



Dirona Around the World

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Agenda

- **Overview**
- **Rigging & Underway**
- **Logistics**
- **Highlights**

Timeline & Select Non-Stop Passages

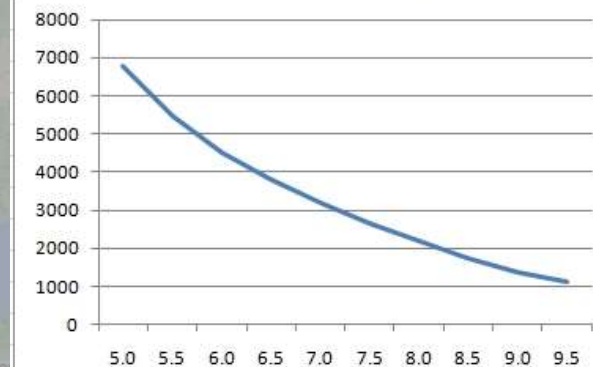


Dirona

- **2010 Nordhavn 52**
 - Delivered Feb, 2010
 - 12,420 engine hrs
- **Specifications**
 - Main: Deere 6068AFM75 M2
 - Wing: Lugger L844D
 - Gen: Northern Lights 12kW
 - Diesel: 1744 gallons
 - Water: 400 gallons + maker
 - LOA: 56' 4"
 - Beam: 16' 1"
 - Draft: 6' 7"
 - Displacement: 110,000 lbs

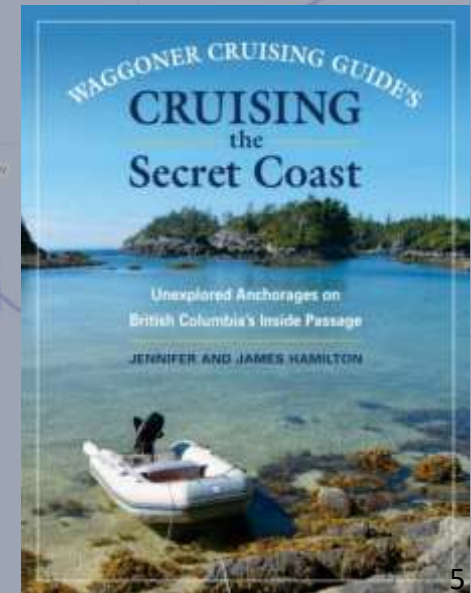


5263 Range



Previous experience

- **1990-2011: Boat year-round in PNW**
 - **Summer: west & north of Vancouver Island**
 - **Winter: up to Broughtons**
 - **Explore & document little-publicized destinations**
 - **1990-2010 Bayliner 4087**
 - **4,100 hrs**



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Fuel Management

- **How much? How far?**
- **Fuel economy specs often assume**
 - Flat water with no current
 - Incorrect tank capacity
- **Manufacturer capacity & level indicators can be inaccurate**
 - Run tanks to empty, refill & calibrate
 - Pressure sensors for accuracy
- **ECU accuracy?**
- **Test in ocean conditions**
- **Set fuel economy goal**
 - From distance, fuel, & desired reserve
 - Adjust RPM regularly to meet goal



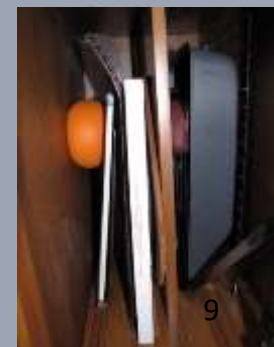
Deck Fuel

- Nordhavn 52 can easily do 2,500 nm with 10% reserve
 - Enough for any ocean
- Deck fuel increases range & options
 - Run faster Reunion to South Africa
 - 3,689nm from St. Helena to Barbados
 - 500nm diversion: early named storm
- Fill completely & secure tightly
- Bulkhead fitting plumbed to main fuel transfer pump
 - Faster, safer, no contamination risk



