

1 **Supplementary Information**

2 **Sand mining far outpaces natural supply in a large alluvial river**

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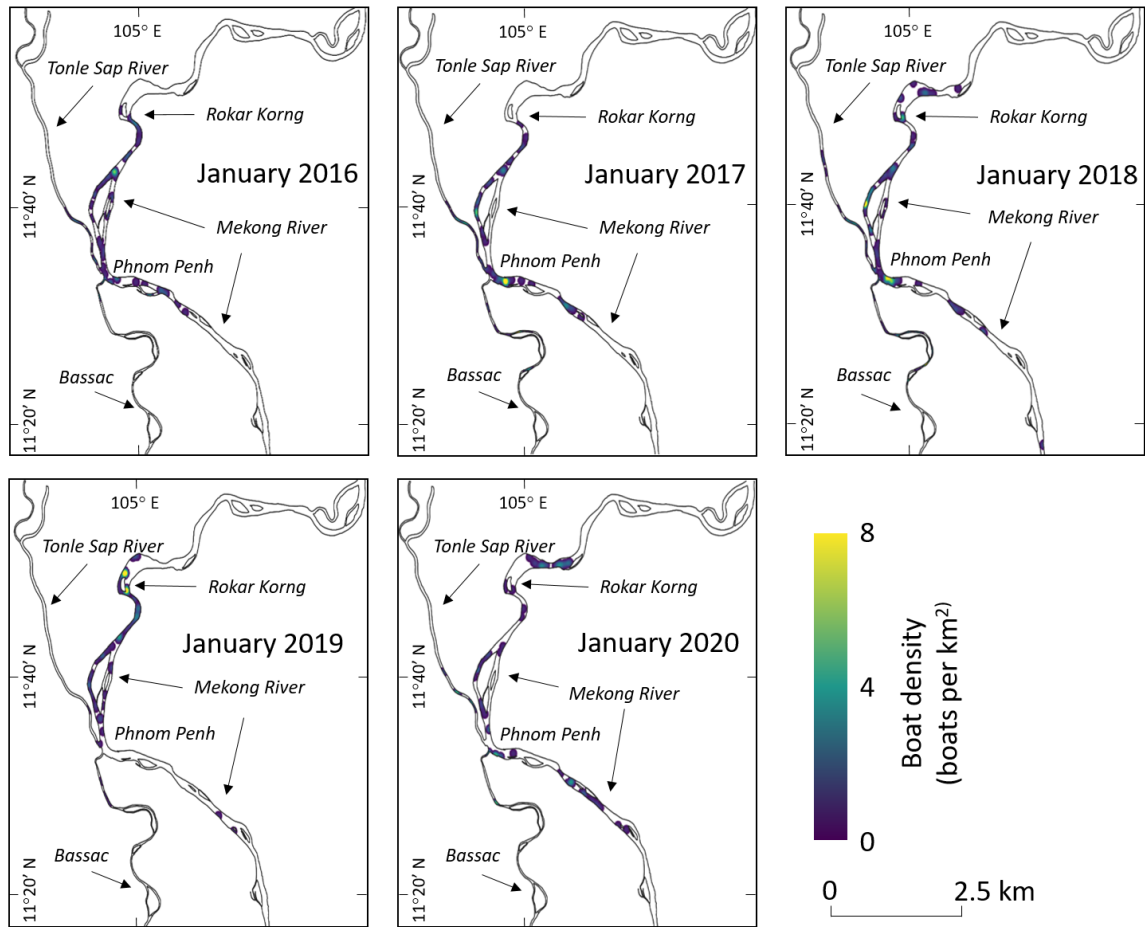
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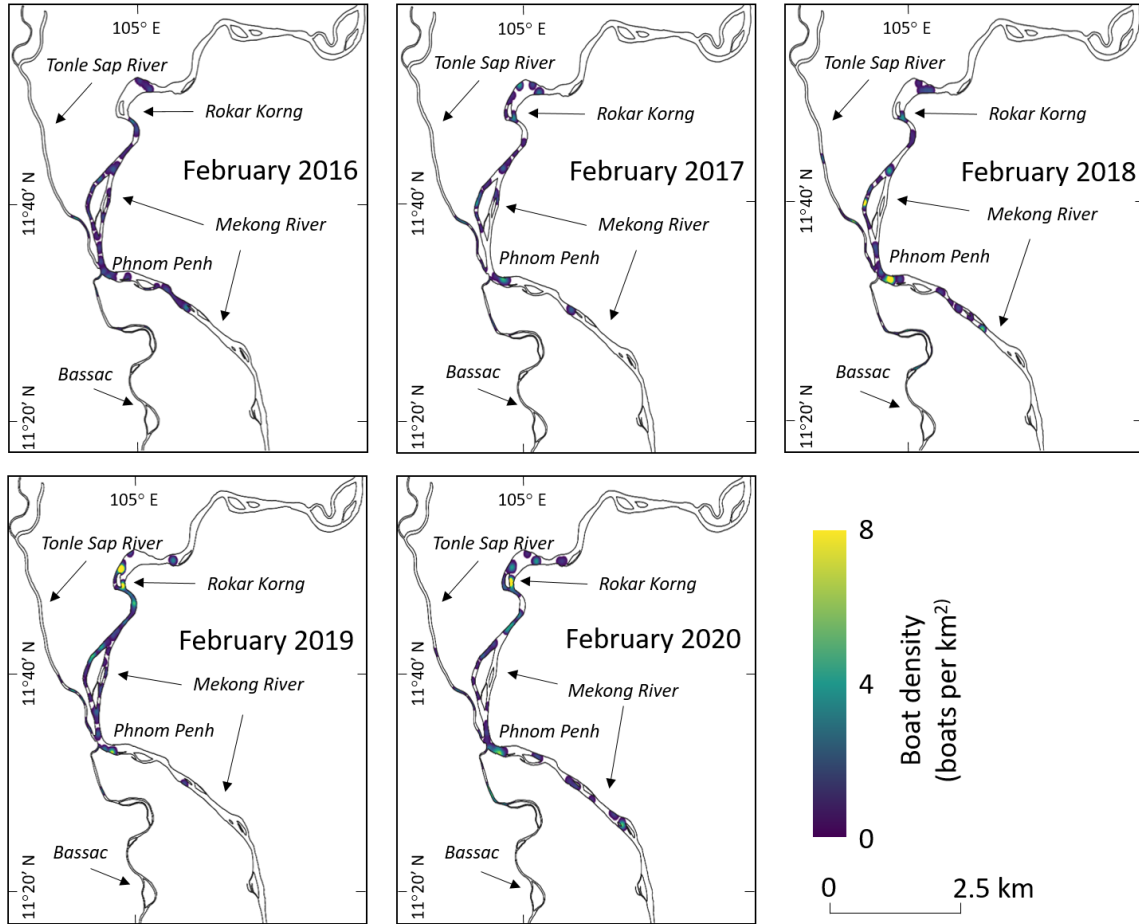
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15 SI Figure 1: Annual heat maps for January for the period 2016 - 2020 of the Mekong River around Phnom Penh
 16 showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial
 17 distribution of mining activity over the five year period.

