**Supplementary Material**

Habitat suitability and impacts of climate change on the distribution of wintering population of Asian Houbara Bustard *Chlamydotis macqueenii* in Iran

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**Contents**

The Presence records used for the development of a maximum entropy model for predicting the habitat suitability of the Asian Houbara Bustard (*Chlamydotis macqueenii*) in Iran.

The presence records used for the development of a maximum entropy model for predicting the habitat suitability of the Asian Houbara Bustard *Chlamydotis macqueenii* in Iran. These presence records were collected through field surveys within the distribution range of the species in Iran. Field observations were carried out periodically by staff of Department of Environment of Iran, on foot and using vehicles, for monitoring the distribution of birds of Iran. Observations of wintering Houbara used in this study were collected in Oct-Feb 2010-2014. Since inclusion of resident or passage migrant populations could lead to incorrect models, we made sure to only use observation points that with high confidence represented the location of wintering populations. However, as there is much unpredictability in the species’ behavior and in nature, we do not rule out the possibility that in the wintering habitat identified in our study, breeding populations might be observed in the future.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Number** | **Latitude** | **Logitude** | **Province** | **Year of observation** | **Number** | **Latitude** | **Logitude** | **Province** | **Year of observation** |
| 1 | 30.261478 | 49.838534 | Khuzestan | 2012 | 66 | 30.071873 | 56.73106 | Kerman | 2012 |
| 2 | 31.501354 | 48.16891 | Khuzestan | 2012 | 67 | 28.713942 | 57.092744 | Kerman | 2012 |
| 3 | 30.993 | 48.3595 | Khuzestan | 2012 | 68 | 31.186138 | 56.056906 | Kerman | 2012 |
| 4 | 31.2055 | 48.0238 | Khuzestan | 2012 | 69 | 27.105971 | 58.493595 | Kerman | 2012 |
| 5 | 31.3698 | 48.2222 | Khuzestan | 2012 | 70 | 29.723173 | 54.836446 | Kerman | 2012 |
| 6 | 31.6292 | 48.6225 | Khuzestan | 2012 | 71 | 30.165938 | 55.614976 | Kerman | 2012 |
| 7 | 31.6093 | 49.0732 | Khuzestan | 2012 | 72 | 28.167653 | 55.744983 | Hormozgan | 2014 |
| 8 | 30.25 | 49.8331 | Khuzestan | 2012 | 73 | 28.219731 | 55.838707 | Hormozgan | 2014 |
| 9 | 30.259663 | 53.471968 | Fars | 2011 | 74 | 28.587351 | 55.729412 | Hormozgan | 2014 |
| 10 | 27.653414 | 54.258904 | Fars | 2011 | 75 | 27.846406 | 57.199286 | Hormozgan | 2014 |
| 11 | 27.739358 | 55.173619 | Fars | 2011 | 76 | 26.834637 | 54.833566 | Hormozgan | 2014 |
| 12 | 30.167443 | 53.584151 | Fars | 2011 | 77 | 27.267534 | 54.481456 | Hormozgan | 2014 |
| 13 | 36.894596 | 58.595836 | Khorasan-e-Razavi | 2010 | 78 | 27.635837 | 55.448299 | Hormozgan | 2014 |
| 14 | 36.100346 | 58.589857 | Khorasan-e-Razavi | 2010 | 79 | 26.825307 | 54.265713 | Hormozgan | 2014 |
| 15 | 36.02718 | 57.899274 | Khorasan-e-Razavi | 2010 | 80 | 27.27979 | 54.682714 | Hormozgan | 2014 |
| 16 | 36.147779 | 57.849656 | Khorasan-e-Razavi | 2010 | 81 | 32.266535 | 47.75761 | Ilam | 2010 |
| 17 | 34.231836 | 60.545084 | Khorasan-e-Razavi | 2012 | 82 | 32.673904 | 47.250858 | Ilam | 2010 |
| 18 | 34.543323 | 59.739638 | Khorasan-e-Razavi | 2012 | 83 | 34.376914 | 52.38293 | Semnan | 2014 |
| 19 | 34.526363 | 60.284422 | Khorasan-e-Razavi | 2012 | 84 | 34.645695 | 52.133361 | Semnan | 2014 |
| 20 | 34.062774 | 60.004268 | Khorasan-e-Razavi | 2012 | 85 | 35.39612 | 55.297382 | Semnan | 2014 |
| 21 | 34.897768 | 59.664362 | Khorasan-e-Razavi | 2012 | 86 | 35.46367 | 55.469543 | Semnan | 2014 |
| 22 | 34.586969 | 59.55189 | Khorasan-e-Razavi | 2012 | 87 | 35.548441 | 55.839627 | Semnan | 2014 |
| 23 | 35.353991 | 57.043493 | Khorasan-e-Razavi | 2012 | 88 | 35.477053 | 56.135796 | Semnan | 2014 |
| 24 | 35.239841 | 57.630488 | Khorasan-e-Razavi | 2012 | 89 | 35.316768 | 56.554438 | Semnan | 2014 |
