**Supplementary data**

**Heavy metal pollution status and sedimentation history of mangrove sediments in Zhanjiang Bay, China**

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Table S1 Pearson correlation between heavy metals and reference element in the sedimentary cores

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Al | Fe | Ti | Zr | Cu | Pb | Cr | Zn | Hg | Co |
| Al | 1 |  |  |  |  |  |  |  |  |  |
| Fe | 0.33 | 1 |  |  |  |  |  |  |  |  |
| Ti | 0.40\* | 0.87\*\* | 1 |  |  |  |  |  |  |  |
| Zr | -0.11 | -0.67 | -0.75 | 1 |  |  |  |  |  |  |
| Cu | 0.46\* | 0.67\*\* | 0.38\* | -0.07 | 1 |  |  |  |  |  |
| Pb | 0.40\* | 0.87\*\* | 0.86\*\* | -0.65 | 0.61\*\* | 1 |  |  |  |  |
| Cr | 0.24 | 0.85\*\* | 0.94\*\* | -0.84 | 0.31 | 0.79\*\* | 1 |  |  |  |
| Zn | 0.34 | 0.97\*\* | 0.75\*\* | -0.51 | 0.79\*\* | 0.84\*\* | 0.72\*\* | 1 |  |  |
| Hg | -0.34 | -0.32 | -0.26 | 0.00 | -0.40 | -0.20 | -0.18 | -0.31 | 1 |  |
| Co | 0.19 | 0.97\*\* | 0.81\*\* | -0.62 | 0.64\*\* | 0.80\*\* | 0.82\*\* | 0.96\*\* | -0.26 | 1 |

Table S2 Determination of heavy metals (μg·g-1) and sediment age in core C1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Depth (cm) | Cu | Pb | Cr | Ni | Zn | Cd | Hg | Co | Year |
| 0-5 | 12.7 | 18 | 37 | 12.3 | 39.9 | 0.16 | 0.104 | 6.3 | 2017-2008 |
| 5-10 | 15.4 | 26 | 49 | 14.9 | 50.7 | 0.25 | 0.025 | 8 | 2008-1999 |
| 10-15 | 14.9 | 25 | 49 | 10.3 | 48.4 | 0.09 | 0.032 | 9.2 | 1999-1981 |
| 15-20 | 16.1 | 28 | 60 | 16.3 | 53.4 | 0.18 | 0.023 | 10.4 | 1981-1972 |
| 20-25 | 15.6 | 28 | 57 | 15 | 53.9 | 0.2 | 0.036 | 9.9 | 1972-1963 |
| 25-30 | 16.0 | 31 | 55 | 15.1 | 53.4 | 0.349 | 0.031 | 9.5 | 1963-1954 |
| 30-35 | 17.8 | 32 | 63 | 13.9 | 60.4 | 0.245 | 0.02 | 11.5 | 1954-1945 |
| 35-40 | 17.5 | 30 | 58 | 12.1 | 58.3 | 0.093 | 0.026 | 12.2 | 1945-1936 |
| 40-45 | 14.8 | 27 | 52 | 17.3 | 47.9 | 0.075 | 0.039 | 8.8 | 1936-1927 |
| 45-50 | 13.6 | 24 | 44 | 14.3 | 42.6 | 0.19 | 0.108 | 8.1 | 1927-1918 |
| 50-55 | 13.4 | 25 | 50 | 12.2 | 47.6 | 0.086 | 0.1 | 8.7 | 1918-1909 |
| 55-60 | 15.9 | 33 | 62 | 11.9 | 66.6 | 0.095 | 0.342 | 13.7 | 1909-1900 |

Table S3 Determination of heavy metals (μg·g-1) and sediment age in core C2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Depth (cm) | Cu | Pb | Cr | Zn | Hg | Co | Year |
| 0-5 | 14.2 | 14 | 34 | 35.6 | 0.166 | 5.7 | 2017-2011 |
| 5-10 | 16.9 | 20 | 44 | 45.7 | 0.034 | 8 | 2011-2005 |
| 10-15 | 14.6 | 23 | 51 | 46 | 0.131 | 8.2 | 2005-1999 |
| 15-20 | 16.6 | 31 | 56 | 59.5 | 0.032 | 11.6 | 1999-1993 |
| 20-25 | 14.4 | 25 | 53 | 51.4 | 0.031 | 10.1 | 1993-1987 |
| 25-30 | 14.8 | 30 | 59 | 59.8 | 0.023 | 12.2 | 1987-1981 |
| 30-35 | 18.4 | 31 | 66 | 70.4 | 0.184 | 14.7 | 1981-1975 |
| 35-40 | 17.1 | 35 | 68 | 78.1 | 0.006 | 17.6 | 1975-1969 |
| 40-45 | 19.5 | 35 | 72 | 80.5 | 0.01 | 20.5 | 1969-1963 |
| 45-50 | 17.4 | 34 | 73 | 84.4 | 0.199 | 21.4 | 1963-1957 |
| 50-55 | 16.3 | 32 | 70 | 76 | 0.019 | 19.9 | 1957-1951 |
| 55-60 | 11.9 | 26 | 64 | 62.6 | 0 | 13.9 | 1951-1945 |
| 60-65 | 13.4 | 32 | 69 | 73.5 | 0.018 | 16.8 | 1945-1939 |
| 65-70 | 13 | 23 | 64 | 55.6 | 0.007 | 12.8 | 1939-1933 |
| 70-75 | 10.3 | 20 | 55 | 34.1 | 0.223 | 7.4 | 1933-1927 |
| 75-80 | 9.9 | 21 | 64 | 29 | 0.023 | 7.1 | 1927-1921 |
| 80-85 | 5.9 | 23 | 51 | 21.5 | 0.308 | 4 | 1927-1915 |
| 85-90 | 6.3 | 22 | 53 | 20.2 | 0.204 | 2.9 | 1915-1909 |