Heavy Weather

- Storm plates & deadlights
- Anchor pin
- Ratchet straps for heavy items
 - On deck, engine room & laz
- Bungee loose interior furniture
- Extra latches on heavy drawers
- Bubble wrap/nerf balls for galley lockers
- Refrigerator bars
- Silicone baking mats
 - Counters & microwave



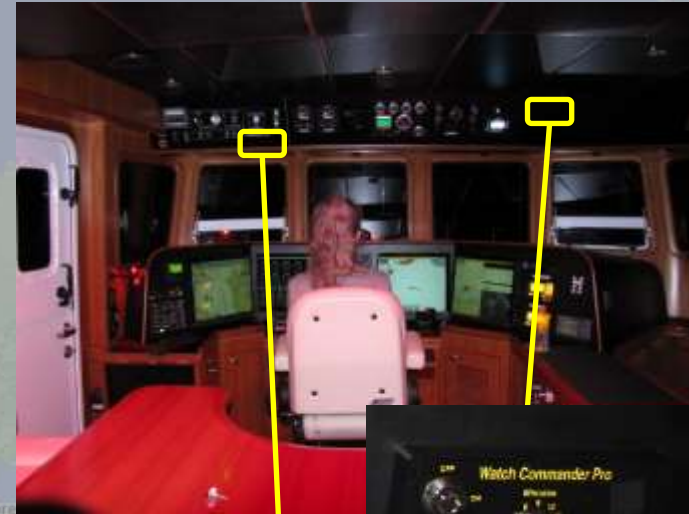
Night running

- Good radar with ARPA & AIS
- Forward floodlight
- Light shields for steaming & forward flood lights
- Dimmable control panels
- Heavily tinted display covers on PH control panels
- Red lights in PH, day head, galley
- FLIR



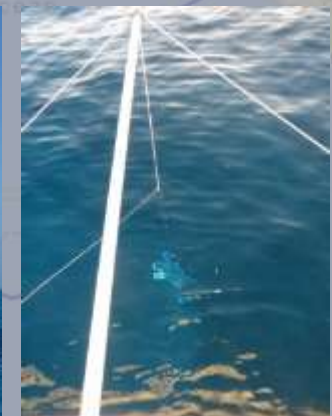
Watchkeeping

- **Someone always on watch at helm**
 - Evolved from 4hr shifts to:
 - James: 6pm-10pm; 5am-6pm
 - Jennifer: 10pm-5am
 - Lunch & dinner together
- **Slept in master stateroom**
 - Less motion & quieter than off-watch
 - Less burden for person on watch
- **Watch alarm**
 - Essential safety gear
 - Key-enabled, stand to reset
 - Alarm more intrusive until reset
- **Engine room checks every shift change**



Stabilization

- **ABT TRAC active stabilization**
 - Monohull power boats need for comfort
 - Tested w/o in big swell
- **Flopper-stopper at anchor**
 - Never needed in PNW
 - Often in South Pacific
 - Comfort, plus safety for launching tender



Automation & Reliability

- Automation & reliability more critical with only two on board
 - Early warning of problems
 - Automation reduces burden and mistakes
- Maretron N2kView
 - Monitoring, alerting
 - Design so problems obvious
 - Common indicator ribbon
- NAV mode on autopilot
 - Reduces manual adjustments



Tenders

- **2007 & 2018 AB 12VST**
 - Great range and speed
 - Honda 40HP (2007), 50HP (2018)
 - Deep-V hull handles seas well
 - Diving platform, carry bicycles
 - Big thick rub-rails protects
 - 850 lbs challenging for surf landings
- **Micro-tender**
 - Mercury 7'10", 2.3HP Honda
 - 70 lbs, can carry between us
 - Drift dives
 - Security



60 Hz Boat in 50 Hz Countries

- 2 x 100A chargers
- Dual shore power
 - 6A – 16A @ 240V
- 120V & 240V inverter
 - Runs all equipment
- 12 kW generator



Freq Converter vs Charger & Inverter

- **Frequency converter**
 - Expensive
 - Single point of failure
 - Considerable waste heat
- **Inverter supplies peak load**
 - Run on low supply, eg 10A @ 240V
- **240V power underway**
 - 2 x 190A @ 24V alternators
- **Backup to generator & 110V/240V inverters**
- **Run light 240V loads**
- **Isolates from shore voltage sags**
- **Enables dual shore supply**



