Advanced rules for sailing the high seas of the Old World

With every dawn, roll once on each table to generate a realistic, interesting and exciting maritime experience.

a. Determine **sea state** (based on Beaufort scale) by rolling a D100 but beware that a double-digit result (11, 22) indicates changing conditions. So in addition to any other effect, re-roll the result after 2D10 hours...

D100	Wind type	Wind speed	The state of the sea	Ship's behaviour	*Sail* Mod	Impact on ship speed
01-09	Calm	0 knots	A flat, glassy sea	Becalmed	-	Still unless under oar
10-19	Light air	1+ knots	A calm sea with ripples	Drifting	-5	-1½ knots
20-29	Light breeze	4+ knots	A smooth sea with tiny wavelets	Coasting	-	-1 knot
30-49	Gentle breeze	7+ knots	A gentle sea with large wavelets & scattered whitecaps	Cruising	+5	-½ knot
50-59	Moderate breeze	10+ knots	A slight sea with small waves	Sailing	-	None (average)
60-69	Fresh breeze	15+ knots	A fair sea with moderate waves, many whitecaps & a little spray	Gliding	-5	+½ knot
70-79	Strong breeze	25+ knots	A restless sea with long waves, constant whitecaps & some spray. *+5 to weather conditions roll*	Coursing	-10	+1 knot
80-89	High winds	30+ knots	A harsh sea with breaking waves, regular foam & lots of spray. *+10 to weather conditions roll*	Surfing*	-15	+1½ knots
90-92	Fresh gale	35+ knots	A rough sea with large waves of several feet high, streaked with foam & regular spray. *+15 to weather roll*	Buffeted^	-20	+2 knots
93-95	Strong gale	40+ knots	A very rough sea with huge, 10-foot waves, streaks of foam & regular spray. *+20 to weather roll*	Hammered	-25	+2½ knots
96-97	Storm	50+ knots	High seas with mammoth, 20-foot waves, regular patches of foam & constant spray. *+25 to weather*	Pounded	-30	+3 knots
98-99	Tempest	60+ knots	Very high seas with giant, 30-foot waves, large patches of foam & heavy spray turning to mist	Swamped?	-40	+3½ knots
00 <	Hurricane	70+ knots	Phenomenal seas with colossal, 50-foot waves, that have become white with foam and spray	Overwhelmed?	-50	+4 knots

Seasonal modifier	Oceanographic modifiers		Geographic modifiers
Spring: +5 Summer: - Autumn: +10 Winter: +5	The Sea of Claws: +5 The Middle Sea: +5 The Black Gulf: -	The Great Western Ocean: - The Southern Sea: -5 The Tilean Sea: -10	Hills/Desert: +5 Open sea: - Sheltered water: -5 River/Woods: -10

b. Determine wind direction by rolling a D8:

1. N: Tramuntana
2. NE: Gregal or "Ulric's Breath"
3. E: Levanta or "Klaueshcrei"
4. SE: Scirocco
5. S: Föhn
6. SW: Lebich or "Mannan's Kiss"
7. W: Zephyr
8. NW: Maestral

Realistically prevailing winds blow onshore during the day and offshore at night.

c. Determine the **weather conditions** by rolling a D100:

D100	Description	Weather effects	Viz*
01-02	Drought	No precipitation for another 10+D10 days	-
03-07	Hazy	Visibility hampered by banks of brownish haze. Ignore this result unless "Wind Speed" table indicates "Calm".	-10
08-29	Sunny	A roll of **11** means that a beautiful rainbow appears for about D10 minutes. In many parts of the Old World a rainbow is a good omen.	-
30-44	Cloudy	A roll of **33** indicates strange cloud formations: for D10 hours some rather peculiar, beautiful or ominous cloud formations are visible in the sky	-
45-55	Overcast	A roll of **55** indicates that distant rolling thunder is heard lasting 2D10 minutes.	-
56-60	Misty	Banks of bluish mist reduce visibility to less than a mile (800-1600') for D10 hours Ignore this result unless "Wind Speed" table indicates "Calm".	-20
61-65	Foggy	Banks of greyish fog slash visibility to only a few hundred yards (200-800') for D10 hours. Ignore this result unless "Wind Speed" table indicates "Calm".	-30
66-75	Drizzle / Light snow	Roll 2D10 for the approximate hour when it starts. The drizzle (temperatures > zero) or snowfall (temperatures < zero) lasts 2D10 minutes.	-20
76-84	Showers / Sleet / Snowfall	D10 showers, sleet or snowfall (depending on temperature) throughout the day, each lasting 2D10 minutes. Roll 2D10 to determine at what hour each one starts. A **77** indicates thunder and lightning during summer and sleet in winter	-30
85-94	Heavy rain/ Heavy snow	Slashes visibility to a mile, prevents use of missile weapons & renders climbing difficult for D10 hours. A roll of **88** indicates a fierce thunderstorm in summer and freezing rain in winter (super-cooled rain that freezes upon impact)	-40
95-96	Hail	For 2D10 minutes the ship is pummelled by small particles of ice. Depending on the size of the hailstones, this can cause sail damage, injure livestock and/or crew (unless wearing a helmet). For each round a character lingers outdoors, they run a 10% risk of being struck by a chunk of ice for D6 **Wounds**	-40
97 <	Storm / Blizzard	The deck heaves and rolls so much its almost impassable. Even the most weathered of salts prays for mercy. If rain, **99** or **00** indicates a thunderstorm. Moreover the hellish conditions last for D10 hours.	-30/ -40

