

Clean Site Characterization

Seasonal percentile distribution of hourly ozone concentrations for selected clean sites in the United States. All concentrations are in ppm units.

| Site | Year | Min. | 10 | 30 | 50 | 70 | 90 | 95 | 99 | MAX |
|--|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Redwood NP 060150002 (California) | 1988 | 0.002 | 0.011 | 0.018 | 0.023 | 0.029 | 0.038 | 0.041 | 0.046 | 0.060 |
| | 1989 | 0.000 | 0.010 | 0.017 | 0.022 | 0.027 | 0.034 | 0.038 | 0.042 | 0.047 |
| | 1990 | 0.000 | 0.011 | 0.018 | 0.023 | 0.028 | 0.035 | 0.038 | 0.043 | 0.053 |
| | 1991 | 0.001 | 0.012 | 0.019 | 0.025 | 0.031 | 0.038 | 0.041 | 0.045 | 0.054 |
| | 1992 | 0.000 | 0.010 | 0.017 | 0.021 | 0.026 | 0.035 | 0.039 | 0.045 | 0.055 |
| | 1993 | 0.000 | 0.010 | 0.017 | 0.022 | 0.027 | 0.035 | 0.038 | 0.042 | 0.054 |
| | 1994 | 0.001 | 0.011 | 0.018 | 0.024 | 0.028 | 0.035 | 0.038 | 0.043 | 0.050 |
| | 1995 | 0.012 | 0.021 | 0.028 | 0.034 | 0.038 | 0.042 | 0.044 | 0.047 | 0.050 |
| Olympic NP 530090012 (Washington) | 1987 | 0.000 | 0.010 | 0.020 | 0.020 | 0.030 | 0.040 | 0.040 | 0.050 | 0.070 |
| | 1988 | 0.000 | 0.000 | 0.010 | 0.010 | 0.020 | 0.020 | 0.030 | 0.040 | 0.040 |
| | 1989 | 0.000 | 0.003 | 0.010 | 0.015 | 0.022 | 0.030 | 0.035 | 0.046 | 0.065 |
| | 1990 | 0.000 | 0.005 | 0.012 | 0.018 | 0.023 | 0.030 | 0.034 | 0.043 | 0.064 |
| | 1991 | 0.000 | 0.006 | 0.014 | 0.019 | 0.024 | 0.033 | 0.036 | 0.044 | 0.056 |
| | 1992 | 0.000 | 0.005 | 0.014 | 0.021 | 0.028 | 0.038 | 0.041 | 0.050 | 0.063 |
| | 1993 | 0.000 | 0.004 | 0.010 | 0.016 | 0.021 | 0.029 | 0.034 | 0.041 | 0.064 |
| | 1994 | 0.000 | 0.006 | 0.013 | 0.019 | 0.025 | 0.033 | 0.038 | 0.043 | 0.062 |
| | 1995 | 0.000 | 0.006 | 0.014 | 0.020 | 0.027 | 0.037 | 0.040 | 0.048 | 0.077 |
| | 1996 | 0.000 | 0.006 | 0.013 | 0.019 | 0.025 | 0.034 | 0.038 | 0.043 | 0.058 |
| Glacier NP 300298001 (Montana) | 1989 | 0.000 | 0.003 | 0.015 | 0.026 | 0.036 | 0.046 | 0.050 | 0.058 | 0.067 |
| | 1990 | 0.000 | 0.003 | 0.014 | 0.026 | 0.035 | 0.044 | 0.047 | 0.052 | 0.066 |
| | 1991 | 0.000 | 0.001 | 0.014 | 0.027 | 0.036 | 0.046 | 0.049 | 0.056 | 0.062 |
| | 1992 | 0.000 | 0.001 | 0.013 | 0.025 | 0.033 | 0.043 | 0.048 | 0.055 | 0.077 |
| | 1993 | 0.000 | 0.000 | 0.010 | 0.020 | 0.029 | 0.040 | 0.044 | 0.050 | 0.058 |
| | 1994 | 0.000 | 0.001 | 0.014 | 0.026 | 0.036 | 0.046 | 0.050 | 0.056 | 0.061 |
| | 1995 | 0.000 | 0.000 | 0.010 | 0.022 | 0.031 | 0.041 | 0.045 | 0.051 | 0.066 |
| | 1996 | 0.000 | 0.002 | 0.013 | 0.025 | 0.035 | 0.046 | 0.051 | 0.058 | 0.065 |

