Goodness-of-fit test statistics and Akaike Information Criterion for distribution fitting of data for sources and ingestion rates. Green shaded means the data best fit to the distribution function.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | **Distribution functions** | | | | | | | | | | | |
|  | | | **Normal** | **Logistic** | **Weibull** | **Gamma** | **Exponential** | **Lognormal** | | **Log-logistic** | **Skew-normal** | **Skew-*t*** | **Skew-cauchy** | **Normal Mixture** |
| ***Sources*** | | | | | | | | | | | | | | |
| Cf | *D* | 0.036 | | 0.018 |  |  |  |  |  | | 0.022 | 0.023 | 0.14 | 0.006 |
| *p*-value | 0 | | 0.004 |  |  |  |  |  | | 0 | 0 | 0 | 0.796 |
| AIC | 34484.66 | | 34335.5 |  |  |  |  |  | | 34200.44 | 34149.69 | 37128.66 | 34106.78 |
| Cm | *D* | 0.055 | | 0.026 |  |  |  |  |  | | 0.024 | 0.017 | 0.16 |  |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 |  |
| AIC | 292818.4 | | 290970.4 |  |  |  |  |  | | 286141.2 | 286003.7 | 319145.1 |  |
| Ccr | *D* | 0.035 | | 0.037 |  |  |  |  |  | | 0.025 | 0.025 | 0.166 | 0.008 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0.289 |
| AIC | 44260.91 | | 44676.37 |  |  |  |  |  | | 44122.82 | 44122.82 | 49064.57 | 43487.88 |
| Ctw | *D* | 0.162 | | 0.143 |  |  |  |  |  | | 0.117 | 0.117 | 0.322 | 0.062 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0 |
| AIC | 82298.04 | | 84439.21 |  |  |  |  |  | | 78175.66 | 78175.66 | 85103.02 | 69112.1 |
| Cbw | *D* | 0.055 | | 0.057 |  |  |  |  |  | | 0.061 | 0.061 | 0.236 | 0.023 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0 |
| AIC | 220308.7 | | 224596.6 |  |  |  |  |  | | 219615.6 | 219615.6 | 255846.5 | 215603.1 |
| Cs | *D* | 0.035 | | 0.035 |  |  |  |  |  | | 0.021 | 0.021 | 0.171 | 0.009 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0 |
| AIC | 455858.7 | | 460528.6 |  |  |  |  |  | | 453605.4 | 453605.4 | 510240 | 451826.9 |
| Cb | *D* | 0.034 | | 0.038 |  |  |  |  |  | | 0.031 | 0.031 | 0.127 | 0.013 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0.022 |
| AIC | 35283.75 | | 36026.23 |  |  |  |  |  | | 35251.89 | 35251.89 | 41704.67 | 34773.66 |
| Cmk | *D* | 0.06 | | 0.05 |  |  |  |  |  | | 0.039 | 0.039 | 0.242 | 0.014 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0 |
| AIC | 50710.73 | | 52022.62 |  |  |  |  |  | | 48956.49 | 48956.49 | 59282.81 | 48223.83 |
| Ca | *D* | 0.177 | | 0.172 |  |  |  |  |  | | 0.227 | 0.227 | 0.31 | 0.199 |
| *p*-value | 0 | | 0 |  |  |  |  |  | | 0 | 0 | 0 | 0 |
| AIC | 31311.02 | | 31672.67 |  |  |  |  |  | | 27424.18 | 27424.18 | 34891.54 | 26214.14 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | **Distribution functions** | | | | | | | | | | | |
|  | | | **Normal** | **Logistic** | **Weibull** | **Gamma** | **Exponential** | **Lognormal** | | **Log-logistic** | **Skew-normal** | **Skew-*t*** | **Skew-cauchy** | **Normal Mixture** |
| ***Physiological data*** | | | | | | | | | | | | | | |
| Irfadult | *D* | 0.153 | |  | 0.065 | 0.077 |  |  |  | | 0.104 | 0.095 | 0.249 |  |
| *p*-value | 0.014 | |  | 0.756 | 0.561 |  |  |  | | 0.199 | 0.291 | 0 |  |
| AIC | 650.73 | |  | 590.07 | 590.08 |  |  |  | | 595.76 | 592.66 | 616.23 |  |
| Irfchild | *D* | 0.153 | |  |  |  |  | 0.078 | 0.07 | |  |  |  |  |
