Passage Planning and Weather Routing

"Why and How"

- Fastseas.com
- PredictWind.com
- OpenCPN
- Others

Sherry McCampbell
s/v Soggy Paws

Passage Planning Tools

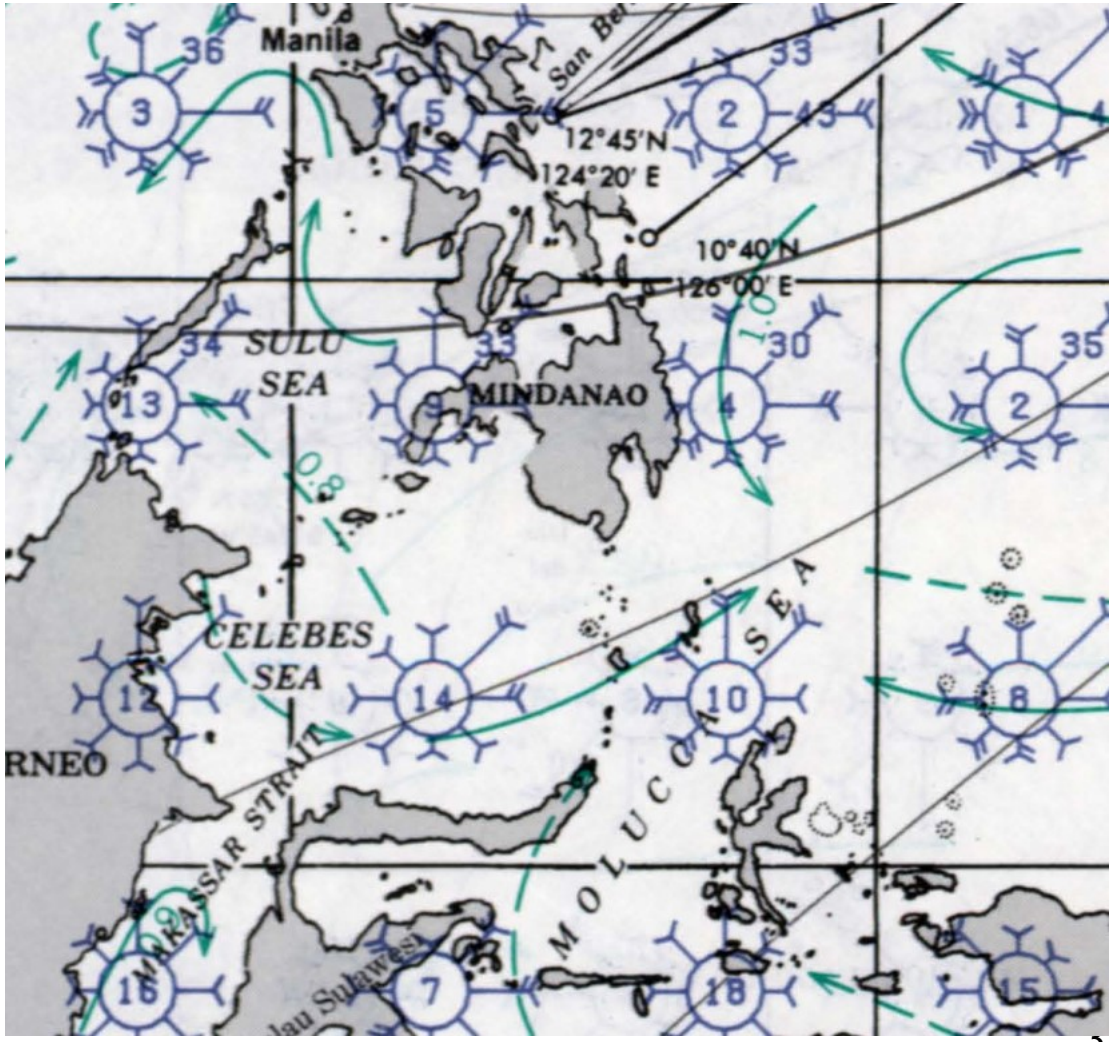
- Historical weather patterns
- Your boat characteristics
- Weather forecast (grib files)
- Current and tidal data

High Level Passage Planning

(What Time of Year to Make My Passage)

Traditional Tools

Pilot Charts

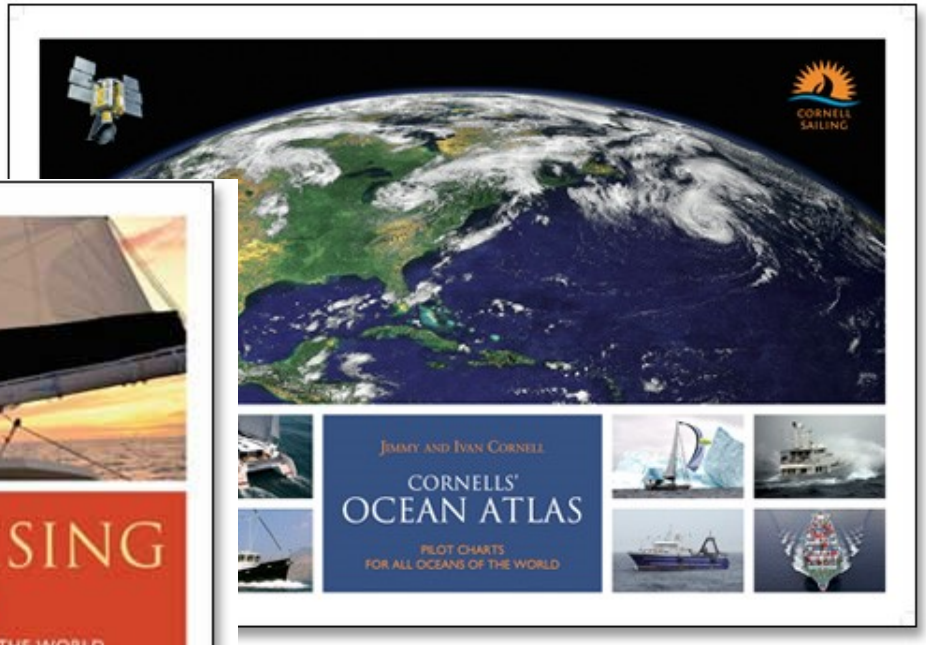


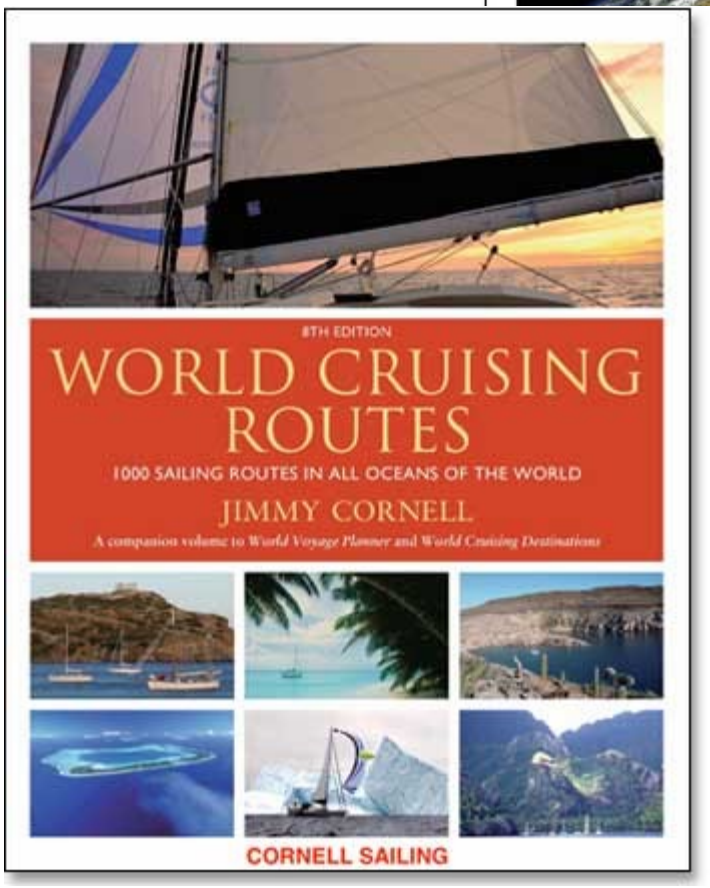
High Level Passage Planning

(What Time of Year to Make My Passage)

Jimmy Cornell

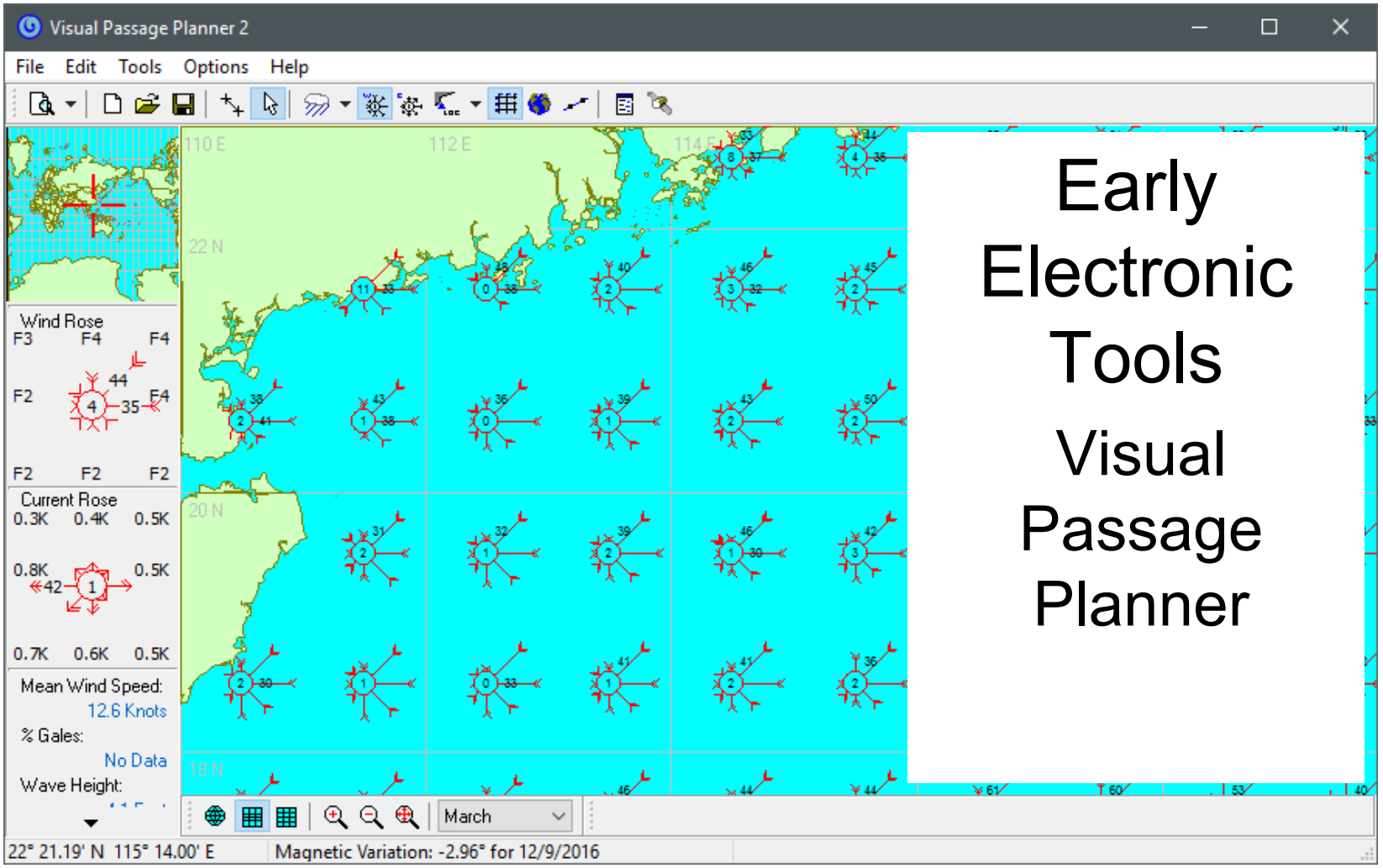
- Pilot Charts
- Passage Planning Info





High Level Passage Planning

(What Time of Year to Make My Passage)



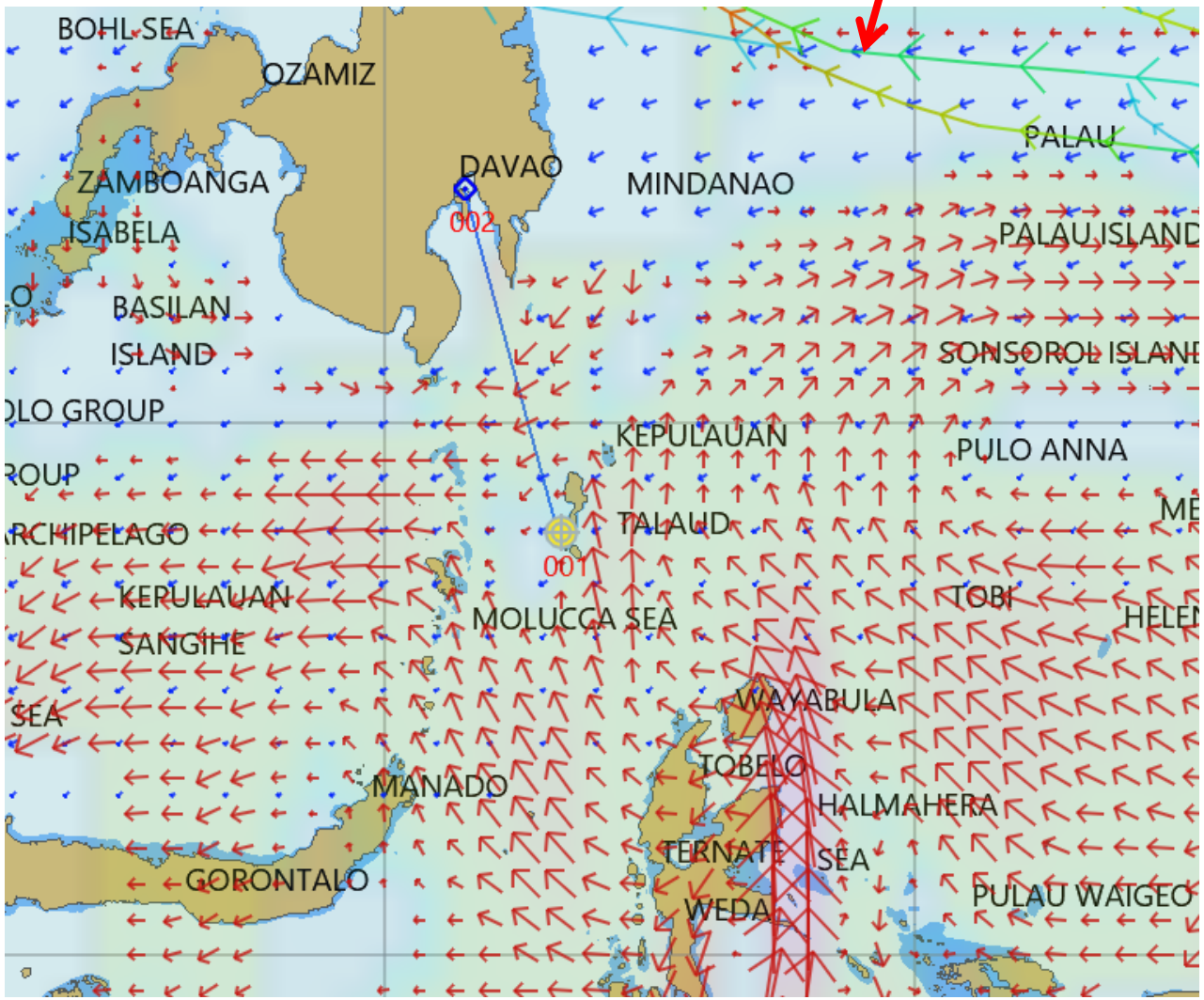
High Level Passage Planning

(What Time of Year to Make My Passage)