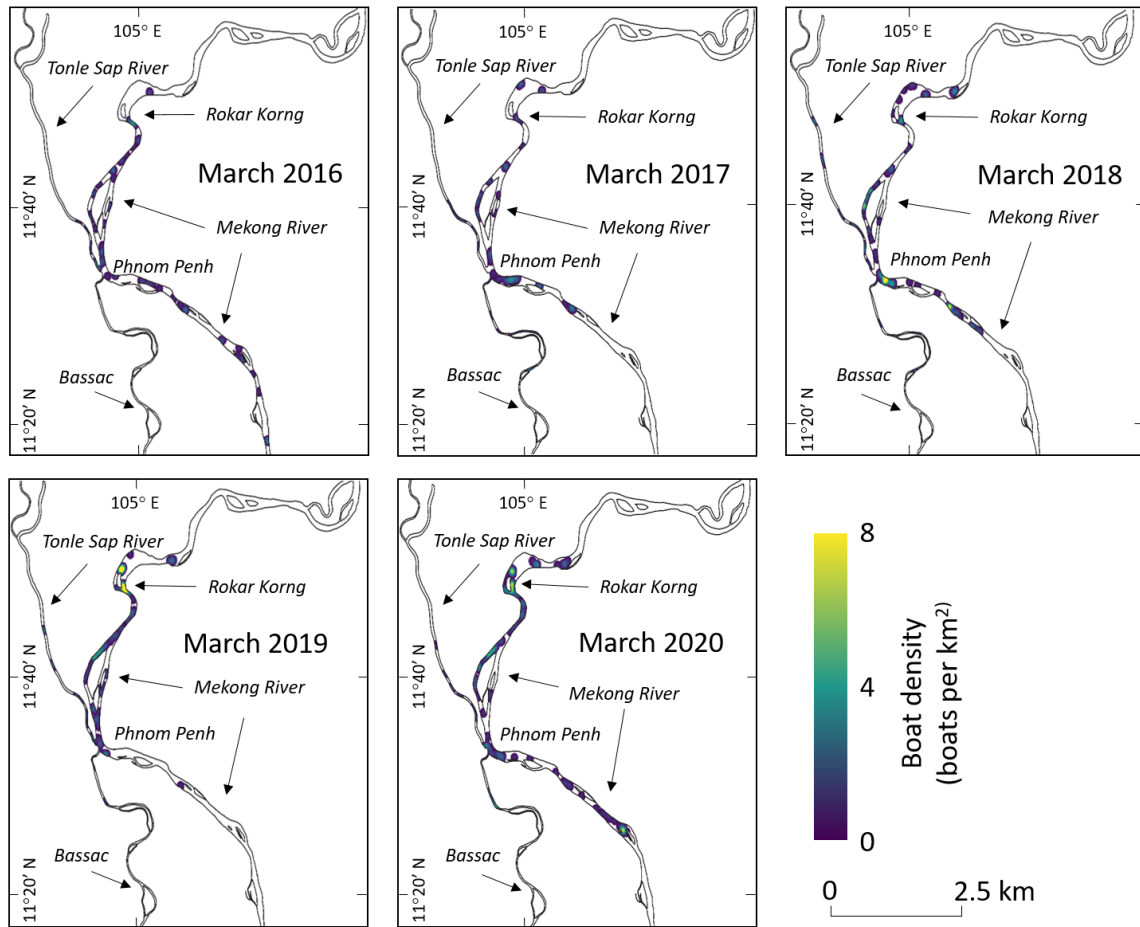


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19 **SI Figure 2: Annual heat maps for February for the period 2016 - 2020 of the Mekong River around Phnom Penh**
 20 **showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial**
 21 **distribution of mining activity over the five year period.**

