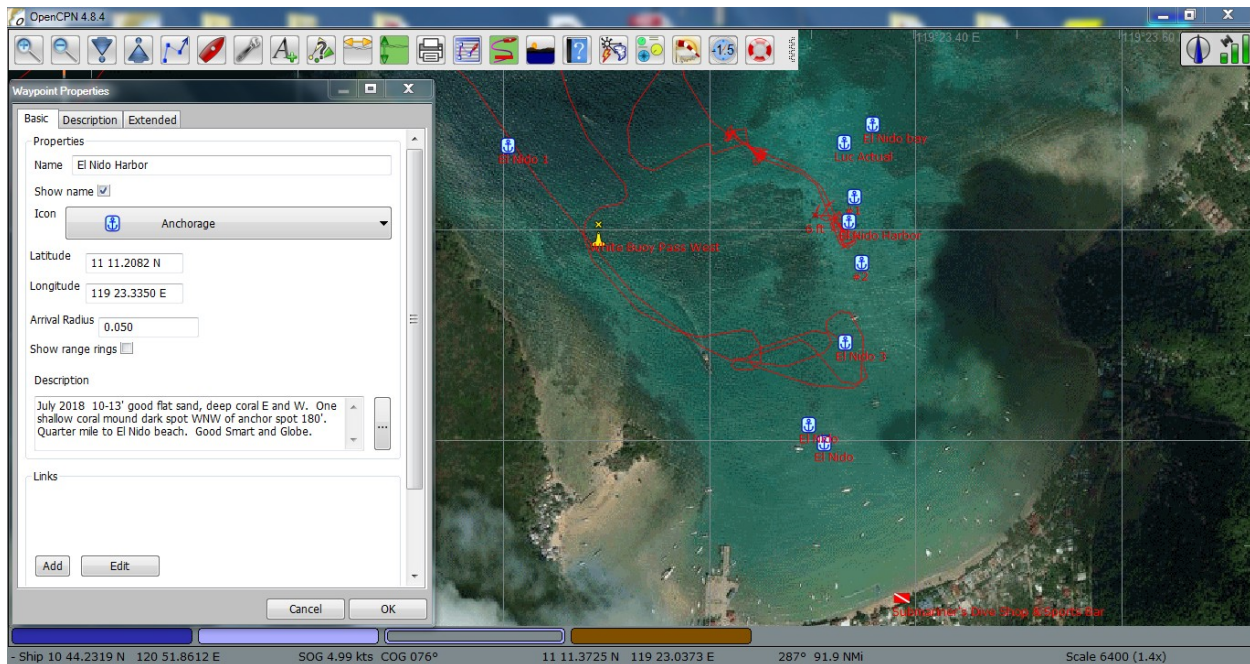
CM93



Anchorage Waypoints and Tracks

Once you are out cruising among the islands, one of the major concerns is where you are going to anchor for the night. For most, that is quickly followed by “when does Happy Hour start?” There are probably millions of possible anchorage choices around the world. But not all are created equal, and things like depth, bottom type, protection from the elements and tropical cyclones, security and a good sunset view make a difference. Because you are not the first to have these concerns, many cruisers before you have recorded suitable spots and the tracks they used to get there. These are very helpful for you to be able to see where other experienced cruisers have been before you, especially along reef strewn coastlines and into anchorages and ports. But it would be very labor intensive to have to enter these on your computer manually.

Again, modern technology has brought us a better navigation widget. OpenCPN allows you to record waypoints and tracks as you go along so that later you can add information and even export and exchange them easily via email. Several cruisers in our current cruising area of SE Asia have websites with thousands of these recorded and available for downloading and using with any charts in OpenCPN. Waypoints are shown on the chart, and with a click you can find the coordinates and recorded information. See the Google Earth El Nido chartlet on the following page with historical anchorage waypoints, anchorage information and tracks.



Local Overseas Information.