| *p*-value | 0.014 | |  |  |  |  | 0.645 | 0.76 | |  |  |  |  |
| AIC | 650.73 | |  |  |  |  | 398.96 | 400.59 | |  |  |  |  |
| Irmadult | *D* | 0.108 | |  | 0.31 | 0.346 |  |  |  | | 0.121 | 0.121 | 0.266 |  |
| *p*-value | 0.945 | |  | 0.027 | 0.009 |  |  |  | | 0.884 | 0.885 | 0.084 |  |
| AIC | 44.33 | |  | 43.29 | 41.28 |  |  |  | | 44.82 | 44.82 | 50.72 |  |
| Irmchild | *D* |  | |  |  |  |  | 0.163 | 0.148 | |  |  |  |  |
| *p*-value |  | |  |  |  |  | 0.696 | 0.799 | |  |  |  |  |
| AIC |  | |  |  |  |  | 11.44 | 11.33 | |  |  |  |  |
| Ircadult | *D* | 0.153 | |  | 0.065 | 0.077 |  |  |  | | 0.104 | 0.095 | 0.249 |  |
| *p*-value | 0.014 | |  | 0.756 | 0.561 |  |  |  | | 0.199 | 0.291 | 0 |  |
| AIC | 650.73 | |  | 590.07 | 590.08 |  |  |  | | 595.76 | 592.66 | 616.23 |  |
| Ircchild | *D* |  | |  | 0.099 | 0.097 | 0.094 |  | 0.125 | |  |  |  |  |
| *p*-value |  | |  | 0.615 | 0.634 | 0.675 |  | 0.313 | |  |  |  |  |
| AIC |  | |  | 98.54 | 98.55 | 96.56 |  | 106.74 | |  |  |  |  |
| Irtwadult | *D* | 0.145 | |  | 0.087 | 0.098 |  |  |  | | 0.093 | 0.092 | 0.203 |  |
| *p*-value | 0.056 | |  | 0.533 | 0.381 |  |  |  | | 0.455 | 0.465 | 0.002 |  |
| AIC | 1195.89 | |  | 1180.85 | 1184.68 |  |  |  | | 1185.97 | 1185.99 | 1213.38 |  |
| Irtwchild | *D* | 0.082 | |  | 0.103 | 0.124 |  |  |  | | 0.073 | 0.078 | 0.274 |  |
| *p*-value | 0.511 | |  | 0.241 | 0.093 |  |  |  | | 0.657 | 0.573 | 0 |  |
| AIC | 1334.22 | |  | 1314.48 | 1317.3 |  |  |  | | 1306.83 | 1305.3 | 1349.6 |  |
| Irbwadult | *D* | 0.089 | |  |  |  |  |  |  | | 0.097 | 0.097 | 0.294 |  |
| *p*-value | 0.565 | |  |  |  |  |  |  | | 0.451 | 0.451 | 0 |  |
| AIC | 194.87 | |  |  |  |  |  |  | | 192.77 | 192.77 | 227.33 |  |

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|  | | | **Distribution functions** | | | | | | | | | | | |
|  | | | **Normal** | **Logistic** | **Weibull** | **Gamma** | **Exponential** | **Lognormal** | | **Log-logistic** | **Skew-normal** | **Skew-*t*** | **Skew-cauchy** | **Normal Mixture** |
| Irbwchild | *D* | 0.091 | |  |  |  |  |  |  | | 0.113 | 0.111 | 0.304 |  |
| *p*-value | 0.643 | |  |  |  |  |  |  | | 0.369 | 0.391 | 0 |  |
| AIC | 129.4 | |  |  |  |  |  |  | | 118.71 | 117.76 | 152.49 |  |
| Irsadult | *D* |  | |  | 0.104 | 0.081 | 0.263 |  | 0.119 | |  |  |  |  |
| *p*-value |  | |  | 0.158 | 0.424 | 0 |  | 0.071 | |  |  |  |  |
| AIC |  | |  | 316.99 | 315.76 | 395.32 |  | 336.72 | |  |  |  |  |
| Irschild | *D* |  | |  | 0.105 | 0.122 | 0.345 |  | 0.11 | |  |  |  |  |
| *p*-value |  | |  | 0.136 | 0.051 | 0 |  | 0.102 | |  |  |  |  |
| AIC |  | |  | 184.22 | 193.91 | 299.58 |  | 188.09 | |  |  |  |  |
| Irb | *D* |  | |  |  |  |  | 0.052 | 0.05 | |  |  |  |  |
| *p*-value |  | |  |  |  |  | 0.671 | 0.711 | |  |  |  |  |
| AIC |  | |  |  |  |  | 1754.32 | 1762.14 | |  |  |  |  |
| Irmkadult | *D* |  | |  | 0.081 | 0.066 | 0.173 |  | 0.107 | |  |  |  |  |
| *p*-value |  | |  | 0.087 | 0.257 | 0 |  | 0.009 | |  |  |  |  |
| AIC |  | |  | 2224.64 | 2219.37 | 2266.37 |  | 2272.86 | |  |  |  |  |
| Irmkchild | *D* |  | |  | 0.064 | 0.072 | 0.199 |  | 0.071 | |  |  |  |  |
| *p*-value |  | |  | 0.24 | 0.138 | 0 |  | 0.141 | |  |  |  |  |
| AIC |  | |  | 2628.08 | 2628.67 | 2693.81 |  | 2662.01 | |  |  |  |  |