

E 'Echo', in phonetic alphabet. Designated in International Code by square flag divided horizontally, upper half being blue, lower, red. Hoisted in isolation it means: 'I am directing my course to starboard'.

EAR PIERCING 1) Sailors believed that by piercing one ear, you improved the sight of the other eye. 2) Now earrings are worn to show they have crossed a significant nautical milestone; the international date line, Cape Horn, etc.

EARING (S) 1) Line or small Rope used in Bending Sail to Spar or fastening upper corners of square sail to Yard. 2) Reefing Line passed through Leech Cringles when Reefing Sail. AKA Ear Ring. 3) Something worn in the ear to signify passage by one of major 5 capes such as Cape Horn or over Equator.

EARTH CENTERED ELLIPSOID Reference ellipsoid whose geometric center coincides with Earth's center of gravity and whose semi-minor Axis coincides with earth's rotational Axis.

EARTH FIXED COORDINATE SYSTEM Any coordinate system in which Axes are stationary with respect to earth. See Inertial Coordinate System.

EARTHLIGHT Faint illumination of dark part of moon by sunlight reflected from earth. AKA Earthshine.

EARTH RATE Angular velocity or rate of earth's rotation. See Earth Rate Correction, Horizontal Earth Rate, Vertical Earth Rate.

EARTH RATE CORRECTION Rate applied to Gyroscope to compensate for apparent Precession of spin Axis caused by rotation of earth. See Earth Rate, Horizontal Earth Rate, Vertical Earth Rate.

EARTHSHINE See Earthlight.

EARTH TIDE Periodic movement of earth's crust caused by gravitational interactions between sun, moon, and earth.

EASE 1) Slacken off, pay out, let out under full control, reduce, relieve or remove most tension gradually such as with Line, Sheet or Docking Line. Lessen Stress while maintaining some sail shape and trim. See Crack The Sheets. 2) Reduce pull on, such as the Helm.

EASE YOUR RUDDER Command to reduce the Rudder angle you are carrying.

EASING-OUT LINE Line used to restrain an object being Eased out (moved slowly) to prevent it from moving too quickly.

EAST Direction 90° to right of north. See Cardinal Point.

EAST AFRICA COASTAL CURRENT Indian Ocean Current which originates mainly from part of Indian South Equatorial Current which turns northward off northeast coast of Africa.

EAST AUSTRALIA CURRENT South Pacific Ocean current flowing southward along east coast of Australia.

EASTERN STANDARD TIME See Standard Time.

EAST GREENLAND CURRENT Ocean Current flowing southward along East Coast of Greenland carrying water of low salinity and low temperature. See West Greenland Current.

EASTING Distance sailed or makes good eastward or to the East. Opposite of Westing.

EAST SIBERIAN CURRENT Ocean Current in Chukchi Sea which joins northward flowing Bering Current north of East Cape.

EASY Without undue strain, smooth.

EBB Horizontal movement of receding Tidal Current flowing away from shore or land, out toward sea or down tidal stream caused by Tide which is going out, dropping or outgoing tidal flow. From Anglo Saxon, 'ebba'. AKA Ebb Current. Sometimes incorrectly named Ebb Tide. Opposite of Flood. See Falling Tide, Rising Tide.

EBB AND FLOW 1) Rhythmic, alternating, backward and forward movement of tidal current. 2) Diametrically opposed changes.

EBB AXIS Average direction of Current at strength of Ebb.

EBB CURRENT Movement of Tidal Current flowing away from shore, out toward sea, down tidal river

or estuary or downstream. Caused by Tide which is going out, dropping or outgoing tidal flow. From Anglo Saxon, 'ebba'. Sometimes incorrectly named Ebb Tide. Opposite of Flood Current.

EBB, GREATER Ebb Tidal Currents of greater speed each day.

EBB INTERVAL Short for Strength Of Ebb Interval. Interval between transit of moon over meridian of pace and time of following strength of Ebb. See Lunicurrent Interval.

EBB, LESSER Ebb Tidal Currents of lesser speed each day.

EBB, MAXIMUM Maximum Speeds of Current running continuously.

EBB, MINIMUM Minimum Speeds of Current running continuously.

EBB STRENGTH Phase of Ebb Tidal Current at time of maximum Velocity. AKA Velocity at this time. AKA Strength of Ebb.

EBB TIDE Receding tide.

ECCENTRIC 1) Not having same center. Opposite of Concentric. 2) State of your crew after being at sea too long.

ECCENTRIC ANGLE See Anomaly.

ECCENTRIC ANOMALY See Anomaly.

ECCENTRIC ERROR See Centering Error.

ECCENTRICITY 1) Degree of deviating from center. 2) Ratio of distance between Foci of ellipse to length of major Axis. 3) Ratio of distance between center and focus to length of semimajor Axis. 4) Ratio of distances from any point of conic section to Focus and corresponding directrix.

ECCENTRICITY COMPONENT Part of Equation Of Time due to ellipticity of orbit. It is the difference, in mean solar time units, between hour angle so apparent (true) sun and dynamical mean sun. It is also difference in Right Ascensions of these two suns.

ECHO 1) Wave which has been reflected or

otherwise returned with sufficient magnitude and delay to be perceived. 2) Signal reflected by target to radar antenna. AKA Return. 3) Deflection or indication on radarscope representing target. AKA Blip, Pip, Return.

ECHOGRAM Graphic record of Depth measurements obtained by Echo Sounder. See Fathogram.

ECHO RANGING Determination of distance by measuring time interval between transmission of radiant energy signal, usually sonic or ultrasonic signals through water and return of its echo. Equipment is usually provided with means for determining direction as well as distance, both functions are applied.

ECHO SOUNDER Instrument used to determine water Depth by measuring time interval for sound waves to go from source of sound near surface to Bottom and back again. AKA Depth Finder, Acoustic Depth Finder.

ECHO SOUNDING Determination of Depth of water by measuring time interval between emission of sonic or ultrasonic signal and return of its echo from Bottom. AKA Acoustic Sounding. Instrument used for this purpose is Echo Sounder.

ECLIPSE 1) Obscuring of source of light by intervention of object. 2) Period or interval of darkness between flashes of navigation and light and which is part of the characteristic of Flashing Light. During the Eclipse Period, no light is emitted.

ECLIPSE, LUNAR Occurs when moon enters earth's shadow. It can be either total or partial.

ECLIPSE, PENUMBRAL LUNAR Occurs when moon enters only the Penumbra of earth's shadow.

ECLIPSE, SOLAR Takes place when moon passes between earth and sun, casting shadow on earth. If Sun is partly obscured, it is a partial solar Eclipse. If entire surface is obscured it is a total solar Eclipse. If thin ring of sun's surface appears around obscuring body, it is an annular solar Eclipse.

ECLIPSE YEAR Interval between two successive conjunctions of sun with same node of moon's orbit, averaging 346 days, 14 hours, 52 minutes, 50.7 seconds in 1900 and increasing at rate of 2.8 seconds per century

ECLIPTIC Apparent annual path of sun among stars; intersection of plane of earth's orbit with

Celestial Sphere. It is Great Circle of Celestial Sphere inclined at angle of about 23°27' to Celestial Equator. See Zodiac.

ECLIPTIC DIAGRAM Diagram of Zodia, indicating positions of certain Celestial Bodies in this region.

ECLIPTIC POLE Either of two points on Celestial Sphere, 90° from Ecliptic.

ECLIPTIC SYSTEM OF COORDINATES Set of Celestial coordinates based on Ecliptic as primary Great Circle; Celestial Latitude and Celestial Longitude.

ED Abbreviation for Existence Doubtful.

EDDY Circular, quasi-circular or reverse flow or movement of Current in air or water running contrary to the main Current, especially moving in a circular direction. It's area is relatively small in comparison of Current with which it is associated. They may be formed between tow adjacent currents flowing cournter to each other. Usually occurring where Currents pass obstructions, especially on downstream side of obstructions. From Anglo Saxon, 'ed', backwards. See Whirlpool

EFFECTIVE RADIUS OF EARTH Radius of hypothetical earth for which distance to radio Horizon, assuming rectilinear propagation, is same as that for actual earth with assumed uniform vertical gradient of Refractive index. For standard atmosphere, it is 4/3 that of actual earth.

EHF See Extremely High Frequency.

EIGHT BELLS Aboard ships, bells are struck to designate hours of being on Watch. Each watch is four hours in length. One bell is struck after first half-hour has passed, two bells after one hour has passed, three bells after an hour and a half, four bells after two hours, and so forth up to eight bells are struck at completion of four hours. Practice of using bells stems from days of sailing ships. Sailors couldn't afford to have own time pieces and relied on Ship's bells to tell time. Ship's boy kept time by using half-hour glass. Each time sand ran out, he would turn glass over and ring appropriate number of bells.

EIGHT BELLS AND ALL IS WELL Report made when completing Watch with no incidents.

E-LAYER First principal layer of ionization. See D-Layer, F-Layer.

ELBOW Sharp change in direction of Coast line, Channel, River, etc.

ELECTRONIC NAVIGATION Piloting by manual or automatic electronic devices; echo sounders, electronic Compass, Radio Direction Finder (RDF), Radar and various position finding systems such as Loran-C, Omega, Decca, VHF Omnirange (VOR) and satellite systems such as Transit or GPS.

ELECTRICALLY SUSPENDED GYRO Gyroscope in which main rotating element is suspended by magnetic field or any other similar electrical phenomenon. See Gyro, Electrostatic Gyro.

ELECTRICAL STORM See Thunderstorm.

ELECTRIC FIELD That region in space which surrounds an electrically charged object and in which forces due to this charge are detectable. See Electric Vector.

ELECTRIC TAPE GAGE Tide gage consisting of metal tape on metal reel, voltmeter and battery. Tape is graduated with numbers increasing toward unattached end. Tidal heights can be measured directly by unreeling tape into its stilling well. When contact is made with water's surface, circuit is completed and voltmeter moves. At that moment, length of tape is read against index mark having known elevation relative to Tidal bench marks.

ELECTRODE Terminal at which electricity passes from one medium into another. See Anode and Cathode.

ELECTROMAGNETIC Pertaining to or produce by electromagnetism.

ELECTROMAGNETIC ENERGY All forms of radiant energy, such as radio waves, light waves, X-rays, heat waves, gamma rays, cosmic rays, etc.

ELECTROMAGNETISM 1) Magnetism produced by electric current. 2) Science dealing with physical relations (sometimes 'X' rated) between electricity and magnetism.

ELECTRON Negatively charged

particle of matter constituting part of an atom. Its electric charge is the most elementary unit of negative electricity.

ELECTRONIC AID TO NAVIGATION Aid To Navigation using electronic equipment. If navigational information is transmitted by radio waves, device may be called Radio Aid To Navigation.

ELECTRONIC BEARING CURSOR Bright rotatable radial line on display of marine Radar set, used for Bearing determination.

ELECTRONIC CHART (EC) Chart displayed on video terminal, usually integrated with other navigational aids.

ELECTRONIC CHART DATA BASE (ECDB) Master electronic chart data base for electronic Navigation chart held in digital form by hydrographic authority.

ELECTRONIC CURSOR 1) Short for electronic Bearing Cursor. 2) Language from someone whose equipment is not working properly.

ELECTRONIC DISTANCE MEASURING DEVICES
Instruments that measure phase differences between transmitted and reflected or retransmitted electromagnetic waves of known frequency or that measure round trip transit time of pulsed signal, from which distance is computed.

ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEM (ECDIS)
Electronic Chart system which complies with IMO guidelines and is the legal equivalent of paper Chart

ELECTRONIC NAVIGATION Navigation by means of electronic equipment. Term is more inclusive than Radionavigation.

ELECTRONIC NAVIGATION CHART (ENC)
Standardized electronic data base, subset of ECDB, issued by hydrographic authority for use with ECDIS.

ELECTONICS Science and technology relating to emission, flow and effects of electrons in vacuum or through semiconductor such as gas, and systems using devices in which this action takes place.

ELECTROSTATIC GYRO Gyroscope in which small ball rotor is electrically suspended within array of electrodes in vacuum inside ceramic envelope. See

Gyro, electrically suspended Gyro.

ELEMENTS OF A FIX Specific values of coordinates used to define position.

ELEPHANTA 1) Strong southerly or southeasterly wind which blows on Malabar coast of India during September and October and which marks end of southwest Monsoon. 2) Something seen, usually pink, after a long night at the pub.

ELEVATED POLE Elevated pole above Horizon, agreeing in name with Latitude. Opposite of Depressed Pole.

ELEVATION 1) Vertical distance of point above Datum, usually Mean Sea Level. It usually applies to point on surface of earth. See Height and Spot Elevation. 2) Area higher than its surroundings, such as hill.

ELEVATION ANGLE See Angle Of Elevation.

ELEVATION TINTS. See Hypsometric Tinting.

E-LINK Bracket attached to one of arms of Binnacle to permit mounting of Quadrantal Corrector in intermediate position between Fore And Aft and Athwartship lines through Magnetic Compass.