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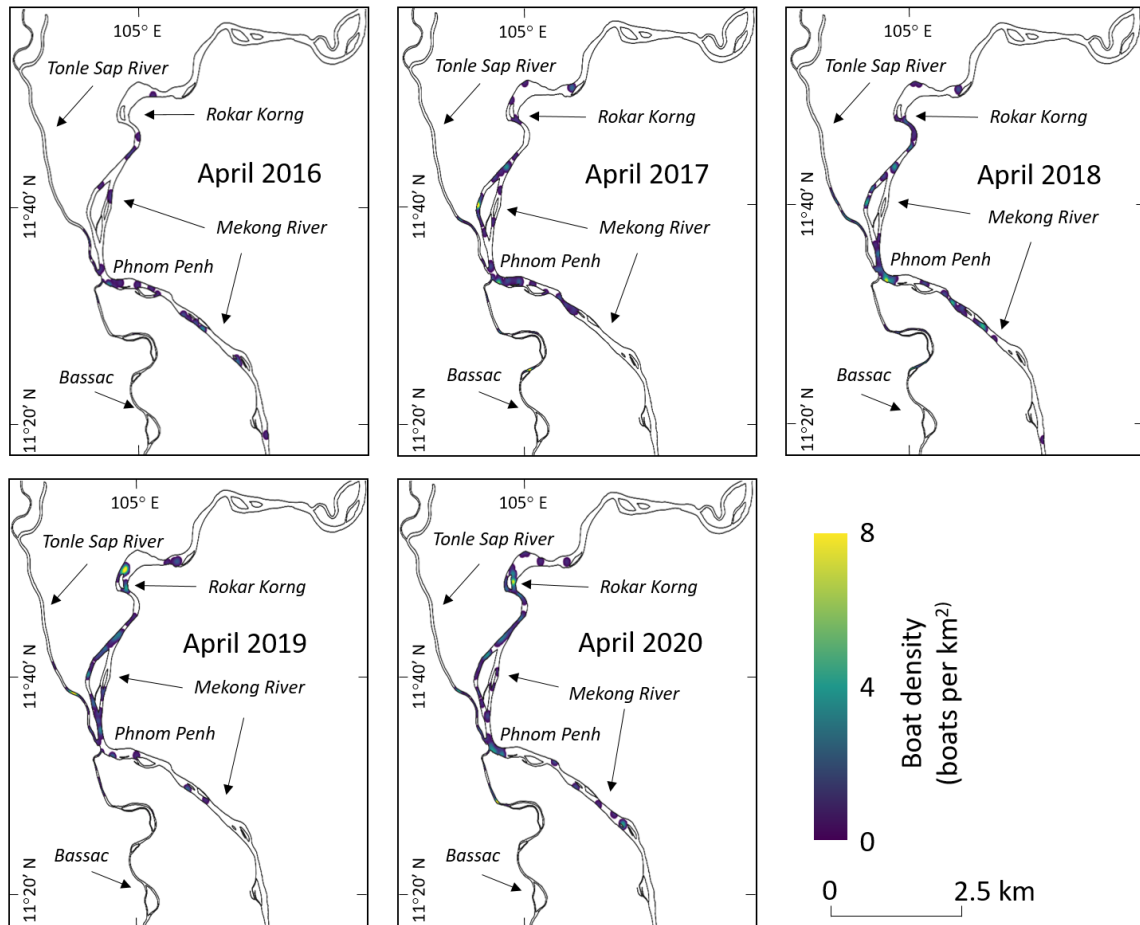


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25 **SI Figure 3: Annual heat maps for March for the period 2016 - 2020 of the Mekong River around Phnom Penh**
 26 **showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial**
 27 **distribution of mining activity over the five year period.**

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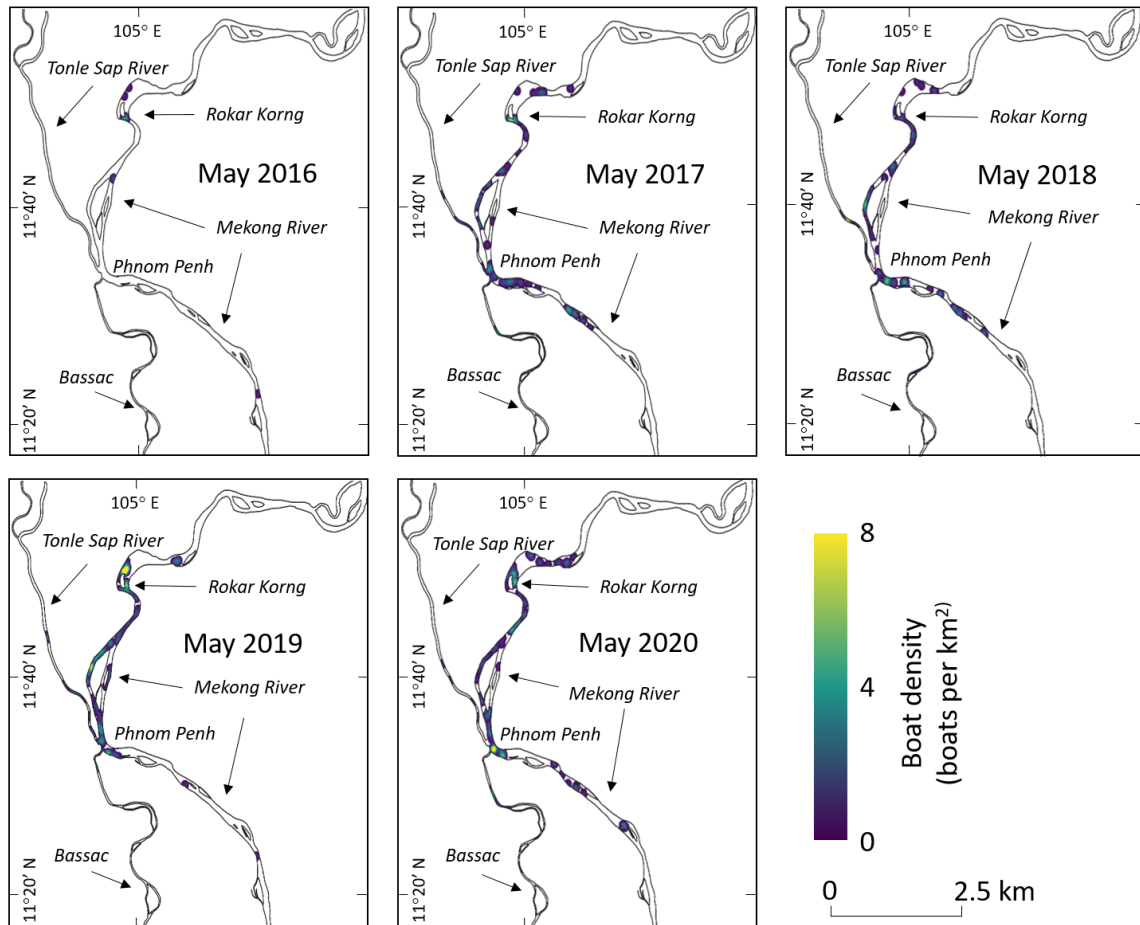
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31 SI Figure 4: Annual heat maps for April for the period 2016 - 2020 of the Mekong River around Phnom Penh
 32 showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial
 33 distribution of mining activity over the five year period.