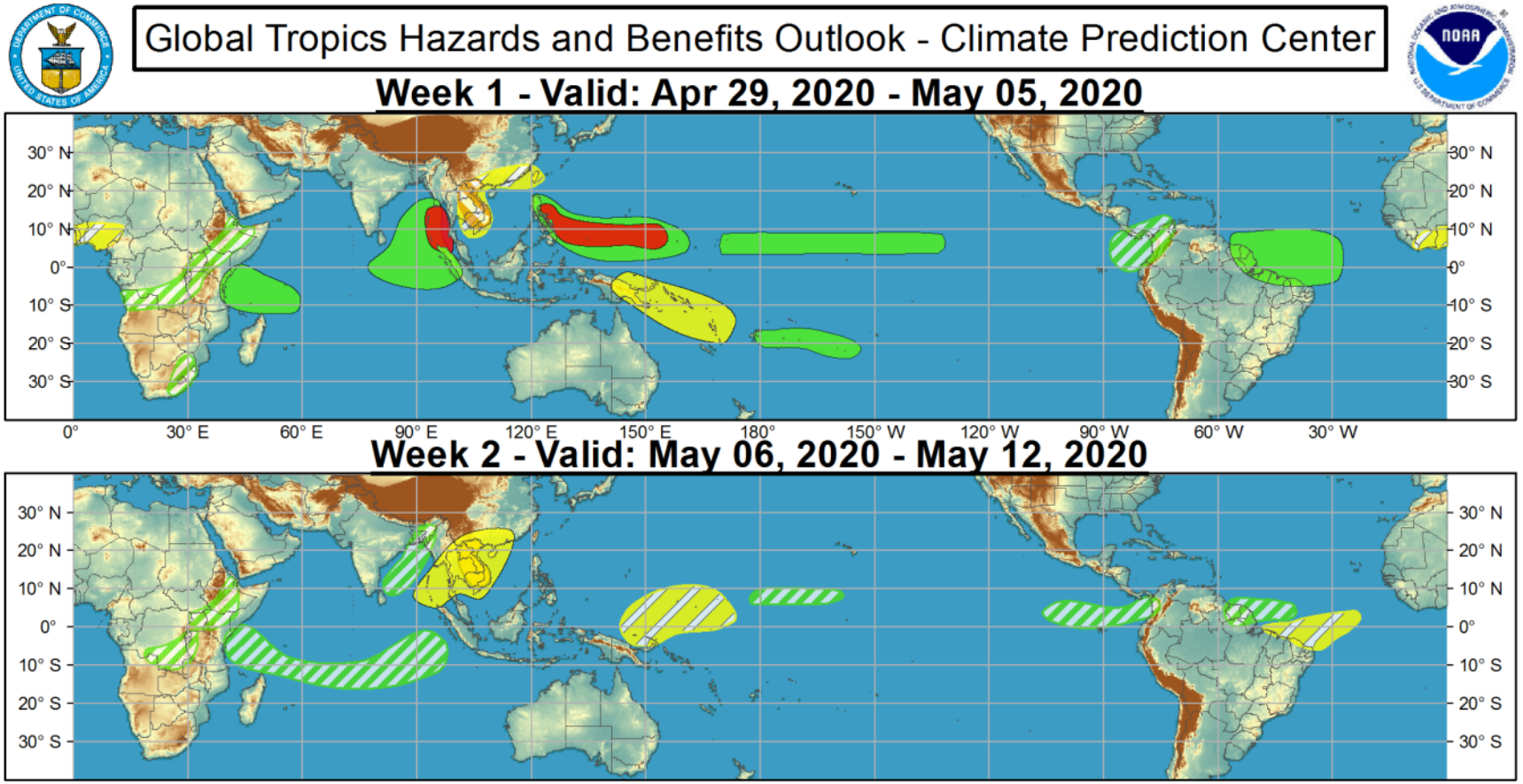
Now

OpenCPN Climatology

- Cyclone tracks
- Wind (Blue)
- Current (Red)
- Not just by month, but by date
- RECENT data (last 30 years)

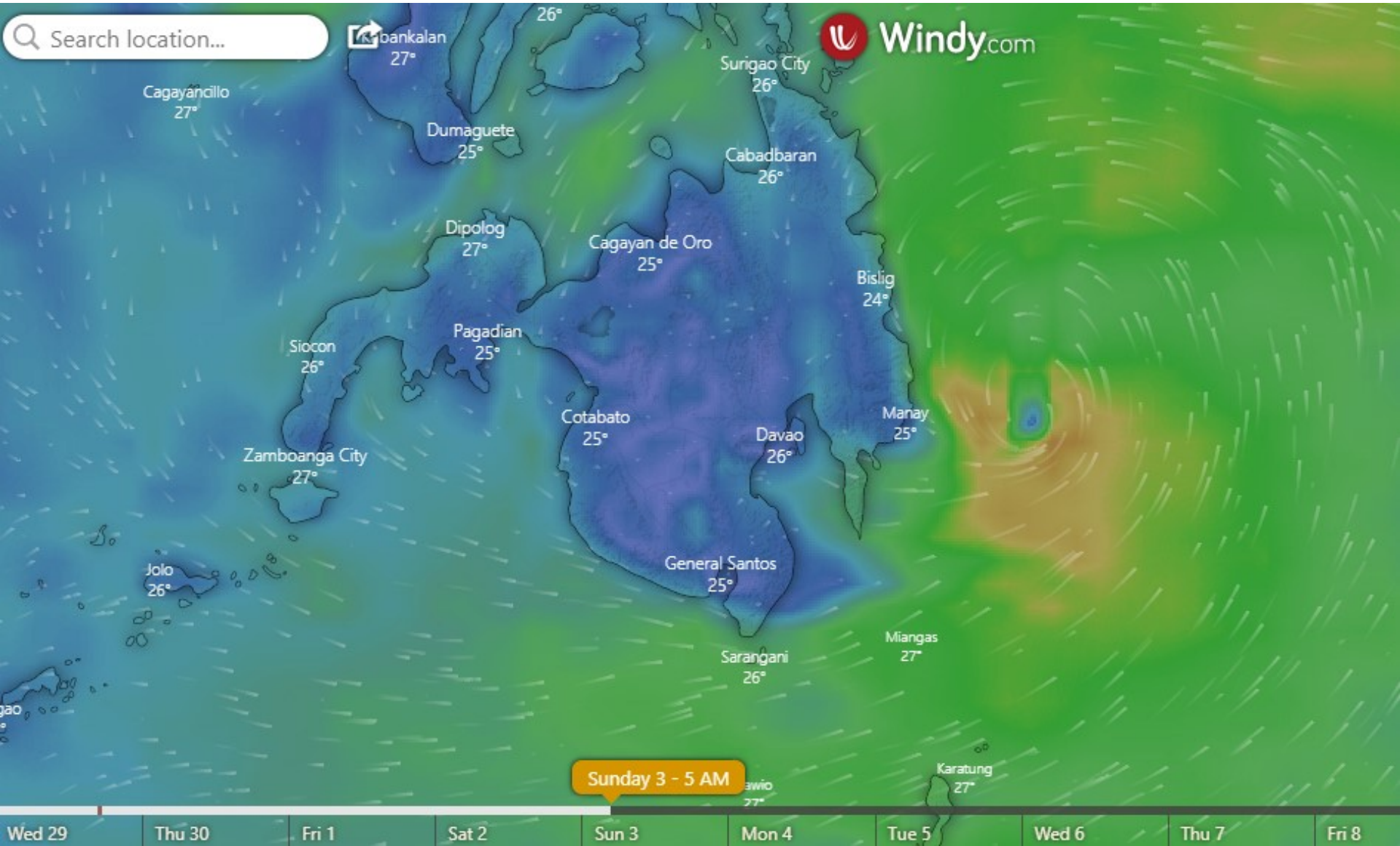


Near Term Passage Planning

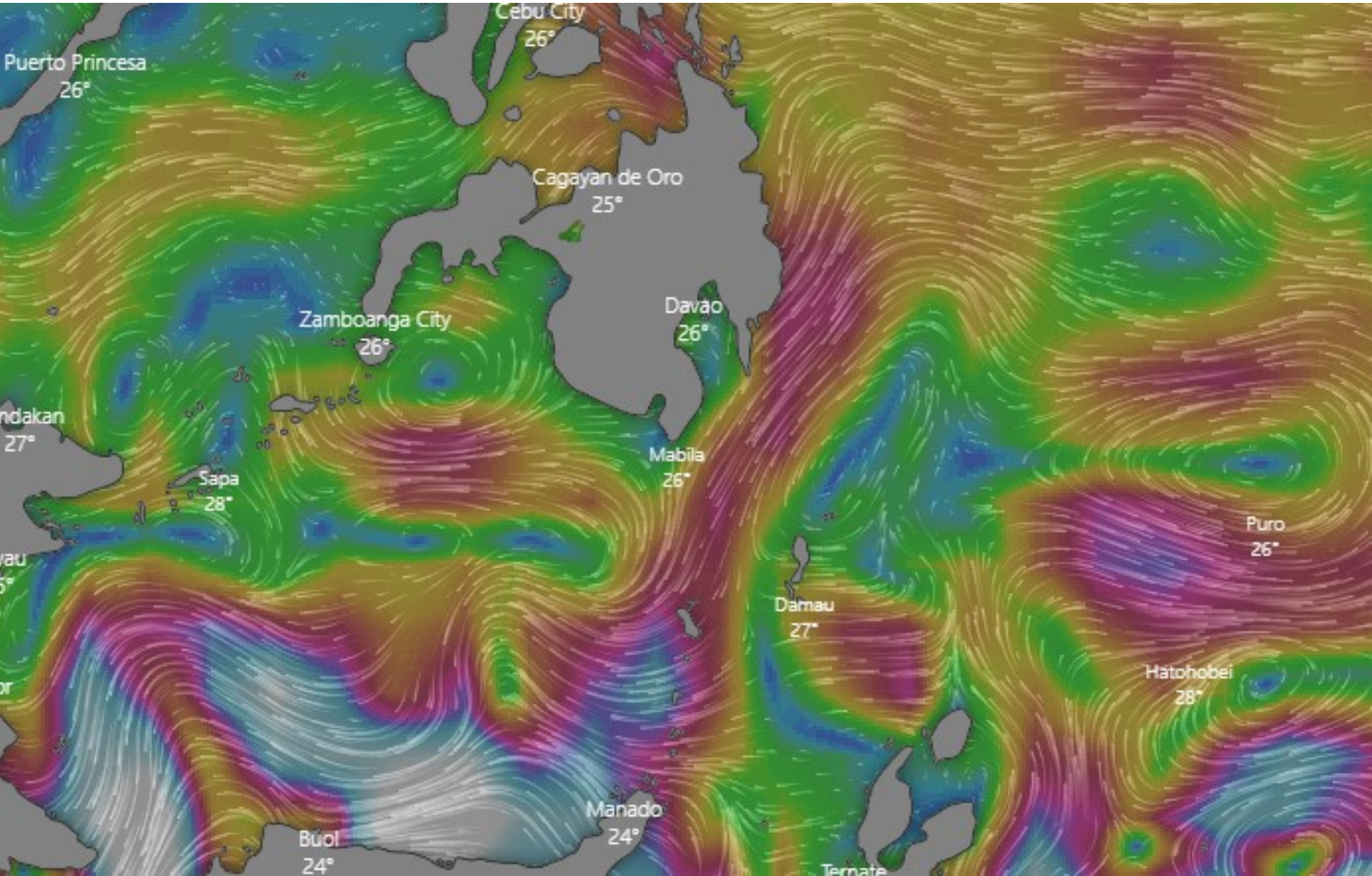


https://www.cpc.ncep.noaa.gov/products/precip/CWlink/ghaz/index.php

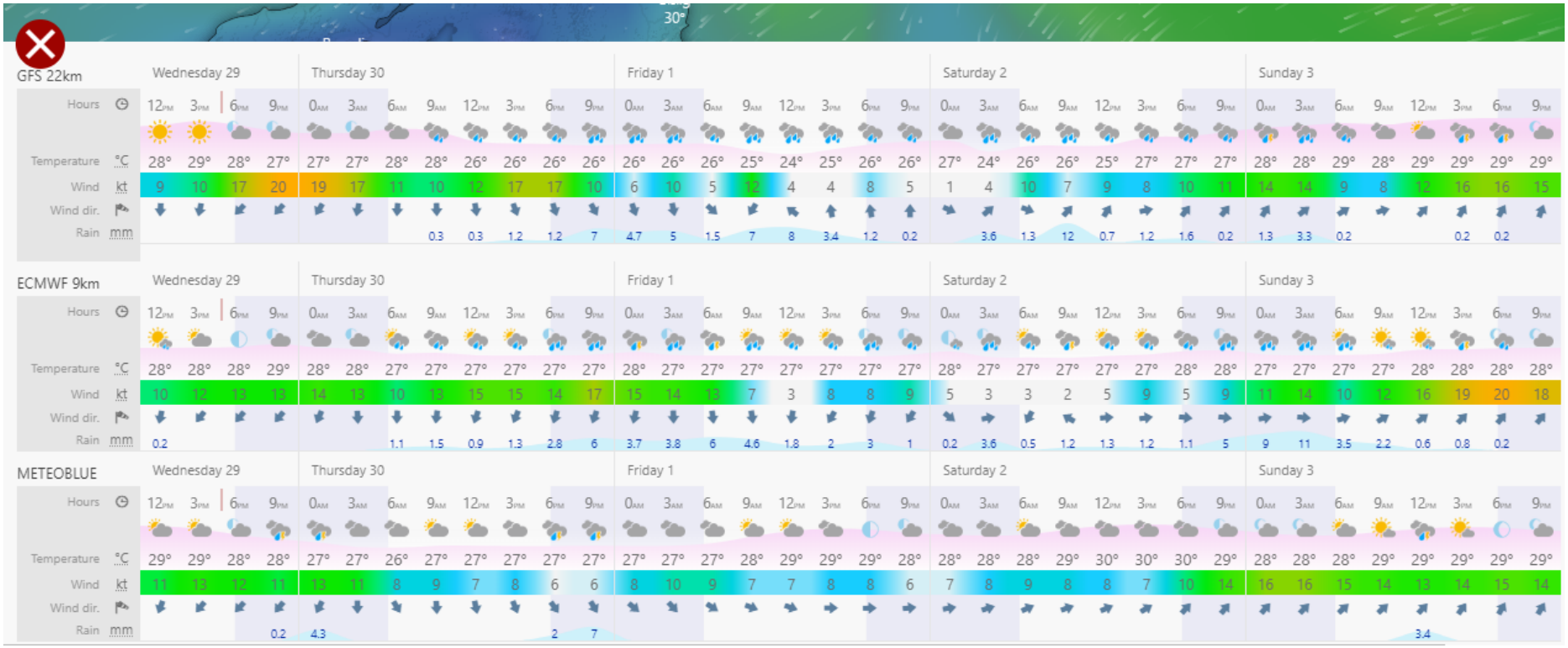
Windy – Wind Forecast



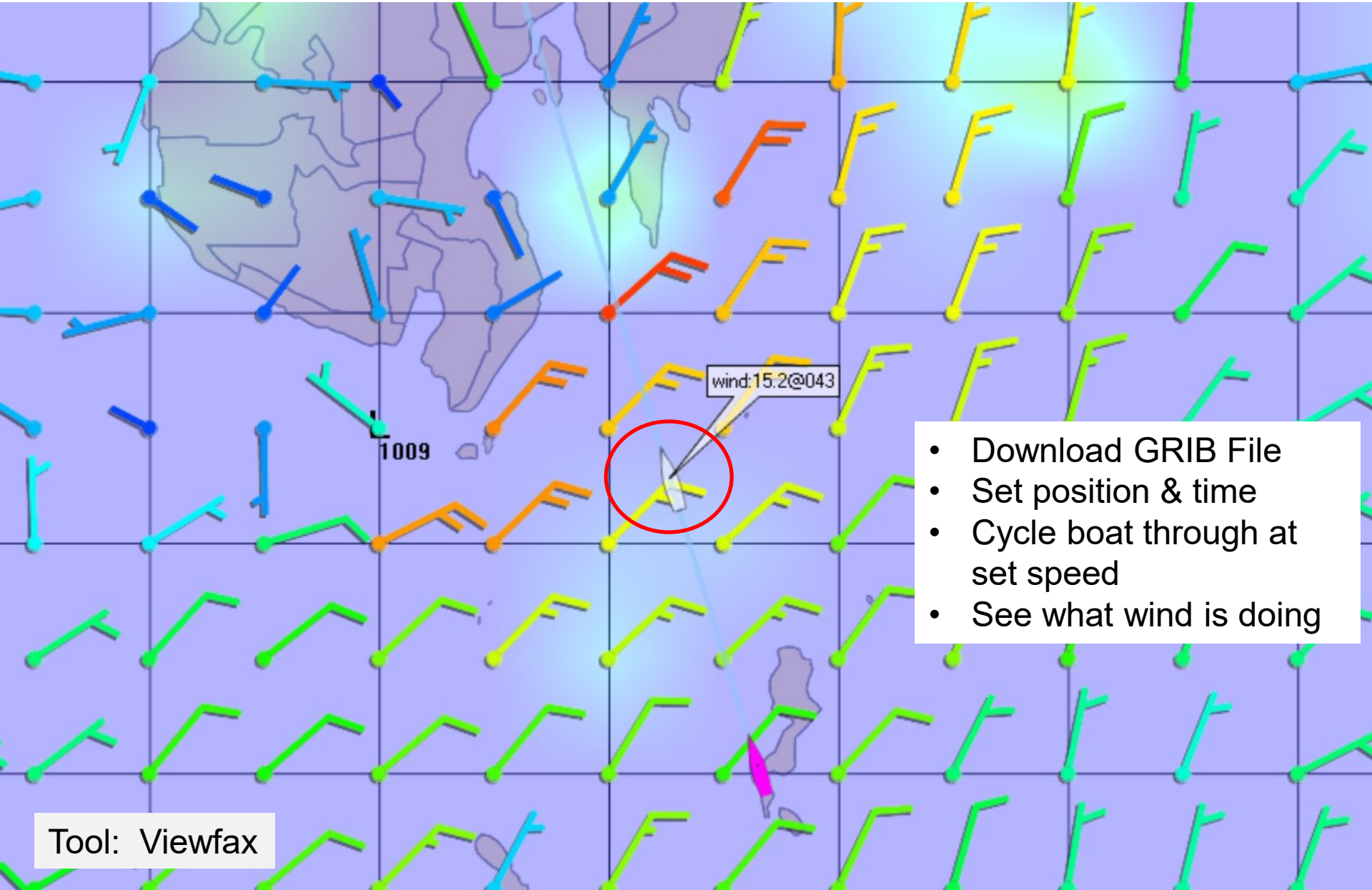
Windy – Currents



Windy - Comparative



Grib Files in Viewfax



- Download GRIB File
- Set position & time
- Cycle boat through at set speed
- See what wind is doing

Tool: Viewfax

True “Weather Routing”

What you need to get started

- A Polar File for your boat
- A Route
- A Weather Forecast (GRIB file)
- Planned Start Date and Time

The Result

- The “optimum” route for you to take

What is a Polar File?