ELLIPSE Plane curve constituting locus of all points, sum of whose distances from two fixed points called Foci is constant. Orbits of planets, satellites, planetoids, and comets are these with center of attraction at one focus. See Conic Section, Current Ellipse.

ELLIPSOID Surface whose plane sections or cross sections are all Ellipses or circles, or solid enclosed by such a surface. See Ellipsoid Of Revolution, Spheroid.

ELLIPSOIDAL HEIGHT Height above reference Ellipsoid, measured along ellipsoidal outer normal through point in question. AKA Geodetic Height.

ELLIPSOID OR REFERENCE See Reference Ellipsoid.

ELLIPSOID OF ROTATION See Ellipsoid Of Revolution.

ELLIPTICITY Amount by which Spheroid differs from Sphere or Ellipse differs from circle,

found by dividing difference in lengths of semi-axes of Ellipse by length of semi-major Axis. See Flattening.

ELONGATION Angular distance of body of solar system from sun; angle at earth between lines to sun and another Celestial Body. Direction of body east or west of sun is usually specified.

ELVER Young eel.

EMBARK To go aboard ship, especially at outset of voyage or cruise. From Spanish, 'barco' for ship and 'embarcar' for go aboard.

EMBARKATION STATION Place on the Vessel from which a survival craft is boarded.

EMBAYED 1) Formed into or having Bays.
2) Unable to put to sea safely because of wind, current or sea conditions.

EMBAYMENT Any indentation of Coast regardless of width at entrance or depth of penetration into land. See Estuary.

EMERGENCY LIGHT Light put into service in an emergency when permanent or standby light has failed. It often provides reduced service in comparison with permanent light.

EMERGENCY POSITION INDICATING RADIOBEACON Small portable radiobeacon carried by Vessels and aircraft which transmits radio signals which can be used by search and rescue authorities to locate marine emergency. See EPIRB.

EMERGENCY POSITION INDICATING RADIOBEACON STATION Station in mobile service whose emissions are intended to facilitate search and rescue operations.

ENCLOSED SPACE Compartment that is not exposed to the atmosphere when all access and ventilation closures are secured.

END FOR END Reversal of a Line.

ENDLESS TANGENT SCREW Tangent screw which can be moved over its entire range without resetting.

ENDLESS TANGENT SCREW SEXTANT Marine Sextant having Endless Tangent Screw for controlling

position of Index Arm and vernier or micrometer drum.. Index Arm may be moved over entire arc without resetting.

END RING Circular metal ring set at end of Chain to take Anchor Shackle.

ENERGY Heat and motion power of molecules.

ENGINE 1) Any mechanical device, usually complicated, to achieve a physical function. From Latin, 'ingenium', meaning natural capacity. 2) Mechanical device used to generate power.

ENGINE ORDER TELEGRAPH Electrically or mechanically controlled signal or indicator that transmits and receives orders between the bridge and the engine room

ENGLAND EXPECTS EVERY MAN TO DO HIS DUTY Lord Nelson's command to the fleet at Trafalgar.

ENLISTED MEN'S PAY It was traditionally placed on their cap top so all could see whether or not the amount was correct.

ENOCH ARDEN, AN Rare creature who truly loves someone better than himself. From true and fictional stories of shipwrecked sailors who return home after being given up for dead and finding that their spouse has remarried, stay away so as to not interfere with their spouse's new happiness.

ENSIGN 1) National flag or banner. From Latin, 'insignia', badge. 2) Lowest of lowest or most junior commissioned officer rank in the Navy and Coast Guard. From tradition of squires or junior officers who led group under banner, ensign or flag. If hung over in the morning, take special precautions to ensure hoisting the correct Ensign to the top of Mast. 3) Occasionally refers to an organizational flag such as that for the Coast Guard Auxiliary or the U.S. Power Squadron.

ENTRANCE Seaward end of Channel, Harbor, etc.

ENTRANCE LOCK Lock between tideway and enclosed Basin when their water levels vary. By means of Lock, which has two sets of gates, Vessels can pass either way at all states of Tide. AKA Tidal Lock. See Nontidal Basin.

ENTRY 1) Forward designed section of Hull in the water. 2) Qualifies the type of Hull in terms of efficiency and behavior in relation to wave action. For example, a sharper Entry means faster Hull Speed for a racing Hull.

ENVIRONMENTAL COMMUNICATIONS

Broadcasts of information about the environmental conditions in which Vessels operate, i.e., weather, sea conditions, time signals adequate for practical navigation, notices to mariners, and hazards to navigation.

EP See Estimated Position.

EPHEMERIS (IDES) 1) Periodical publication or astronomical Almanac containing data on Celestial Bodies by tabulating predicted positions at regular intervals. It also contains other data of interest to astronomers and navigators. From Greek, 'ephemeris'. 2) Statement, not necessarily in publication, presenting correlation of time and position of Celestial Bodies or artificial satellites.

EPHEMERIS DAY 86,400 Ephemeris Seconds.

EPHEMERIS SECOND Defined second for tropical year January, 1900 at 1200 ET.

EPHEMERIS TIME Time scale used by astronomers as tabular argument of precise fundamental Ephemerides of sun, moon and planets.

EPICENTER Point of earth's surface directly above focus of earthquake.

EPIRB Emergency Position Indicating Radio Beacon. Small, continuously operating (after activation) maritime mobile service transmitter using or emitting a standard Distress frequency to alert authorities to the existence of a Distress situation and to facilitate search and rescue operations or lead rescuers to the scene.

EPOCH 1) Particular instant of time or date for which values of data are given. These values vary with time. 2) Given period of time during which series of related acts or events takes place. 3) Angular retardation of maximum of constituent of observed Tide behind corresponding maximum of same constituent of hypothetical equilibrium. AKA Phase Lag, Tidal Epoch. 4) 19 year metonic cycle over which Tidal height observations are averaged or meaned in order to establish

various Datums.

EPSON SALTS Essentially the same composition as seawater. From mineral springs in Epsom, England where the baths attracted many people searching for good health.

EQUAL ALTITUDES Two Altitudes numerically the same. Expression applies particularly to practice of determining instant of local apparent noon by observing Altitude of sun short time before it reaches Meridian and again at same Altitude after Transit. Time of local apparent noon being midway between times of two observations, if second observation is corrected as necessary for run of ship. AKA Double Altitudes.

EQUAL AREA MAP PROJECTION Map projection having constant area scale. Such a projection is not Conformal and is not used for navigation. AKA Authalic Map Projection, Equivalent Map Projection.

EQUAL INTERVAL LIGHT Navigation light having equal periods of light and darkness. AKA Isophase Light.

EQUATION OF TIME Difference at any instant between Apparent Time and Local Mean Time. It is measure of difference of Hour Angles of Apparent (true) sun and mean (fictitious) sun. Curve draw during year has two maxima: February 12, July 27 and two minima: May 15, November 4. Curve crosses zero line on April 15, June 14, September 1 and December 24. It is tabulated in Nautical Almanac, without sign, for 0000 and 1200 GMT each day.

EQUATOR Primary Great Circle of sphere or spheroid, such as earth, perpendicular to polar Axis. It bisects Earth into Northern and Southern halves.

EQUATOR, ASTRONOMICAL Line connecting points having 0° Astronomical Latitude.

EQUATOR, CELESTIAL 90° from celestial poles. AKA Equinoctial.

EQUATOR, FICTITIOUS Reference line serving as origin for measurement of fictitious Latitude.

EQUATOR, GEODETIC Connects points having 0° geodetic Latitude. It is Equator shown on Charts.

EQUATOR, GEOMAGNETIC Great circle 90°

PETER'S NAUTICAL TERMS DICTIONARY & GLOSSARY for BLUEWATER SAILING

from geomagnetic poles of earth.

EQUATOR, GRID Line perpendicular to prime grid meridian at origin.

EQUATOR, INVERSE See Equator, Transverse.

EQUATOR, MAGNETIC Line on surface of earth connecting all points at which magnetic dip is zero. AKA Aclinic Line.

EQUATOR, OBLIQUE Great Circle plane which is perpendicular to Axis of oblique projection.

EQUATOR, TERRESTRIAL 90° from earth's geographical poles.

EQUATOR, TRANSVERSE Meridian plane whose plane is perpendicular to Axis of transverse projection. AKA Inverse Equator.

EQUATORIAL Of or pertaining to Equator.

EQUATORIAL AIR See Air Mass Classification.

EQUATORIAL BULGE 1) Excess of earth's Equatorial diameter over polar diameter. 2) Direct and personal result of too much eating and not enough exercise.

EQUATORIAL CALMS See Doldrums.

EQUATORIAL CHART 1) Chart of Equatorial areas. 2) Chart on Equatorial Map Projection.

EQUATORIAL COUNTERCURRENT Oceanic Current flowing between and counter to Equatorial Currents. See Atlantic Equatorial Countercurrent, Pacific Equatorial Countercurrent, Indian Equatorial Countercurrent.

EQUATORIAL CURRENT See North Equatorial Current, South Equatorial Current.

EQUATORIAL CYLINDRICAL ORTHOMORPHIC CHART See Mercator Chart.

EQUATORIAL CYLINDRICAL ORTHOMORPHIC MAP PROJECTION See Mercator Map Projection.

EQUATORIAL GRAVITY VALUE Mean acceleration of gravity at Equator, approximately equal to 987.03 centimeters per second per second.

EQUATORIAL MAP PROJECTION Map projection centered on Equator.

EQUATORIAL NODE Either of two points where orbit of satellite intersects Equatorial plane of its primary.

EQUATORIAL SATELLITE Satellite whose orbital plane coincides or almost coincides with earth's Equatorial plane.

EQUATORIAL TIDAL CURRENTS Tidal currents occurring semimonthly as result of moon being over equator. At these times tendency of moon to produce Diurnal Inequality in Tidal Current is at minimum.

EQUATORIAL TIDE (S) Tides occurring semimonthly as result of moon being over Equator. At these times, tendency of moon to produce Diurnal Inequality in Tide is at minimum. Diurnal Tides that occur when moon crosses Equator. Opposite of Tropic Tide.

EQUILIBRIUM THEORY Model under which it is assumed that waters covering face of earth instantly respond to Tide producing forces of moon and sun and form surface of equilibrium under action of these forces. Model disregards friction and inertia and irregular distribution of land masses of earth. Theoretical tide formed under these conditions is called Equilibrium Tide.

EQUILIBRIUM TIDE Hypothetical Tide due to Tide producing forces under Equilibrium theory. AKA Gravitational Tide.

EQUINOCTIAL 1) See Celestial Equator. 2) Of or pertaining to Equinox or Equinoxes.

EQUINOCTIAL COLURE Great Circle of Celestial Sphere through Celestial Poles and Equinoxes; hour circle of Vernal Equinox. See Solstitial Colure.

EQUINOCTIAL POINT One of two points of intersection of Ecliptic and Celestial Equator. AKA Equinox.

EQUINOCTIAL SYSTEM OF COORDINATES See Celestial Equator System Of Coordinates.

EQUINOCTIAL TIDES Tides occurring near times of Equinoxes, when Spring Range is greater than average.

EQUINOCTIAL YEAR See Tropical Year.

EQUINOX 1) One of two points of intersection of Ecliptic and Celestial Equator, occupied by sun when its Declination is 0°. Occurs whenever the Sun crosses the Equator. AKA Equinoctial Point.

EQUINOX., AUTUMNAL Occurs on or about September 23, when sun's Declination changes from north to south; AKA September Equinox or First Point Of Libra.

EQUINOX, VERNAL Occurs on or about March 21, when sun's Declination changes from south to north. AKA March Equinox or First Point Of Aries.

ERROR Difference between value of quantity determined by observation, measurement or calculation and true, correct, accepted, adopted or standard value of that quantity.

ERROR ELLIPSE Contour of equal probability centered on intersection of two straight lines of position. For 50% Error Ellipse, there is 50% probability that Fix will lie within such ellipse. If angle of cut is 90o and standard deviations are equal, error figure is circle.

ERROR OF COLLIMATION See Collimation Error.

ERROR OF PERPENDICULARITY Error in reading of marine Sextant due to non-perpendicularity of index mirror to frame.

ERUS Greek God of the East winds. AKA Argestes in Latin. Offspring of Aeolus, King of Aeolian Islands and Eos or Auroa, Dawn.

ESCARPMENT Elongated and comparatively steep slope separating flat or gently sloping areas. AKA Scarp.

ESTABLISHED Place an authorized Aid to Navigation in operation for the first time.

ESTABLISHMENT OF THE PORT Average High Water interval on days of new and full moon. AKA Common or Vulgar Establishment, High Water Full And

Change. See Corrected Establishment.

ESTIMATE Determine roughly or with incomplete information.

ESTIMATED POSITION (EP) 1) Most probable position of Vessel or craft determined by using any information available, including incomplete data or data of questionable accuracy. Navigational point less precise than a Fix and more accurate than DR position. EP is based on best estimate of boat's position based on or correction to her Dead Reckoning plot and one Bearing. It can also be based on course run, speed, line of soundings, lines of position of questionable accuracy and estimates of such factors as drift caused by Wind or Currents. See Most Probable Position. 2) Place you have marked on Chart where you are sure you are not.