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36 **SI Figure 5: Annual heat maps for May for the period 2016 - 2020 of the Mekong River around Phnom Penh showing**
 37 **the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial distribution of**
 38 **mining activity over the five year period.**

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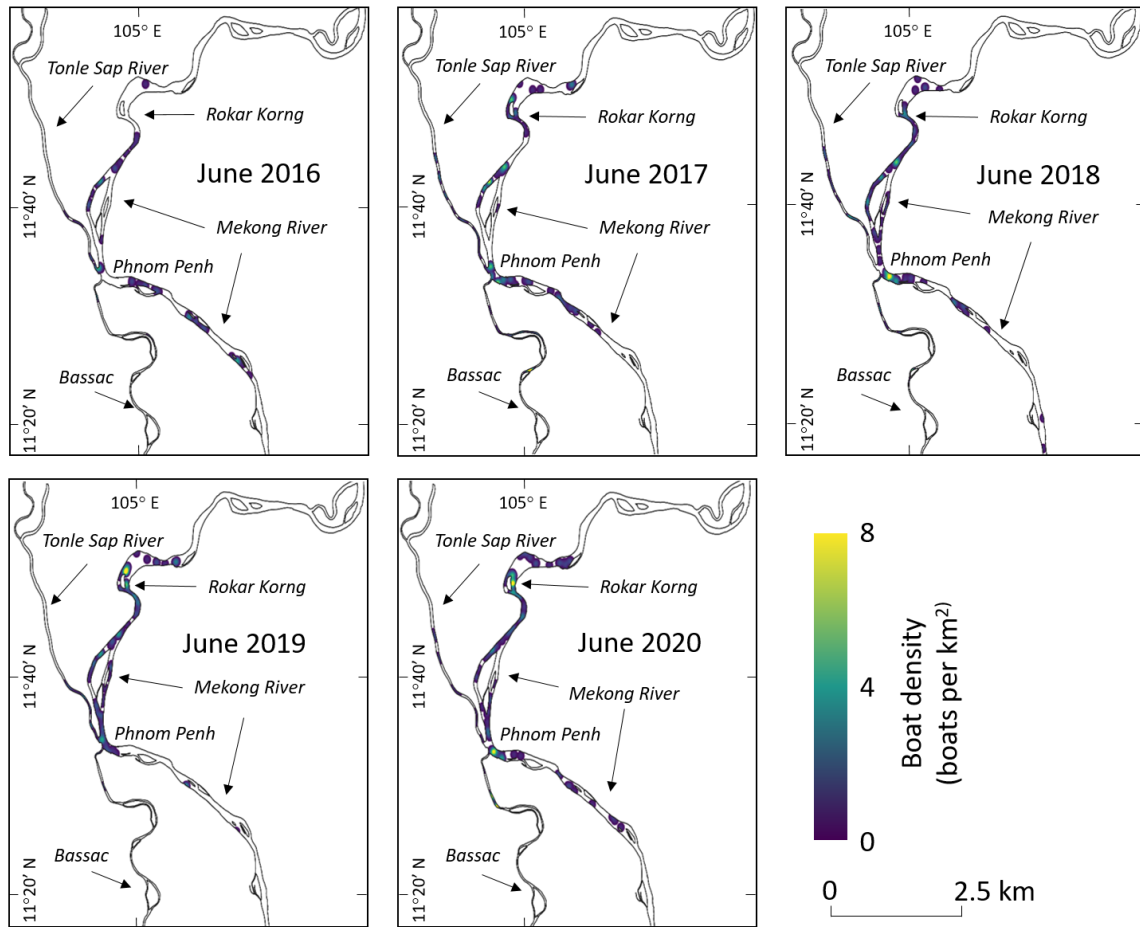
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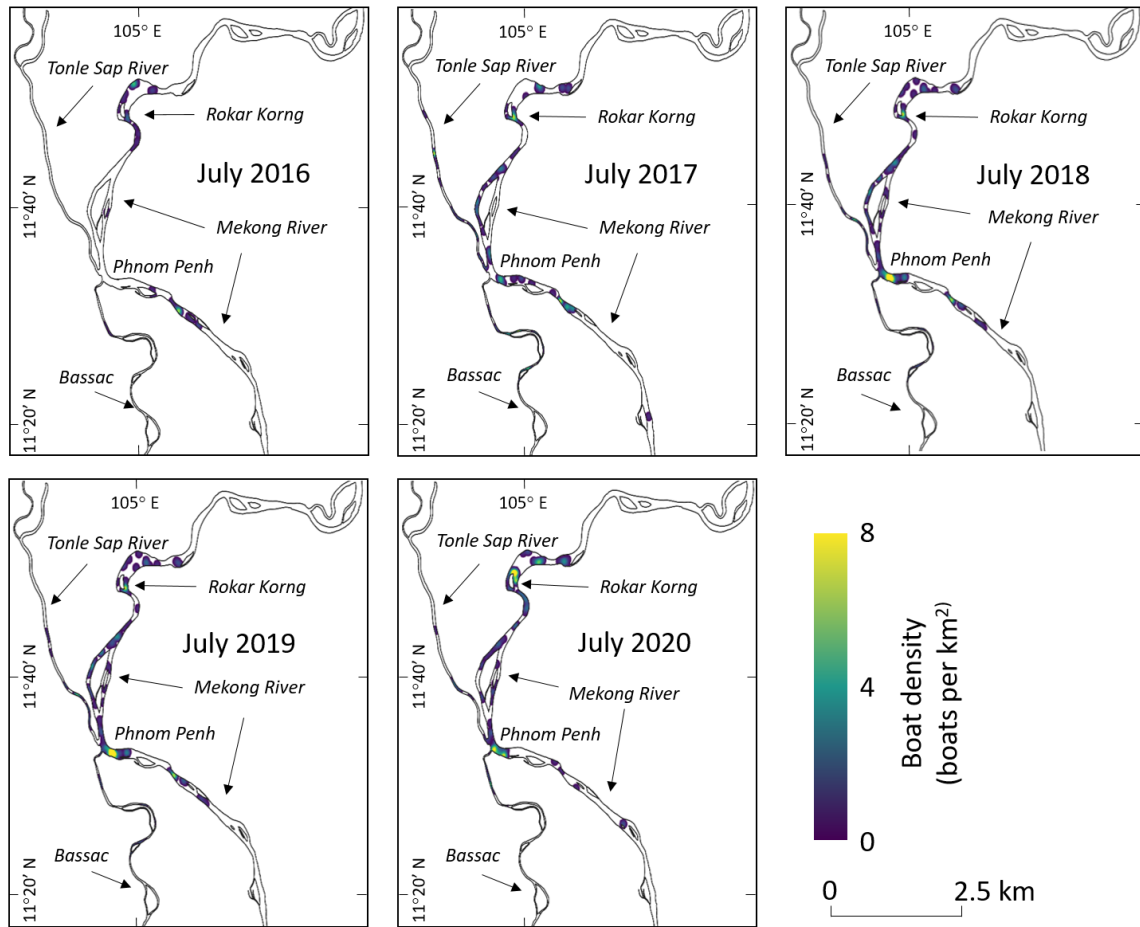