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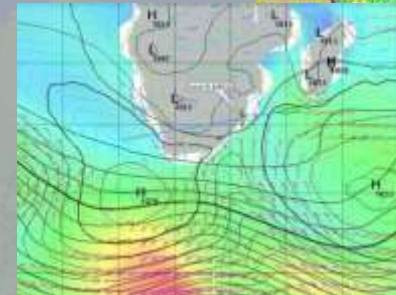
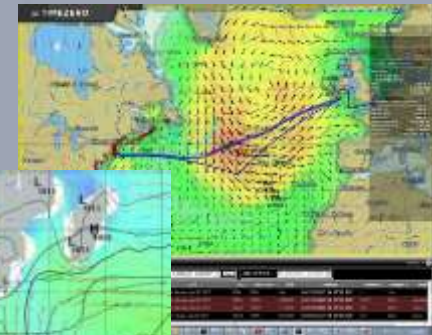
Itinerary Spreadsheet

Destination	Arrive	Stay	Depart	Days to next	Speed	Miles to next	Best time*	Storm season*
Seattle			7-Sep	7		766	May-Oct	None
San Francisco	09/14/12	41	25-Oct	15		2012	May, Nov	Jun-Oct (HI)
Hawaii	11/09/12	70	15-Mar	6.6	6	946	Apr-Aug	Jun-Oct (HI)
Palmyra	03/21/13	7	28-Mar	1.4	6	206	Apr-Aug	None
Tabuaerean (Fanning) Island	03/29/13	7	5-Apr	8.2	7	1372	Apr-Aug	None
Marquesas	04/15/13	18	3-May	3.4	6.5	525		Dec-April
Tuamotos	05/06/13	12	18-May	1.3	6.5	200		Dec-April
Tahiti	05/19/13	19	7-Jun	0.9	6.5	135		Dec-April
Bora Bora	06/07/13	18	25-Jun	4.5	6.5	700	June-Oct	Dec-April
Suvarrow (Cook I.) (open July-Oct)	06/29/13	7	6-Jul	2.4	6.5	381		Dec-April
American Samoa	07/08/13	3	11-Jul	4.8	6.5	750	June-Oct	Dec-April
Lautako, Fiji	07/15/13	1	16-Jul	0.1	6.5	15	June-Oct	Dec-April
Port Denaru 07/19, JRH travel 07/21	07/16/13	35	20-Aug	2.9	6.5	457	June-Oct	Dec-April
Tonga	08/22/13	14	5-Sep	5.4	6.5	840	Oct-Nov	Dec-April
Vanuatu	09/10/13	14	24-Sep	7.0	6.5	1095	Oct-Nov	Dec-April
GAP		14						
New Zealand	10/15/13	180	13-Apr	8.0	6.5	1250	April-May	Dec-April
Sydney, Aus	04/21/14	180	18-Oct					Dec-April
Broom, West Aus	10/18/14	14	29-Oct	23.6	6	3400	June-Oct	Dec-April
Mauritius	11/21/14	14	5-Dec	10.1	6.5	1576	June-Oct	Nov-April
Durban, South Africa	12/15/14	43	27-Jan	4.7	6.5	735	Jan-March	None
Cape Town, South Africa	01/31/15	16	16-Feb				Jan-March	None