ESTIMATED TIME OF ARRIVAL (ETA) Predicted time of reaching destination or waypoint.

ESTIMATED TIME OF DEPARTURE (ETD) Predicted time of leaving a place.

ESTUARINE SANCTUARY Research area which may include any part or all of Estuary, adjoining transitional areas, and adjacent uplands, constituting to extent feasible a natural unit, set aside to provide scientists and students opportunity to examine, over period of time the ecological relationships within area. See Marine Sanctuary.

ESTUARY 1) Embayment of Coast in which fresh river water entering at its head mixes with relatively saline ocean water. Inlet of Sea where mouth of freshwater river meets incoming salty tide. See Tidal Estuary. 2) Lower reaches and mouth of river emptying directly into Sea where Tidal mixing takes place. See River Estuary. 3) Drowned river mouth due to sinking of land near Coast.

ETA Estimated time of arrival.

ETD Estimated time of departure.

ETESIAN Refreshing northerly summer wind of Mediterranean, especially over Aegean Sea, usually in July in August

EUARRE Nereid of Greek Mythology meaning 'perfect figure'.

EULERIAN CURRENT MEASUREMENT Direct observation of Current speed or direction, or both, during

period of time as it flows past recording instrument. See Lagrangian Current Measurement.

EULERIAN MOTION Slight wobbling of earth about its Axis of rotation, often called polar motion, and sometimes wandering of Poles. This motion which does not exceed 40 feet from mean position, produces slight variation of Latitude and Longitude of places on earth.

EUROPEAN DATUM Joining of numerous national systems including European, African, Russian and Asian.

EURUS Greek God of the East Wind.

EUPHROE Wood or metal fitting, a Deadeye, with many holes, use to rig or form a Crowfoot. From Dutch, 'juffreuw'.

EVAPORATION Physical process by which liquid or solid is transformed to gaseous state. Opposite of Condensation. Usually restricted in use to change of water vapor from liquid to gas. See Sublimation. See Latent Heat Of Vaporation.

EVECTION Perturbation of moon depending upon alternate increase or decrease of Eccentricity of its orbit, which is always maximum when sun is passing moon's Line Of Apsides and at minimum when sun is at right angles to it.

EVENING STAR Brightest planet appearing in western sky during evening Twilight.

EVENING TWILIGHT Period of time between sunset and darkness.

EVEN KEEL (, AN) 1) Ship's keel is perfectly horizontal where she draws same amount of water Forward as Aft and her fore and aft Draft are the same. Boat is floating on its designed waterline Opposite of Keel Over. 2) State of normality or where things move smoothly.

EVERGLADE 1) Tract of swampy land covered mostly with tall grass. 2) Swamp or inundated tract of low land, as used locally in southern U.S.

EXCESS OF ARC That part of Sextant arc beginning at zero and extending in direction opposite to that part usually considered positive. See Arc.

EXECUTE RT proword for carry out.

EXISTENCE DOUBTFUL Of uncertain existence. Expression is used principally on Charts to indicate possible existence of rock, Shoal, etc.; where actual existence has not been established. See Vigia.

EXISTING VESSEL Vessel that is not a new Vessel.

EX-MERIDIAN ALTITUDE Altitude of Celestial Body near Celestial Meridian of observer to which correction must be applied to determine Meridian Altitude. AKA Circum-Meridian altitude.

EX-MERIDIAN OBSERVATION Measurement of Altitude of Celestial Body near Celestial Meridian of observer, for conversion to Meridian Altitude or Altitude so measure.

EXPANSION Spreading out or moving apart of a substance or substances.

EXPLOSIMETER Portable combustible gas indicator.

EXPOSIVE FOG SIGNAL Fog signal consisting of short reports produced by detonating explosive charges.

EXPOSED WATERS Waters, except the Great Lakes, more than 20 nautical miles from a harbor of safe refuge.

EXTERNAL NOISE In radio reception, atmospheric radio noise and man made noise, singly or in combination. See Internal Noise.

EXTINGUISHED When a normally lighted Aid to Navigation fails to show its light signal.

EXTRA MASTER'S CERTIFICATE Optional certificate, highest obtainable of competency, awarded to Master, after passing a difficult examination.

EXTRAPOLATION Process of estimating value of quantity beyond limits of known values by assuming that rate or system of change between last few known values continues.

EXTRATROPICAL CYCLONE Any cyclonic scale storm that is not Tropical Cyclone, usually referring only to migratory frontal Cyclones of middle and high Latitudes. AKA Extratropical Low.

EXTRATROPICAL LOW low pressure center which refers to migratory frontal Cyclone of middle and higher latitudes. Tropical cyclones occasionally evolve into Extratropical Lows losing tropical characteristics and become associated with frontal discontinuity. See Extratropical Cyclone.

EXTREME HIGH WATER Highest elevation reached by Sea as recorded by Tide gage during given period. National Ocean Survey routinely documents monthly and yearly extreme High Waters for its control stations. See Extreme Low Water.

EXTREME LOW WATER Lowest elevation reached by Sea as recorded by Tide gage during given period. National Ocean Survey routinely documents monthly and yearly extreme Low Water for its control stations. See Extreme High Water.

EXTREMELY HIGH FREQUENCY (EHF)
Radio frequency of 0,000 to 300,000 megahertz.

EYE Small hole, loop, ring or screw with ringhead fixed in Deck to secure Blocks or Ropes. See Fairlead.

EYE BOLT Type of Eye.

EYEBROW Metal or wooden ridge, usually curved, over an air port, to shed water. AKA Rigol.

EYE GUARD Guard or shield on eyepiece of optical system, to protect eye from stray light, wind, etc., and to maintain proper eye distance. AKA Eye Shield, Eye Shade, Shade.

EYELET HOLES Any hole made in body of Sail, normally portected by rustproof metal ring.. See Reef Cringles, Reef Pendants.

EYE OF THE STORM Center of Tropical Cyclone marked by relatively light winds, confused seas, rising temperature, lowered relative humidity, and often by clear skies. See Storm Center.

EYE OF THE WIND Directly into the wind. Precise direction or point from which wind blows. See In The Wind.

EYEPIECE In optical device, lens group whihc is nearest eye and with which image formed by preceding elements is viewed.

EYES Extreme Bow. From Occuli and from eyes on Viking dragonheads seen on the Bow and from 'eye of the wind'.

EYE SHADE See Eye Guard.

EYE SHIELD See Eye Guard.

EYES OF THE SHIP Most early ships had heads of mythological monsters or patrons carved in the bow; hence, terms 'Figurehead', 'The Heads' and this term followed from eyes of figures placed there. Large "eyes" are still painted on Bows of Chinese junks. Sailors also believe that these 'eyes' help them and their ship through storm by magically seeing right of way. See Eye, Oculus.

EYE SPLICE Eye, fixed permanent loop or Bight made in end of Line, made by intertwining or splicing unlaidd Strands of rope into Standing part or end of Line or by tucking outer core of double braid rope back into itself or turning end back and splicing it upon itself.

F 'Foxtrot' in phonetic alphabet. Designated in International Code by square white flag with red diamond in center, its points touching middle of each of four edges. Hoisted in isolation it means; 'I am disabled, communicate with me.'

FACE BARGE Barge directly ahead of Towboat.

FACEWIRES Cables that connect Towboat to the barge directly ahead of it.

FACING UP Tightening or snugging the Towboat to the headlog of the barge.

FADING Fluctuation in intensity or relative phase of any or all of frequency components of received radio signal due to changes in characteristics of propagation path. See Selective Fading.

FAG END 1) Tail or end of a line which has been allowed to become frayed or unlaidd. AKA cow's tail or a Deadman. From English, 'flokken', to flap about. 2) Last part or remnants of something. 3) Don't even think about another definition.

FAGGED OUT 1) Tendency of a line to unlay, unravel and fray at the ends. It is the result of negligence because line ends should be kept properly Whipped. 2) Exhausted, tired and at loose ends.

FAHRENHEIT TEMPERATURE

Temperature based on scale in which, under standard atmospheric pressure, water freezes at 32° and boils at 212° above zero.

FAIR Not stormy; good; fine; clear.

FAIRLEAD Any of several devices or rigging fittings designed to guide, control lead or change direction of Line or Running Rigging in particular direction as it passes around or through. Eye, ring, bolt or loop, etc. fixed to Deck is used to guide Rope in required or desired direction, so Chafe and friction are minimized or avoided. It often gives better angle from Sail or Block to Winch or Cleat. See Padeye. 2) Large fitting used to direct a towline.

FAIRWAY 1) Main thoroughfare of shipping in Harbor or channel. Portion of a river or harbor where navigable Channel lies for large Vessels. 2) Middle of a Channel, major Channel or portion of a major Channel used for Navigation. AKA ship Channel. 3) Open path.

FAIRWAY BUOY Buoy marking Fairway, with safe water on either side. Its color is red and white vertical stripes. AKA Midchannel Buoy.

FAIR WEATHER FRIEND / SAILOR Cannot be counted on when the going gets tough.

FAIR WIND Wind which aids craft in making progress in desired direction. Used chiefly in connection with sailing Vessels, when it refers to wind which permits vessel to proceed in desired direction without tacking. See Following Wind; Tack, Favored.

FAITHFUL TO THE BITTER END Derivations of nautical term Bitter End and refers to anyone who insists on adhering to a course of action without regard to consequences.

FAKE, FAKING 1) One complete turning or course in coil or line. 2) Lay out, arrange or coil Line or chain on Deck in coils lengthwise with overlapping bights or large loops on Deck, to eliminate kinks and for easy running without fouling or inspection. From English, 'faken', coil. 3) Folding a Sail in layers on a Spar. AKA incorrectly as Flake. 4) What you don't want to do with your significant other.

FALKLAND CURRENT It flows northward between continent and Falkland Islands after

passing through Drake Passage. AKA Malvin Current. See Brazil Current

FALL 1) Hauling part of Tackle to which pulling power is applied in Hoisting. Rope that Rove or run through one or more Blocks or pulleys as a hoisting rig or Tackle. Lines by which lifeboats are raised and lowered. From English, 'fallen', fall. See Boat Falls. 2) See Autumn. 3) Decrease in value, such as Fall of Temperature. 4) Inking, subsidence, etc., Such as rise and Fall of Sea due to Tidal action or when waves or swell are present. See Waterfall.

FALL EQUINOX See Autumnal Equinox.

FALL FOUL OF; SOMEBODY Entanglement with a another person. See Foul, etc.

FALL (ING) OFF 1) Turning Bow of Vessel away from Wind without Jibing, while maintaining wind on same side of Vessel. AKA Bear Off, Bearing Away, Come Off or Head Off. Sailing ship or boat does this if Helm is held steady, but Vessel has tendency to run away from wind with Center of Effort too far forward of Center of Lateral Resistance. 3) What you try to avoid while on board.

FALLING STAR See Meteor.

FALLING TIDE Portion of Tide cycle between high Water and following Low Water in which Depth of water is decreasing. Sometimes term Ebb is incorrectly used as equivalent, but Ebb refers to horizontal rather than vertical movement. Opposite of Rising Tide.

FALL STREAKS See Virga.

FALL WIND Cold wind blowing down mountain slope. It is warmed by its descent, but is still cool relative to surrounding air. See Foehn and Katabatic Wind. Bora, Mistral, Papagayo and Vardar are examples of Fall Winds.

FALSE CIRRUS Cloud species unique to genus Cirrus, of such optical thickness as to appear grayish on side away from sun, and veil sun, conceal its outline, or even hide sun. Often originate from upper part of Cumulonimbus and are often so dense that they suggest clouds of middle level. AKA Thunderstorm Cirrus, Cirrus Spissatus.

FALSE COLORS See Colors.

FALSE HORIZON Line resembling Visible Horizon but above or below it.

FALSE LIGHT Light which is unavoidably exhibited by Aid To Navigation and which is not intended to be part of proper characteristic of light. Reflections from storm panes come under this category.

FAN On sea floor, relatively smooth feature normally sloping away from lower termination of Canyon or Canyon system.

FANCY LINE 1) Line for overhauling a Lee Topping Kift on a Square Rigging. Fancy used as in extra.
2) Type of Downhaul for a Fore and Aft Sail.

FANNIES 1) Large square containers originally holding tinned meats, then used for collecting food from the galley. See Sweet Fanny Adams. 2) Seaboard cooking kettle. 3) What you may like to see bending over the Anchor Chain on the Foredeck. AKA Fannys.

FANNY ADAMS See Sweet Fanny Adams. AKA Harriet Lane.

FANTAIL Aftermost and usually open part of a ship, usually of the main Deck; at the extreme Stern.

FARDAGE Old word for dunnage, especially applying to bulk Cargo. From Arabic, 'fardah', load or bundle.

FARENHEIT (F) Temperatute scale.

FARMER Bad sailor. See Plumber.