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51 **SI Figure 6: Annual heat maps for June for the period 2016 - 2020 of the Mekong River around Phnom Penh showing**
 52 **the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial distribution of**
 53 **mining activity over the five year period.**

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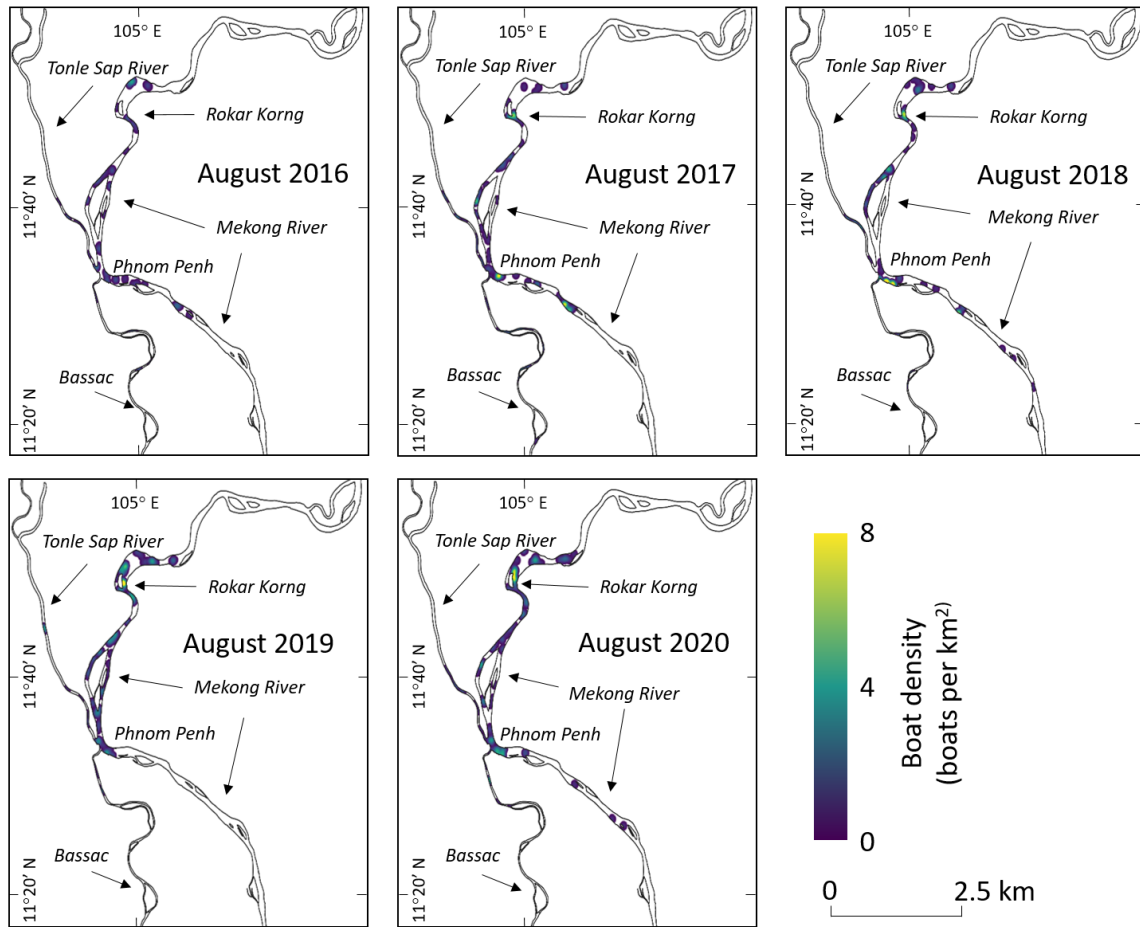
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57 **SI Figure 7: Annual heat maps for July for the period 2016 - 2020 of the Mekong River around Phnom Penh showing**
 58 **the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial distribution of**
 59 **mining activity over the five year period.**