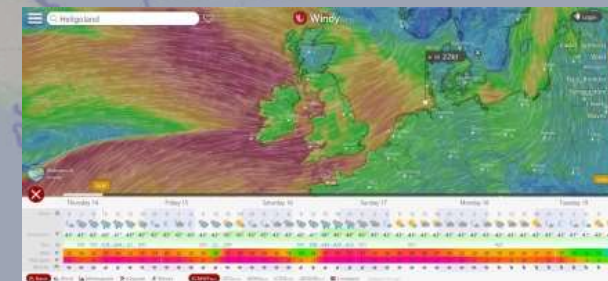
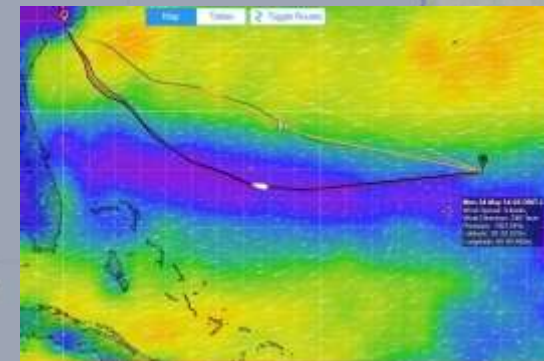
From Jimmy Cornell's *World Cruising Routes & Ocean Atlas

Weather Routing

- Self-analysis w/o weather router
- Plan for best time statistically
- Depart with good forecast
- Wave period > wave height
- GRIB data using TimeZero (WW3) & ViewFax (GFS)
 - PredictWind (ECMWF) with TimeZero last passage
- Coastal: Apps & local forecasts
 - eg. XCWeather & Windy



Time	Wind	Wave H	Wave P	Sea State	Visibility	Temp	Humidity	Pressure	Clouds
00:00	10	1.5	8	3	10	10	80	1010	10
01:00	12	2.0	10	4	10	10	80	1010	10
02:00	15	2.5	12	5	10	10	80	1010	10
03:00	18	3.0	15	6	10	10	80	1010	10
04:00	20	3.5	18	7	10	10	80	1010	10
05:00	22	4.0	20	8	10	10	80	1010	10
06:00	25	4.5	22	9	10	10	80	1010	10
07:00	28	5.0	25	10	10	10	80	1010	10
08:00	30	5.5	28	11	10	10	80	1010	10
09:00	32	6.0	30	12	10	10	80	1010	10
10:00	35	6.5	32	13	10	10	80	1010	10
11:00	38	7.0	35	14	10	10	80	1010	10
12:00	40	7.5	38	15	10	10	80	1010	10
13:00	42	8.0	40	16	10	10	80	1010	10
14:00	45	8.5	42	17	10	10	80	1010	10
15:00	48	9.0	45	18	10	10	80	1010	10
16:00	50	9.5	48	19	10	10	80	1010	10
17:00	52	10.0	50	20	10	10	80	1010	10
18:00	55	10.5	52	21	10	10	80	1010	10
19:00	58	11.0	55	22	10	10	80	1010	10
20:00	60	11.5	58	23	10	10	80	1010	10
21:00	62	12.0	60	24	10	10	80	1010	10
22:00	65	12.5	62	25	10	10	80	1010	10
23:00	68	13.0	65	26	10	10	80	1010	10



Clearing Through

- **Noonsite.com and country web sites for clearance rules**
 - Agents helpful in South Pacific & Azores for clearance/fuel
 - Should have in South Africa & Mauritius
- **Officials usually board**
- **Visitor visa on arrival**
 - NZ/AUS only advance visas
- **B/W printer/scanner/copier**



Pets

- **Research in advance**
 - Microchip and rabies vax
- **Entry rules for air travel**
 - Unwritten & preferential rules
 - Paper trail
- **Quarantined once in NZ**
- **Skipped one country**
- **Spitfire adapted to conditions underway**



Fueling

- Arranged in advance, esp. before/after long passages
- Prefer trucks for speed/quality
- Often commercial docks
- Agents helpful when cash-only
- Fuel quality generally good
- \$2.85 - \$6.89/gallon



