

Supplementary information

Temporal patterns in acoustic presence and foraging activity of oceanic dolphins at seamounts in the Azores

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25 **Supplementary tables**

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27 **Supplementary Table S1. Analysis of deviance (ANOVA) table for the best fitted GLM model**

28 **of dolphin positive hours (DPH) and of foraging positive hours (FPH).** Significant term ($p < 0.05$)

29 is shown in bold. S. period - sampling period, *df* - degrees of freedom, *Dev.* - deviance, *Res. df* -

30 residual *df*, *Res dev.* - residual deviance.

| | DPH | | | | | FPH | | | | |
|-----------|------------|-------------|----------------|------------------|-------------------|------------|-------------|----------------|------------------|----------------|
| | <i>df</i> | <i>Dev.</i> | <i>Res. df</i> | <i>Res. dev.</i> | <i>p-value</i> | <i>df</i> | <i>Dev.</i> | <i>Res. df</i> | <i>Res. dev.</i> | <i>p-value</i> |
| NULL | | | 688 | 208.10 | | | | 682 | 35.80 | |
| Seamount | 1 | 0.001 | 687 | 208.10 | 0.976 | 1 | 2.129 | 681 | 33.67 | 0.145 |
| S. period | 13 | 60.509 | 674 | 147.59 | < 0.001 | 13 | 5.020 | 668 | 28.65 | 0.975 |

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32 **Supplementary Table S2. Pairwise comparisons using Wilcoxon rank-sum test of dolphin positive hours (DPH) between pairs of sampling**
 33 **periods at Condor seamount.** Significant terms ($p < 0.05$) are shown in bold.

| | Jan2011 | Feb2011 | Mar2008 | Apr2008 | Apr2010 | May2008 | May2010 | Jun2010 | Jul2010 | Aug2010 | Sep2010 | Oct2010 | Nov2010 |
|---------|------------------|------------------|------------------|------------------|------------------|------------------|--------------|---------|---------|---------|---------|------------------|---------|
| Feb2011 | 1.000 | - | - | - | - | - | - | - | - | - | - | - | - |
| Mar2008 | 1.000 | 1.000 | - | - | - | - | - | - | - | - | - | - | - |
| Apr2008 | 0.001 | <0.001 | <0.001 | - | - | - | - | - | - | - | - | - | - |
| Apr2010 | 1.000 | 1.000 | 1.000 | <0.001 | - | - | - | - | - | - | - | - | - |
| May2008 | <0.001 | <0.001 | <0.001 | 1.000 | <0.001 | - | - | - | - | - | - | - | - |
| May2010 | 1.000 | 0.028 | 0.022 | 0.474 | 1.000 | <0.001 | - | - | - | - | - | - | - |
| Jun2010 | <0.001 | <0.001 | <0.001 | 1.000 | <0.001 | 0.043 | 0.749 | - | - | - | - | - | - |
| Jul2010 | 0.034 | <0.001 | <0.001 | 1.000 | 0.008 | <0.001 | 1.000 | 1.000 | - | - | - | - | - |
| Aug2010 | 0.017 | <0.001 | <0.001 | 1.000 | 0.003 | 0.002 | 1.000 | 1.000 | 1.000 | - | - | - | - |
| Sep2010 | 1.000 | 0.021 | 0.008 | 1.000 | 0.159 | 0.002 | 1.000 | 1.000 | 1.000 | 1.000 | - | - | - |
| Oct2010 | <0.001 | <0.001 | <0.001 | 1.000 | <0.001 | 1.000 | 0.007 | 1.000 | 0.102 | 0.400 | 0.052 | - | - |
| Nov2010 | 1.000 | 0.014 | 0.006 | 0.539 | 0.248 | <0.001 | 1.000 | 0.575 | 1.000 | 1.000 | 1.000 | 0.002 | - |
| Dec2010 | 1.000 | 0.050 | 0.015 | 0.100 | 0.840 | <0.001 | 1.000 | 0.129 | 1.000 | 1.000 | 1.000 | <0.001 | 1.000 |

35 **Supplementary Table S3. Pairwise comparisons using Wilcoxon rank-sum test of dolphin positive hours (DPH) between pairs of sampling**
 36 **periods at Gigante seamount.** Significant terms ($p < 0.05$) are shown in bold.

| | Jan2011 | Feb2011 | Mar2008 | Apr2008 | May2008 | Jul2010 | Aug2010 | Sep2010 | Oct2010 | Nov2010 |
|---------|------------------|--------------|--------------|--------------|------------------|---------|--------------|--------------|--------------|---------|
| Feb2011 | 1.000 | - | - | - | - | - | - | - | - | - |
| Mar2008 | 0.036 | 0.129 | - | - | - | - | - | - | - | - |
| Apr2008 | 0.024 | 0.096 | 1.000 | - | - | - | - | - | - | - |
| May2008 | <0.001 | 0.001 | 1.000 | 1.000 | - | - | - | - | - | - |
| Jul2010 | 1.000 | 1.000 | 0.592 | 1.000 | 0.003 | - | - | - | - | - |
| Aug2010 | 0.022 | 0.058 | 1.000 | 1.000 | 0.287 | 1.000 | - | - | - | - |
| Sep2010 | 0.012 | 0.102 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | - | - | - |
| Oct2010 | 0.001 | 0.009 | 1.000 | 1.000 | 1.000 | 0.111 | 1.000 | 1.000 | - | - |
| Nov2010 | 1.000 | 1.000 | 0.094 | 0.415 | <0.001 | 1.000 | 0.381 | 0.082 | 0.015 | - |
| Dec2010 | 1.000 | 1.000 | 0.020 | 0.048 | <0.001 | 1.000 | 0.003 | 0.004 | 0.002 | 1.000 |

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38 **Supplementary Table S4. ANOVA table for the best fitted GAMM model of diel patterns in**
 39 **dolphin detections and acoustic signals.** Significant terms ($p < 0.05$) are shown in bold. H after SS –
 40 hours after sunset.

| Models | Smooth terms | <i>edf</i> | <i>F</i> | <i>p-value</i> |
|---------------------|----------------------------------|------------|----------|----------------|
| Dolphin detections | s(H after SS) _{Jan-Mar} | 1.000 | 35.70 | < 0.001 |
| (n = 16,421) | s(H after SS) _{Apr-Dec} | 7.114 | 69.91 | < 0.001 |
| Foraging signals | s(H after SS) | 3.646 | 16.92 | < 0.001 |
| (n = 7,966) | | | | |
| Echolocation clicks | s(H after SS) | 6.226 | 24.44 | < 0.001 |
| (n = 7,966) | | | | |
| Social signals | s(H after SS) | 6.527 | 14.10 | < 0.001 |
| (n = 7,966) | | | | |

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