There are many possible sources available these days for local overseas information. Many are available on the internet and can be downloaded in advance. They include commercial and cruiser written guide books, magazine articles, dedicated cruising association websites, cruiser websites and blogs, and discussions with other cruisers via email or in person.

Paper guide books and magazines take up space, can be expensive, and are not updatable. Internet websites and blogs, although free and usually very detailed, are labor intensive to search and find what you want. Some of the other cruising information sources are not organized by location and are laborious to search with slow or expensive overseas internet. The biggest problem with all these sources, however, is knowing if that guide or other information you obtained a few years ago is still accurate.

For instance, ten years ago there were only a couple of local boats moored in the well protected El Nido harbor on the west coast of Palawan in the Philippines. Now there are over a hundred, as it has become a popular diving and island-hopping tourist destination. Without recent harbor information and a GE/SP chart it would be difficult to find a good anchor spot.

Another example is the constantly changing dangerous cruising areas (some where you may be uninsured), like the flip flop in cruising security in Colombia and Venezuela in recent years. Fifteen years ago, Venezuela was safer than Colombia; now the reverse is true.

One of the best sources for UP TO DATE information on all this is a cruising website such as [Noonsite](#), where information for almost 200 countries and over 2000 ports is continuously being revised by cruisers and site staff. Among other information they also have a continuously updated log of piracy and security incident reports.

On *Soggy Paws*, we have recorded information gathered from multiple sources for our Pacific crossing and SE Asia cruising in Sherry's *Cruising Compendiums*. Sherry adds new compendiums as we go along, and earlier ones are updated by cruisers using them behind us. They are free and available on our website below.

Navigation Equipment.

As an example, here is what we use on our St Francis 44 catamaran, *Soggy Paws*, for cruising in the western Pacific:

- A dedicated older NAVIGATION-ONLY Windows computer with OpenCPN using both older CMap 93 charts and Google Earth/SAS Planet charts. It lives on the dry navigation table, just inside the main cabin from the helm station.
- A small permanently mounted Garmin GPS Map 526s chart plotter, with color depth sounder and area chip of their G2 Vision charts, is at the helm station in the cockpit. It has relatively good detail, gives a good profile of the bottom, uses very little energy and is always on when we are underway.
- Routes and waypoints are always plotted and checked on the computer using OpenCPN.
- An exact duplicate route is exported from OpenCPN and loaded on the Garmin chart plotter via SD card. Its purpose is to give us a quick navigational reference at the helm mostly in open water.
- For close quarters, the navigation computer screen is wirelessly 'shadowed' onto a 10" ASUS ZenPad Android tablet, in a waterproof case if needed. It duplicates the computer screen and provides reliable precise charting for the helm person. (Shadowing is via free Teamviewer software and a local Wi-Fi hub that works with no internet connection. It works also with an iPad.)
- Finally, when there is any danger, one of us is at the bow using our best shallow water navigation tools, our Mark 1 eyeballs and a pair of amber polarized sunglasses.

References.

[Electronic Navigation Alternatives](#)

[Getting the Most Out of OpenCPN](#)

[OpenCPN program download](#)

[GE2KAP program download](#)

[OpenCPN & GE2KAP instructions](#)

[Soggy Paws Compendiums](#)

[Navigation instructions, charts and waypoints](#)

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Author: Dave McCampbell is a retired US Naval Diving and Salvage officer with over 40 years cruising and eight sailboats worth of maintenance experience. He and wife Sherry, based in the Philippines for the past 4 years, recently have cruised the Philippines and SE Asia and earlier spent eight years crossing the Pacific. They have sold Soggy Paws, their CSY 44 monohull of 19 years, and moved to the 'enlightened side', purchasing in 2015, Soggy Paws, the St Francis 44 catamaran.

If you've found this article useful, you'll find more similar information aimed directly at sailors/cruisers on the members-only portion of the SSCA website (www.scca.org).