- A table of how fast your boat will go in specific wind speed and angle situations

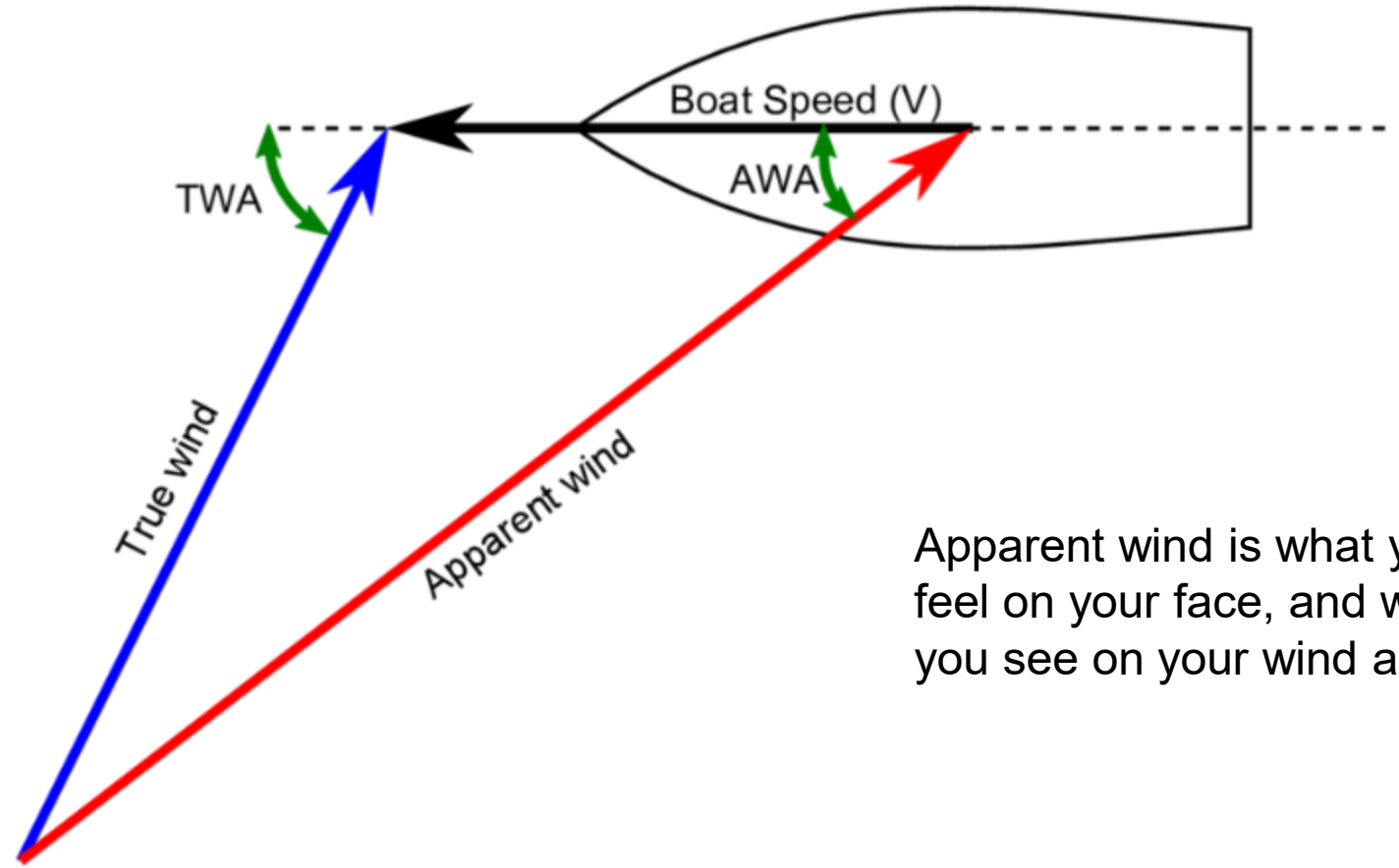
What is a Polar File?

WIND SPEED-→ (TRUE wind)

TWA\TWS	0	4	6	8	10	12	14	16	20	25
0	0	0	0	0	0	0	0	0	0	0
48	0	2	3	4	5	6	6.1	6.2	6.3	6.5
52	0	2.5	4	5.5	6.6	7.3	7.6	7.8	7.9	8
60	0	3	5	5.8	7	7.6	7.8	8	8.1	8.3
75	0	3	5.5	6.2	7.3	7.8	8.1	8.3	8.4	8.8
90	0	3	5.5	6.2	7.4	7.9	8.2	8.4	8.6	9.3
110	0	2.5	5.5	6.2	7.4	7.9	8.3	8.5	8.7	9.5
120	0	2	5	5.9	7.2	7.8	8.2	8.6	8.8	10
135	0	1	3	5.2	6.4	7.4	7.9	8.3	8.7	10
150	0	0	2	4.3	5.4	6.5	7.3	7.8	8.2	9.8
180	0	0	0	2	4	6	7	7.5	8	9.5

WIND ANGLE

True Wind vs Apparent Wind



Apparent wind is what you feel on your face, and what you see on your wind arrow

Most Polars are TRUE wind speed/angle, not APPARENT wind

How Do I Get A Polar File?

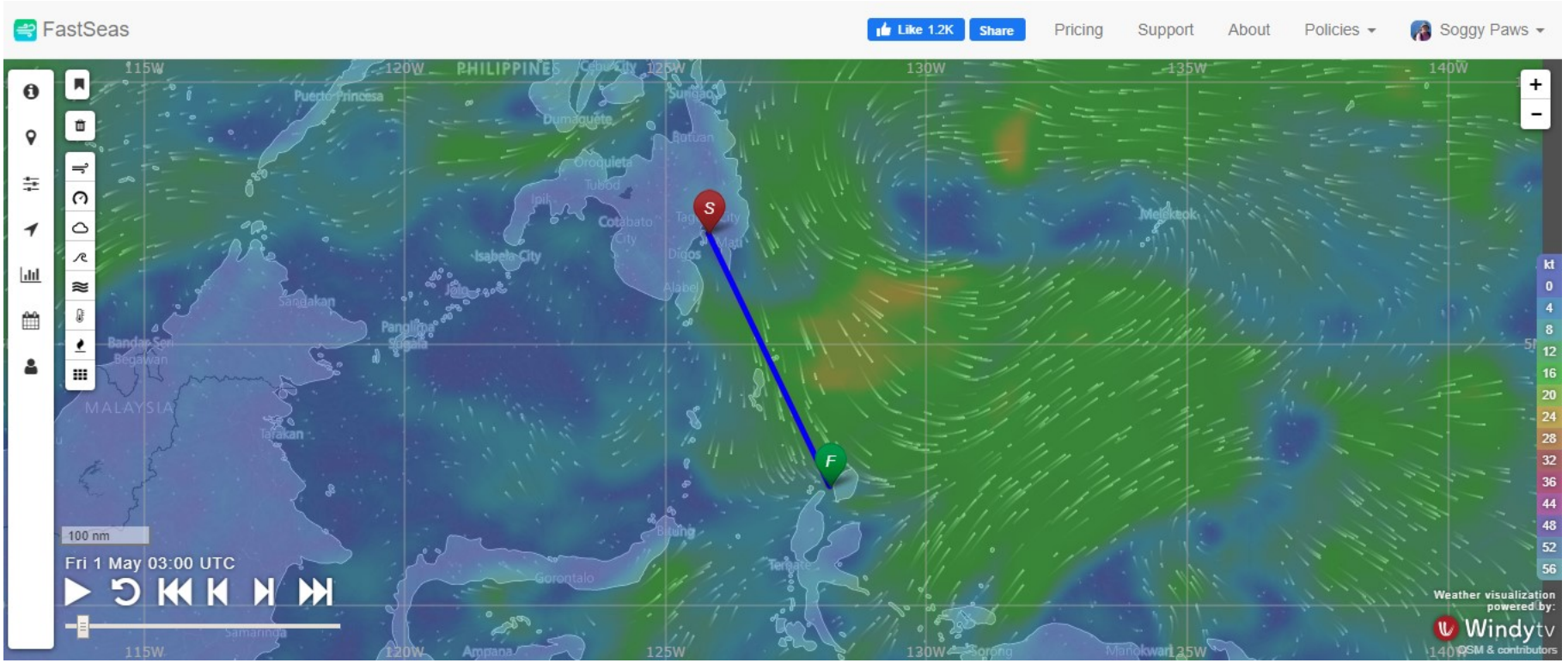
- Ask your boat designer
  (usually unrealistic speed values!)
- Copy one from a similar boat
- Create one based on your own experience
- FastSeas – Mono's – Input a few boat characteristics, voila

I started with one from a similar boat, and over time tweaked it to match our own sailing style

Getting Started

- Easiest Tool: Fast Seas
- Simplest to get started
- Best documented
- Most intuitive
- Uses “Windy.com” for weather visualization
- Can be used on very low bandwidth connections

Fast Seas Main Window



Fast Seas Menu

Help and Getting Started information

Fine Tune Routing Information

Set Vessel Performance Information (ie polars and comfort settings)

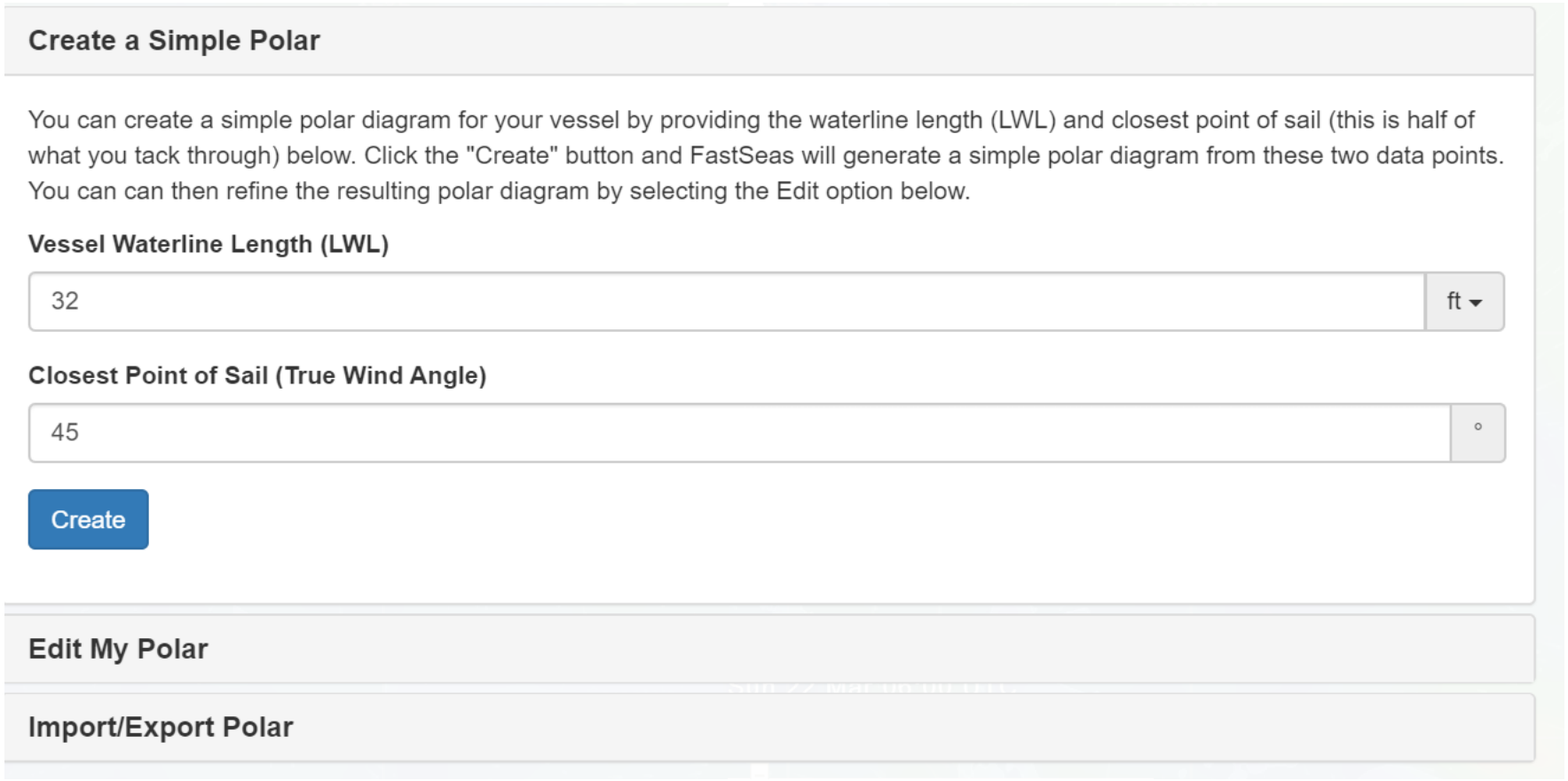
See a table with the results of the routing

See statistics regarding the results of the routing

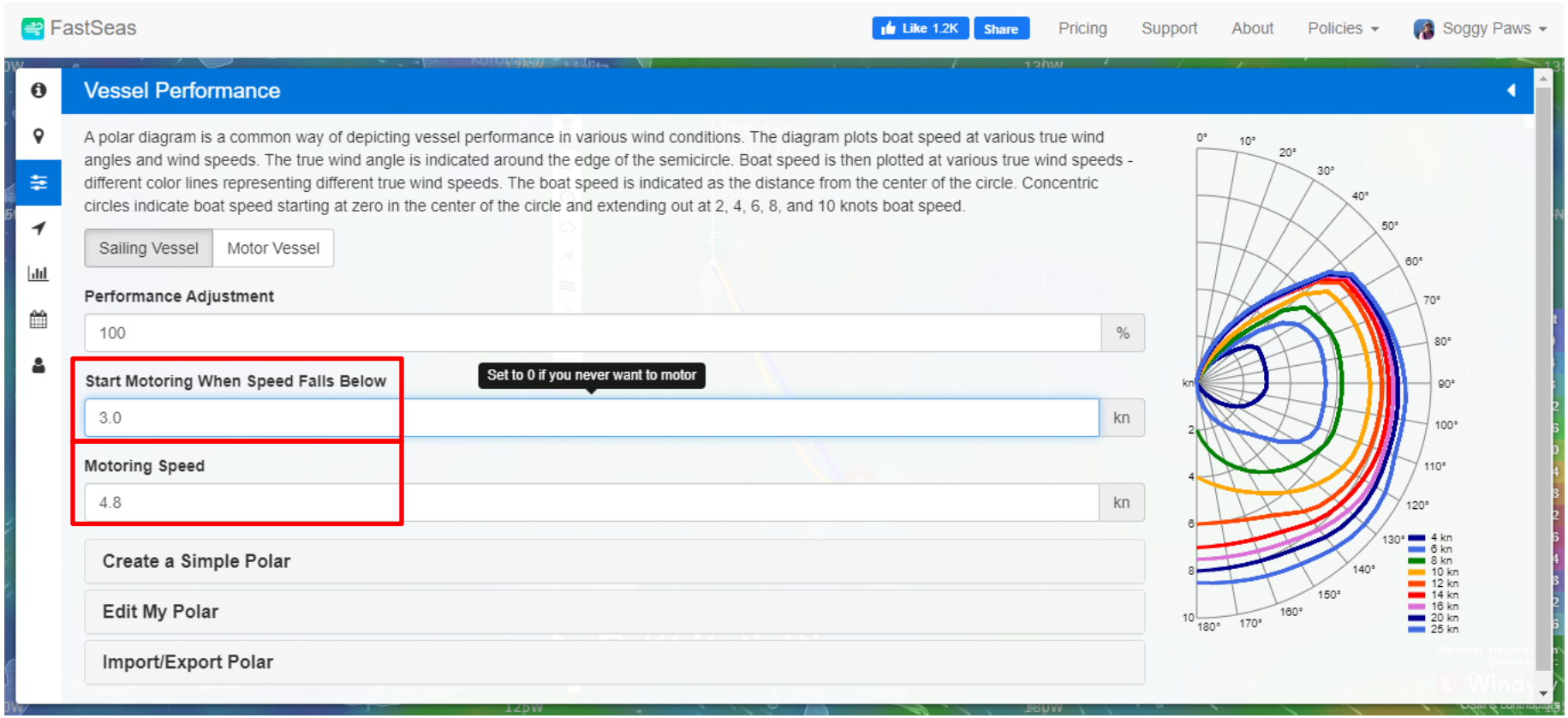
Departure Planning (which day should I go?) out to 14 days