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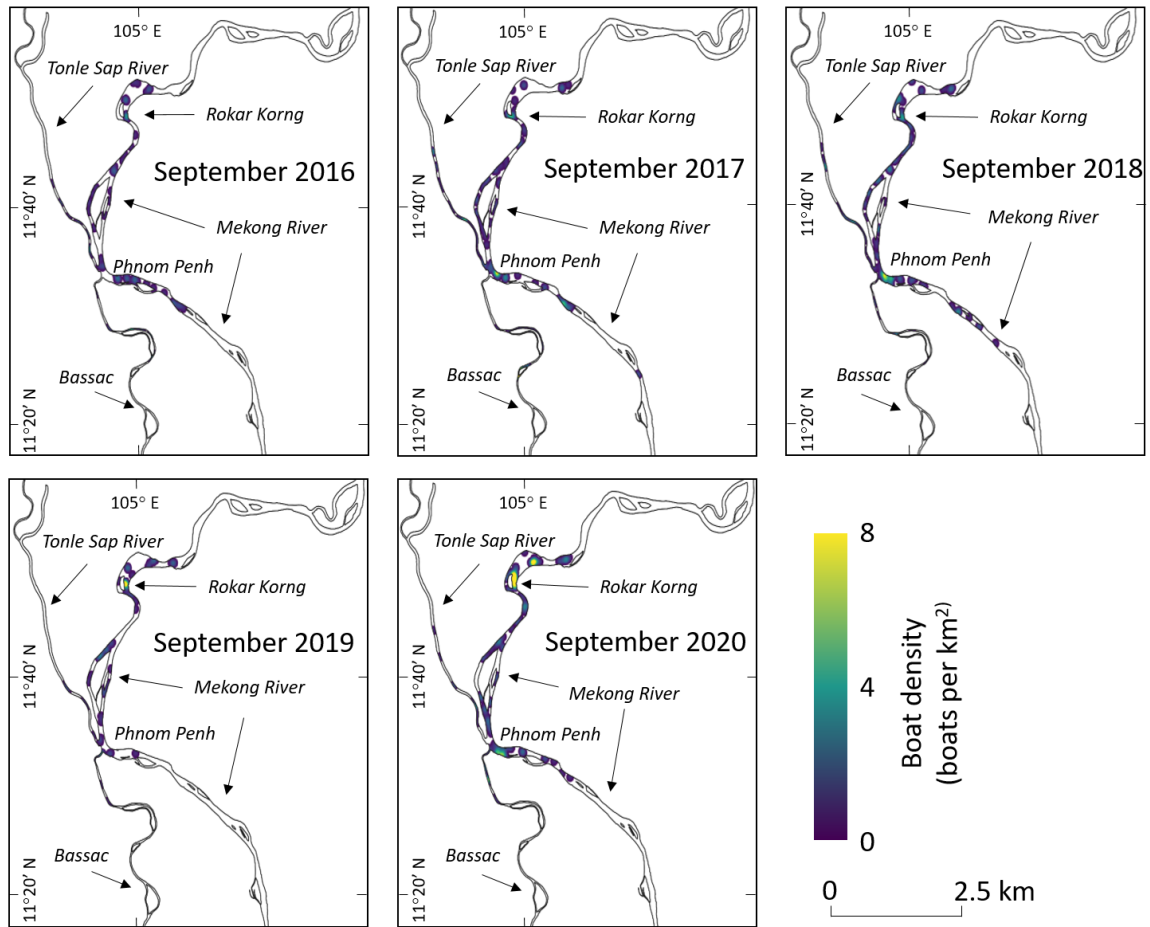


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62 **SI Figure 8: Annual heat maps for August for the period 2016 - 2020 of the Mekong River around Phnom Penh**
 63 **showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial**
 64 **distribution of mining activity over the five year period.**

