Q3 - Highest Degree Earned?



Choice Count

Q4 - Please select the employment sector that best describes your present job.





Q5 - Please select your fields of expertise (Choose all that apply)?

Choice Count

Q6 - Years of Experience



Q7 - Application of Fluxes. Please select one or more applications for which you require surface fluxes.



Q8 - What percentage of your applications use direct (e.g., eddy covariance) fluxes?





Q9 - What percentage of your applications use fluxes derived from bulk formulae?

Q10 - Bulk Flux Models 8. Which of the following bulk algorithms have you used? - Selected Choice



Q11 - Please rank the importance of knowing the following model assumptions.

Field	Very Unimportant	Unimportant	Neutral	Important	Very Important
Whether pressure is measured at sensor height or adjusted to mean sea level	1	5	5	16	3
Whether sea temperature is bulk (measured at depth) or skin (at the surface)	1	0	2	11	16
Transfer coefficients (e.g., drag, analogous values for sensible or latent heat flux)	0	1	2	10	17
Evaporation rate	0	5	6	11	7
Surface roughness lengths (e.g., momentum, heat, humidity)	0	0	4	13	13

Q11.1 - Whether pressure is measured at sensor height or adjusted to mean sea level





6

Q11_6 - Whether sea temperature is bulk (measured at depth) or skin (at the surface)

Q11.3 - Transfer coefficients (e.g., drag, analogous values for sensible or latent heat flux)



Q11.4 - Evaporation rate



Q11.5 - Surface roughness lengths (e.g., momentum, heat, humidity)



Q12 - Please specify other important assumptions not listed in question 11 (if any).

Please specify other important assumptions not listed in question 9 (if any).

Directional sea state

Ice coverage percentage

If SST input is a bulk at-depth value, have the ship T and S seawater sensors been calibrated recently?

Are winds surface relative or 'absolute' winds. Have the winds been converted to neutral winds or equivalent neutral winds

Wind stress direction (Earth-relative or current-relative wind direction); salinity effects in surface humidity calculation; temperature dependence of latent heat of vaporization.

wind at sensor height or adjusted to U10

Accuracy of measurements of partial pressure of CO2 in water; accuracy of pCO2 in the air where there are no direct CO2 measurements; same for other GHG (no measurements)

role of sea spray

How humidity is calculated/used; whether gustiness has been used and if so how; assumptions and parameters for cs/wl

Field	Very Unimportant	Unimportant	Neutral	Important	Very Important
Monin-Obukhov length scale (L)	0	0	5	12	12
Friction velocity (u*)	0	0	6	5	18
Temperature scaling parameter (t*)	0	1	10	7	11
Moisture scaling parameter (q*)	0	2	10	5	11
Net shortwave radiation flux	0	1	3	8	17
Net longwave radiation flux	0	1	3	8	17

Q14 - Please rank the importance of MarineFlux serving the following calculated parameters.

Q14.1 - Monin-Obukhov length scale (L)



Q14.2 - Friction velocity (u*)



Q14.3 - Temperature scaling parameter (t*)





Q14.4 - Moisture scaling parameter (q*)

Q14_9 - Net shortwave radiation flux





Q14.6 - Net longwave radiation flux

Q16 - For humidity, please select the parameters MarineFlux should provide (if available)



Q17 - For sea temperature, please rank the importance for your application of fluxes.

Field	Min	Max	Mean	Standard Deviation	Variance	Responses	Sum
Measured sea temperature (flux algorithm input)	7.00	8.00	7.77	0.42	0.18	26	202.00
Calculated sea temperature (flux algorithm output)	6.00	8.00	7.27	0.76	0.58	26	189.00
Adjustments to sea temperature (e.g., cool skin)	6.00	8.00	7.46	0.63	0.40	26	194.00

Q17_5 - Measured sea temperature (flux algorithm input)





Q17.2 - Calculated sea temperature (flux algorithm output)

Q17.3 - Adjustments to sea temperature (e.g., cool skin)



Field	Very Unimportant	Unimportant	Neutral	Important	Very Important
Photosynthetically Active Radiation (PAR)	0	5	11	9	1
Rainfall rate or accumulation	0	2	6	10	8
Cloud cover fraction	0	3	7	10	6
Cloud base height	0	6	10	6	3
Ship-relative wind direction & speed	0	0	7	5	14
Surface current speed	0	0	4	8	15
Surface current direction or vector components	0	0	4	9	13
Profile of horizontal current speed	0	2	15	2	8
Profile of humidity	0	3	9	9	5
Profile of wind vector	0	1	7	11	8
Platform speed-over-ground (from ship GPS, "sog")	0	3	8	7	8
Platform course-over-ground (from ship GPS, "cog")	0	3	9	8	6
Platform orientation (heading from ship/buoy compass)	0	3	7	8	8
Mean tilt angle of instrument platform	0	3	5	11	7

Q18 - Please rank the importance for your applications of MarineFlux serving the following:

Q19 - Please specify other important parameters not listed in question 18 (if any).

Please specify other important parameters not listed in question 13 (if any).

salinity if available

Surface ocean productivity, surface ocean gas concentration



Q20 - Are wave data useful for your flux applications?

Q21 - Please rank the importance of MarineFlux serving the following (if available):

Field	Very Unimportant	Unimportant	Neutral	Important	Very Important
Significant wave height	0	0	1	7	15
Average wave period	0	0	0	13	10
Wave period at the peak of the energy spectrum	0	0	7	6	10
Wavelength at the peak of the energy spectrum	0	0	8	7	8
Phase speed corresponding to waves at the peak of the energy spectrum	0	0	8	7	8
Wave directional spectra or direction of waves at the peak of the energy spectrum	0	0	4	9	10
Wave whitecap fraction	0	2	5	8	8

Wave energy dissipation rate from breaking waves	0	3	6	7	7
Sea spray size distribution	0	3	7	6	7

Q23 - Please rank the importance for your applications of MarineFlux serving the following:

Field	Very Unimportant	Unimportant	Neutral	Important	Very Important
Instruments used (manufacturer, model #)	0	1	5	14	7
Instrument sampling rate	0	1	0	12	14
Data averaging period (if any)	0	0	0	12	15
Instrument response time and characteristics for 1st and 2nd order responses to changes in the observed parameter	0	2	7	9	8
Manufacturer accuracy for instrument (i.e., uncertainty under ideal conditions)	0	0	6	14	7
Estimate of natural variability	0	1	13	8	5

Q24 - Please specify other important metadata not listed in question 23 (if any).

Please specify other important metadata not listed in question 16 (if any).

instrument heights/depths

Internal calculations applied by sensor (e.g. conversions to humidity measure). Really need a library of sensor specs I think.

Q25 - Would you prefer to download pre-calculated fluxes from a list of flux algorithms or would you prefer to download the observed weather and ocean data and calculate fluxes yourself?



Q26 - Please select the file formats you prefer for downloading data from MarineFlux.



Q27 - For file output, please select the conventions you prefer to use in your applications. - Selected Choice



Q28 - 20. Do you have a need for accessing information from MarineFlux via Application Programming Interfaces (e.g., for machine to machine data processing)?