* At night, darkness drastically (-30) reduces visibility, moonlight is better (-20) and a full moon is best (-10).

d. Navigator dead reckons their latitude by estimating the ship's speed via an hourglass and logging. Next he asses his longitude using his celestial instrument:

Instrument	Sunstone	Verena's staff (cross-staff)	Astrolabe	Mannan's scale (quadrant)
Navigation bonus	+10	+20	+25	+30

Navigator then combines their latitude and longitude to dead reckon (determine) a position on his charts. Finally he plots a course and asks the helmsman to steer this course "as best he can"*:

Ship's navigation = Navigator's *Estimate* test (**Int**) +/- *sea state*, *visibility* and any *steering aids**

* These steering aids help the helmsman maintain a sure and steady course:

Steering aid	Sunstone	Lodestone	Compass
Bonus to *Sail* test	+10	+20	+30

The result of this test determines the accuracy of the ship's navigation:

Result	Degree	Description
Success	Incredible	Helmsman so inspirational that the next day's *Navigation* test can be skipped
	Stunning	Steers so good a course that he even corrects any errors from the previous day
	Definite	Helmsman steers good the course set by the navigator
	Lucky	Helmsman steers the course but a few hours later he is set right by the navigator
Failure	Unlucky	D10° off course
	Awful	2D10° off course
	Terrible	3D10° off course or add 1 day to travel time
	Horrific	4D10° off course or add D3 days to travel time

e. Master orders **the sail settings** (usually orders less canvas when winds are stronger than a breeze):

Order	Description	Impact on speed
Close reef	Sails are hauled up into a tight package tied off all along the yardarm	-2 knots
Triple reef	Sails are all but reefed by hauling on clewlines & tying it up with gaskets	-1.5 knots
Double reef	As above except that **half** the sail is exposed	-1 knot
Single reef	As above except that **three-quarters** of the sail is exposed	-½ knot
Full sail	Sails are completely unfurled for maximum speed	None (average)

f. The first mate then ensures that the crew executes the Master's orders swiftly and efficiently:

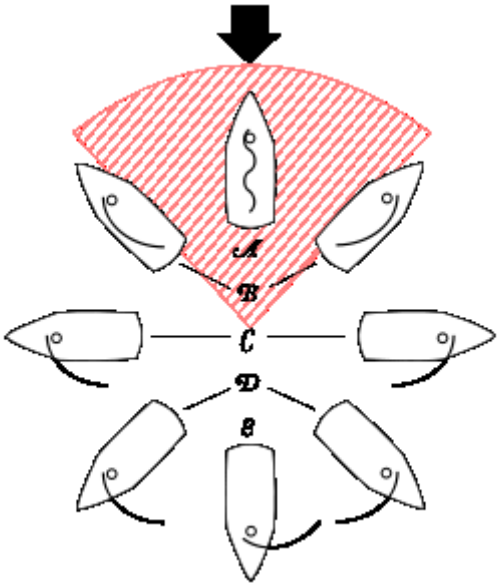
Ship's seamanship = *crew's *Sail* skill (**I+Int**) modified by *sea state* and *ship's seaworthiness*^
* Take the highest aboard, usually the First mate
^ Refer to the *Ships' Characteristics Table*

The result of this test determines the extent of the ship's progress:

Result	Degree	Description
Success	Incredible	Cunning tactics & tight operation get her sailing magnificently, i.e. 30% faster
	Stunning	Shrewd assessments & quick running get her sailing beautifully, i.e. 15% faster
	Definite	Cool heads & steady hands get the ship sailing handsomely, i.e. without incident
	Lucky	Recklessness & haste lead to a narrow **escape from a mishap** (see *Encounter Table*)
Failure	Unlucky	Indecision & slow execution leaves the ship wallowing (15% slower)
	Awful	Poor judgment & confusion leaves the ship floundering (30% slower)
	Terrible	Ship suffers a **major mishap** (pick 1 from the *Maritime Encounter Table*)
	Horrific	Ship suffers a **minor disaster** (pick 1 from the *Maritime Encounter Table*)

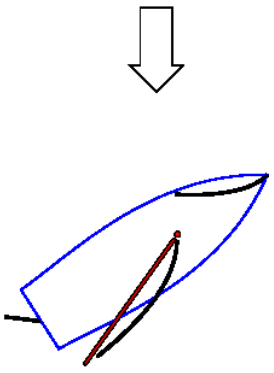
g. A ship's speed is measured in knots, which describes the number of nautical miles sailed per hour.

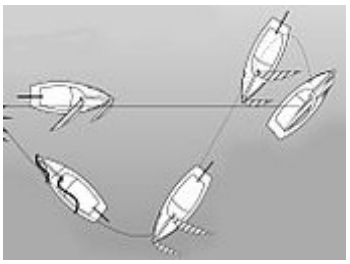
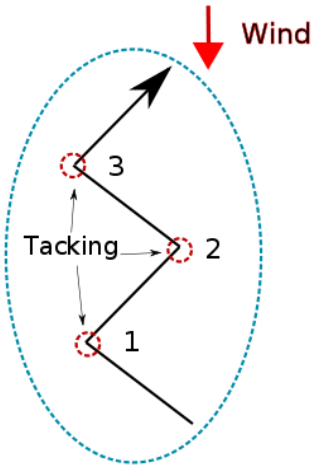
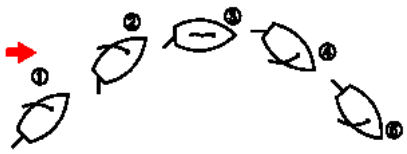
Ship's speed = *ship's average speed**, *impact of wind speed* (sea state), *sail settings* (above) & *point of sail* (below)
* Refer to the *Ships' Characteristics Table*



Legend	Point of sail	Remarks	Impact on speed
A	Into the wind	Requires the tricky (-10) manoeuvre *Beating to windward*	-2.5 knots
B	Close hauled	No specific manoeuvre required	-1 knot
C	Beam reach	If upwind of its target a ship gains *the weather gauge* (cf *Combat*)	None (average)
D	Broad reach	No specific manoeuvre required	+1.5 knots
E	Running	Straight downwind / Reaching downwind requires the challenging (-20) manoeuvre *Wearing the ship*	+1 knot /+2 knots

h. At any moment, the captain can order the crew to execute manoeuvres. So here are the most common:

Manoeuvre	Description	*Sail* test?
Weigh anchor	Exhausting process by which the anchor is raised from the sea, up into the ship. Depending on the length of cable, this could take anything from **a few minutes to several hours**. This is because the anchor is very heavy (particularly if it is chained and/or stuck) and as it has to be manually hauled in by the crew by turning the capstan (a huge, horizontally- mounted windlass). Fingers crossed that the anchor hasn't fouled on an underwater obstacle!	**No**
Bring around! (changing course)	Tiller order issued to the helmsman who pushes or pulls the tiller hard to, i.e. as far as it will go (usually 7°). This means that a hard turn can be quite slow, taking **a few moments to several minutes** to reach a point of sail (approx 45°). If this turns the ship into the wind then it is known as "Coming About" and it requires tacking (see below) which takes twice as long.	**Easy**
Drop anchor	An anchor prevents the ship from drifting due to wind or current. Deployment is quick and simple but finding a good anchorage takes time (tricky without charts): • Sheet anchor: main anchor and normally stowed at the bow. These are large, heavy and effective as a temporary mooring, i.e. **-3 knots** but are useless in waters deeper than 100 fathoms (approx 600 feet), i.e. length of the anchor cable • Stream anchor: a lighter anchor and normally stowed astern it used to restrain stern movements in tidal conditions or in waters where vessel movement needs to be restricted, such as rivers and channels. It can also can be used for *kedging* • Sea anchor: underwater sail or anything that drags in the water ("hauling tarp"). Rather than tethering the boat to the seabed, it increases the ship's drag through the water and thus acts as a brake, i.e. **-2 knots**	**Simple**
Luffing (braking)	A sailing technique used to slow or stop a sailboat in a controlled manner. A ship can also be "luffed" slightly without completely de-powering the sails. Often this occurs on the point of sail known as close hauled, this is sometimes referred to as pinching or "feathering" and is sometimes done deliberately in order to make a more direct course toward an upwind destination (cf. "beating to windward") or to "de-power" a sail on a windy day to maintain control of the ship.	**Simple**
Heave to (stopping with sails up)	This tactic buys a ship time: time to stop and rest; time to wait for the fog to clear; time for daylight so that a new port can be entered safely; time to double-check your navigation; time to make repairs. The vessel is brought to an almost complete stop by bringing her about (usually to starboard) with the sails still up. This position also locks the vessel at a safe angle to wind and waves, which can be very useful when facing a storm as it allows the crew to go below to ride it out. It may also be ordered to halt progress should a man go overboard! The main risk is very high winds that may snap the tiller and/or demast the ship (*Minor Disaster*) 	**Routine**
Lying ahull (stopping with sails reefed)	A risky method of weathering a storm, by downing all sails, battening the hatches and locking the tiller to leeward (turning her bow into the wind). Unlike heaving to, a sea anchor is not used, allowing the boat to drift freely, completely at the mercy of the storm. By allowing it to drift any which way, the ship usually leads into an uncomfortable and sometimes dangerous position. A boat lying ahull is likely to turn beam-on to the waves and may capsize... However it does offer the advantage of saving the sails and reducing the risk of demisting in very high winds. 	**Standard**