Mail and Parts

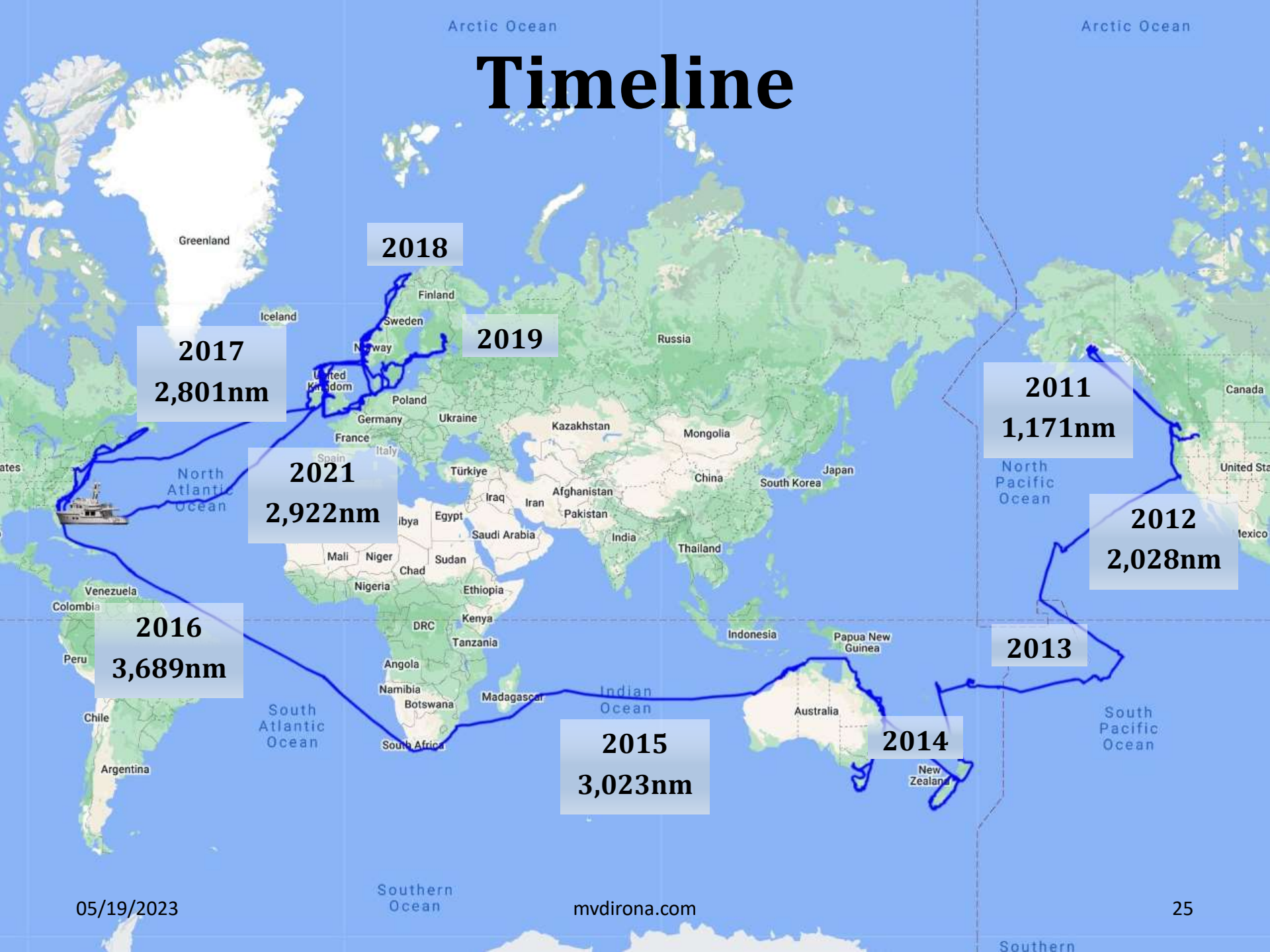
- Paperless wherever possible
- UPS box for surface mail
 - Hold/forward on request
- Carry parts in luggage
 - Mostly duty-free
 - Avoid boxes
- Sea freight
 - For larger/heavier items
 - Usually need a broker