FARTHEL Furl, particularly for the courses and Spritsail. From Fardage.

FAR VANE Instrument sighting Vane on opposite side of instrument from observer's eye. Opposite of Near Vane.

FASHION PIECE (S) Timber or plate, usually curved, that forms part of Stern, to which ends of a square Transom are attached.

FAST Secured, securely Belayed or tied.

FASTENING 1) Any of several methods by which a Vessel's planks in a wooden boat or plates are

held or attached to the frames during construction using screws, nails, rivets and bolts that hold a boat together. 2) Screw or bolt used to Fasten Rigging and plumbing fixtures. From English, 'faestnian', fasten.

FAST ICE Sea ice which forms and remains attached to shore, to an ice wall, to an ice front, between Shoals or Grounded Icebergs. See Ice Shelf.

FAST ICE BOUNDARY Ice boundary at any given time between Fast Ice and Packe Ice.

FAST ICE EDGE Demarcation at any given time between Fast Ice and open water.

FATA MORGANA Frequently reported mirages of ships, houses and mirror images, often seen in the water as well as in air, and often doubled: inverted above each other. It is a complex imrage, characterized by marked distortion, genearll vertical which may cause objects to appear towering, magnified and sometimes multiplied. From Morgana le Fay, sorceress in Arthurian legend.

FATHER OF THE WATERS Roman Tiber River, English Thames River or American Mississippi.

FATHOGRAM Graphic record of depth measurements obtained by Fathometer. See Echogram.

FATHOM 1) Unit of linear nautical measure, equaling six feet, used primarily to measure Depth of water, Length of Lead Lines, Cordage and Anchor Rodes or Chains. From Anglo Saxon 'faedm' or 'faetm' meaning to embrace, 'faethm', embracing arms and 'foethm', space or length reached by fully extended arms embraced around sweetheart or object of affection. 2) Average distance span between average person's outstretched arms from middle fingertip to middle fingertip. 3) Get to bottom of things as in a problem or mystery. To penetrate, understand or figure something out.

FATHOM CURVE Depth Contour, with Depths expressed in Fathoms. AKA Fathom Line.

FATHOMETER Echo sounder or electronic instrument for measuring or determining Depth of water.

FATHOM LINE Depth Contour, with Depths expressed in Fathoms. AKA Fathom Curve.

FAUX PAUS 1) A social blunder or tactless act

PETER'S NAUTICAL TERMS DICTIONARY & GLOSSARY for BLUEWATER SAILING

or remark.. 2) From 'foo paw', whaler's term meaning to bungle job of killing whale.

FAVONIUS Roman God of the West wind.
AKA Zephyrus in Greek.

FAVOR Ease or help.

FAVORABLE CURRENT Current flowing in such direction as to increase Speed of Vessel over ground. Opposite of Unfavorable Current.

FAVORABLE WIND Wind which aids craft in making progress in desired direction. Usually used in connection with sailing Vessels. AKA Fair Wind. See Following Wind. Opposite of Unfavorable Wind.

FAVORED TACK Of the two courses when sailing upwind and tacking, the one which makes the best and optimum progress towards the destination. See Unfavorable Tack and On the Wrong Tack

FAY To join, as in a ship's timbers, implying precision and strength. From English, 'fegen', to fit.

FC See Final Great Circle Course Angle.

FCC RULES Regulations of the Federal Communications Commission in the U.S. that govern radio equipment and radio operations.

FEARNOUGHT Heavy woolen clothing worn by sailors since they need to 'fear nought' from the weather.

FEATHER Periscope's Wake.

FEAZE To fray out rope to get rope Yarn. From English, 'faes', fringe. AKA Fease.

FEDERAL COMMUNICATIONS COMMISSION (FCC)
U.S. regulator and licensor of radio transmission facilities.

FEDERAL PROJECT DEPTH Design Dredging Depth of Channel constructed by U.S. Army Corps of Engineers. It may or may not be goal of maintenance Dredging after completion of Channel. It must not be confused with Controlling Depth.

FEED THE CAMEL Type of Fender.

FEED THE FISH 1) Drown. 2) Being seasick over the side.

FEEL 1) Helmsperson's sense of how well the boat is sailing. 2) Something that should not be done to another without prior permission.

FEELING BLUE Someone who is depressed and sad. From the tradition of flying blue funeral flag at half mast and a blue stripe painted Fore and Aft on either side of Vessel upon demise of Captain or any other high officer on board ship.

FEEL THE BOTTOM 1) Effect on Ship Underway in shallow water which tends to reduce her Speed, make her slow in answering Helm, and often make her Sheer off Course. Speed reduction is largely due to increased wave making resistance resulting from higher pressure differences due to restriction of water flow around Hull. Increased velocity of water flowing past Hull results in increase in Squat. AKA Smell The Bottom. 2) Something that may result in a sexual harassment lawsuit unless you first have prior permission.

FELLOW 1) Outer edge of a ship's wheel. 2) The segments from which a ship's wheel are made. From English, 'felge', segments.

FELUCCA Small, two masted, lateen rigged Mediterranean sailing Vessel.

FEN Low lying tract of land, wholly or partly covered with water at times.

FENDER 1) Anything which serves to fend off impact of one body with another. One of several types of cushioning devices, fixed or portable, often rubber, hung or placed between Boat and Float or Pier to prevent Chafing or damage, protect Ship's side, cushion shocks and protect Hull when Vessel contacts another Vessel or object. From Latin, 'defendere', defend or protect. 2) Shortened form of 'defenders', which on old sailing Vessels, were heavy pieces of rope or hawsers hung over side of Ship or part of Hull, exterior timbers parallel to frames, used and used for same purpose. Definitely not to be confused with or called Bumpers.

FEND OFF To push off or away. Push vessel away by spar, boathook or fender or prevent contact when coming alongside dock, pier or another vessel.. ADA Stave Off.

FERRO CONCRETE Thin concrete shell on very small

mesh metal frame used in construction of Boats.

FERRULE Band, usually of iron, to strengthen a spar. From French, 'viral'. AKA Ferral.

FERRY 1) Any craft that makes a short and regular passage from one point to another. From Anglo Saxon, 'ferian'. Vessel that; a) operates in other than ocean or coastwise service; b) has provisions only for Deck passengers or vehicles or both; c) operates on a short run on a frequent schedule between two points over the most direct water route; and d) offers a public service of a type normally attributed to a bridge or tunnel. 2) Being that grants you wishes; no, wrong spelling.

FETCH 1) Arrive at desired point. From English, 'fecon', achieve. 2) Tack, Reach or Windward sailing course by which craft will clear Buoy or Shoal and can make destination without having to Tack. AKA Lay. From English, 'fetian', to reach. 3) Expanse of water, such as extent of bay or coastline indentation. 4) Distance across water or area of sea surface over which wind is or has been blowing. It is distance through which seas are generated, waves grow or wind system advances on body of water. AKA Generating Area. 5) Length of Fetch area, measured in direction of wind, in which seas are generated. 6) Distance between object and Windward shore. 7) To gain motion Ahead or Astern on a Vessel. 8) To prime a pump.

FETCH WAY, TO Mast that has become unstable at Deck level, usually from the working loose of its wedges. From french, 'fiche', fix.

FIB Accurate acronym for the Fishing Information Bureau.

FIBERS Smallest elements of hemp Rope, spun right-handed to form Yarn. See Strands.

FIBERGLASS 1) Glass in fibrous form, usually reinforced with synthetic resin such as polyester. It may be woven or mat form. 2) Fiber reinforced plastic.

FIBER REINFORCED PLASTIC (FRP) Plastics reinforced with fibers or strands of some other material.

FIBER ROPE Rope that is made from the natural fibers of a number of different plants such as abaca, flax, cotton, sisal or henequin or synthetic or human-made fibers such as nylon, dacron or polypropylene. See Wire Rope.

FICTITIOUS EQUATOR Reference line serving as origin for measurement of Fictitious Latitude.

FICTITIOUS LATITUDE Angular distance from Fictitious Equator. It may be called Transverse, Oblique, or Grid Latitude depending upon type of Fictitious Equator.

FICTITIOUS LONGITUDE Arc of Fictitious Equator between prime Fictitious Meridian and any given Fictitious Meridian. It may be called Transverse, Oblique, or Grid Longitude depending upon type of Fictitious Meridian.

FICTITIOUS LOXODROME See Fictitious Rhumb Line.

FICTITIOUS LOXODROMIC CURVE See Fictitious Rhumb Line.

FICTITIOUS MERIDIAN One of series of Great circles of lines used in place of Meridian for certain purposes.

FICTITIOUS PARALLEL Circle or line parallel to Fictitious Equator, connecting all points of equal Fictitious Latitude. It may be transverse, oblique or grid parallel depending upon type of Fictitious Equator.

FICTITIOUS POLE One of two points 90° from Fictitious Equator. It may be called transverse or oblique pole depending upon type of Fictitious Equator.

FICTITIOUS RHUMB See Fictitious Rhumb Line.

FICTITIOUS RHUMB LINE Line making same oblique angle with all Fictitious Meridians. It may be called transverse, oblique, or grid Rhumb Line depending upon type of Fictitious Meridian. AKA Fictitious Rhumb, Fictitious Loxodrome, Fictitious Loxodromic Curve. See Oblique Rhumb Line.

FICTITIOUS SHIP Imaginary craft used in solution of certain maneuvering problems, such as when ship to be intercepted is expected to change Course or Speed during interception run.

FICTITIOUS SUN Imaginary sun conceived to move eastward along Celestial Equator or Ecliptic at rate equal to average rate of Apparent Sun. See Dynamical Mean Sun, Mean Sun.

FICTITIOUS YEAR Period between successive returns of sun to Sidereal Hour Angle of 80° on about January 1. Length is same as Tropical Year, since both are based upon position of sun with respect to Vernal Equinox. AKA Besselian Year.

FID 1) Elongated, tapered, pointed, conical hardwood tool or wooden pin used for rope and line working and to separate or open Strands of rope, as in Splicing. See Marlinspike. 2) Wood or metal pin passing through Hell of an upper Mast, resting on Trestletree of its lower Mast. From Latin, 'figgare', to drive in or fix. 3) Bolt of wood or metal used to secure Heel of Topmast or Bowsprit. 4) See Fiddley.

FIDDLE Rack or rail on the edge of a table, dresser, counter, or stove; used to keep dishes, cookpots, etc., in place in rough seas. From early usage when they were often little stanchions using light lines stretched taut between them like fiddle strings. See Fiddley.

FIDDLE BLOCK Block with two Sheaves of different width and different diameter mounted on separate pins. It can take two different sizes of Rope and is used in restricted spaces.

FIDDLE BOARD Adjustable or detachable board, serving the same purpose as a Fiddle.

FIDDLEHEADS Ornamental timbers at the Beakhead. From their, curved general shape of a fiddle's head.

FIDLER'S GREEN Undersea paradise heaven for sailors with chorus girls, green grass, fiddlers play, wine flows and unlimited amounts of free rum and tobacco. Where sailors hoped they would go when they died ashore and where 'mates not permitted'. The opposite of Davy's Jones Locker.

FIDLEY or FIDDLEY 1) Grating or space over the machinery spaces or engine room. 2) Top of a boiler casing, the funnel casing. 3) Passage, ventilating shaft or air duct above and opening into an engineroom or boiler room through whihc fire room ventilators, escape ladders, and uptakes to smokestackes are lead. 4) Small searail affixed to a shelf or table to prevent things from sliding off.

FIELD DAY Day for general ship cleaning all parts of Ship on Deck and below. From sailor's sarcastic enthusiasm for scrubbing, polishing, etc.

FIELD GLASS Telescopic Binocular.

FIELD OF VIEW Maximum angle of vision, particularly of optical instrument.

FIFE RAIL Heavily braced rail structure, usually at the Foot of a Mast, on Deck, for Belaying Lines. Fife may have been a nickname for a Belaying Pin.

FIGHTING TOP Platform in which marksmen were posted to shoot down on Enemy's Decks. See Top.

FIGURE EIGHT (KNOT) Knot, usually placed in end of Line, in form of figure eight, used as stopper, to prevent end of Line from passing through or unreeving through Block, Grommet or Fairlead.

FIGUREHEAD 1) Statue like, carved, symbolic and adornmental figure, bust or ornament carried at Stem and attached below Bowsprit, directly over Cutwater. Work of art having great ornamental value, believed to be possessed of magical, protective qualities that would shield Vessel, crew and cargo from harm, often bare breasted. See Occuli, Naked Women and Topless Ladies. 2) Nominal leader or someone who has a title but no power or authority. From shipborne Figurehead which inspires pride and confidence, lends prestige but has no technical function whatsoever.

FIGURE OF THE EARTH See Geoid.

FIGURES RT proword for numerals or numbers follow.

FILIBUSTER 1) Name for robbers, gun runners and Buccaneers who seized islands off the Spanish American coasts and used them as bases for piracy. People wh engaged in war with a country with whom their own country was at peace. From the Dutch 'vrjbuiter', freebooter or pirate and which becomes 'filibustero' in Spanish. 2) Unorthodox delaying action of one who attempts to obstruct passage of legislation or bill through government by prolonged or endless speech making.