| 25 | 35.096708 | 58.055726 | Khorasan-e-Razavi | 2012 | 90 | 35.381931 | 53.950408 | Semnan | 2014 |
| 26 | 36.147879 | 58.017113 | Khorasan-e-Razavi | 2013 | 91 | 35.361337 | 53.980015 | Semnan | 2014 |
| 27 | 36.012061 | 60.478989 | Khorasan-e-Razavi | 2013 | 92 | 35.354528 | 54.040133 | Semnan | 2014 |
| 28 | 36.584677 | 61.167926 | Khorasan-e-Razavi | 2013 | 93 | 35.323701 | 54.047956 | Semnan | 2014 |
| 29 | 34.15605 | 60.169655 | Khorasan-e-Razavi | 2013 | 94 | 35.190356 | 52.799336 | Semnan | 2014 |
| 30 | 36.257768 | 59.942827 | Khorasan-e-Razavi | 2013 | 95 | 35.151753 | 52.744476 | Semnan | 2014 |
| 31 | 34.269453 | 60.099759 | Khorasan-e-Razavi | 2013 | 96 | 35.22023 | 52.649547 | Semnan | 2014 |
| 32 | 36.567745 | 60.9538 | Khorasan-e-Razavi | 2013 | 97 | 35.034197 | 52.525219 | Semnan | 2014 |
| 33 | 29.878073 | 54.586259 | Yazd | 2011 | 98 | 35.056336 | 52.385937 | Semnan | 2014 |
| 34 | 29.979139 | 54.612162 | Yazd | 2011 | 99 | 35.086049 | 52.287527 | Semnan | 2014 |
| 35 | 31.4992 | 54.6672 | Yazd | 2011 | 100 | 35.168816 | 52.178109 | Semnan | 2014 |
| 36 | 31.9493 | 54.8879 | Yazd | 2011 | 101 | 35.292984 | 53.080843 | Semnan | 2014 |
| 37 | 31.9955 | 55.2607 | Yazd | 2011 | 102 | 35.318561 | 53.235586 | Semnan | 2014 |
| 38 | 31.5914 | 55.6298 | Yazd | 2011 | 103 | 35.229496 | 52.981016 | Semnan | 2014 |
| 39 | 32.4458 | 54.3336 | Yazd | 2011 | 104 | 36.010014 | 54.294317 | Semnan | 2014 |
| 40 | 32.4176 | 55.3148 | Yazd | 2011 | 105 | 35.924923 | 54.129811 | Semnan | 2014 |
| 41 | 30.042168 | 54.435566 | Yazd | 2011 | 106 | 35.852656 | 54.102348 | Semnan | 2014 |
| 42 | 29.112836 | 58.124402 | Kerman | 2012 | 107 | 35.879306 | 54.058317 | Semnan | 2014 |
| 43 | 30.829269 | 56.228085 | Kerman | 2012 | 108 | 36.014562 | 54.513583 | Semnan | 2014 |
| 44 | 30.814645 | 56.336844 | Kerman | 2012 | 109 | 36.036923 | 54.710891 | Semnan | 2014 |
| 45 | 27.522199 | 58.072996 | Kerman | 2012 | 110 | 35.762991 | 54.754842 | Semnan | 2014 |
| 46 | 27.411175 | 58.231927 | Kerman | 2012 | 111 | 36.401377 | 55.145303 | Semnan | 2014 |
| 47 | 27.690181 | 58.881535 | Kerman | 2012 | 112 | 36.337412 | 55.07687 | Semnan | 2014 |
| 48 | 27.745012 | 58.675851 | Kerman | 2012 | 113 | 36.197499 | 54.987736 | Semnan | 2014 |
| 49 | 29.011214 | 56.281601 | Kerman | 2012 | 114 | 36.320963 | 55.227586 | Semnan | 2014 |
| 50 | 29.434231 | 55.265042 | Kerman | 2012 | 115 | 33.5256 | 50.8337 | Isfahan | 2011 |
| 51 | 29.736847 | 55.263401 | Kerman | 2012 | 116 | 33.4268 | 51.0334 | Isfahan | 2011 |
| 52 | 29.876974 | 54.937762 | Kerman | 2012 | 117 | 33.6556 | 50.8988 | Isfahan | 2011 |
| 53 | 30.109084 | 54.800514 | Kerman | 2012 | 118 | 33.3865 | 51.975 | Isfahan | 2011 |
| 54 | 30.529312 | 55.830504 | Kerman | 2012 | 119 | 32.9078 | 52.4325 | Isfahan | 2011 |
| 55 | 29.586377 | 57.564854 | Kerman | 2012 | 120 | 32.908 | 52.4483 | Isfahan | 2011 |
| 56 | 29.542467 | 57.611603 | Kerman | 2012 | 121 | 33.4134 | 52.7788 | Isfahan | 2011 |
| 57 | 30.673224 | 55.448219 | Kerman | 2012 | 122 | 33.5794 | 54.3233 | Isfahan | 2011 |
| 58 | 28.62937 | 56.136396 | Kerman | 2012 | 123 | 27.3259 | 60.275 | Sistan and Baluchestan  | 2010 |
| 59 | 30.992652 | 55.339323 | Kerman | 2012 | 124 | 26.9508 | 60.9427 | Sistan and Baluchestan  | 2010 |
| 60 | 28.665081 | 56.160009 | Kerman | 2012 | 125 | 27.1668 | 61.3341 | Sistan and Baluchestan  | 2010 |
| 61 | 29.0865 | 56.488077 | Kerman | 2012 | 126 | 26.9517 | 60.9462 | Sistan and Baluchestan  | 2010 |
| 62 | 30.202743 | 56.627049 | Kerman | 2012 | 127 | 26.0428 | 61.759 | Sistan and Baluchestan  | 2010 |
| 63 | 28.647123 | 58.717295 | Kerman | 2012 | 128 | 27.4578 | 59.3886 | Sistan and Baluchestan  | 2010 |
| 64 | 27.250819 | 57.522017 | Kerman | 2012 | 129 | 27.6197 | 59.5284 | Sistan and Baluchestan  | 2010 |
| 65 | 28.121386 | 57.410161 | Kerman | 2012 | 130 | 27.9109 | 58.9458 | Sistan and Baluchestan  | 2010 |