

S5 Table. Results from the best generalized additive mixed models fitted to overall dynamic body acceleration (ODBA). Phase corresponds to swimming phase (ascent, descent, level) and reference level is set to ascent for estimation of parametric coefficients. s() denotes a smoother term. n = 15890.

| Model and terms | df | Estimate ± SE | t-value | edf | F-ratio | P |
|--|----|----------------|---------|-------|---------|----------|
| ODBA ~ Phase + s(Time of Day) + s(PC1) | | | | | | |
| Phase | 2 | | | | 540.1 | < 0.0001 |
| Intercept | | -1.737 ± 0.063 | -27.477 | | | < 0.0001 |
| Descent | | 0.177 ± 0.006 | 29.023 | | | < 0.0001 |
| Level | | -0.032 ± 0.005 | -6.219 | | | < 0.0001 |
| s(Time of Day) | | | | 7.068 | 19.66 | < 0.0001 |
| s(PC1) | | | | 8.869 | 44.06 | < 0.0001 |
| ODBA ~ Phase + s(Time of Day) + s(Depth, m) | | | | | | |
| Phase | 2 | | | | 542.5 | < 0.0001 |
| Intercept | | -1.735 ± 0.069 | -25.245 | | | < 0.0001 |
| Descent | | 0.177 ± 0.006 | 29.064 | | | < 0.0001 |
| Level | | -0.034 ± 0.005 | -6.446 | | | < 0.0001 |
| s(Time of Day) | | | | 6.093 | 9.329 | < 0.0001 |
| s(Depth, m) | | | | 7.796 | 23.043 | |
| ODBA ~ Phase + s(Time of Day) + s(Water Temperature, °C) | | | | | | |
| Phase | 2 | | | | 555.6 | < 0.0001 |
| Intercept | | -1.738 ± 0.069 | -25.202 | | | < 0.0001 |
| Descent | | 0.180 ± 0.006 | 29.480 | | | < 0.0001 |
| Level | | -0.033 ± 0.005 | -6.308 | | | < 0.0001 |
| s(Time of Day) | | | | 7.138 | 17.86 | < 0.0001 |
| s(Water Temperature, °C) | | | | 8.738 | 37.82 | < 0.0001 |

df, degrees of freedom; SE, standard error; edf, estimated degrees of freedom