FILLING Increase in atmospheric pressure, particularly within Low. Opposite of Deepening.

FINAL COURSE ANGLE (FC) Final Course to Destination on Great Circle Route.

FINAL DIAMETER Diameter of Circle traversed by Vessel after turning through 360° and

maintaining same speed and rudder angle. It is always less than Tactical Diameter. It is measured perpendicular to original Course and between tangents at points where 180° and 360° of turn have been completed.

FINAL GREAT CIRCLE COURSE (FC) Direction, at destination, of Great Circle through that point and Point Of Departure, expressed as angular distance from reference direction, usually north, to that part of Great Circle extending beyond Destination. SEE Initial Great Circle Course. See Great Circle Course, Final.

FINDALS Distinct legal term for wreckage found in Sea. Any goods found in the sea, including an abandoned ship or derelict. See Flotsam, Jetsam and Lagan.

FINDING AN ANGEL Finding someone to give financial support to a certain project. From Columbus discovering just such a person in Luis de Sant-Angel to pay for his expedition.

FINE KETTLE OF FISH 1) Picnic where fish from a river were boiled in kettles but were often overcooked, undercooked, seasoned improperly or where the kettle spilled over or where eating fish was messy. 2) Mess or muddle.

FINGER RAFTED ICE Type of rafted ice in which floes thrust "fingers" alternately over and under the other.

FINGER RAFTING Type of rafting whereby interlocking thrusts are formed, each Floe thrusting 'fingers' alternately over and under other. It is common in Nilas and Gray Ice.

FINGER PIER Narrow pier projecting from Shore or at right angles from larger Pier.

FIN KEEL Keel shaped like the fin of fish, shorter and deeper than full length Keel.

FINNAN HADDIE Fish dish with Haddie from haddock and Finnan from River Findhorn or Scottish village of Findon.

FIORD See Fjord.

FIREBALL See Bolide.

FIRE DAMPERS Closures installed in a ventilating system to prevent air heated by a fire from flowing from

compartment to compartment.

FIRE POINT Lowest point or temperature at which sustained combustion takes place or when vapors of flammable liquid flash and continue to burn when an open flame or spark is present. See Ignition Temperature, Fire Temperature and Flash Point.

FIRESHIP 1) Derelict hulk set on fire and set to drift down upon Leeward enemy fleet. 2) Prostitute suspected of carrying venereal disease.

FIRE TEMPERATURE Lowest temperature required to ignite or cause self sustained combustion of a substance independent of any outside source of ignition or without a spark or flame being present. AKA Autoignition temperature.

FIRE WARP Line or wire rope (warp) run out to Buoy lying clear of Wharf or to extreme outboard end of Wharf by Vessel handling dangerous Cargo tied alongside a Wharf to assist in rapid movement to clear the Wharf in case of fire.

FIREFIGHTER'S OUTFIT Personal firefighting gear consisting of a self-contained breathing apparatus with attached lifeline, flashlight, flame safety lamp rigid helmet, boots, gloves, protective clothing and a fire axe.

FIRING THREE VOLLEYS AT MILITARY FUNERALS

Superstitious custom supposed to drive away evil spirits as they escaped from hearts of dead. Before advent of firearms, number three had mystical significance. In ancient Roman funeral rites earth was cast three times into grave; those present called dead three times by name, and on leaving grave site mourners called farewell three times.

FIRN Old snow which has recrystallized into dense material. Unlike snow, particles are to some extent joined together; but, unlike ice, air spaces in it still connect with each other.

FIRST LIGHT Beginning of morning Nautical Twilight, i.e., when center of morning sun is 12° below Horizon.

FIRST MATE Crew member necessary for Skippers to practice shouting instructions to.

FIRST NIGHT WATCH 2000 - 2400 watch at sea.

FIRST POINT OF ARIES See Aries, Vernal Equinox.

FIRST POINT OF CANCER See Summer Solstice.

FIRST POINT OF CAPRICORNUS See Winter Solstice.

FIRST POINT OF LIBRA See Autumnal Equinox.

FIRST RATE 1) Warships were once rated on scale from one to six based on their weight of ordnance carried. 2) Excellent.

SECOND RATE, THIRD RATE

FIRST QUARTER Phase of moon when it is near east quadrature, when western half of it is visible to observer on earth. See Phases Of The Moon.

FIRST WATCH The four-hour watch between 8 p.m. and midnight.

FIRST YEAR ICE Sea ice of not more than one winter's growth, developing from young ice, with thickness from 30 centimeters to 2 meters. It may be subdivided into Thin First Year Ice, White Ice, Medium First Year Ice and Thick First Year Ice.

FIRTH Long, narrow arm of Sea.

FISCHER ELLIPSOID OF 1960 Reference ellipsoid whose semimajor Axis is 6,378,166.0 Meters, semiminor Axis is 6,356,784.298 meters and flattening or ellipticity is 1/298.3. AKA Fischer Spheroid of 1960.

FISCHER ELLIPSOID OF 1968 Reference ellipsoid whose semimajor Axis is 6,378,150.0 Meters, semiminor Axis is 6,356,768.337 meters and flattening or ellipticity is 1/298.3. AKA Fischer Spheroid of 1968.

FISH 1) Splint for a broken or damaged spar. 2) Act of repairing or strengthening a cracked or broken mast, yard or Spar by lashing pieces of timber called Fish using turns of light Line. From French, 'fiche', to fix. 3) Bring an Anchor 'home' when hoisting, to secure it for sea or when the Anchor has been Stowed on the Bill-Board. 4) Any towed sensing device. 5) Any one of a number of our tasty friends in the sea.

FISHED Done to Anchor when it is brought into horizontal position and secured to Billboard.

FISHERMAN'S BEND Bend is a reliable method of making a line fast to a Spar or ring, especially the ring, or bending shackle on an Anchor. AKA Anchor Bend.

FISHERY CONSERVATION ZONE See Fishing Zone.

FISHFALL, FROGFALL Rain of fish or frogs from sky, occurring fairly often, probably due to waterspouts.

FISH FOR COMPLIMENTS Try to obtain praise by posing leading questions.

FISH HAVENS Areas established by private interests, usually sport fishermen, to simulate natural Reefs and Wrecks that attract fish. Reefs are constructed by dumping assorted junk in areas which may be of very small extent or may stretch considerable distance along Depth Contour. They are outlined and labeled on Charts. AKA Fishery Reefs.

FISHING ZONE Offshore zone in which exclusive fishing rights and management are held by coastal nation, usually extending to point 200 Nautical Miles from baseline of where Territorial Sea is measured.

FISH IN TROUBLED WATERS Take advantage of another's marital troubles to gain something for yourself. From fact that fish bite best in rough waters.

FISH LEAD Type of sounding Lead used without removal from water between soundings.

FISH NAMES (FROM OTHER ANIMALS) Many fish are named after animals, including: alligator, bird, boar, buffalo, cat, dog, elephant, frog, goat, goose, hawk, horse, leopard, lizard, parrot, porcupine, rabbit, robin, sheep, squirrel, tiger, toad, unicorn, viper, wolf and zebra fishes.

FISH OR CUT BAIT Demand that someone should take definite stand, get on with job, get out of way or take action instead of procrastinating, or else stop trying and give somebody else chance to act. From commercial fishing whose crew duties would be to fish or cut bait. From someone in choice fishing spot being told to stop fooling around, either drop line in water and fish or cut the bait from line and let another take their place.

FISH OUT OF WATER One who is awkward and out of their usual surroundings.

FISHPLATE Triangular steel plate at the pointed end of the towing bridle.

FISH STAKES Poles or stakes placed in shallow water to outline fishing grounds or to catch fish.

FISH TACKLE Tackle by which the Anchor is Stowed on the Billboard.

FISH TRAP AREAS Areas established by Corps of Engineers in which traps may be built and maintained according to established regulations. Fish Stakes which may exist in these areas are obstructions to navigation and may be dangerous. Limits of these area and cautionary note are usually Charted.

FITS THE BILL Just right for its intended purpose. From bill of lading or ship's manifest that was always carefully checked when unloading by matching item for item.

FITTING Piece of a boat's gear.

FITTING OUT 1) Preparation period for Ship preparing to go to Sea. 2) Phase in life of Ship which follows launch when masts, rigging, machinery, wiring, internal fittings, etc., are installed and painting done.

FIX Navigational term for well established, exact, known or certain position of Ship at Sea based on or determined by intersection of two or more simultaneously taken Lines of Position or crossed Bearings, either visual or electronic, or by any other means believed to be acceptably accurate. It is more accurate than either an EP or DR position. Position determined without reference to any former position. From French, 'fix.

FIXED Light showing continuously and steadily or is continuously on.

FIXED AND FLASHING (LIGHT) Light in which Fixed Light is combined with Flashing Light of higher luminous intensity. See Undulating Light.

FIXED AND GROUP FLASHING (LIGHT) Fixed light varied at regular intervals by group of two or more flashes of greater intensity.

FIXED ANTENNA RADIO DIRECTION FINDER Radio direction Finder whose use does not require rotation of antenna system.

FIXED LIGHT 1) Light which appears continuous and steady. 2) Light supported on fixed structure as distinct from light on floating support.

FIXED MARK Navigation Mark fixed in position.

FIXED SATELLITE See Geostationary Satellite.

FIXED STAR Star whose apparent position relative to surrounding stars appears to be unvarying or fixed for long periods of time.

FJORD Any long, deep, narrow arm of Sea or Bay running up between high banks, land or cliffs. It often has relatively shallow sill across entrance. AKA fiord.

FLAG ALARM Semaphore type flag in indicator of instrument, to serve as signal, usually to warn that indications are unreliable.

FLAGPOLE Label on nautical Chart which indicates single pole from which flags are displayed. Term is used when pole is not attached to building. See Flagstaff.

FLAG OFFICER An Admiral, each of whom has their own flag. The Admiral of the Fleet flies his on the Main mast and lesser Admirals fly their flags from the foremast or mizzen.

FLAGSTAFF Flagpole rising from building.

FLAKE (ING) Lay out anchor chain on Deck for inspection. See Fake.

FLAKE (ING) OUT Drop Out or making hasty withdrawal from activity because of fatigue. Possibly from flaking out weakened anchor chain.

FLAME ARRESTER Safety device, such as a metal mesh protector to prevent an exhaust backfire from causing an explosion. Operates by absorbing heat.

FLAMMABLE LIMITS Upper and lower percentage of vapor concentrations in an atmosphere which will burn if an ignition source is present.

FLAMSTEED'S NUMBER Number
sometimes used with possessive form of Latin name of constellation to identify Star.

FLANK SPEED Maximum possible speed.
Speed required to outflank enemy ships or to get to a new position in the shortest possible time.

FLARE 1) Outward curvature or spread of Vessel's Bow, Topsides or sides near Bow. Increase of width of Bows from Waterline upward to deck. 2) Emergency pyrotechnic device or distress signal that can indicate Distress or attract attention.

FLASH Relatively brief appearance of light, in comparison with longest interval of darkness in Period of light. See Occultation.

FLASHER 1) Electrical device which controls characteristic of lighted Aid To Navigation by regulating power to lamp according to certain pattern. 2) Someone who livens up an otherwise uneventful day at Sea.

FLASHING (LIGHT) 1) Navigation light that is on less than it is off in a regular sequence of single flashes. Total duration of light in Period or cycle is shorter than total duration of darkness and appearances of light flashes are usually of equal duration. See composite Group Flashing Light, Group Flashing Light, Long Flashing Light, Quick Light, Single Flashing Light. 2) Process of reducing amount of permanent magnetism in Vessel by placing single coil horizontally around vessel and energizing it. See Deperming, Wiping 3) What some people might do in trench coats in order to liven up life on board your Vessel.

FLASHLIGHT Cylindrical object used to store dead batteries.

FLASH PACKET Prostitute dressed to the teeth and actively seeking customers.

FLASH POINT Temperature at which liquid gives off a flammable vapor when heated or enough vapor to form an ignitable mixture near its surface. It is a lower temperature than Ignition Temperature. See Fire Point.

FLASH TUBE Discharge lamp, operated with electronic equipment, that repeatedly gives a high light output for a very brief period such as a strobe light.

FLASHER SIGNALING Transmission of optical

signals by Morse Code using portable signaling lamps.

FLAT 1) Large flat area attached to Shore consisting usually of mud but sometimes of sand and rock. AKA Tidal Flats. See Salt Marsh, Slough, Tidal Marsh. 2) On Sea Floor, small level or nearly level area.

FLATBOATS Boats often fitted with shelves and stocke with goods, and floated downriver to sell at towns too small to have permanent stores. AKA Kentucky Arks, Keelboats and Store Boats.

FLAT CALM Totally devoid of wind.

FLATTENING Ration of difference between equatorial and polar radii of earth of its equatorial radius. Flattening of earth is ellipticity of spheroid. Magnitude of Flattening is sometimes expressed as numerical value of reciprocal of Flattening. AKA Compression.