| Site | Year | Min. | 10 | 30 | 50 | 70 | 90 | 95 | 99 | MAX |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1997 | 0.000 | 0.000 | 0.080 | 0.017 | 0.026 | 0.041 | 0.045 | 0.053 | 0.058 |
| | 1998 | 0.000 | 0.003 | 0.013 | 0.025 | 0.035 | 0.047 | 0.051 | 0.058 | 0.064 |
| Yellowstone NP 560391010 (Wyoming) | 1988 | 0.002 | 0.020 | 0.029 | 0.037 | 0.044 | 0.054 | 0.058 | 0.070 | 0.098 |
| | 1989 | 0.002 | 0.018 | 0.027 | 0.036 | 0.044 | 0.052 | 0.057 | 0.063 | 0.071 |
| | 1990 | 0.000 | 0.015 | 0.023 | 0.029 | 0.036 | 0.043 | 0.046 | 0.053 | 0.061 |
| | 1991 | 0.004 | 0.020 | 0.030 | 0.037 | 0.042 | 0.048 | 0.051 | 0.057 | 0.064 |
| | 1992 | 0.001 | 0.018 | 0.029 | 0.036 | 0.042 | 0.051 | 0.056 | 0.064 | 0.075 |
| | 1993 | 0.000 | 0.018 | 0.028 | 0.036 | 0.042 | 0.047 | 0.050 | 0.054 | 0.060 |
| | 1994 | 0.003 | 0.022 | 0.033 | 0.040 | 0.046 | 0.053 | 0.056 | 0.062 | 0.072 |
| | 1995 | 0.004 | 0.022 | 0.033 | 0.040 | 0.045 | 0.052 | 0.055 | 0.059 | 0.065 |
| | 1996 | 0.003 | 0.023 | 0.035 | 0.041 | 0.047 | 0.053 | 0.057 | 0.061 | 0.065 |
| Yellowstone NP 560391011 (Wyoming) | 1996 | 0.014 | 0.031 | 0.037 | 0.041 | 0.046 | 0.053 | 0.057 | 0.062 | 0.076 |
| | 1997 | 0.005 | 0.026 | 0.035 | 0.040 | 0.045 | 0.051 | 0.054 | 0.060 | 0.068 |
| | 1998 | 0.004 | 0.029 | 0.038 | 0.043 | 0.048 | 0.055 | 0.058 | 0.064 | 0.073 |
| Denali NP 022900003 (Alaska) | 1988 | 0.003 | 0.018 | 0.024 | 0.028 | 0.033 | 0.044 | 0.050 | 0.053 | 0.056 |
| | 1989 | 0.001 | 0.017 | 0.023 | 0.028 | 0.032 | 0.040 | 0.044 | 0.047 | 0.052 |
| | 1990 | 0.003 | 0.017 | 0.024 | 0.029 | 0.034 | 0.040 | 0.043 | 0.048 | 0.050 |
| | 1991 | 0.005 | 0.018 | 0.024 | 0.028 | 0.034 | 0.041 | 0.043 | 0.047 | 0.057 |
| | 1992 | 0.003 | 0.016 | 0.023 | 0.028 | 0.034 | 0.044 | 0.047 | 0.050 | 0.054 |
| | 1993 | 0.002 | 0.017 | 0.023 | 0.028 | 0.033 | 0.041 | 0.043 | 0.048 | 0.055 |
| | 1994 | 0.003 | 0.017 | 0.022 | 0.027 | 0.033 | 0.042 | 0.045 | 0.049 | 0.053 |
| | 1995 | 0.001 | 0.013 | 0.019 | 0.025 | 0.032 | 0.042 | 0.044 | 0.052 | 0.059 |
| | 1996 | 0.002 | 0.015 | 0.022 | 0.028 | 0.035 | 0.044 | 0.047 | 0.052 | 0.063 |
| | 1997 | 0.001 | 0.015 | 0.023 | 0.030 | 0.038 | 0.045 | 0.048 | 0.051 | 0.084 |
| | 1998 | 0.004 | 0.018 | 0.023 | 0.030 | 0.036 | 0.048 | 0.050 | 0.055 | 0.058 |
| Badlands NP 460711001 (South Dakota) | 1989 | 0.006 | 0.020 | 0.027 | 0.034 | 0.041 | 0.049 | 0.053 | 0.060 | 0.071 |
| | 1990 | 0.006 | 0.019 | 0.027 | 0.032 | 0.037 | 0.044 | 0.048 | 0.054 | 0.063 |
| | 1991 | 0.005 | 0.020 | 0.028 | 0.033 | 0.040 | 0.047 | 0.050 | 0.056 | 0.066 |
| Theod. Roos. NP 380530002 | 1983 | 0.000 | 0.018 | 0.026 | 0.033 | 0.039 | 0.050 | 0.056 | 0.066 | 0.080 |
| | 1984 | 0.000 | 0.017 | 0.025 | 0.032 | 0.039 | 0.047 | 0.050 | 0.059 | 0.068 |