Account information, subscription status, and authorized email addresses

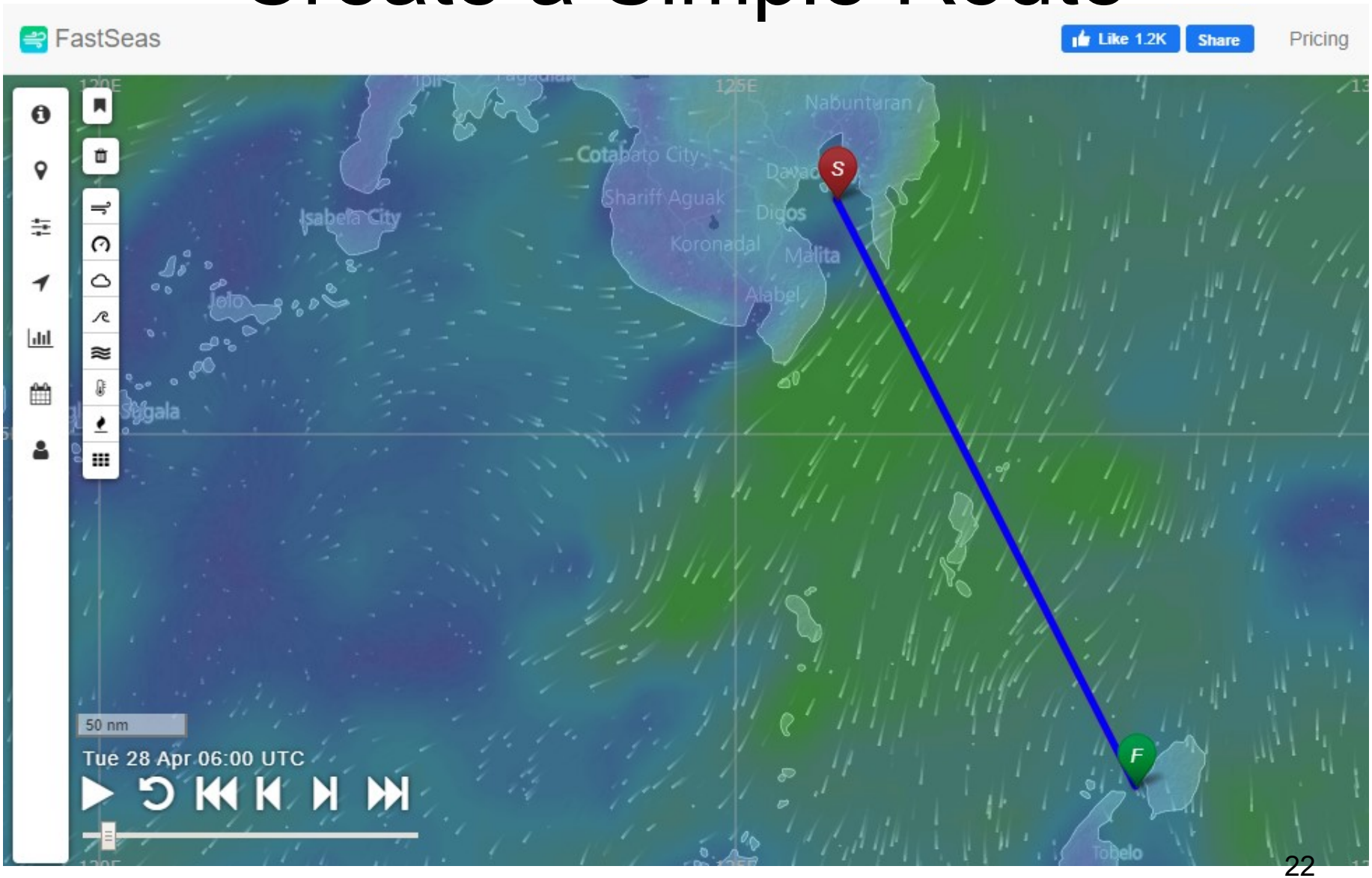
FastSeas Quick Start: Create a Simple Polar



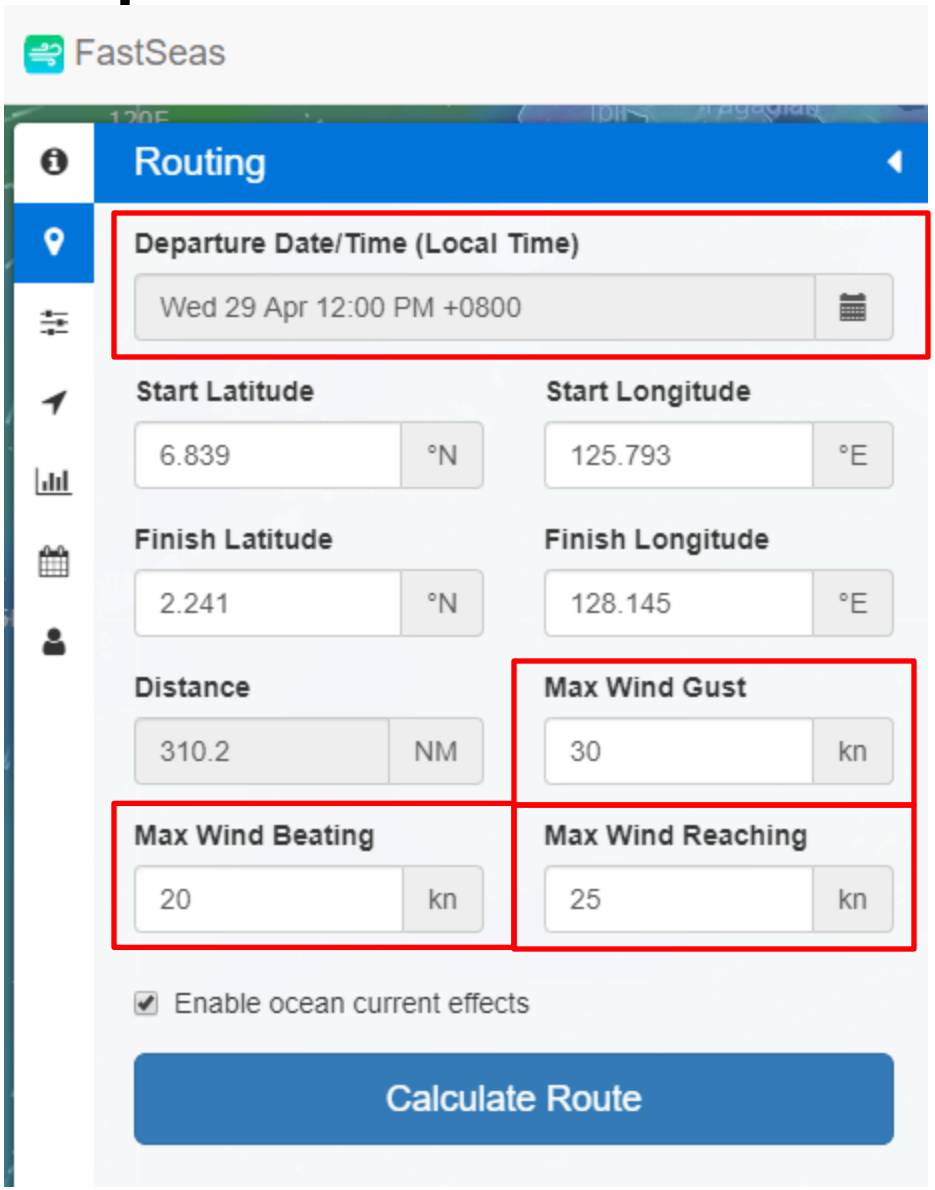
Check Boat Parameters



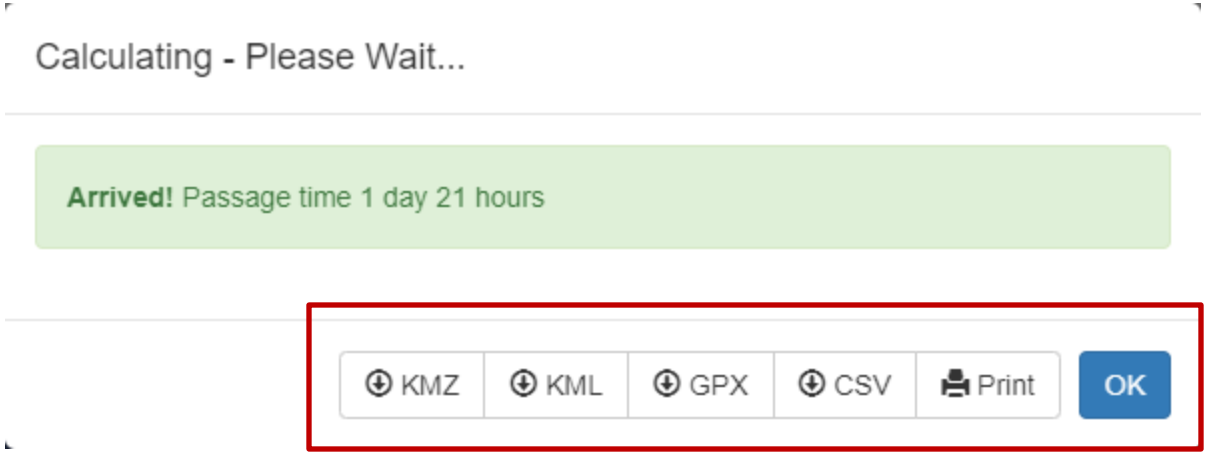
Create a Simple Route



Set up Route Parameters



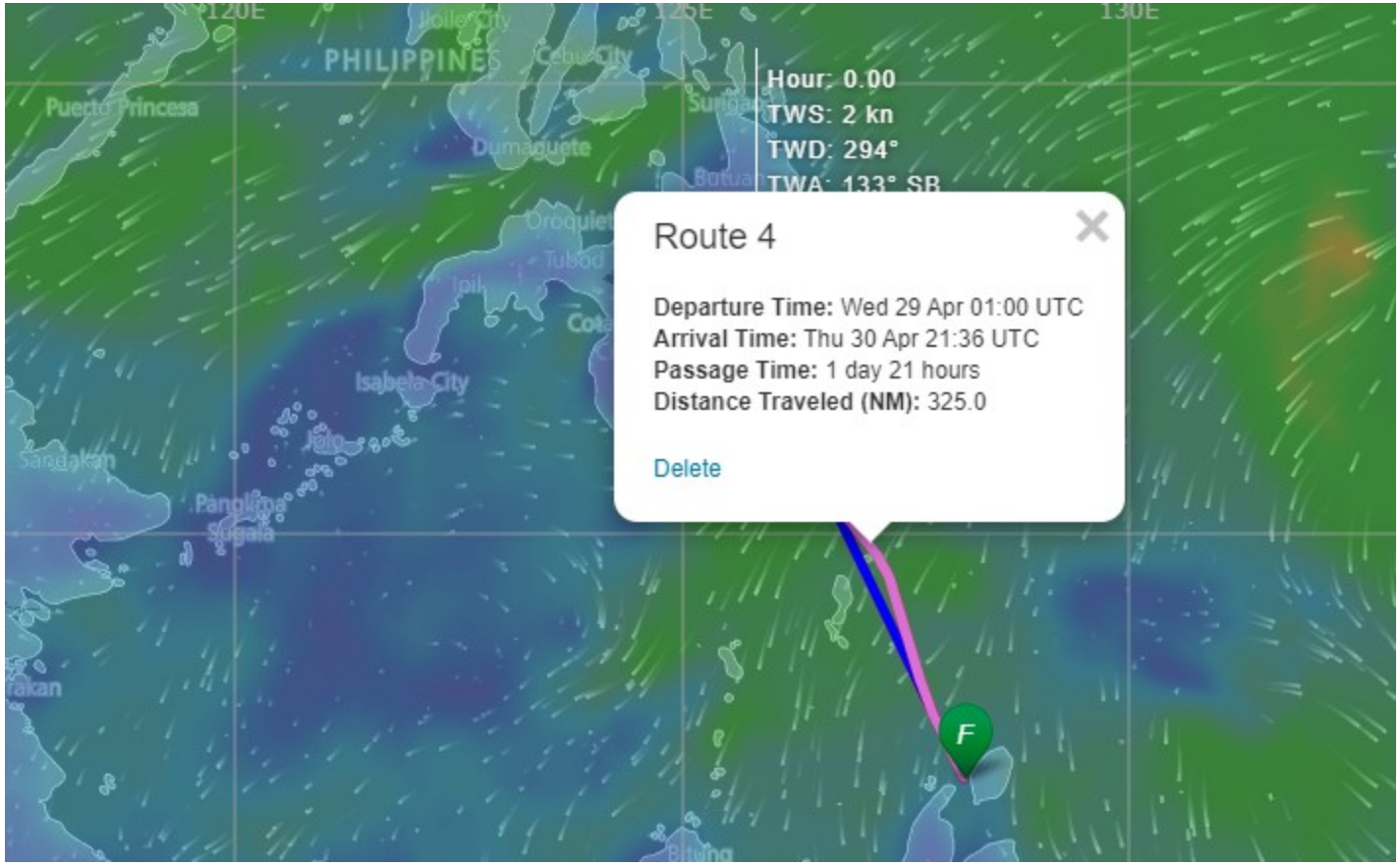
Click “Calculate Route”



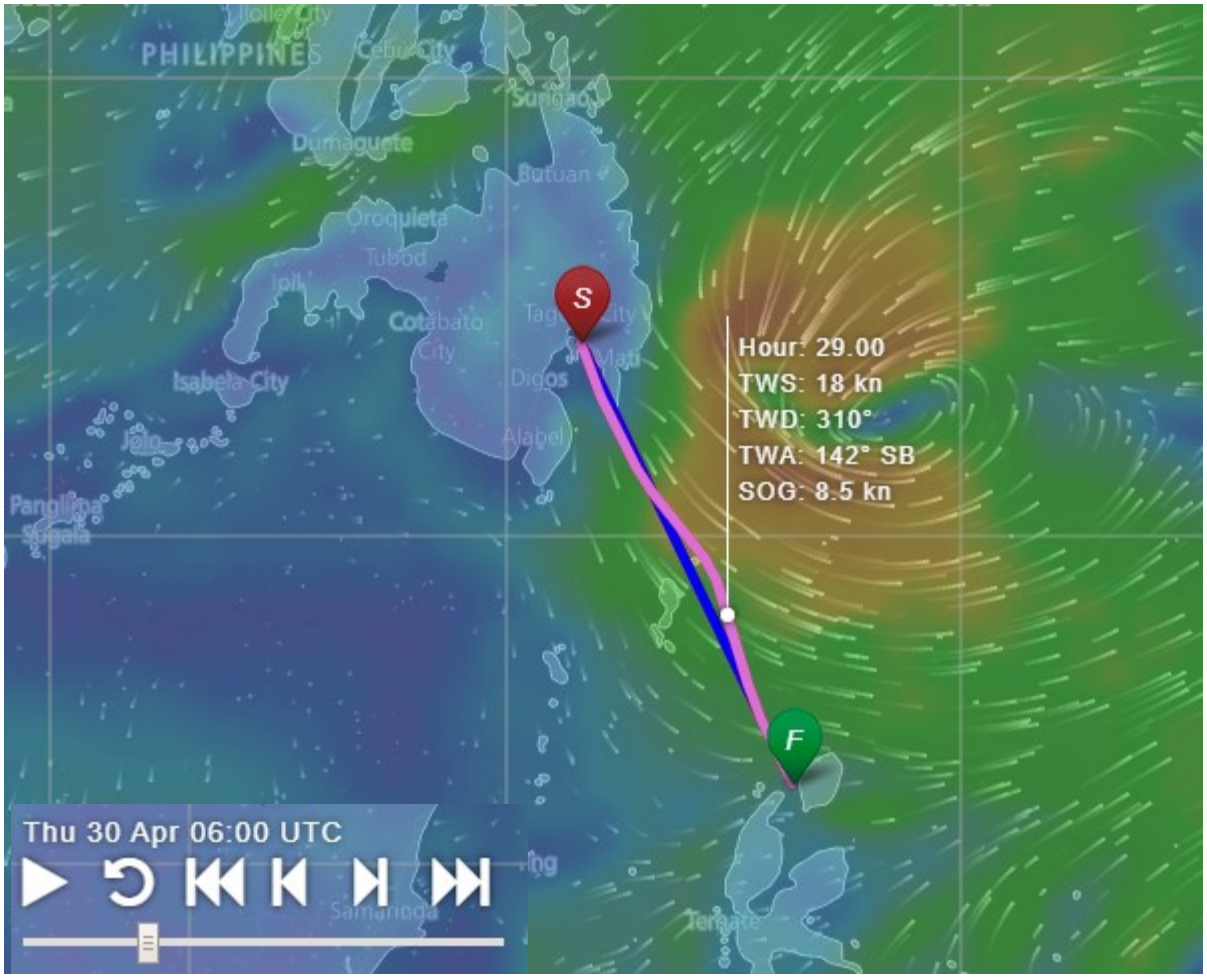
Can export routing info in various formats

Fast Seas Output

Overview Screen



Step Through The Route



Review Passage Stats

Route Calculated On	Tue 28 Apr 08:21 UTC
Departure Time	Wed 29 Apr 01:00 UTC
Arrival Time	Thu 30 Apr 21:36 UTC
Passage Time	1 day 21 hours
Motoring Time	7 hours
Performance Adjustment (%)	100.0%
Start Motoring When Speed Falls Below (kn)	3.0
Motoring Speed (kn)	4.8
% Time Beyond Weather Forecast	0%
Departure Location	7°7.5'N 125°49.1'E
Destination	2°17.4'N 128°8.7'E
Great Circle Distance (NM)	321.9
Distance Traveled (NM)	325.0

Desired Max Wind Beating (kn)	20
Desired Max Wind Reaching (kn)	25
Desired Max Gust (kn)	30
Actual Min Wind (kn)	1
Actual Max Wind Beating (kn)	5
Actual Max Wind Reaching (kn)	18
Actual Max Gust (kn)	21
Actual Avg Wind (kn)	11
% Time Wind <10 kn	29%
% Time Wind 10 - 15 kn	42%
% Time Wind 15 - 20 kn	29%
% Time Wind 20 - 25 kn	0%
% Time Wind 25 - 30 kn	0%
% Time Wind 30 - 40 kn	0%
% Time Wind >40 kn	0%