FLATTOP An aircraft carrier.

FLAW Narrow separation zone between Pack Ice and Fast Ice, where pieces of Ice are in chaotic state. It forms when Pack Ice shears under effect of strong wind or Current along Fast Ice boundary. See Shearing.

FLAW LEAD Passageway between Pack Ice and Fast Ice which is navigable by surface Vessels.

FLAW POLYNYA Polynya between Pack Ice and Fast Ice.

F-LAYER Second principal layer of ionization in Kennelly-Heaviside region, existing only during hours of darkness. It divides into two speparate layers during daylihgt hours. See D-Layer, E-Layer, F1-Layer, F2-Layer.

F1-LAYER Lower of two layers into which F-Layer divides during daylight hours, reaching maximum density at noon. Ti's density varies and may disappear completely during some winter months.

F2-LAYER Higher of two layers into which F-Layer divides during laylight hours. It reaches maximum density at noon and generally has greater influence on radio wave propagation than F1-Layer.

FLEET Large body or group of ships. All Ships comprised under one command or allotted to one particular duty, all shipping under national

PETER'S NAUTICAL TERMS DICTIONARY & GLOSSARY for BLUEWATER SAILING

flag or flag of specific shipping company. From Anglo Saxon, 'fleet', fleet or 'floet' or 'floetan'. See Flotilla.

FLEET ADMIRAL Five star Admiral, a rank only used in time of war.

FLEET GUIDE One of series of port information booklets for United States naval bases prepared for U.S. Navy use only.

FLEETNET INMARSAT broadcast service for commercial traffic.

FLEETING 1) Haul a Block and Tackle apart as far as possible without allowing the hauling part to pass through the Sheave. 2) Mooring, loading, unloading and transfer of barges in river service.

FLEMISH (ING) 1) General descriptive word relating to gear, procedures and neat seaman emanating from the Netherlands and Belgium. 2) Short name for a Flemish Coil, a flat ornamental coil of Line. 3) Act of creating a Flemish Coil by Coiling a Line spirally or concentrically like a watch spring. Starting at the center and laid flat on Deck, either for appearance or to make a mat.

FLEMISH COIL See Flemish.

FLEMISH HORSE Footrope at the extreme end of a Yard on a Square Rigger. Horse was another name for a Footrope. See Horse.

FLINDERS BAR Bar of soft, unmagnetized iron in or on Binnacle. It is placed vertically near Magnetic Compass and is used in compensating Compass error from vertical soft iron magnetism in Vessel and to reduce Deviation. Name after British Captain Matthew Flinders.

FLOAT Floating platform, usually accessible from shore, to which a boat is tied when Docked.

FLOAT CHAMBER Sealed, hollow part attached to Compass Card of Magnetic compass as part of compass Card assembly, to provide buoyancy to reduce friction on pivot bearing.

FLOAT FREE LAUNCHING OR ARRANGEMENT
Method of launching a survival craft where survival craft is automatically released from a sinking Vessel and is ready for use.

FLOATING From the Viking 'flota' meaning the sea or water. See Afloat.

FLOATING AID Buoy serving as Aid To Navigation, secured in its charted position by a Mooring called a sinker.

FLOATING BREAKWATER Moored assembly of floating objects used for protection of Vessels riding at Anchor.

FLOATING DOCK Form of dry Dock consisting of floating structure of one or more sections, which can be partly submerged by controlled flooding to receive Vessel, then raised by pumping out water so Vessel's bottom can be exposed. See Dock, Floating; Graving Dock.

FLOATING ICE Any form of ice found floating in water. Principal kinds are lake ice, river ice, sea ice and glacier ice. Concept includes ice that is stranded or grounded.

FLOATING MARK Navigation mark carried on floating body such as Lightship or Buoy.

FLOAT PIPE Pipe used as Float Well.

FLOAT WELL Vertical pipe or box with relatively small opening or orifice in bottom. It is used as Tide gage installation to dampen wind waves while freely admitting Tide to actuate float which operates gage. AKA Stilling Well.

FLOE Any relatively flat piece of sea ice 20 meters or more across. They are subdivided according to horizontal extent. See Floe, Big, Giant, Medium, Small, Vast.

FLOEBERG Massive piece of sea ice composed of Hummock or group of Hummocks frozen together, and separated from any ice surroundings. It may float showing up to 5 meters above Sea Level.

FLOE, BIG Floe 500 to 2000 meters across.

FLOE, GIANT Floe over 5.4 nautical miles across.

FLOE, MEDIUM Floe 100 to 500 meters across.

FLOE, SMALL Floe 20 to 100 meters across.

FLOE, VAST Floe 1.1 to 5.4 nautical miles across.

FLOG (GING) Commonplace and extremely painful punishment using a Cat-O'-Nine-tails dipped in salt water. Prisoner then had to clean up the mess.

FLOGGING A DEAD HORSE 1) Difficulty of getting the crew to do any extra work during this first 'unpaid' month at sea. To mark end of 'Dead Horse' month, Crew would make an canvas effigy of horse stuffed with straw and parade it around Decks with great pomp and ceremony, sometimes collecting money from passengers. Then with great noise and celebration, horse would be hoisted to end of Yard, cut down and dropped in to Sea. This often occurred in Horse Latitudes. See Dead Horse. 2) Exercise in futility.

FLOOD 1) AKA Flood Current. Movement of incoming Tidal Current from sea or rising Tide toward land, Shore, up Tidal stream or upstream. Sometimes incorrectly named as flood tide. Opposite of Ebb. 2) AKA Flooding.

FLOOD AXIS Average direction of Tidal Current at strength of Flood.

FLOOD CURRENT AKA Flood. Movement of Tidal Current toward Shore or up tidal river or estuary. Opposite of Ebb Current.

FLOODED ICE Sea ice which has been floded by melt water or river water and is heavily loaded by water and wet snow.

FLOODGATE Gate for shutting out, admitting or releasing body of water, a slui ce.

FLOOD, GREATER In mixed type of reversing Current, term applied to Flood Currents of greater speed of each day.

FLOODING What can be done to compartments aboard Ship when fire occurs. It can also be used to right List in Ship after she has sprung a leak. AKA counter flooding.

FLOOD INTERVAL Short for Strength Of Flood Interval. Interval between transit of moon over Meridian of place and time of following strength of flood. See Lunicurrent Interval.

FLOOD, LESSER In mixed type of reversing Current, term applied to Flood Currents of lesser speed of each day.

FLOOD, MAXIMUM Maximum speed of Flood Current, speed of which alternately increases and decreases without coming to Slack or reversing. 2) Flood Current at time of greatest velocity.

FLOOD, MINIMUM Minimum speed of Flood Current, speed of which alternately increases and decreases without coming to Slack or reversing. 2) Flood Current at time of greatest velocity.

FLOOD PLAIN Belt of low flat ground bordering stream or river Channel that is flooded when runoff exceeds capacity of stream Channel.

FLOOD STRENGTH Phase of Flood Current at time of maximum speed. Also, the speed at this time. AKA Strength of Flood.

FLOOR 1) Athwartships running from Bilge to Bilge, 'Thwartship or Transverse structural member in the bottom of a boat or Hull, just above the Keel or Keelson, used to hold the frames in place. From Norse, 'flor', applied to later Viking ships. 2) Essential horizontal surface constituting principal level of ground under body of water. See Bed, Bottom.

FLOORBOARDS Surface of cockpit on which the crew stand.

FLORIDA CURRENT Swift ocean Current that flows through Straits of Florida from Gulf of Mexico to Atlantic Ocean. It merges with Antilles Current to form Gulf Stream.

FLOTATION Foam blocks or air tanks that keep a swamped boat afloat.

FLOTILLA Small group of ships. Operational grouping for destroyers and lighter warships. See Squadron. From Old Spanish, 'flota', meaning small Fleet.

FLOTILLA LEADER Normally slightly larger than similar ships of their Class to accommodate officer commanding Flotilla, staff, signaling equipment, etc.

FLOTSAM Distinct legal term for wreckage found in Sea. Goods or wreckage debris floating on sea or water which belonged to Crown. Floating articles,

particularly those that are swept overboard. From Latin 'fluere', to float. See Findals, Jetsam, Jettison, and Lagan.

FLOTSAM AND JETSAM 1) Remains of human shipwrecks made by life in real world. 2) Cast off elements of society or odds and ends.

FLOUNDER 1) See and AKA Founder. 2) A fish.

FLOW Total Current or combination of Tidal Current and nontidal Current. See Tidal Stream.

FLUORESCENCE Emission of light or other radiant energy as result of and only during absorption of radiation from some other source.

FLUORESCENT CHART Chart reproduced with fluorescent ink or on fluorescent paper, which enables user to read Chart under ultraviolet light.

FLUKE 1) Flat, palm shaped or shovel shaped blade of Anchor on end of each Arm that digs in to Bottom to prevent dragging. AKA Palm. From English, 'floc', meaning the fluke of a fish. 2) Chance happening. 3) Trade name for an electronic voltmeter whose company's informal motto is 'if it works, it's a Fluke'.

FLUKE ANGLE Angle at which Fluke penetrates soil.

FLUKY Unpredictable and weak, often referring to wind at sea when it is light and variable.

FLURRY See Snow Flurry.

FLUSH DECK Deck without any superstructure. Type of Upper Deck which is flat, free of all obstructions and exposed to elements. Often adopted to simplify sail handling.

FLUSH DECK VESSEL Vessel with a continuous Weather Deck located at the uppermost Sheer line of the Hull.

FLUXMETER Instrument for measuring intensity of magnetic field.

FLY 1) Length of Flag. Opposite of Hoist. 2) Free end of flag.

FLY BY NIGHT 1) Large square sail used

downwind or on reach. Could be set and handed easily and quickly, which made it especially suitable for night sailing when it was expedient to take in the light sails less they prove difficult to handle in darkness. Accessory squaresail normally set on temporary Yard. 2) A shifty person, here today and gone tomorrow. 3) Dubious reputation.

FLYING 1) Anything high in a ship, as a Flying Jib or Flying Bridge. 2) Hoist a Sail or Flag free of stops.

FLYING BRIDGE High steering position, usually above normal wheelhouse of power cruiser. Added set of controls above level of normal control station for better visibility. Usually open, but may have a collapsible top for shade. AKA flybridge.

FLYING CLIPPER Transoceanic flying boats. From Clipper.

FLYING DUTCHMAN 1) Fabled Dutch sailor condemned to sail seas until judgement day, after trying and failing to round Cape of Good Hope and Cape Horn against strong winds. 2) Ghostly ship is considered bad omen by sailors who think they see it. Any mariner who sees it will die within the day. Cursed spectral ship sailing back and forth on its endless voyage, with ancient white-hair crew crying for help while hauling at her sail. It inspired Samuel Taylor Coleridge to write classic "The Rime of the Ancient Mariner". 3) Superstition that any mariner who sees this ghost ship will die within day.

FM 1) See Frequency Modulation, a communications technology that changes the frequency of the transmitting radio in accordance with the sound. 2) F***ing Magic.

FOCAL LENGTH Distance between optical center of lens, or surface of mirror, and its focus.

FOCAL PLANE Plane parallel to plane of lens or mirror and passing through focus.

FOCAL POINT See Focus.

FOCS'L Shortening of Forecastle, raised Deck at fore end of Ship.

FOCUS 1) Point at which parallel rays of light meet after being refracted by lens or reflected by mirror. AKA Focal Point. 2) Point having specific significance relative to geometrical figure. See Ellipse,

Hyperbola, Parabola. 3) True center of earthquake, within which strain energy is first converted to elastic wave energy. 4) Process of adjusting an optical instrument to produce clear and well defined image.

FOD Acronym for 'foreign object damage'. Very small object sucked into jet engine can damage the turbine blades.

FOEHN (WINDS) Warm, dry winds blowing down Leeward slope of mountain or resulting from downslope flow of air, often across valley floor or plain.

FOG Visible aggregate or accumulation of tiny particles or minute water droplets of condensed water vapor suspended in air or atmosphere near surface and capable of reducing visibility. Refers to visibility greater than or equal to 1/2 NM and less than 3 NM or visibility below 1 KM.

FOG, ADVECTION Type of Fog which can occur any time warm, moist air blows over a cold surface cool enough to drop its air temperature below the Dew Point. See Sea Fog.

FOG BANK Well defined mass of Fog observed at distance, most commonly at Sea.

FOGBOUND Surrounded by Fog. Term is used particularly with reference to Vessels which are unable to proceed because of Fog.

FOGBOW Faintly colored circular arc similar to Rainbow but formed on Fog layers containing drops whose diameters are of order of 100 microns or less. See Bouguer's Halo.

FOG, DENSE Refers to visibility less than 1/2 NM. It usually occurs when air that is lying over warmer surface is advected or moved across colder (often water) surface and lower layer of airmass is cooled below its Dew Point.

FOG DETECTOR Device that automatically determines conditions of visibility and turns on or off sound signal, fog signal or additional light signals.