Go about! (180° turn)	Order issued to the crew & helmsman who labour to turn the ship about face so that she sails in the opposite direction. As most rudders were limited to 7° this manoeuvre requires tacking and gybing. Thus this manoeuvre is complex and agonisingly slow, taking anything from **a few minutes to quarter of an hour**. Also this is impossible if the ship is becalmed unless under oar or *kedged*. 	**Standard**
Kedging (towing by rowing)	Gruelling method of moving a ship, typically against the wind, out from a dead calm or off an obstacle, by hauling (by hand or by capstan) on a line attached to a kedge anchor, a sea anchor or a fixed object, such as a bollard. In small boats, the anchor may be thrown in the intended direction of progress and hauled in after it settles, thus pulling the boat in that direction.	**Tricky**
Beating to windward (sailing against the wind)	A series of turns or tacks across an upwind which allow a ship to follow a course upwind. The extra speed gained by zigzagging downwind can more than make up for the extra distance that must be covered. The interval between tacks depends (in part) on the lateral space available: in a small navigable channel, tacks may be required every few minutes, while in the open ocean days may pass between tacks, provided that the wind continues to come from the same general direction. 	**Tricky**
Wearing ship (sailing with the wind)	A series of turns or tacks across a following wind. These downwind tacks are known as gybes. Gybes offer greater speed than simply *running with the wind*. But this quest for speed is risky; the repeated changes in wind direction across the ship's centreline stress both crew (swinging boom can injure or even sweep overboard) and ship (fouled tackle, snapped rigging, broken booms or even heeling!) 	Challenge
Make sail! (setting off)	A delicate task made harder by the girth of the ship and the direction of the wind. As often it is easier for small ships with favourable winds and harder for larger vessels. However if the winds were unfavourable, regardless of their girth, ships would usually wait as otherwise the only option was the long and gruelling exercise known as "warping" or "kedging". The main risk comes from a collision with the quayside or harbour wall, worse still another vessel.	Challenge
Docking (parking)	A risky task made harder the greater the girth. Moreover it was near impossible unless you were familiar with the port. Thus many vessels anchored at a mooring at the harbour mouth and then crew and/or cargo rowed ashore aboard launches, called gigs (4-6 rowers, 18-25 feet long) and/or longboats (8-10 rowers, 28-34 feet long). If the captain wished to sail onto the dock (to load and unload very large and/or heavy supplies, e.g. guns, masts, etc.), often a wise local mariner came aboard to pilot the ship alongside the pier.	**Hard**
Club hauling (handbrake turn)	A difficult and risky technique used to bring a ship around sharply (90°) to get a good firing angle on a pursuing vessel or manoeuvre in tight confines (inlets, coves, narrow channels) where there is insufficient room to tack normally. First an anchor is attached to the lee quarter. Next the ship is steered into the wind and, as she loses headway, the anchor is dropped from the lee bow. As the vessel gathers sternway the strain on the cable pivots the ship around what is now the weather gauge, turning the vessel onto the other tack. The anchor is then cut away as it cannot be recovered.	**Daunting**

i. The sea is a harsh mistress and so superstitious sailors constantly watched the sea, fearing for their fate. To discover what fate befalls that day, roll a D100 to determine the type of encounter and check below. Then refer the *Maritime Encounter Table* and pick the most appropriate encounter from that category.