% Time Beating	2%
% Time Close Reaching	0%
% Time Beam Reaching	24%
% Time Broad Reaching	62%
% Time Running	11%
Min Boat Speed (kn)	4.4
Max Boat Speed (kn)	8.3
Avg Boat Speed (kn)	7.1
Max Ocean Current Speed (kn)	1.2

Route Details

Route Positions

KMZ | KML | GPX | CSV | Print

Elapsed Hours	Date/Time	Latitude	Longitude	Heading	Speed	COG	SOG	Wind Speed	Gusting	Wind Dir	TWA	Ocean Current Speed
0.00	Wed 29 Apr 01:00 UTC	7°7.5'N	125°49.1'E	160°	4.8	160°	4.8	2	3	294°	133° SB	-
1.00	Wed 29 Apr 02:00 UTC	7°3.0'N	125°50.7'E	159°	4.8	159°	4.8	3	3	274°	115° SB	-
2.00	Wed 29 Apr 03:00 UTC	6°58.5'N	125°52.4'E	160°	4.8	160°	4.8	4	4	269°	109° SB	-
3.00	Wed 29 Apr 04:00 UTC	6°54.0'N	125°54.1'E	160°	4.8	160°	4.8	2	4	268°	108° SB	-
4.00	Wed 29 Apr 05:00 UTC	6°49.5'N	125°55.7'E	160°	4.8	160°	4.8	1	4	250°	90° SB	-
5.00	Wed 29 Apr 06:00 UTC	6°45.0'N	125°57.4'E	160°	4.8	160°	4.2	1	4	106°	-54° PT	-
6.00	Wed 29 Apr 07:00 UTC	6°41.1'N	125°58.8'E	160°	4.8	160°	4.8	3	6	76°	-83° PT	-

Motoring

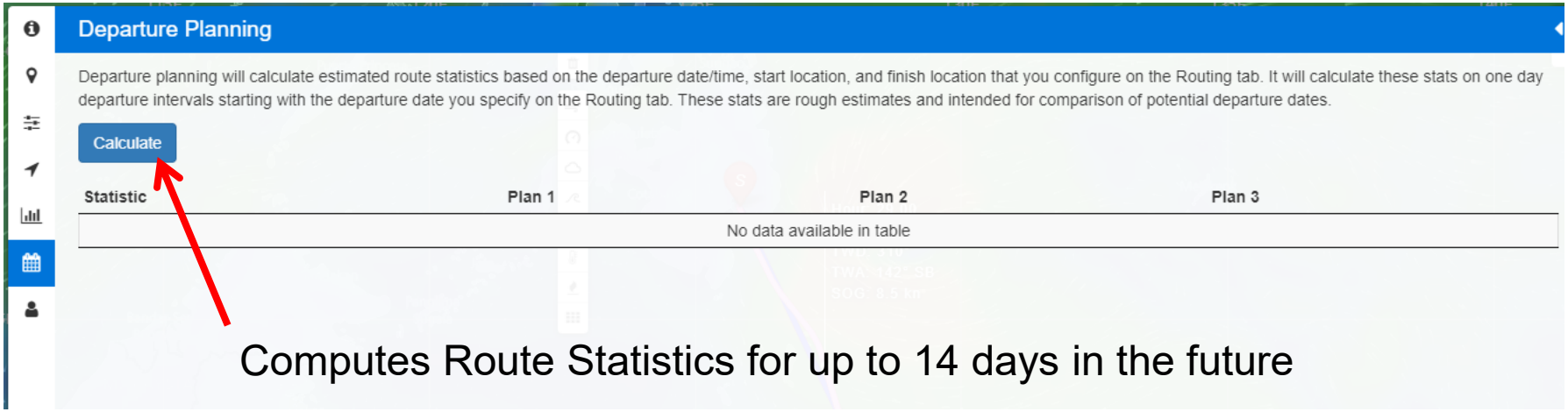
More Route Details

Elapsed Hours	Date/Time	Latitude	Longitude	Heading	Speed	COG	SOG	Wind Speed	Gusting	Wind Dir	TWA	Ocean Current Speed	Ocean Current Direction
20.00	UTC	5°11.3'N	126°51.7'E	150°	7.5	149°	8.2	16	18	333°	PT	0.8	135°
21.00	Wed 29 Apr 22:00 UTC	5°4.3'N	126°55.9'E	147°	7.5	144°	8.2	16	19	330°	-177° PT	0.9	111°
22.00	Wed 29 Apr 23:00 UTC	4°57.7'N	127°0.8'E	148°	7.5	142°	8.2	16	19	328°	-180° PT	1.1	96°
23.00	Thu 30 Apr 00:00 UTC	4°51.2'N	127°5.9'E	145°	7.3	138°	8.0	15	18	325°	-180° PT	1.2	86°
24.00	Thu 30 Apr 01:00 UTC	4°45.4'N	127°11.3'E	156°	7.6	146°	7.0	16	19	318°	162° SB	1.2	81°
25.00	Thu 30 Apr 02:00 UTC	4°39.5'N	127°15.1'E	168°	8.0	160°	8.1	16	19	312°	144° SB	1.2	81°

The Effect of Current

Gybe

FastSeas
Departure Planning
“What Day Should I Leave”?



Computes Route Statistics for up to 14 days in the future

Departure Planning Results

Statistic	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9	Plan 10
Departure Time	Wed 29 Apr 01:00 UTC	Thu 30 Apr 01:00 UTC	Fri 1 May 01:00 UTC	Sat 2 May 01:00 UTC	Sun 3 May 01:00 UTC	Mon 4 May 01:00 UTC	Tue 5 May 01:00 UTC	Wed 6 May 01:00 UTC	Thu 7 May 01:00 UTC	Fri 8 May 01:00 UTC
Arrival Time	Thu 30 Apr 21:59 UTC	Fri 1 May 20:51 UTC	Sun 3 May 01:31 UTC	Mon 4 May 17:23 UTC	Wed 6 May 01:59 UTC	Wed 6 May 14:23 UTC	Thu 7 May 14:58 UTC	Fri 8 May 07:03 UTC	Sat 9 May 05:48 UTC	Sun 10 May 03:32 UTC
Passage Time	1 day 21 hours	1 day 20 hours	2 days 1 hour	2 days 16 hours	3 days 1 hour	2 days 13 hours	2 days 14 hours	2 days 6 hours	2 days 5 hours	2 days 3 hours
Motoring Time	7 hours	8 hours	11 hours	1 day 19 hours	1 day 5 hours	1 day 5 hours	1 day 11 hours	22 hours	18 hours	11 hours
% Time Beyond Weather Forecast	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Great Circle Distance (NM)	321.9	321.9	321.9	321.9	321.9	321.9	321.9	321.9	321.9	321.9
Actual Min Wind (kn)	1	1	2	2	2	1	0	2	1	0
Actual Max Wind Beating (kn)	3	12	15	12	7	6	7	11	11	12
Actual Max Wind Reaching (kn)	17	22	16	7	9	10	9	11	10	9
Actual Max Gust (kn)	20	27	20	15	11	11	11	13	12	14
Actual Avg Wind (kn)	11	12	9	5	6	7	6	6	7	7

Departure Planning Results

Statistic	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9	Plan 10
% Time Wind <10 kn	29%	30%	63%	92%	100%	100%	100%	84%	79%	73%
% Time Wind 10 - 15 kn	53%	41%	24%	8%	0%	0%	0%	16%	21%	27%
% Time Wind 15 - 20 kn	18%	14%	12%	0%	0%	0%	0%	0%	0%	0%
% Time Wind 20 - 25 kn	0%	16%	0%	0%	0%	0%	0%	0%	0%	0%
% Time Wind 25 - 30 kn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Time Wind 30 - 40 kn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Time Wind >40 kn	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Time Beating	2%	0%	24%	43%	23%	6%	0%	9%	19%	27%
% Time Close Reaching	0%	18%	16%	5%	1%	3%	8%	2%	15%	33%
% Time Beam Reaching	20%	25%	41%	5%	10%	16%	16%	60%	53%	33%
% Time Broad Reaching	53%	32%	18%	28%	36%	53%	50%	22%	8%	6%
% Time Running	24%	25%	0%	20%	30%	21%	26%	7%	6%	0%
Min Boat Speed (kn)	4.4	3.2	3.9	3.2	3.0	3.0	3.0	3.0	3.9	3.9
Max Boat Speed (kn)	8.3	8.4	8.5	7.6	5.5	6.1	6.9	7.7	7.7	7.8
Avg Boat Speed (kn)	6.9	7.1	6.4	4.9	4.5	4.9	4.9	5.7	6.0	6.1
Max Ocean Current Speed (kn)	1.4	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.3	1.4

FastSeas “at sea” Use

- Send email with info request

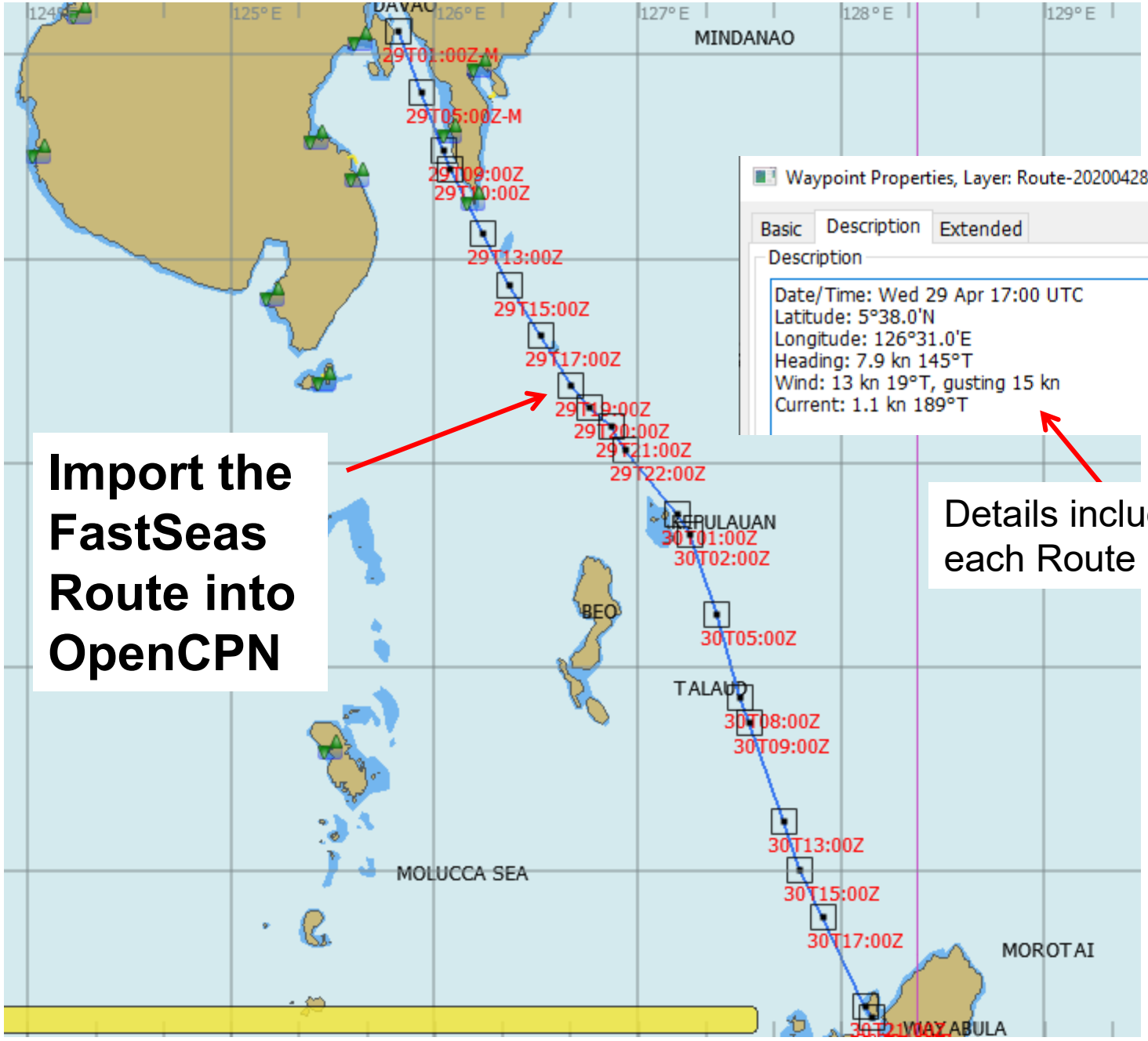
```
SEND ROUTE:02-17N,128-11E,06-12N,126-08E,GPX,
DEPARTURE_DELAY_HOURS=24
```

- Receive routing in small “text” file (don’t need to download the grib file)
  - Format as GPX (import result into OpenCPN)
  - Format as CSV (import result into Excel)
- Must come from a registered email address

From: "Fast Seas" <query@fastseas.com>
To: "Soggy Paws" <WDI5677@sailmail.com>
Subject: Re: From SW Morotai to Talaud 12th

```
Your route is attached to this email.

Route Calculated On: Sun 10 Nov 22:21 UTC
Departure Time: Mon 11 Nov 22:21 UTC
Arrival Time: Wed 13 Nov 11:07 UTC
Passage Time: 1 day 13 hours
Motoring Time: 1 hour
Performance Adjustment (%): 100.0%
Start Motoring When Speed Falls Below (kn): 4.3
Motoring Speed (kn): 4.8
% Time Beyond Weather Forecast: 0%
Departure Location: 2°17.0'N 128°11.0'E
Destination: 6°12.0'N 126°8.0'E
Great Circle Distance (NM): 265.3
Distance Traveled (NM): 267.0
GFS Forecast Used: Sun 10 Nov 12:00 UTC
OSCAR Data: Wed 6 Nov 00:00 UTC
Desired Max Wind Beating (kn): 20
Desired Max Wind Reaching (kn): 25
Desired Max Gust (kn): 30
Actual Min Wind (kn): 7
Actual Max Wind Beating (kn): 13
Actual Max Wind Reaching (kn): 17
Actual Max Gust (kn): 19
Actual Avg Wind (kn): 11
% Time Wind <10 kn: 41%
% Time Wind 10 - 15 kn: 54%
% Time Wind 15 - 20 kn: 5%
```


MINDANAO
29T01:00Z-M
29T05:00Z-M
29T09:00Z
29T13:00Z
29T15:00Z
29T17:00Z
29T22:00Z
LEMPULAUAN
30T01:00Z
30T02:00Z
BEO
30T05:00Z
TALAUD
30T08:00Z
30T09:00Z
30T13:00Z
30T15:00Z
30T17:00Z
MOLUCCA SEA
MOROTAI
Waypoint Properties, Layer: Route-20200428-0...
Basic
Description
Extended
Description
Date/Time: Wed 29 Apr 17:00 UTC
Latitude: 5°38.0'N
Longitude: 126°31.0'E
Heading: 7.9 kn 145°T
Wind: 13 kn 19°T, gusting 15 kn
Current: 1.1 kn 189°T
Import the FastSeas Route into OpenCPN
Details included in each Route Point

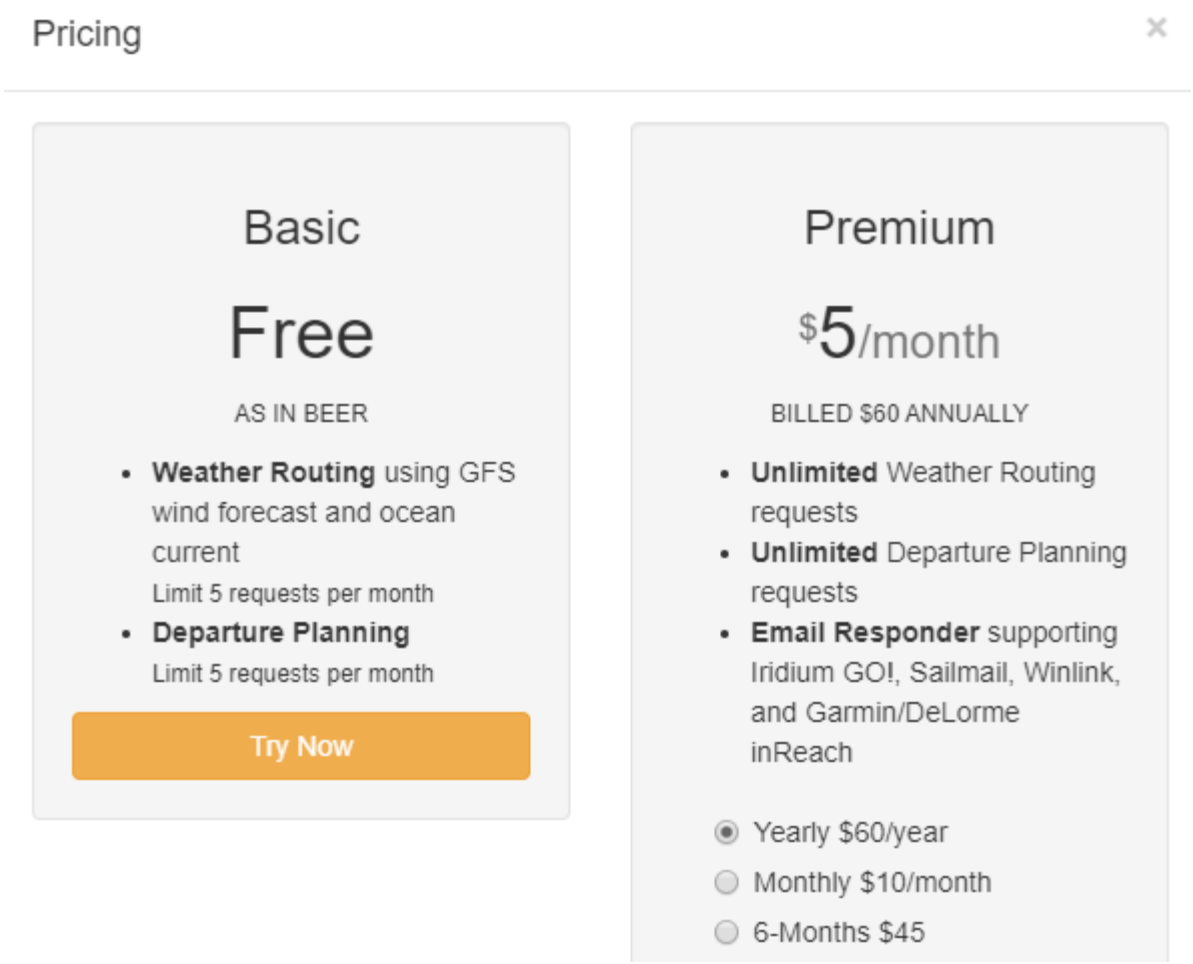
Using FastSeas with Garmin Inreach

InReach messages are limited to 160 characters, so FastSeas will by default send a single compact reply message - consisting of the next 4 positions along the optimum route at 6 hour intervals. For example:

HOUR,LAT,LNG,WIND,COG
H0,11.58N,67.75W,15G18@78,126
H6,11.17N,67.16W,16G19@81,126
H12,11.04N,66.65W,10G14@110,59
H18,11.34N,66.02W,12G15@114,54

Fast Seas Pricing

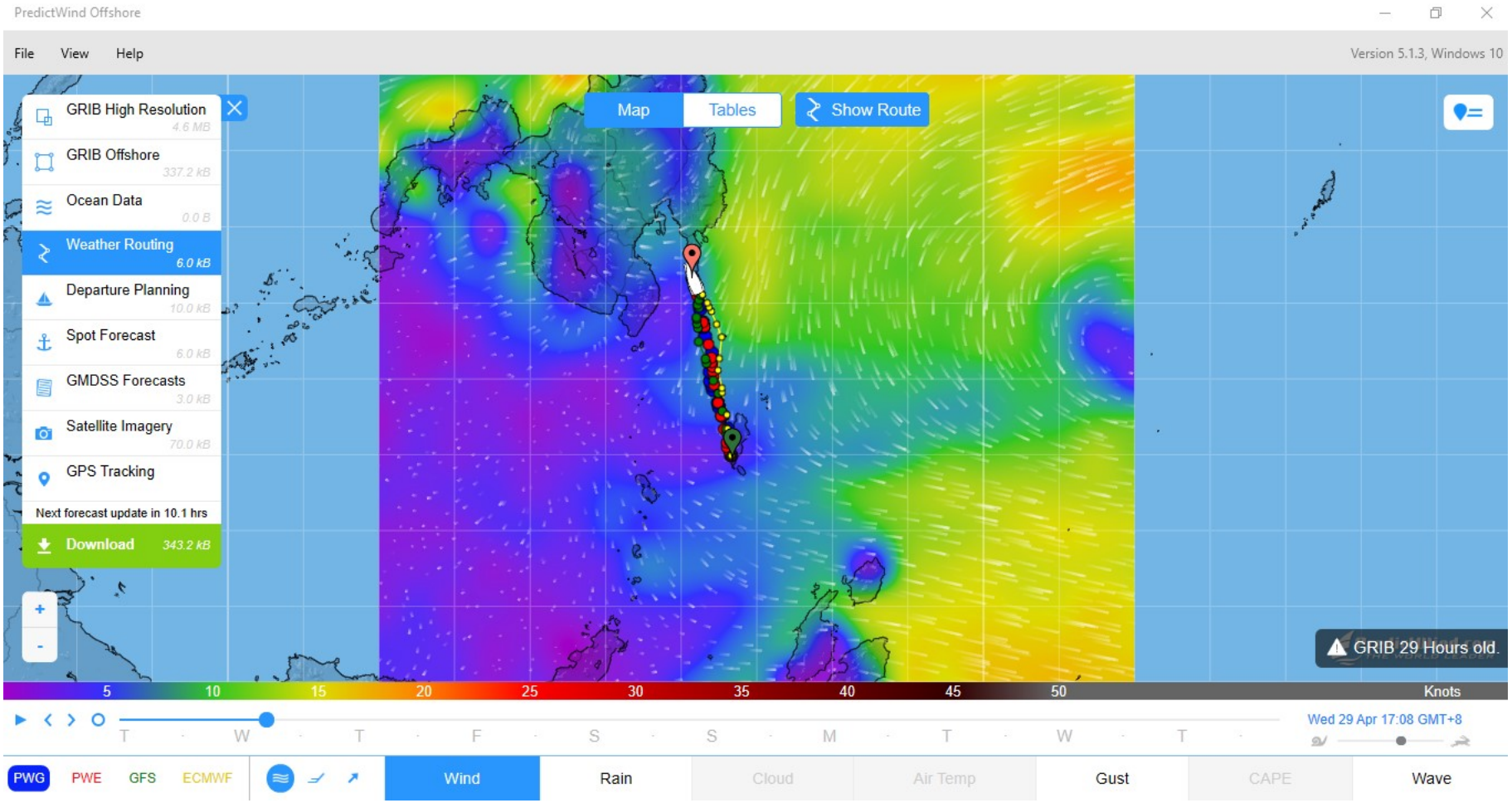
By Cruisers for Cruisers



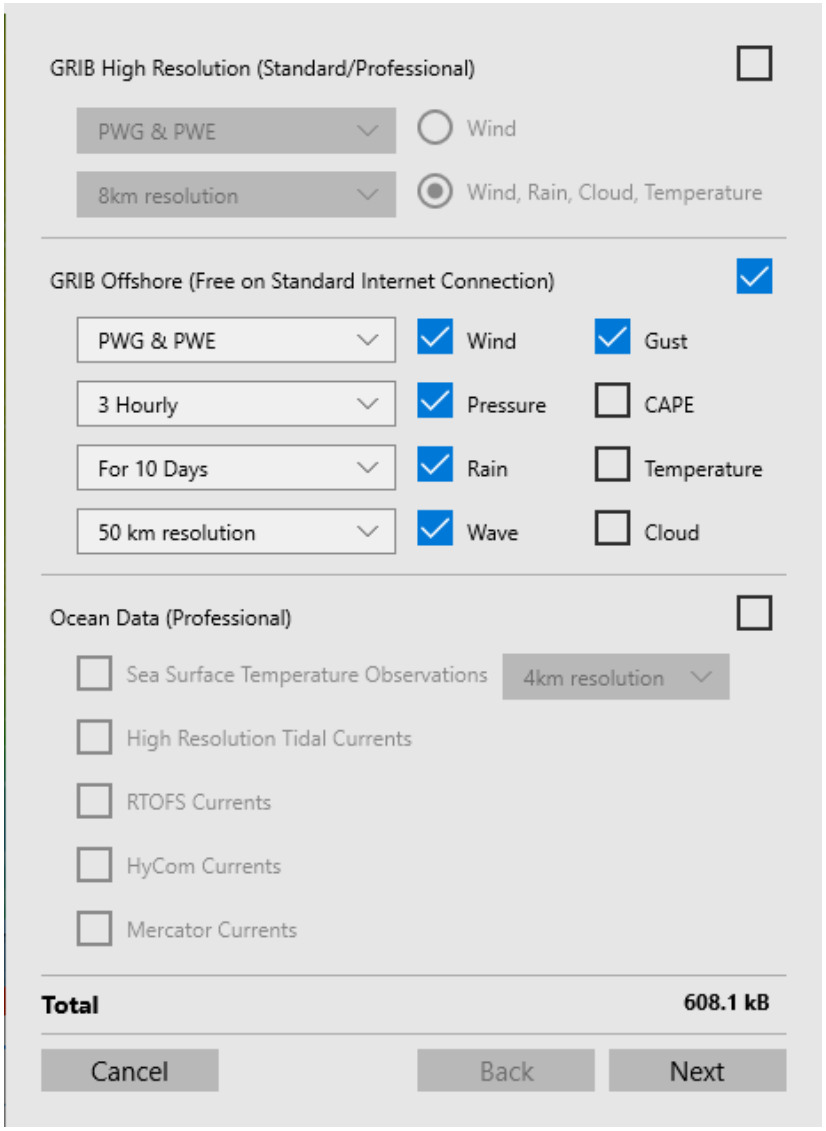
PredictWind

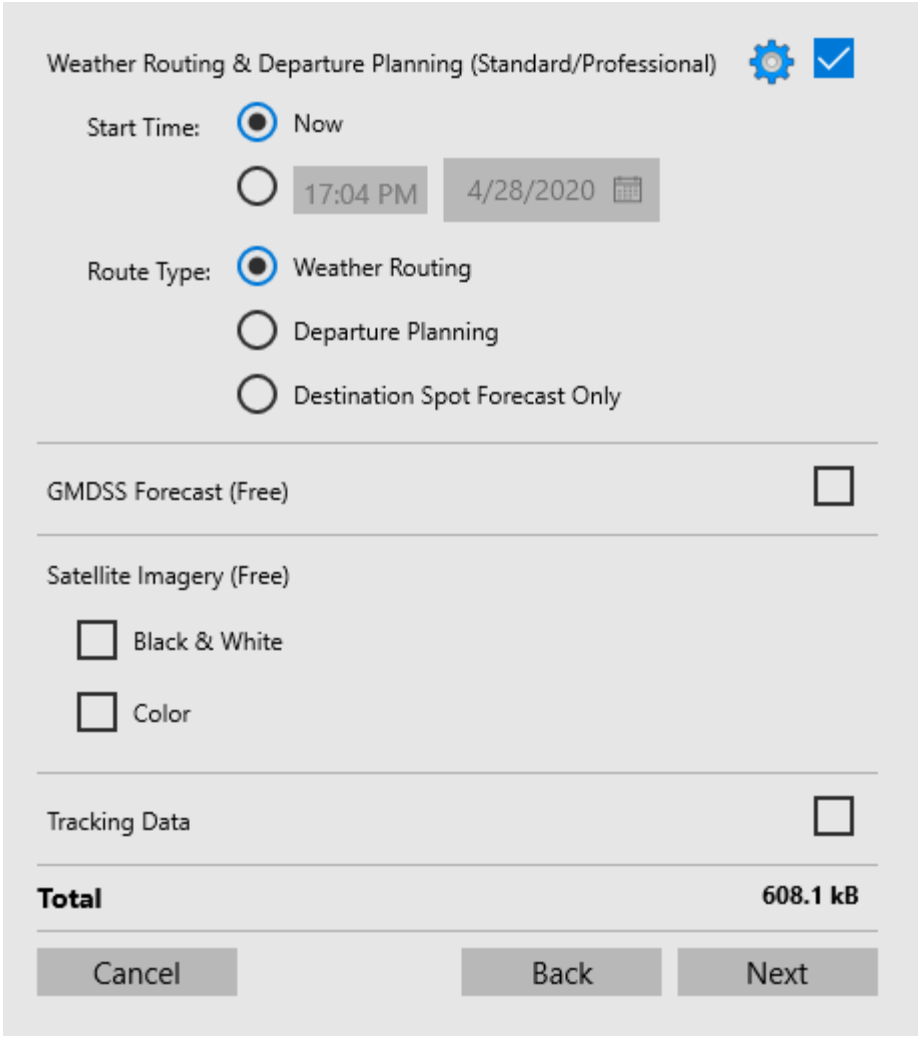
- Multiple models for GRIB files
  - GFS, ECMWF, PWG, PWE
- Optimized for Iridium Go
- To take full advantage of PW
  - Go! Unlimited Plan at $140/mo
  - PW Professional Subscription at $499 per year (or $249 for 3 months)
- Configure Boat Info on website, then rest of weather routing can be done on offline program/app with sat/email connection
- Can get routing via SSB email, but not GRIB files (files too big)

PredictWind “Offshore” App



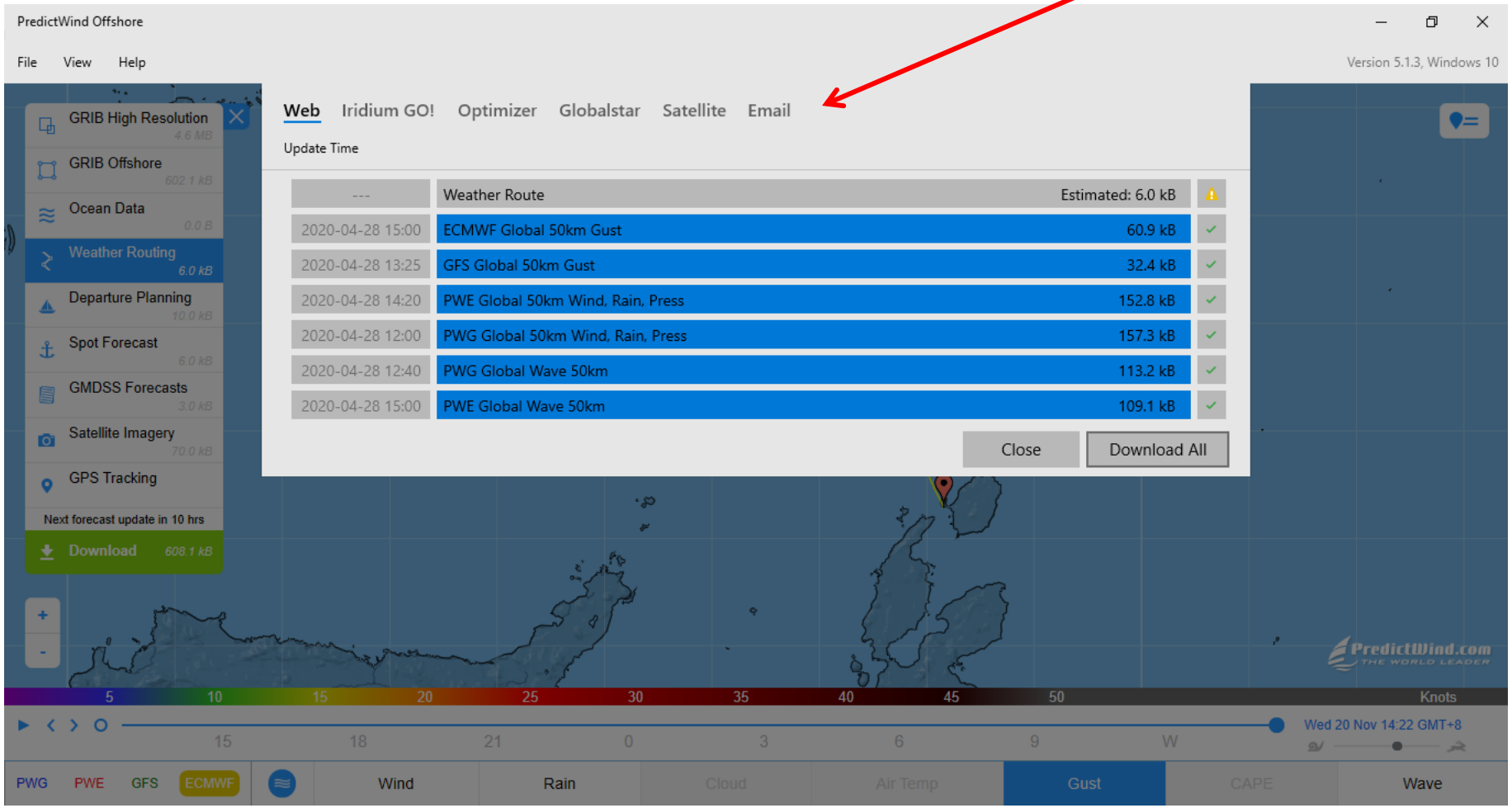
PredictWind Weather Request




Weather Routing & Departure Planning (Standard/Professional)
Start Time:
Now
17:04 PM
4/28/2020
Route Type:
Weather Routing
Departure Planning
Destination Spot Forecast Only
GMDSS Forecast (Free)
Satellite Imagery (Free)
Black & White
Color
Tracking Data
Total
608.1 kB
Cancel
Back
Next

Request Screen

How are you going to request
And receive the result



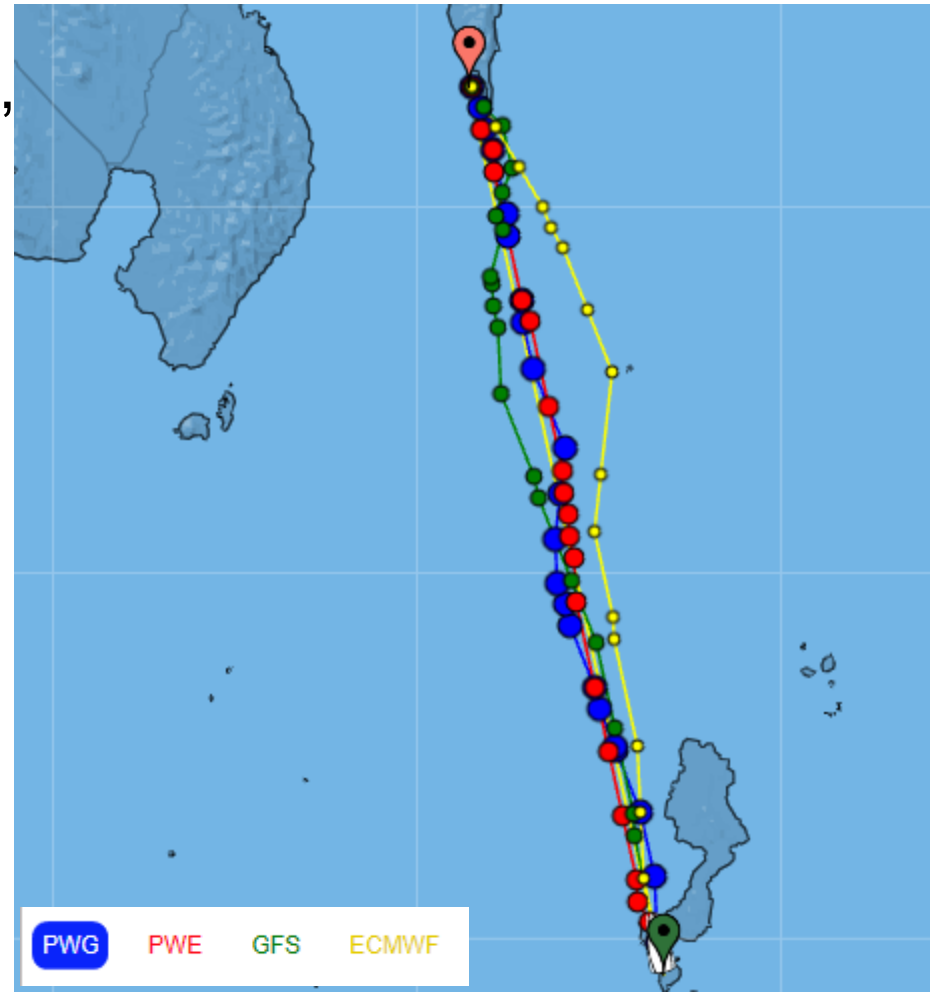
Weather Models used by Predict Wind

- ECMWF – The European Global model
- GFS – The American Global model
- PWE – Predict Wind ECMWF model
- PWG – Predict Wind GFS model

The PredictWind models use the ECMWF and GFS world forecast data and add “local weather model enhancements” for popular areas of the world.