FOG, DRY Fog that does not moisten exposed surfaces.

FOGEY 1) Nickname for invalid sailor. From Scottish, 'feggy' or 'fuggy' which means covered with moss or grass. 2) Old fashioned person.

FOG, GROUND Fog that hides less than six-tenths of sky and does not extend to base of any clouds.

FOGHORN Siren for signaling in fog. From instrument used for same purpose on board ancient sailing Ships; cow's horn with end cut off.

FOG, ICE Fog composed of suspended particles of ice, partly ice crystals 20 to 100 microns in diameter.

FOG, MONSOON Advection Fog occurring as Monsoon circulation transports warm moist air over colder surface.

FOG, RADIATION Fog primarily result of cooling surface of earth and adjacent layer of atmosphere by radiational cooling.

FOG, SEA Common Advection Fog caused by transport of moist air over cold body of water.

FOG SIGNAL See Sound Signal.

FOG, STEAM Fog produced by apparent steaming of relatively warm sea in presence of very cold air. AKA steam mist, frost smoke, sea smoke, arctic sea smoke, water smoke.

FOHN Wind which is characteristic of many mountainous regions of world and called by many different names (See Chinook, Santa Ana, etc.). This term is more specifically applied in Alpine valleys as a warm dry wind which blows down lee side of hill, mountain, mountain range after it has mechanically risen over windward side where it has lost its moisture.

FOILS Keel, Centerboard, Rudder and Sails.

FOLLOWING SEA (S) Waves or overtaking Sea that comes from Astern or behind. Se in which waves move in general direction of Heading. Opposite of Head Sea. See Beam Sea, Quartering Sea.

FOLLOWING WIND Wind blowing in general direction of Vessel's course. Equivalent aeronautical expression is Tail Wind. Opposite of Head Wind. See Beam Wind, Cross Wind, Fair Wind, Favorable Wind, Unfavorable Wind.

FOOT 1) 3) Lowest part of any object

such as Mast, Spar or Sail. 2) Lower full edge or bottom length of Sail. 3) Steer slightly lower than Close Hauled in order to increase boat speed. AKA Footing. Opposite of Pinching. 4) Twelve inches or 30.48 centimeters. 5) Bottom of slope, grade or declivity.

FOOTLOOSE 1) Sails on certain Vessels, like barges, which were allowed to hang loose and were not lashed to the (non existent) boom and thus not as properly shaped. These sails were more difficult to control. 2) Also footloose and fancy free for human behavior.

FOOTROPE 1) Fixed line suspended under Yard or Bowsprit of sailing ship, used stepping place for one's foot. 2) Bolt Rope along lower edge or Foot of Sail. See Horse.

FOOT TIMBERS Traditional elements of wooden boatbuilding: transverse short ribs et in spaces between Futtocks to reinforce lower Strakes.

FORAMINIFERA Small, single cell, jelly-like marine animals with hard shells of from one to many chambers.

FORBES LOG Log consisting of small rotator in tube projecting below Bottom of Vessel, and suitable registering devices.

FORCE Measurement in the Beaufort Scale.

FORCED WAVE Wave generated and maintained by continuous force. Opposite of Free Wave.

FORE Anything Forward or located at front and often used as prefix indicating location toward Bow. From Anglo Saxon.

FORE AND AFT 1) Name of Vessel's Rig, including Gaff, Bermuda. 2) Name of Vessel's Sails, when plane of principal Sails is basically on Centerline or set on booms on longitudinal Axis. First seen in Dutch waters. See Lateen, Square Rig. 3) In direction of, in line or oriented parallel to Keel, from front to back or Stem to Stern. Along length of Vessel. Opposite of Athwartship. 4) Everywhere on Boat.

FORE AND AFT STAY Stays leading Forward (Headstay and Inner Forestay) or Aft (Backstay).

FORECABIN Forward Cabin of a boat as opposed to Aft

Cabin.

FORECAST 1) Formalized Weather prediction of future occurrences based on an analysis of present and past data. 2) A guesstimate.

FORECASTLE 1) Raised and protected platform at Bow like castle, often armored 'fighting castle', for archers and musketeers. 2) Foredeck or upper Deck of ship or boat forward of Foremast or Forward part of Main Deck. 3) Forward portion, below Decks of Vessel or cabin located Forward of the main Mast and traditionally used for housing Forward Crew's living Quarters. From old ships when wooden castles were built on the forward and after parts main Deck from which archers and other fighting men could shoot arrows and throw spears, rocks, etc. AKA Fo'c's'l. See Pavisade.

FORECOURSE Foresail on Square Rigged Ships.

FOREDECK Forward part of the Main Deck of a Vessel, usually raised.

FOREFOOT 1) Part of the Hull where the Stem or curved portion of the Stem joins or intersects the Keel or forward part of the Keel, adjoining the lower part of the Stem. From English, 'forfot'. 2) What a cow has.

FOREGANGER See Bending Shot. From Dutch', *voorganer*'.

FOREGUY Restrains the Spinnaker Pole from lifting.

FORELAND See Headland, Promontory.

FOREMAST Most Forward Mast or frontmost Mast nearest Stem of sailboat having two or more masts. In two masted Vessels such as Ketch, Yawl where Foremast is higher than Aft Mizzen Mast, it is termed Mainmast.

FORENOON WATCH 0800 - 1200 Watch at Sea. See Afternoon Watch, Dogwatch, First Night Watch, Middle Watch, Morning Watch.

FOREPEAK Extreme forward or forwardmost compartment or space in Bow of Vessel, Forward of Forecastle or closest to Bow, usually used for Stowage. See After Peak and Peak.

- FOREREACH** 1) Ship held steady with some sails aback. 2) Carry Way while heading almost into the Wind.
- FORESAIL** Jib, Genoa or Forecourse. AKA Headsail.
- FORSHORE** That part of Shore ob beach which lies between low water mark and upper limit of normal wave action. See Backshore.
- FORESTAFF** See Cross Staff.
- FORESTAY** Stay or support wire running from the Foredeck to high on the Mast, inside the Headstay.
- FORESTAYSAIL** Sail attached to the Forestay, similar to a Jib.
- FORETRIANGLE** Area bounded by the Mast, Foredeck and Headstay.
- FOREWARD** Towards Bow or pointy end of the boat. One object is Forward of another when it is closer to Bows.
- FORGING AHEAD** Going ahead slowly.
- FORK** Branch of canyon or valley on Sea floor.
- FORK IN THE BEAM** When senior British Naval officer placed this above his head, it meant he wanted privacy and all junior midshipment had to leave the Mess.
- FORM LINES** Broken lines resembling contour lines but representing no actual elevations, which have bee sketched fro visual observation or from inadequate or unreliable map sources, to show collectively shape of terrain rather than elevation.
- FORMATION AXIS** Arbitrarily selected direction within formation of ships from which all bearings used designation of station are measured; Bearings are always expressed in true direction from center.
- FORMATION CENTER** Arbitrary point around which formation of ships is centered, designated 'station zero'.
- FORMATION GUIDE** Ship designated as
- referenc eVessel upon which all ships in formation maintain position.
- FORWARD** On board Vessel or boat, direction to front, toward Bow. See Aft, Ahead.
- FORWARD OF THE BEAM** Any direction between Broad On The Beam and Ahead. See Aft The Beam.
- FORWARD QUARTER SPRING** Mooring Line running forward from the Quarter to control the forward and backward motion of a Vessel in its berth.
- FOTHER** 1) Make or apply a Collision Mat.
2) Materials for a Collision Mat. From Anglo Saxon, 'foden', stuffing.
- FOUL (ED)** 1) Tangle, entanglement (such as a line in propellor, clogged at sea or anchor entangled in own cable. Any piece of equipment that is jammed or entangled, or dirtied. 2) Kinked (such as rope). 3) Unfavorable (such as weather conditions). 4) Covered with rock, coral or debris (such as bottom conditions found on a chart). 5) Noxious (such as an odor). 6) Violate a racing rule.

FOUL (ED) ANCHOR Anchor with rope or chain entwined, prevalent in Navy designs and insignia. Symbol adopted as official seal of British Lord High Admiral Charles Lord Howard of Effingham during late 1500s. Variation of seal had been in use by Lord High Admiral of Scotland about century earlier. Anchor (both with and without entwined rope) is also traditional heraldic device used in ancient British coats of arms. As heraldic device, it is stylized representation used merely for its decorative effect.

FOUL ANCHORAGE Where one ship can swing and strike another.

FOUL AREA Somewhere to avoid such as a sewer outfall.

FOUL BERTH An obstruction. Berth in which Vessel cannot swing to her Anchor or Moorings without fouling another Vessel or striking an obstruction. See Clear Berth, Foul Ground.

FOUL BILL OF HEALTH Opposite of Clean Bill Of Health. Not something to be proud of.

FOUL BOTTOM Term used to describe Bottom of Vessel when encrusted with marine growth.

FOULED Any piece of equipment that is jammed or entangled, or dirtied.

FOULED ANCHOR See Foul Anchor.

FOUL GROUND Where rocks or wrecks abound. Area unsuitable for Anchoring or fishing due to rocks, boulders, coral or other obstructions. See Foul Berth.

FOULING What occurs to Ship when Barnacles, weeds and other vegetable organisms attach themselves and live on ship's Hull below Waterline. See Careening.

FOUL UP Confusion reigns supreme. Hopeless mess or entanglement.

FOUL WEATHER Bad weather.

FOUL WEATHER GEAR Water resistant clothing and boots.

FOUL WIND Breeze produced by flying bird.

FOUND Qualifying word such as 'well' or 'poorly' or 'singly' referring to the quality and quantity of her hear. From English, 'finden', find or provide.

FOUNDER (ING) 1) Vessel swamps, fills with water, floods, loses buoyancy, goes to bottom or sinks at sea, sometimes from damage, usually from overwhelming sea conditions. (Usually a bad thing) From Latin, 'fundus', bottom and French, 'effondrir', to engulf or sink. AKA and See Flounder. 2) Sink or fail.

FOUR POINT BEARING Relative Bearing of 045° or 315°. See Bow and Beam Bearings.

FOX Twisted or baided ropeyarn for making Grommets, Strops, etc.

FOX ONE Sparrow air-to-air missile on Navy aircraft.

FOX TWO Sidewinder air-to-air missile on Navy aircraft.

FOX THREE Phoenix air-to-air missile on Navy aircraft.

FRACTIONAL RIG Rig whose Heasdstay and Jib only goes partway up the Mast and does not reach to the top of the Mast. Three quarter Rig is an example of this Rig.

FRACTIONAL SCALE See Representative Fraction.

FRACTO Prefix used with name of basic Cloud form to indicate torn, ragged and scattered apearance caused by strong winds. See Scud.

FRACTURE Break or rupture through very close pack ice, compact packed ice, consolidated pack ice, fast ice or single floe resulting from deformation processes. They may contain brash ice and / or be covered with Nilas and / or young ice. Length may vary from few meters to many miles.

FRACTURE, LARGE More than 500 meters wide.

FRACTURE, MEDIUM 200-500 meters wide.

FRACTURE, SMALL 50-200 meters wide.

FRACTURE, VERY SMALL 0-50 meters wide.

FRACTURE ZONE 1) Extensive linear zone of irregular topography of Sea Floor characterized by steep sided or asymmetrical ridges, troughs, or escarpments. 2) Ice area which has great number of Fractures.

FRACTURING Pressure process whereby ice is permanently deformed and rupture occurs. Term is most commonly used to describe breaking across very close pack ice, compact pack ice, and consolidated pack ice.

FRAME (S) Any one of members, timbers, planks, curved Ribs, Transverse structural members or making up skeleton structure of any craft. It holds Hull together, gives shape, strength, support and used to Secure outside planking or plating. On wooden Hull, planks are fastened to Frames. AKA Ribs. From Italina, 'fram', frame.

FRANKLIN PILOTING TECHNIQUE Method of finding most probable position of Ship from three Lines Of Position which do not intersect in point.

FRAP Wrap two or more Lines together, for various purposes. From French, 'fraper', to wrap.

FRAY 1) Tear at edges of Sails or untwist at ends or Ropes. 2) Fight.

FRAZIL ICE Fine spicules or plates of ice, suspended in water.

FREE 1) Sailing on any point of sail except Close Hauled, such as Broad Reach or Run. 2) What you feel like when you are sailing.

FREE AIR TEMPERATURE Temperature of atmosphere, obtained by thermometer located to avoid as completely as practicable effects of extraneous heating. See Ambient Temperature, Wet Bulb Temperature.

FREE A SHIP Running free when it is not obliged to brace its yards sharp up (move them closer to Fore-and-Aft position). Converse of Close-Hauled.

FREEBOARD 1) Height of craft's side above waterline. Vertical distance from top of Hull, Gunwales, Main Deck, uppermost complete watertight Deck or loadline of Boat to surface of water or waterline at some stated point, usually measured Amidships. Height of Topsides or that part of Ship 'free' of water. From Anglo

Saxon, 'framebord', frames' side. AKA quick works. See Load Line Marks. 2) No cost place to stay food and liquor supplied by the owner.