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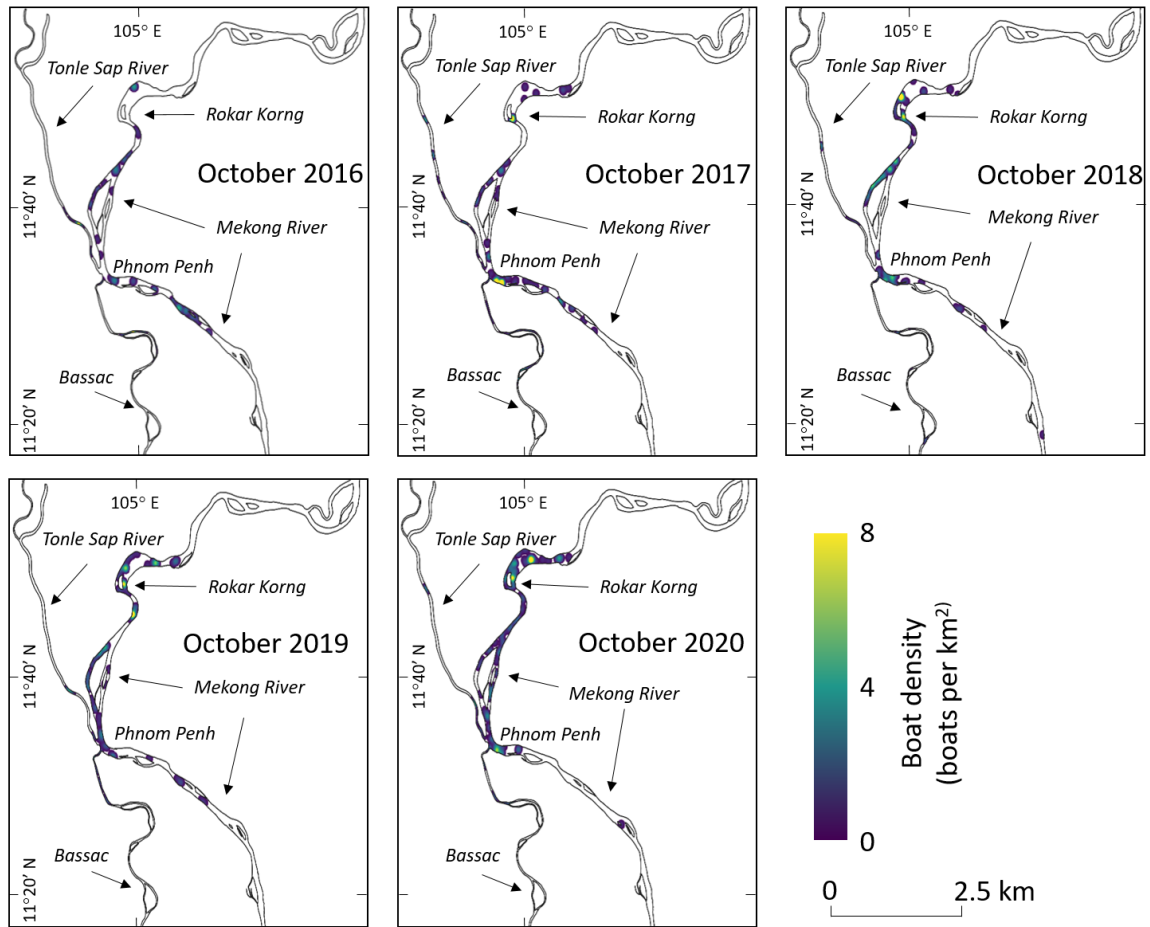


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68 **SI Figure 9: Annual heat maps for September for the period 2016 - 2020 of the Mekong River around Phnom Penh**
 69 **showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial**
 70 **distribution of mining activity over the five year period.**

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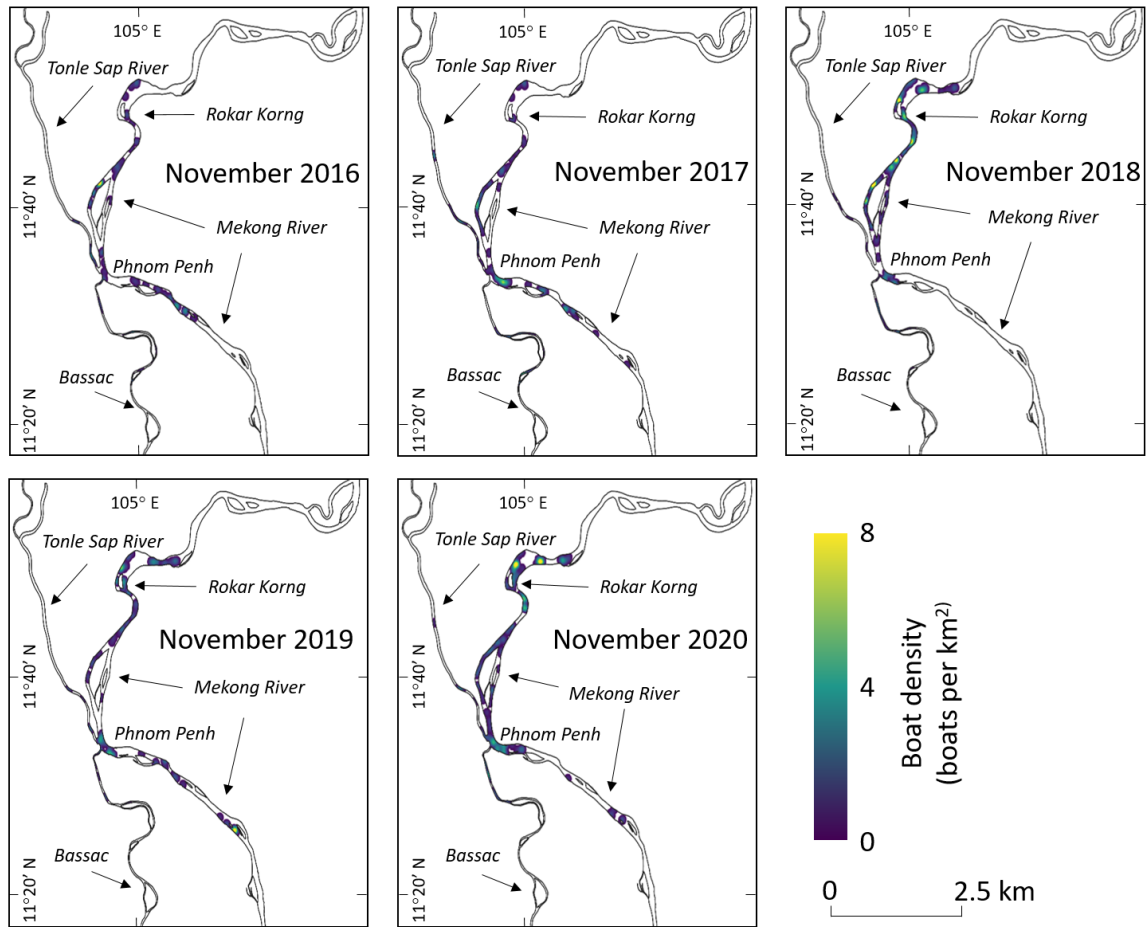