Predict Wind Output

- Up to 4 different results, one for each model
- For new users… "OMG, which one do I use?"



Predict Wind Output

	PWG	PWE	GFS	ECMWF
Timezone	GMT+08:00	GMT+08:00	GMT+08:00	GMT+08:00
Start Time	19 Nov 12:46	19 Nov 12:46	19 Nov 12:46	19 Nov 12:46
Finish Time	20 Nov 12:53	20 Nov 11:02	20 Nov 10:46	20 Nov 14:22
Time Taken	1 day 0h 7m 31s	22h 16m 19s	22h 0m 16s	1 day 1h 36m 22s
Distance Traveled	145.6 NM	144.5 NM	147.5 NM	147.1 NM
Average Speed (knots)	6.0	6.5	6.7	5.7

PWG

Time	TWS	TWD	TWA	SOG	COG
19 Nov 12:46	8.1	245	P113	6.8	357
19 Nov 14:25	9.8	227	P120	7.0	348
19 Nov 15:56	10.2	225	P114	7.4	338
19 Nov 17:28	6.8	228	P120	5.8	348
19 Nov 17:34	7.5	229	P108	6.6	337
19 Nov 18:35	7.8	232	P116	6.5	348
19 Nov 19:08	7.8	232	P106	6.7	338
19 Nov 20:46	6.3	238	P110	6.0	348
19 Nov 21:22	6.3	238	P101	6.0	338
19 Nov 21:59	3.1	237	P120	5.0	357
19 Nov 23:26	3.7	251	P115	5.0	6
20 Nov 00:57	4.0	241	P126	5.0	6
20 Nov 02:27	5.9	226	P112	5.6	338

PredictWind Pricing

Features	Free	Basic	Standard	Professional
	Free	US$12 / 3 Months US$29 / 1 Year BUY NOW	MOST POPULAR US$99 / 3 Months US$249 / 1 Year BUY NOW	US$249 / 3 Months US$499 / 1 Year BUY NOW
Unique Model: #1 for accuracy	✓	✓	✓	✓
4 Forecasts for Confidence	✓	✓	✓	✓
PWG: PredictWind Model	✓	✓	✓	✓
PWE: PredictWind Model	✓	✓	✓	✓
GFS: GFS Model	✓	✓	✓	✓
ECMWF: ECMWF Model	✓	✓	✓	✓
Weather Routing	✗	✗	✓	✓
Departure Planning	✗	✗	✓	✓
Destination Forecast	✗	✗	✓	✓
Sea Temp GRIB	✗	✗	✗	✓
Ocean/Tidal Current GRIB	✗	✗	✗	✓
Email Delivery - Satellite & SSB	✗	✗	✓	✓

PredictWind Pros & Cons

Pro

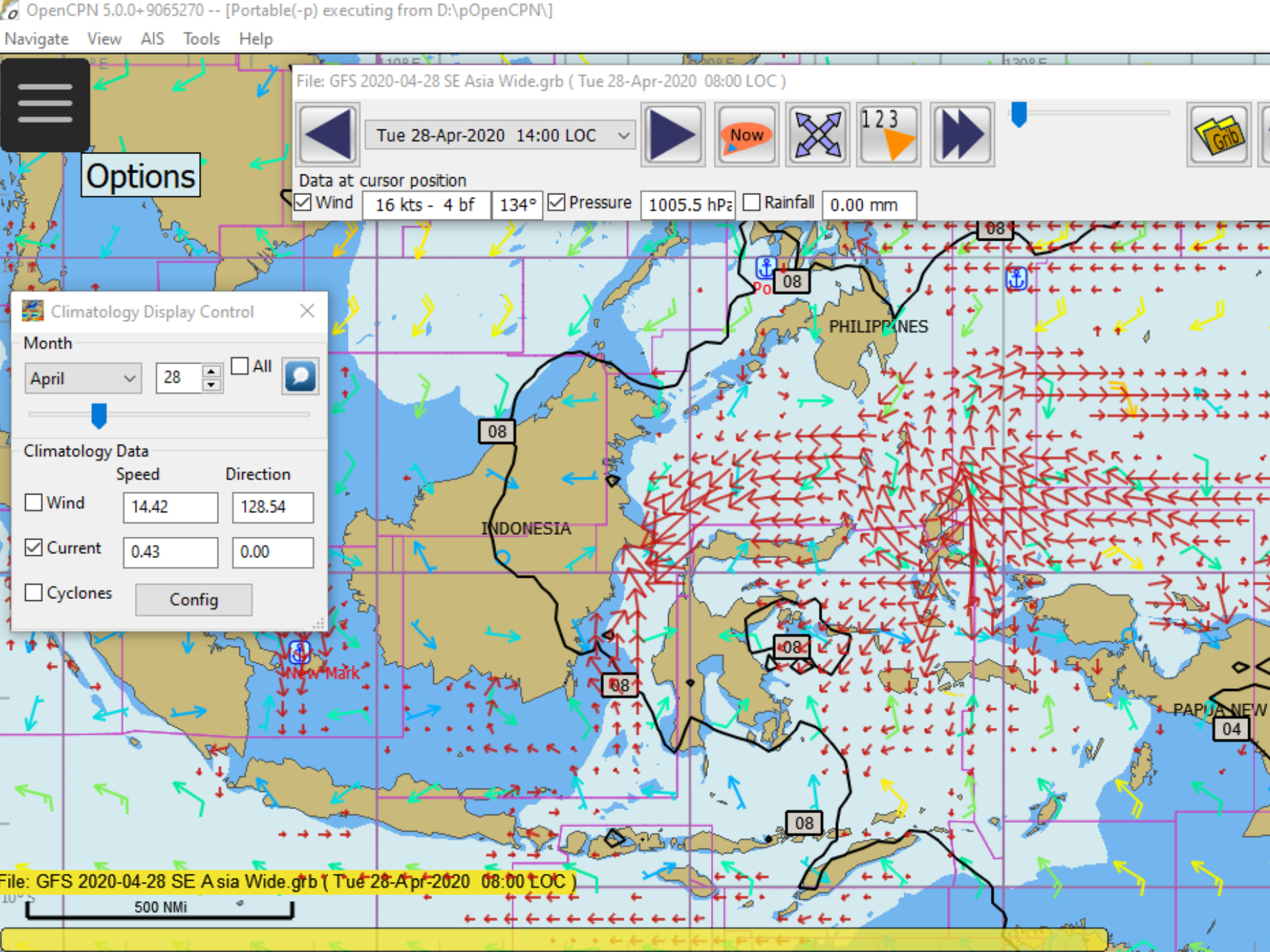
- Best selection of weather models
- Seamless integration with Iridium Go!

Con

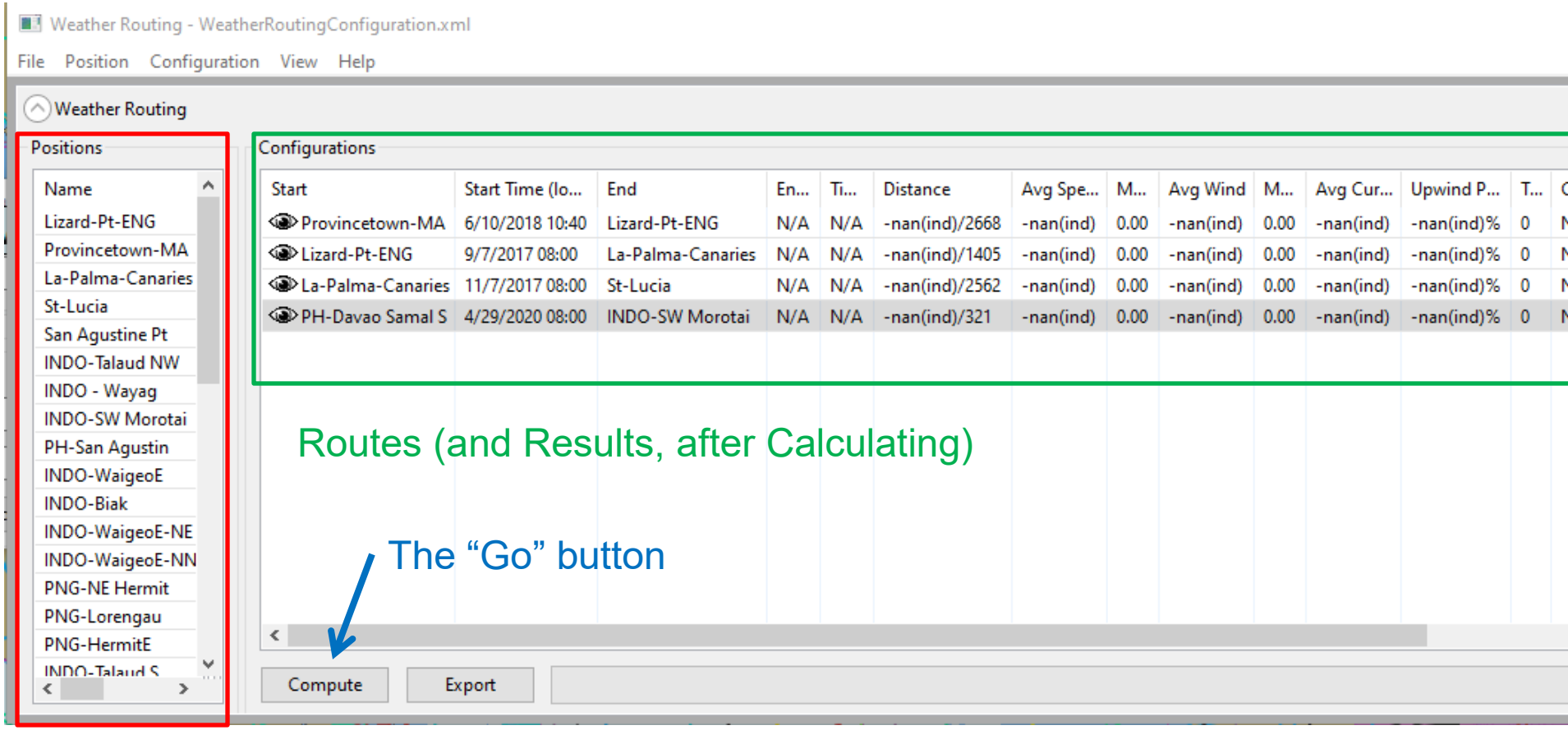
- Pro subscription required to include currents in routing determination $$$
- Standard subscription required to be able to email for routing $$
- When to motor depends on wind speed, not boat speed (6kts upwind <> 6kts downwind)
- Multiple models can be confusing when they don't agree!
- Exporting a route to GPX and importing into OpenCPN doesn't work well.

OpenCPN Weather Routing Plugin

- Download the plugin from OpenCPN Downloads
- Install the plugin
- Enable the plugin (Options/Plugins)
- Load GRIB File(s) (Wind & Current)
- Load up Climatology

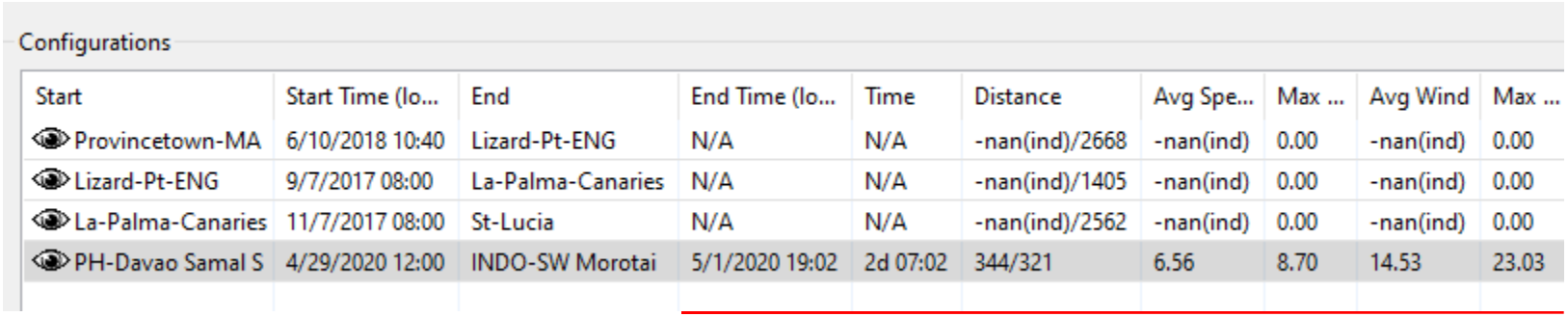

OpenCPN 5.0.0+9065270 -- [Portable(-p) executing from D:\pOpenCPN\]
Navigate
View
AIS
Tools
Help
Options
File: GFS 2020-04-28 SE Asia Wide.grb (Tue 28-Apr-2020 08:00 LOC)
Tue 28-Apr-2020 14:00 LOC
Now
1 2 3
Grib
Data at cursor position
Wind
16 kts - 4 bf
134°
Pressure
1005.5 hPa
Rainfall
0.00 mm
Climatology Display Control
Month
April
28
All
Climatology Data
Speed
Direction
Wind
14.42
128.54
Current
0.43
0.00
Cyclones
Config
PHILIPPINES
INDONESIA
PAPUA NEW
New Mark
08
04
File: GFS 2020-04-28 SE Asia Wide.grb (Tue 28-Apr-2020 08:00 LOC)
500 NMi

The Weather Routing Screen



Possible Route Points

Routing Results



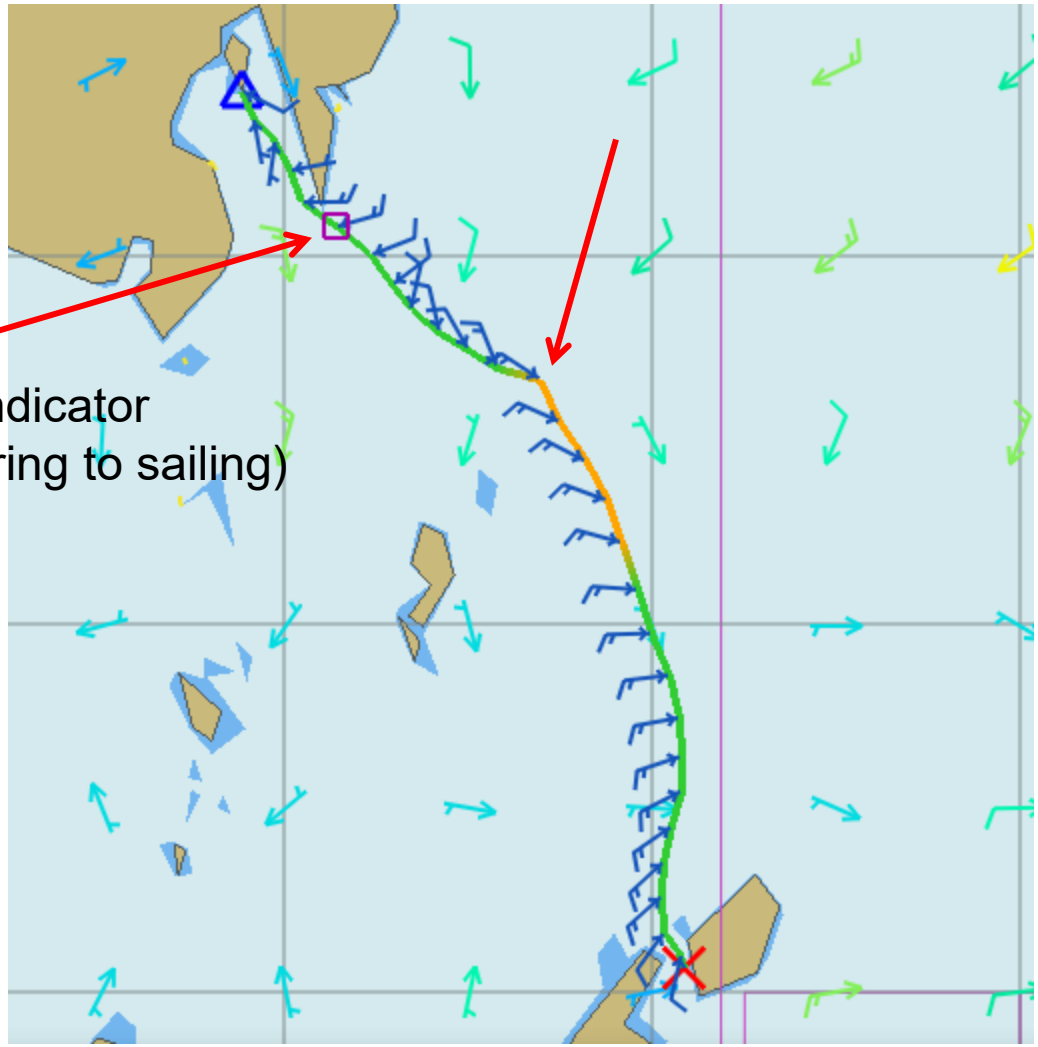
Configurations

Start	Start Time (lo...	End	End Time (lo...	Time	Distance	Avg Spe...	Max ...	Avg Wind	Max ...
Provincetown-MA	6/10/2018 10:40	Lizard-Pt-ENG	N/A	N/A	-nan(ind)/2668	-nan(ind)	0.00	-nan(ind)	0.00
Lizard-Pt-ENG	9/7/2017 08:00	La-Palma-Canaries	N/A	N/A	-nan(ind)/1405	-nan(ind)	0.00	-nan(ind)	0.00
La-Palma-Canaries	11/7/2017 08:00	St-Lucia	N/A	N/A	-nan(ind)/2562	-nan(ind)	0.00	-nan(ind)	0.00
PH-Davao Samal S	4/29/2020 12:00	INDO-SW Morotai	5/1/2020 19:02	2d 07:02	344/321	6.56	8.70	14.53	23.03