FREEBOOTER Another term for Buccaneer. See Corsair.

FREE GYRO Two degree of freedom Gyro or Gyro which may be oriented in any specified Altitude. Rotor of hsi Gyro has freedom to spin on its Axis, freedom to tilt about its Horizontal Axis and freedom to turn about its vertical Axis. AKA Free Gyroscope. See Degree Of Freedom.

FREE GYROSCOPE See Free Gyro.

FREEING PORT Large, direct openings or holes cut in or through the Bulwarks or Hull which allow large quantities of water on exposed Decks or shipped on Deck to quickly drain overboard or flow off rapidly or freely. See Scupper.

FREEING WIND Lift or Wind shift Aft.

FREE PORT Port where host country has waived import and export duties, usually to expand trade.

FREE SURFACE Surface of any liquid that is free to move, usually when a tank or compartment is partially filled with a liquid that is free to move as the Vessel Heels.

FREE SURFACE EFFECT Tendency of liquid to remain level as the ship Heels.

FREE WAVE Wave that continues to exist after generating force has ceased to act. Opposite of Forced Wave.

FREEZE THE BALLS OFF A BRASS MONKEY See Cold Enough To Freeze The Balls Off Of A Brass Monkey.

FREEZING DRIZZLE Drizzle that falls in liquid form but freezes upon impact to form coating of glaze upon ground and exposed objects. It consists of smaller drops than Freezing Precipitation.

FREEZING FOG Fog whose droplets freeze upon contact with exposed objects and form coating of Rime and/or glaze. See Freezing Precipitation.

FREEZING POINT Temperature under

standard conditions at which liquid water freezes into a solid, 32 degrees Fahrenheit or 0 degrees Celsius.

FREEZING PRECIPITATION Precipitation which falls to earth in liquid state and then freezes to exposed surfaces. It consists of relative large drops of water. See Freezing Drizzle.

FREEZING RAIN Rain that falls in liquid form but which freezes as or slightly before it strikes or impacts ground and exposed objects, forming coating of ice. AKA Sleet.

FREEZING SPRAY Spray in which supercooled water droplets freeze upon contact with exposed objects below freezing point of water. It usually develops in areas with winds of at least 25 knots.

Categories of Freezing Spray or Icing: Light: less than 0.7 cm or 0.3 in per hr; Moderate: 0.7 cm or 0.3 in per hr to less than or equal to 2.0 cm or 0.8 in per hr; Heavy: greater than 2.0 cm or 0.8 in per hr.

FREIGHT 1) Originally meant only cargo shipped by sea or the objects that provide earnings. From the British word 'fraught' meaning earnings. 2) Now refers to any material carried by air, rail or road.

FRENCH BOWLINE Knot used to form two loops that can be used as a safety sling, to pick up an unconscious person, or as a chair to lower you over the side or into a tank or cargo hold to do useful work.

FREQUENCY Rate at which cycle is repeated.

FREQUENCY BAND 1) Specified segment of Frequency spectrum. 2) One of two or more segments of total frequency coverage of radio receiver or transmitter, each segment being selectable by means of band change switch. 3) Any range of frequencies extending from specified lower to specified upper limit.

FREQUENCY CHANNEL Assigned frequency band commonly referred to by number, letter, symbol, or some salient frequency within band.

FREQUENCY MODULATION (FM) Angle modulation of sinewave carrier in which instantaneous frequency of modulated wave differs from carrier frequency by amount proportional to instantaneous value of modulating.

FREQUENCY TOLERANCE

Maximum permissible departure by center frequency of frequency band occupied by emission from assigned frequency or by characteristic frequency of emission from reference frequency and expressed in Hertz.

FRESH AIR Wind of about 16 - 22 knots.

FRESH BREEZE Wind of Force 5 (17 to 21 knots or 19 to 24 miles per hour) on Beaufort wind scale.

FRESHEN 1) Render or haul in a line to change its position in a Block, Fairlead or Hawsehole, to protect it against chafe. 2) Alter location of ballast for better trim. 3) To become stronger, particularly to wind. 4) Wind does this when it increases. 5) What you may do after a long crossing with no showers.

FRESHEN THE HAWSE OR HAWSER Take a drink.

FRESH GALE Term once used by seamen to what is now called Gale on Beaufort wind scale.

FRESH WATER MARSH Tract of low wet ground, usually miry and covered with rank vegetation.

FRESNEL LENS Multiple facet lens used to control focus and amplify light beams. Many uses, such as lighthouses, light buoys, ship's running lights. From French Augustin Jean Fresnel.

FRICTION Resistance to motion due to interaction between surface of body and anything in contact with it.

FRICTION ERROR Error of instrument reading due to friction in moving parts of instrument.

FRICTION LAYER See Surface Boundary Layer.

FRIDAY SUPERSTITION It is said that reluctance of seaman to sail on a Friday reached such epic proportions, that many years ago British Government decided to take strong measures to prove the fallacy of superstition. They laid keel of new vessel on Friday, launched her on Friday and named her HMS Friday. They then placed her in command of one Captain Friday and sent her to sea on Friday. Scheme worked well, and had only one drawback...neither ship nor crew were ever heard from again.

FRIENDLY ICE 1) Ice canopy containing

many large skylights or other features which permit submarine to surface. There must be more than 10 such features per 30 Nautical Miles. 2) Ice which smiles at you as it crushes your Ship.

FRIGATE 1) Fast, small to mid sized Ship Riggged warship with one or two gun decks and generally with twenty to thirty Cannon. It was too small to be Man O' War, but usually fast and powerful enough to hunt pirate ships. 2) Smaller or junior grade destroyer type that is larger than Corvette. From French, 'fregate'.

FRIGID ZONES Either of two zones between polar circles and poles.

FRIGID ZONE, NORTH See Frigid Zones.

FRIGID ZONE, SOUTH See Frigid Zones.

FRINGING REEF Reef attached directly, adjacent or closely attached to land, Shore or island or continental landmass, often with no navigable water between it and Shoreline. Its outer margin is submerged and often consists of algal limestone, Coral rock and living Coral. See Barrier Reef.

FROM RT proword: originator's sign.

FROM STEM TO STERN See Stem To Stern, From.

FRONT (S) Band of weather conditions located in separation boundaries between air masses that have different temperatures or approaching edge of a high pressure or low pressure system. Interface or transition zone between two air masses of different density, usually of different temperature. Other features may also distinguish such as pressure Trough, change in wind direction, moisture discontinuity, certain cloud and precipitation.

FRONTAL Of or pertaining to Front.

FRONTAL CYCLONE Any cyclone associated with Front. AKA Extratropical Cyclone, Wave Cyclone. Tropical Cyclones are non Frontal.

FRONTAL OCCLUSION See Occluded Front.

FRONTAL SURFACE Warmer side of Frontal Zone.

FRONTAL ZONE Three dimensional zone or layer of large horizontal density gradient where gradient is discontinuous. See Arctic Front, Cold Front, Occluded Front, Polar Front, Warm Front.

FRONT LIGHT Closer of two Range Lights. It is lowest of lights of established Range. AKA Low Light.

FRONTOGENESIS 1) Initial formation of Front or Frontal Zone. Formation of Front occurs when two adjacent air masses with different densities and temperatures meet and strengthen discontinuity between air masses. It occurs most frequently over continental land areas when air mass moves out over Ocean. Opposite of Frontolysis. 2) Increase in horizontal gradient of an air mass property, principally density and development of accompanying features of wind field that characterized Front.

FRONTOLYSIS 1) Dissipation of Front or Frontal Zone. Weakening or dissipation of Front occurs when two adjacent air masses lose contrasting properties such as density and temperature. Opposite of Frontogenesis. 2) Decrease in horizontal gradient of air mass property, principally density and dissipation of accompanying features of wind field.

FROST 1) Deposit of interlocking ice crystals formed by direct sublimation on objects, usually those of small diameter freely exposed to air. Ice crystals which are deposited from air on surfaces cooled after they have radiated their heat into atmosphere. Deposition is similar to process in which Dew is formed except that temperature of object must be below freezing. It forms when air with Dew Point below freezing is brought to saturation by cooling. It is more fluffy and feathery than Rime which is lighter than Glaze. AKA Hoar, Hoarfrost. 2) Condition which exists when temperature of earth's surface and earthbound objects falls below 0oC or 32oF.

FROST, DEGREES OF Temperatures below freezing point of water are expressed as this.

FROST SMOKE 1) Fog like Clouds due to contact of cold air with relatively warm water, which can appear over openings in ice or Leeward of ice edge, and which may persist while ice is forming. 2) Rare type of Fog formed in same manner as Steam Fog but at lower temperatures. It is composed of ice particles or droxtals instead of liquid water as is steam fog. It is type of ice Fog. AKA Barber. 3) See Fog, Steam; Steam Fog.

FROZEN PRECIPITATION Any form of precipitation that reaches ground in frozen form; i.e., snow, snow pellets, snow grains, ice crystals, ice pellets and Hail.

FRP Fiberglass reinforced plastics.

FRY 1) Young fish. 2) Just what we may like to do with definition #1.

FUBAB Fouled Up Beyond All Belief

FUBAR Fouled Up Beyond All Repair

FUBB Fouled Up Beyond Belief.

FUCUS Coarse seaweed growing attached to rocks. Be very, very careful when pronouncing this word.

FUDGE 1) Chocolate candy. 2) Lies or nonsense recognized by sailors with the cry 'you fudge it!' From British merchant Captain Fudge, AKA lying Fudge, who always returned from voyage with good cargo of lies. 3) Deceive. Deceive by adjusting or making do in careless, clumsy or contrived manner.

FULL 1) Not Luffing. 2) With deep Draft.

FULL AND BY Sailing and steering as close to wind as possible with all sails full and drawing. AKA Close Hauled or Sailing By and Large.

FULL DEPICTION OF DETAIL Indicates that over greater part of Chart, nothing essential to Navigation is omitted. See Generalization Of Detail, Minimal Depiction Of Detail.

FULL FLOOD 1) Fast moving waters of a Flood Tide. 2) Oratory where the rush of words compares to Flood Tide.

FULL MOON Moon at Opposition, when it appears as round disk to an observer on earth because illuminated side is facing observer. See Phases Of The Moon.

FULL RIGGED SHIP Three Masted Ship with full complement of Square Rigged Sails, Ship with Royal Masts.

FULL SAIL All Sails set.

FULL TO THE SCUPPERS 1) Intoxicated.

FULLY BATTENED Sail with Batten running full length of the Sail horizontally.

FULTON'S FOLLY Successful Steamboat built by Robert Fulton.

FUMTU Fouled Up More Than Usual.

FUNDAMENTAL CIRCLE See Primary Great Circle.

FUNDAMENTAL STAR PLACES Apparent Right Ascensions and Declinations of 1,535 standard comparison stars obtained and published annually under auspices of International Astronomical Union.

FUNNEL Nautical term for boiler smokestack or an exhaust stack for any machinery space. From early arrangements looking like inverted funnels. See Stack.

FUNNEL CLOUD Cloud column or inverted cloud cone, pendant from Cloud base. It occurs mostly with Cumulus and Cumulonimbus. When it reaches earth's surface, it constitutes Tornado or Waterspout. AKA tornado Cloud, Tuba.

FUR BALL Big dogfight.

FURL (ING) Fold, roll up or gather Sail on its Yard or Boom when not in use, then Secure it with Sail Ties or Gaskets so it will take up as little room as possible. AKA furdle and Farthel. From French, 'ferlier', to bind.

FURLING LINE AKA Gaskets, Stops, Ties.

FUR OF FEATHERS Any furry thing aboard ship was considered unlucky. Anything with feathers was lucky, thus the reason why so many sailors carried parrots.

FURROW On Sea floor, closed linear, narrow, shallow depression.

FUSION Phase transition of substance passing from solid to liquid state; melting. See Latent Heat Of Fusion.

FUTTOCK (S) Curved pieces of timber joined together to form Ship's Frame or part of made up Frame of wooden ship, (not in Stern). It was constituent part of Rib. From English, 'futtaker', corruption of foot

hook. They are named according to their location: first futtock, second futtock, etc. Not to be confused with any part of your anatomy.

FUTTOCK, FIRST Secured Garboard Strakes to Keel. AKA ground futtock or floor timber.

FUTTOCK, FOURTH AKA top timber which was supported internally by Deck Beams.

FUTTOCK PLATE Circular or semicircular platform set at Head of Lower Mast of Square Rigged Ships and used both as support for Topmast Foot and to provide additional purchase for topmast Shrouds as well as base for seamen working aloft and even lookout post. Now it generally carries radar scanner.

FUTTOCK, SECOND One of four types of Futtocks.

FUTTOCK SHROUDS Short sections of cable or rod in Square Riggers to Stay the Tops. These had Ratlines for the seamen to achieve the next level Aloft. See Tops, The.

FUTTOCK, THIRD AKA Middle Futtock.