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74 **SI Figure 10: Annual heat maps for October for the period 2016 - 2020 of the Mekong River around Phnom Penh**
 75 **showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial**
 76 **distribution of mining activity over the five year period.**

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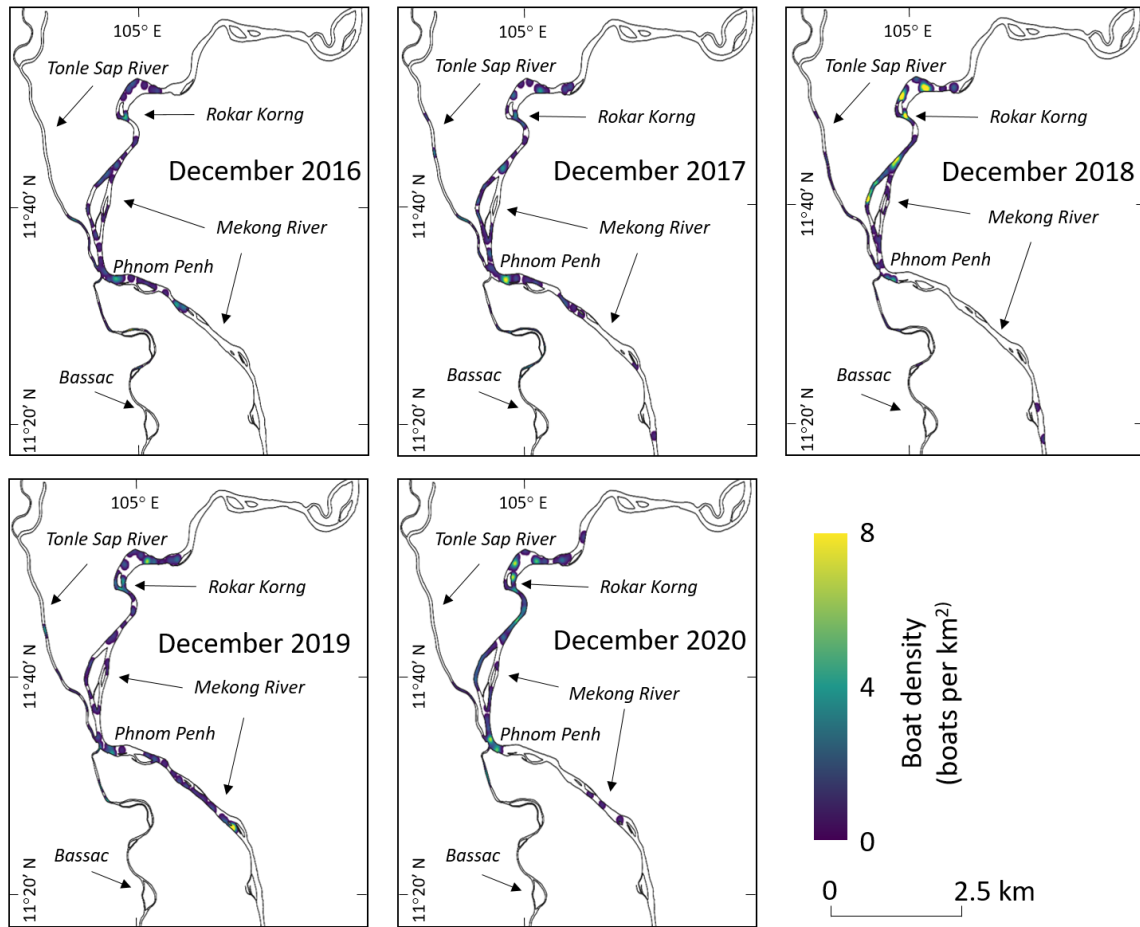


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80 **SI Figure 11: Annual heat maps for November for the period 2016 - 2020 of the Mekong River around Phnom Penh**
 81 **showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial**
 82 **distribution of mining activity over the five year period.**

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86 SI Figure 12: Annual heat maps for December for the period 2016 - 2020 of the Mekong River around Phnom Penh
 87 showing the locations of mining activity and the density of boats (boats per km²) showing changes in the spatial
 88 distribution of mining activity over the five year period.

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