Calculated Route Data

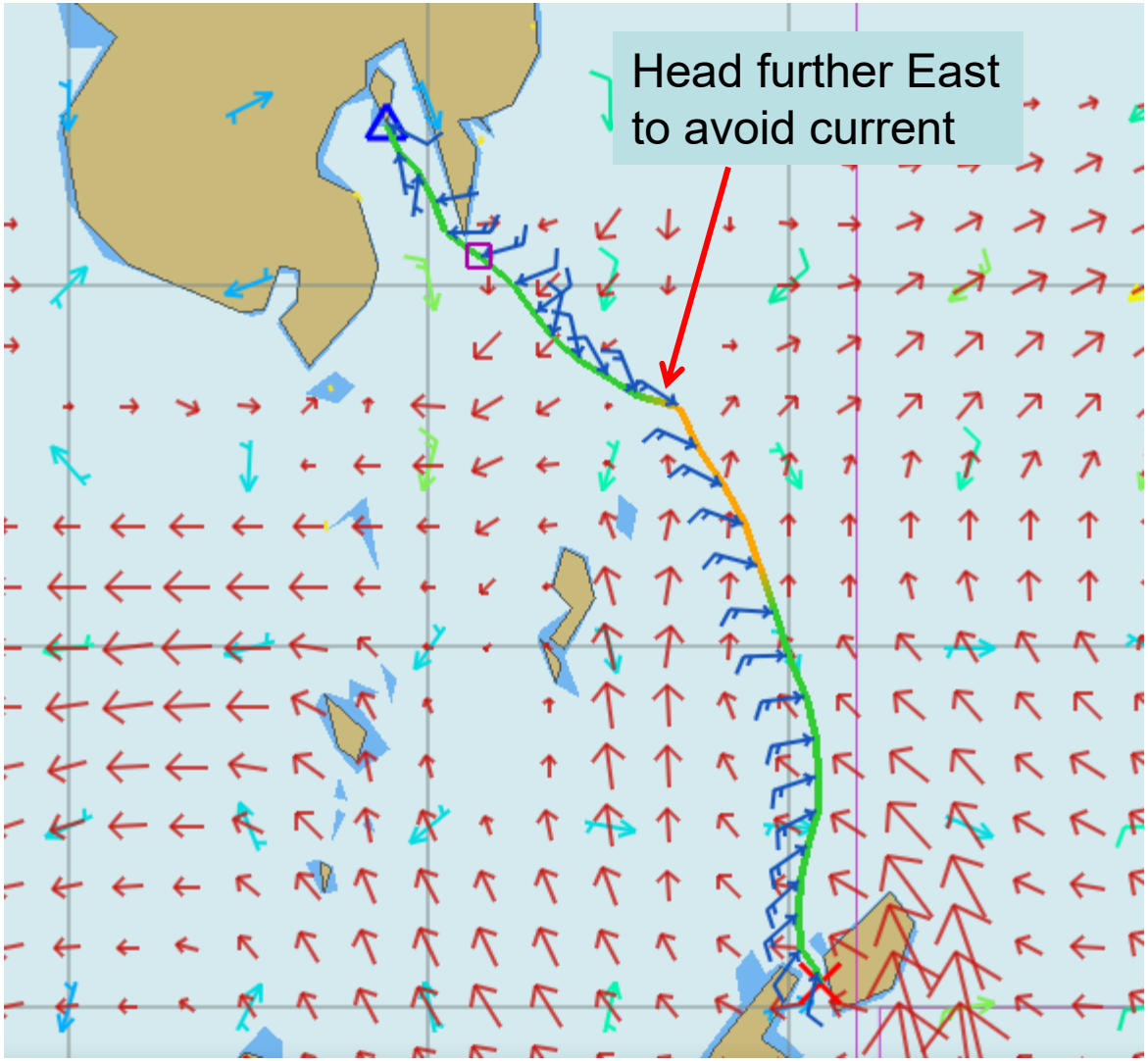
Scroll for more columns

Routing Results

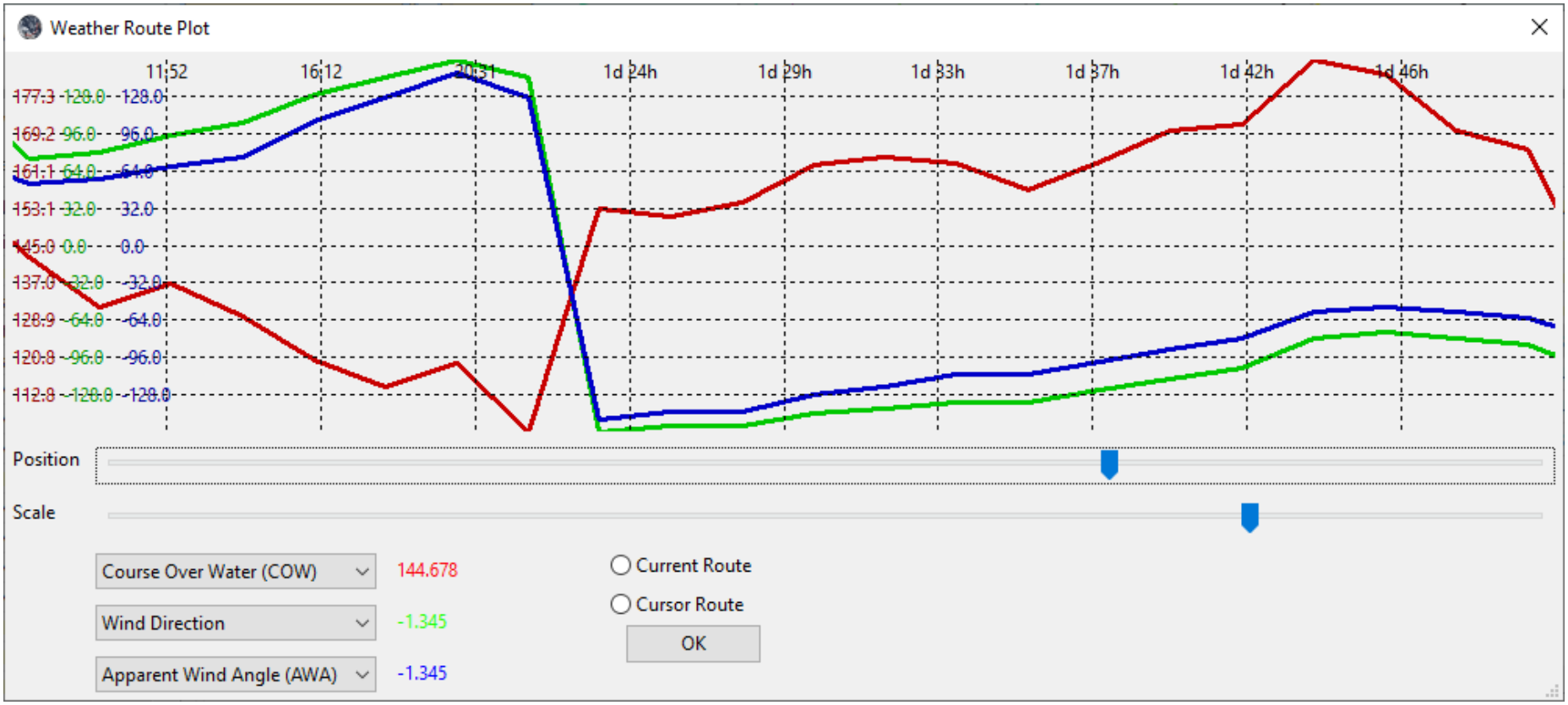


Sail Change Indicator
(go from motoring to sailing)

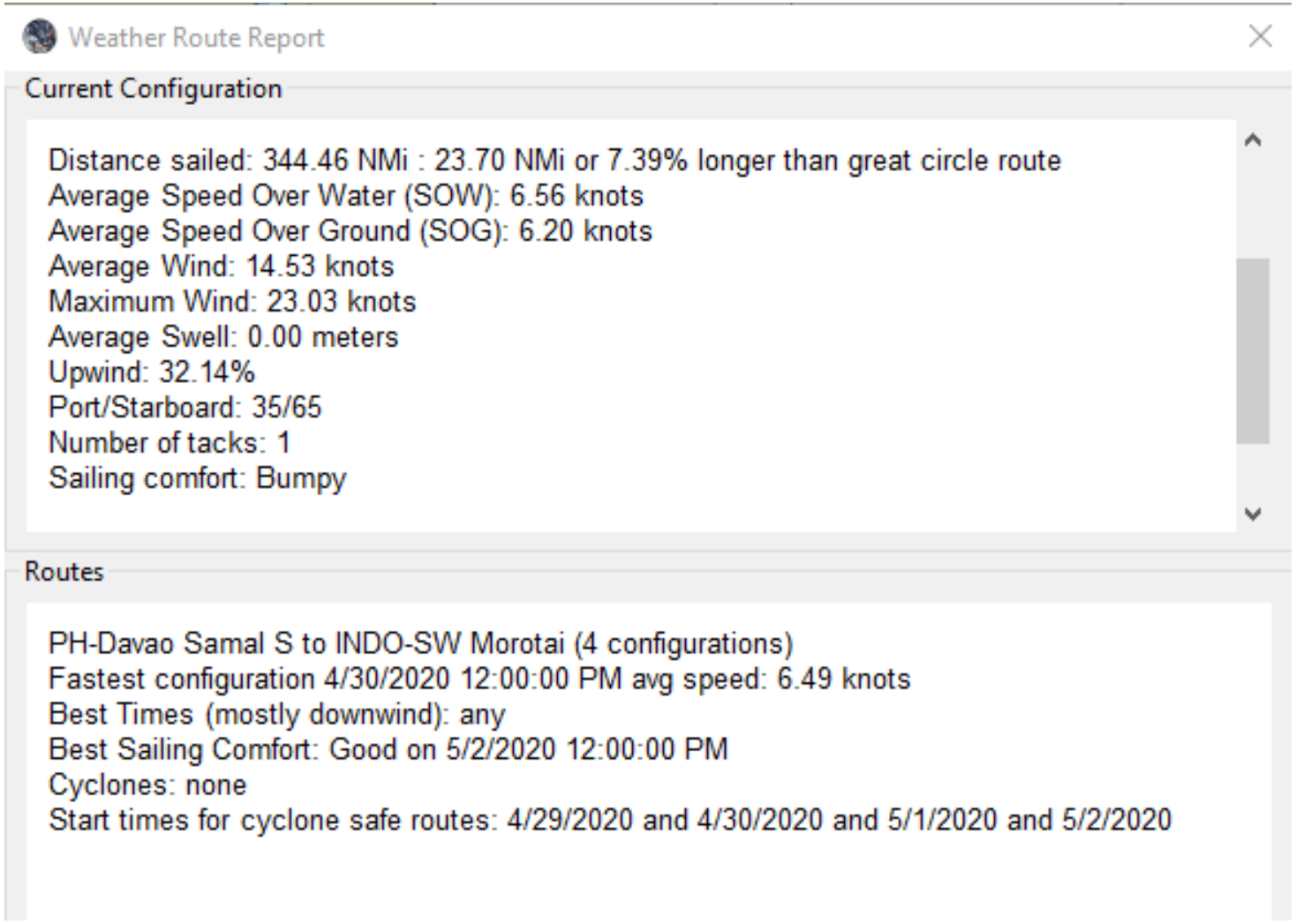
Routing Results



Routing Results
Plot Screen



Routing Results
(Report Screen)



Departure Planning

Configurations

Start	Start Time (lo...	End	End Time (lo...	Time	Distance	Avg Spe...	Max ...	Avg Wind	Max ...	Avg Cur...
Provincetown-MA	6/10/2018 10:40	Lizard-Pt-ENG	N/A	N/A	-nan(ind)/2668	-nan(ind)	0.00	-nan(ind)	0.00	-nan(ind)
Lizard-Pt-ENG	9/7/2017 08:00	La-Palma-Canaries	N/A	N/A	-nan(ind)/1405	-nan(ind)	0.00	-nan(ind)	0.00	-nan(ind)
La-Palma-Canaries	11/7/2017 08:00	St-Lucia	N/A	N/A	-nan(ind)/2562	-nan(ind)	0.00	-nan(ind)	0.00	-nan(ind)
PH-Davao Samal S	4/29/2020 12:00	INDO-SW Morotai	5/1/2020 19:02	2d 07:02	344/321	6.56	8.70	14.53	23.03	0.84
PH-Davao Samal S	4/30/2020 12:00	INDO-SW Morotai	5/2/2020 18:12	2d 06:12	333/321	6.49	8.72	13.72	26.65	0.89
PH-Davao Samal S	5/1/2020 12:00	INDO-SW Morotai	5/4/2020 04:55	2d 16:56	338/321	5.65	8.77	9.41	24.31	0.88
PH-Davao Samal S	5/2/2020 12:00	INDO-SW Morotai	5/5/2020 08:39	2d 20:39	325/321	5.28	6.00	6.15	13.33	0.97

Configurations

End	End Time (lo...	Time	Distance	Avg Spe...	Max ...	Avg Wind	Max ...	Avg Cur...	Upwind P...	Tacks	Comf...	State
Lizard-Pt-ENG	N/A	N/A	-nan(ind)/2668	-nan(ind)	0.00	-nan(ind)	0.00	-nan(ind)	-nan(ind)%	0	N/A	Not Compu
La-Palma-Canaries	N/A	N/A	-nan(ind)/1405	-nan(ind)	0.00	-nan(ind)	0.00	-nan(ind)	-nan(ind)%	0	N/A	Not Compu
St-Lucia	N/A	N/A	-nan(ind)/2562	-nan(ind)	0.00	-nan(ind)	0.00	-nan(ind)	-nan(ind)%	0	N/A	Not Compu
INDO-SW Morotai	5/1/2020 19:02	2d 07:02	344/321	6.56	8.70	14.53	23.03	0.84	32.14%	1	Bumpy	Complete
INDO-SW Morotai	5/2/2020 18:12	2d 06:12	333/321	6.49	8.72	13.72	26.65	0.89	42.86%	0	Bumpy	Complete
INDO-SW Morotai	5/4/2020 04:55	2d 16:56	338/321	5.65	8.77	9.41	24.31	0.88	42.42%	1	Bumpy	Complete
INDO-SW Morotai	5/5/2020 08:39	2d 20:39	325/321	5.28	6.00	6.15	13.33	0.97	31.43%	0	Good	Complete

OpenCPN Pricing

- FREE FREE FREE
- (You have to acquire the GRIB file(s) from somewhere)

OpenCPN Pros & Cons

Pro

- Can route in the future or in the past, in addition to “next week”.
- Extremely flexible once you understand how to use it.
- Very affordable (FREE)
- Can use PredictWind GRIB files, too.
- Can use “Climatology” data to substitute for missing info (currents, beyond forecast)

Con

- Way too complicated for newbies (too many very advanced concepts).
- A little buggy
- Routing results not available in tabular form (see Fast Seas excellent tabular result)

Comparing Options

Tool	Ease of Use	Presentation of Result	Forecasts Used	Cost
PredictWind	Moderate	Good	ECMWF, GFS, PW, Current ($$$)	Free to $$$
FastSeas	Easy	Excellent	GFS, OSCAR	Free to $
OpenCPN	Difficult	Good	Any GRIB plus Climatology	Free Free
QTVLM				
Maxsea Pro				
Ocens				

Other Notes

- FastSeas and PredictWind, you don’t HAVE to get the GRIB file
- OpenCPN, you MUST get the GRIB file


The End
www.SVSoggyPaws.com

Questions?