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Prince William Sound



Hawaii



Palmyra Atoll



French Polynesia



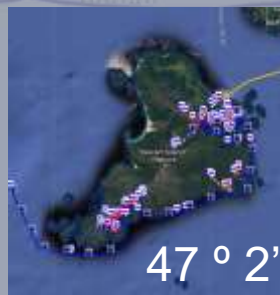
Tonga & Fiji



Vanuatu



New Zealand



05/19/2023

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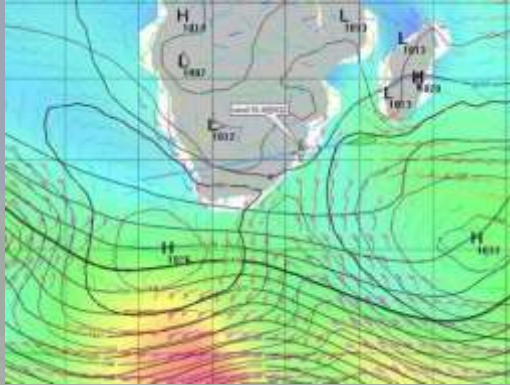
Australia



Mauritius/Reunion



South Africa



Kazakhstan Mongolia



St. Helena



Caribbean



NA East Coast



Ireland



Scotland



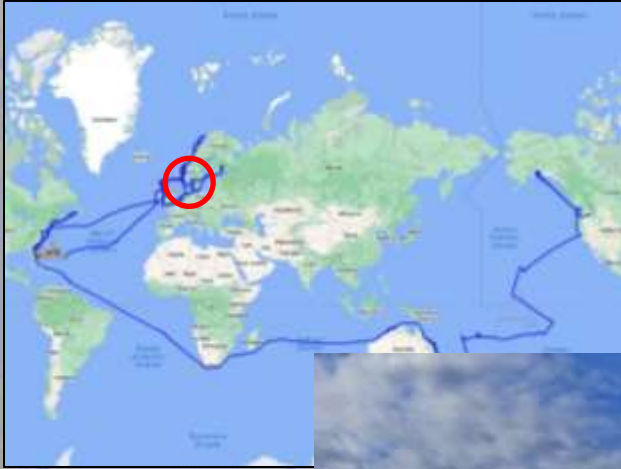
Southern UK



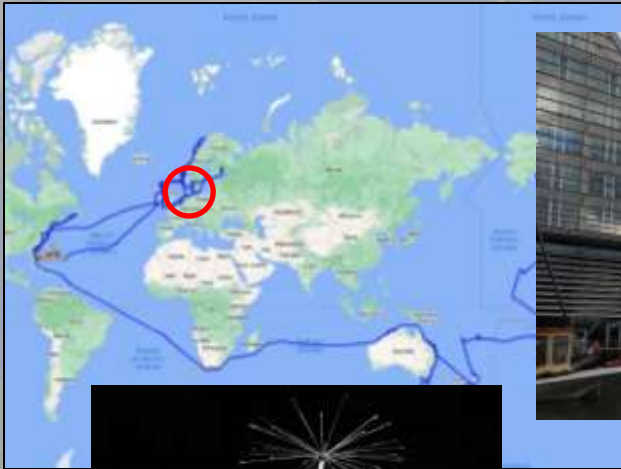
Norway



Denmark



Netherlands



Sweden



Finland



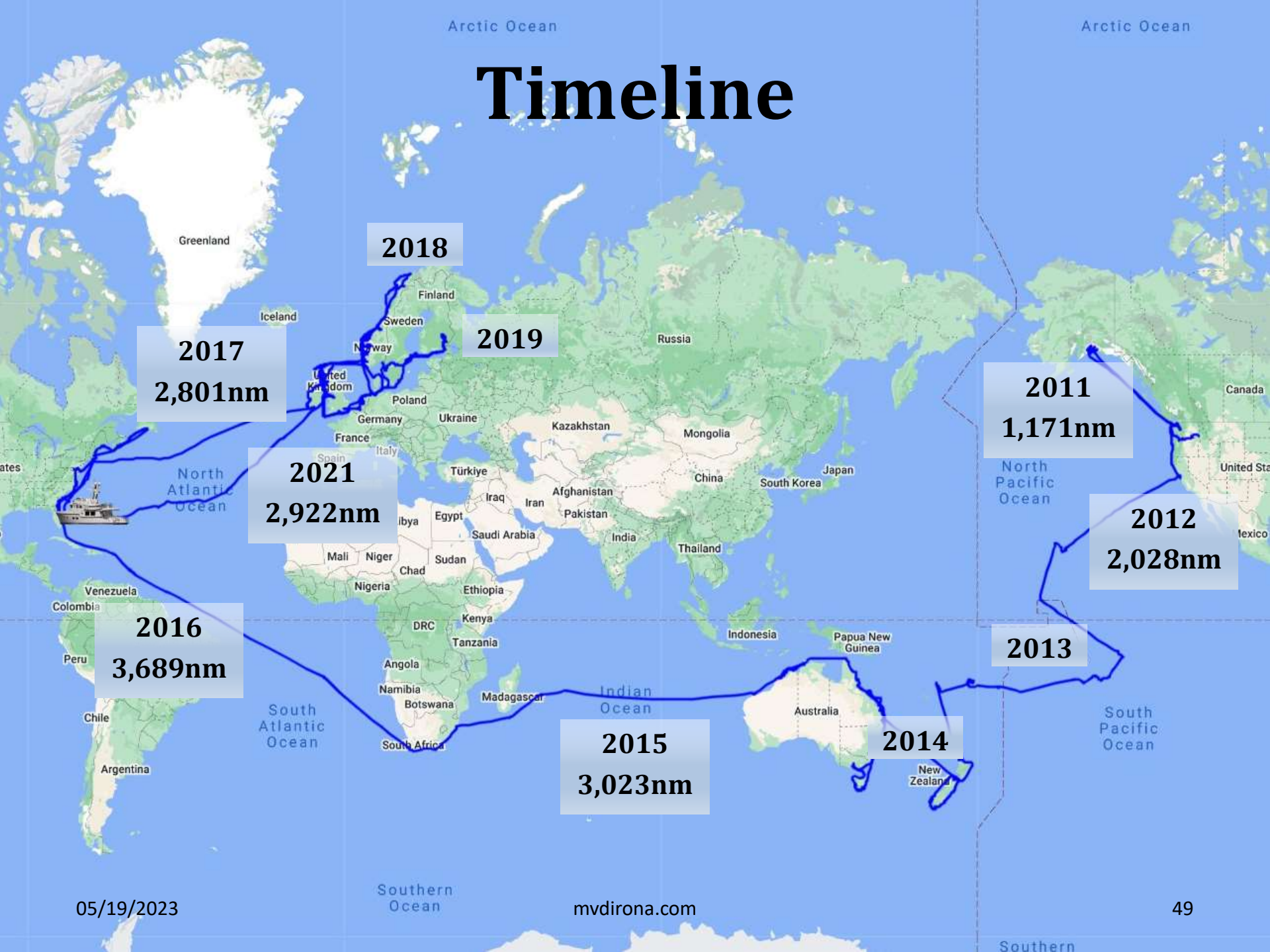
Antwerp By Canal



Winter in Norway



Timeline



Resources

- **mvdirona.com**
 - This slide deck
 - Tips, techniques, events & destinations
 - *Dirona* build and design details
 - Technical and travel articles from *Pacific Yachting*, *PassageMaker* and others
- **youtube.com/@MVDirona**
 - Mechanical and cruising videos

Select Posts

- [Lessons Learned Building a Semi-Custom Trawler](#)
- [Dirona Around the World](#)
 - *Three PassageMaker* articles on rigging & logistics for the trip
- **Fuel:**
 - [Fuel for the Crossing](#)
 - [Managing Fuel Quality](#)
 - [Deck Fuel and Vessel Stability](#)
- [Heavy Weather Preparation](#)
- [Preparing Dirona for the North Atlantic Crossing](#)
- [Running at Night](#)
- [Forward Spotlight Upgrade](#)
- [Watchkeeping Revisited](#)
- [Maretron N2KView on Dirona](#)
- [A more flexible power system for Dirona](#)
- [Dual Shorepower System](#)
- [New Tender for Dirona](#)
- [Itinerary Spreadsheet](#)
- [The Economics of Sea Freight](#)
- [Spitfire Arraow the World](#)

Questions?

- **We also field questions in the comments section of mvdirona.com (bottom of page)**