D100	Type of encounter	D100	Type of encounter
01-29	Mundane	86-90	Major mishap
30-49	Landmark	91-94	Minor disaster
50-69	Incident	95-97	Major disaster
70-79	Hazard	98-99	Incredible
80-85	Minor mishap	00	Fantastic

Descrying!
Not all encounters are welcome, so ships' crews post lookouts to spot them as early as possible. As the sea is flat compared to land, lookouts can see surprisingly far. In fact on a clear day visibility at sea is about 3 miles. Moreover, the higher the crow's nest (near the top of the mainmast), the further that lookout can see:

Lookout height	Type of vessel	1 mile	2 miles	3 miles	4 miles	5 miles	6 miles	7 miles	8 miles	9 miles	10 miles
0′	Tiny boat	-	-10 **I**	-20 **I**	-30 **I**	-40 **I**	-50 **I**	-60 **I**	-70 **I**	-80 **I**	-90 **I**
10′	Small boat	+10 **I**	-	-10 **I**	-20 **I**	-30 **I**	-40 **I**	-50 **I**	-60 **I**	-70 **I**	-80 **I**
20′	Fair boat	+20 **I**	+10 **I**	-	-10 **I**	-20 **I**	-30 **I**	-40 **I**	-50 **I**	-60 **I**	-70 **I**
30′	Large boat	+30 **I**	+20 **I**	+10 **I**	-	-10 **I**	-20 **I**	-30 **I**	-40 **I**	-50 **I**	-60 **I**
40′	Small ship	+40 **I**	+30 **I**	+20 **I**	+10 **I**	-	-10 **I**	-20 **I**	-30 **I**	-40 **I**	-50 **I**
50′	Middle ship	+50 **I**	+40 **I**	+30 **I**	+20 **I**	+10 **I**	-	-10 **I**	-20 **I**	-30 **I**	-40 **I**
60′	Great ship	+60 **I**	+50 **I**	+40 **I**	+30 **I**	+20 **I**	+10 **I**	-	-10 **I**	-20 **I**	-30 **I**
70′	Royal ship	+70 **I**	+60 **I**	+50 **I**	+40 **I**	+30 **I**	+20 **I**	+10 **I**	-	-10 **I**	-20 **I**

Beyond lookout height and visibility (see *Weather Conditions*), the last significant factor is the encounter size:

Encounter size	Encounter type	Viz mod
Tiny target	Man overboard, flotsam, shoal of fish	-30 **I**
Very small target	flock of seabirds, navigation buoy, whales surfacing	-20 **I**
Small target	rowboat (no mast), breakers (reef)	-10 **I**
Fair target	sail boat, maelstrom	None
Large target	small-middling ship (1-2 masts), smoke	+10 **I**
Huge target	Tall ship (top gallants), lighthouse (no penalty to spot at night!)	+20 **I**
Massive target	Land, storm clouds	+30 **I**

Ship's watch = lookout's *Observe* test (**I**) modified by *lookout height*, *visibility* and *encounter size*
"[Land/Sail/Breakers] Ho!" or "[Point of interest] points off the [port/starboard] bow!"

The frequency at which a lookout can spot an encounter is a balance between realism and gameplay. Thus I believe that **1 test per hour** is a good compromise. However once the encounter is spotted I suggest only allowing the players the remaining time to react, i.e. if a maelstrom is only spotted 2 miles away and the ship is sailing at 3 knots, then they only have 20 minutes to react!

Espying!
Should a lookout spot a sail, the sharper his observation, the more details he can shout below:

Result of test		Long range (2 miles or less)	Extreme range (1-4 leagues)
Success	Incredible	As below plus her number of guns/draft	As below plus her point of sail
	Stunning	As below plus her crew size/colours (flag)	As below plus her sail settings
	Definite	Course + progress (closing/holding/falling)	As below plus her ship type
	Lucky	Spies her course (escape/steady/intercept)	Spies ship's size & number of masts
Failure	Unlucky	Guesses her course incorrectly	Spies ship size & # of masts incorrectly
	Awful	Idem plus her progress is incorrect	Idem plus her ship type is incorrect
	Terrible	Idem plus her crew size/colours are wrong	Idem plus her sail settings are incorrect
	Horrific	Idem plus number of guns/draft is wrong	Idem plus her point of sail is incorrect