| Site | Year | Min. | 10 | 30 | 50 | 70 | 90 | 95 | 99 | MAX |
|--|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| (North Dakota) | 1985 | 0.000 | 0.019 | 0.026 | 0.032 | 0.038 | 0.046 | 0.049 | 0.054 | 0.061 |
| | 1986 | 0.004 | 0.017 | 0.027 | 0.033 | 0.039 | 0.047 | 0.050 | 0.056 | 0.062 |
| | 1987 | 0.003 | 0.016 | 0.026 | 0.032 | 0.038 | 0.046 | 0.049 | 0.054 | 0.064 |
| | 1988 | 0.001 | 0.026 | 0.036 | 0.043 | 0.049 | 0.057 | 0.061 | 0.067 | 0.078 |
| | 1989 | 0.004 | 0.023 | 0.032 | 0.039 | 0.045 | 0.054 | 0.058 | 0.065 | 0.073 |
| | 1990 | 0.004 | 0.019 | 0.028 | 0.035 | 0.041 | 0.050 | 0.053 | 0.063 | 0.070 |
| | 1991 | 0.000 | 0.012 | 0.027 | 0.034 | 0.041 | 0.050 | 0.054 | 0.060 | 0.070 |
| | 1992 | 0.005 | 0.019 | 0.027 | 0.033 | 0.039 | 0.047 | 0.050 | 0.056 | 0.063 |
| | 1993 | 0.004 | 0.018 | 0.025 | 0.031 | 0.037 | 0.045 | 0.048 | 0.055 | 0.064 |
| | 1994 | 0.000 | 0.018 | 0.028 | 0.035 | 0.041 | 0.049 | 0.052 | 0.058 | 0.079 |
| | 1995 | 0.000 | 0.018 | 0.028 | 0.035 | 0.041 | 0.050 | 0.053 | 0.058 | 0.064 |
| | 1996 | 0.003 | 0.022 | 0.031 | 0.037 | 0.043 | 0.051 | 0.054 | 0.059 | 0.064 |
| | 1997 | 0.000 | 0.016 | 0.029 | 0.037 | 0.044 | 0.053 | 0.058 | 0.069 | 0.082 |
| | 1998 | 0.001 | 0.016 | 0.027 | 0.035 | 0.042 | 0.053 | 0.058 | 0.065 | 0.069 |
| Custer NF, MT 300870101 (Montana) | 1977 | 0.000 | 0.025 | 0.035 | 0.040 | 0.050 | 0.060 | 0.060 | 0.070 | 0.080 |
| | 1978 | 0.000 | 0.010 | 0.020 | 0.035 | 0.040 | 0.050 | 0.055 | 0.060 | 0.070 |
| | 1979 | 0.010 | 0.025 | 0.035 | 0.040 | 0.045 | 0.050 | 0.055 | 0.060 | 0.075 |
| | 1980 | 0.010 | 0.025 | 0.035 | 0.040 | 0.050 | 0.055 | 0.060 | 0.065 | 0.070 |
| | 1981 | 0.010 | 0.020 | 0.030 | 0.035 | 0.040 | 0.045 | 0.045 | 0.050 | 0.070 |
| | 1982 | 0.010 | 0.020 | 0.030 | 0.035 | 0.040 | 0.045 | 0.050 | 0.055 | 0.055 |
| | 1983 | 0.010 | 0.025 | 0.035 | 0.040 | 0.045 | 0.050 | 0.055 | 0.060 | 0.065 |