**National Atmospheric Deposition Program/National Trends Network**  
**1996 Annual & Seasonal Data Summary for Site KS32**  
**Page 1: Summary of Sample Validity and Completeness Criteria**  
(Printed 08/29/2000)

### Site Identification

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Lake Scott State Park</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site ID</td>
<td>KS32</td>
</tr>
<tr>
<td>State</td>
<td>KS</td>
</tr>
<tr>
<td>County</td>
<td>Scott</td>
</tr>
<tr>
<td>Operating Agency</td>
<td>Kansas State Park &amp; Resource Auth.</td>
</tr>
<tr>
<td>Sponsoring Agency</td>
<td>USGS-WRD</td>
</tr>
<tr>
<td>Latitude</td>
<td>38:40:18</td>
</tr>
<tr>
<td>Longitude</td>
<td>100:54:59</td>
</tr>
<tr>
<td>Elevation</td>
<td>863 m</td>
</tr>
</tbody>
</table>

### Sample Validity for Annual Period

<table>
<thead>
<tr>
<th></th>
<th>Annual</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of samples</td>
<td>51</td>
<td>48</td>
<td>32</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Valid Samples</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with precipitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with full chemistry**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without chemistry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without precipitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invalid Samples</td>
<td>3</td>
<td>3</td>
<td>16</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>with precipitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>missing precipitation data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Summary Period Information

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Last summary period day</td>
<td>12/31/1996</td>
<td>02/27/1996</td>
<td>06/04/1996</td>
<td>09/03/1996</td>
<td>12/03/1996</td>
<td></td>
</tr>
<tr>
<td>Summary period duration</td>
<td>357</td>
<td>91</td>
<td>98</td>
<td>91</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Number of samples</td>
<td>51</td>
<td>10</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Measured precipitation (cm)</td>
<td>79.5</td>
<td>0.4</td>
<td>23.2</td>
<td>42.7</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td>Valid samples with full chemistry**</td>
<td>24</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Valid field pH measurements</td>
<td>17</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

### NADP/NTN Completeness Criteria

<table>
<thead>
<tr>
<th></th>
<th>Annual</th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Summary period with valid samples (%)</td>
<td>94.1</td>
<td>61.5</td>
<td>85.7</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>2. Summary period with precip coverage (%)</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>3. Measured precipitation with valid samples (%)</td>
<td>97.2</td>
<td>0.0</td>
<td>90.6</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>4. Collector efficiency (%)</td>
<td>97.8</td>
<td>--</td>
<td>96.4</td>
<td>98.4</td>
<td>98.1</td>
</tr>
<tr>
<td>Precip with full chemistry and valid field pH (%)</td>
<td>74.8</td>
<td>0.0</td>
<td>67.7</td>
<td>70.8</td>
<td>99.8</td>
</tr>
</tbody>
</table>

* = Data do not meet NADP/NTN Completeness Criteria for this period.  
** = Valid samples for which all Laboratory Chemical measurements were made (The ONLY samples described by the percentile distributions in the Statistical Summary of Precipitation Chemistry for Valid Samples).  
*** = Measured precipitation for sample periods during which precipitation occurred and for which complete valid laboratory chemistry data are available.
### Page 2: Statistical Summary of Precipitation Chemistry for Valid Samples

#### Precipitation-Weighted Mean Concentrations

<table>
<thead>
<tr>
<th></th>
<th>Ca</th>
<th>Mg</th>
<th>K</th>
<th>Na</th>
<th>NH4</th>
<th>NO3</th>
<th>Cl</th>
<th>SO4</th>
<th>H(lab)</th>
<th>H(fld)</th>
<th>pH(lab)</th>
<th>pH(fld)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td>0.22</td>
<td>0.018</td>
<td>0.033</td>
<td>0.060</td>
<td>0.63</td>
<td>1.20</td>
<td>0.10</td>
<td>0.81</td>
<td>1.32E-03</td>
<td>4.92E-03</td>
<td>5.88</td>
<td>5.31</td>
</tr>
<tr>
<td>Winter*</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Spring</td>
<td>0.25</td>
<td>0.023</td>
<td>0.030</td>
<td>0.078</td>
<td>0.53</td>
<td>0.90</td>
<td>0.09</td>
<td>0.63</td>
<td>9.73E-04</td>
<td>6.79E-03</td>
<td>6.01</td>
<td>5.17</td>
</tr>
<tr>
<td>Summer</td>
<td>0.21</td>
<td>0.018</td>
<td>0.038</td>
<td>0.054</td>
<td>0.71</td>
<td>1.49</td>
<td>0.10</td>
<td>0.84</td>
<td>1.19E-03</td>
<td>3.52E-03</td>
<td>5.92</td>
<td>5.45</td>
</tr>
<tr>
<td>Fall</td>
<td>0.18</td>
<td>0.013</td>
<td>0.023</td>
<td>0.053</td>
<td>0.52</td>
<td>0.77</td>
<td>0.08</td>
<td>0.96</td>
<td>2.28E-03</td>
<td>5.87E-03</td>
<td>5.64</td>
<td>5.23</td>
</tr>
</tbody>
</table>

#### Deposition

<table>
<thead>
<tr>
<th></th>
<th>Ca</th>
<th>Mg</th>
<th>K</th>
<th>Na</th>
<th>NH4</th>
<th>NO3</th>
<th>Cl</th>
<th>SO4</th>
<th>H(lab)</th>
<th>H(fld)</th>
<th>pH(lab)</th>
<th>pH(fld)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td>1.73</td>
<td>0.143</td>
<td>0.262</td>
<td>0.477</td>
<td>4.98</td>
<td>9.55</td>
<td>0.76</td>
<td>6.42</td>
<td>1.05E-02</td>
<td>3.91E-02</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Winter*</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Spring</td>
<td>0.59</td>
<td>0.053</td>
<td>0.070</td>
<td>0.181</td>
<td>1.22</td>
<td>2.08</td>
<td>0.21</td>
<td>1.46</td>
<td>2.26E-03</td>
<td>1.58E-02</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Summer</td>
<td>0.91</td>
<td>0.077</td>
<td>0.162</td>
<td>0.231</td>
<td>3.03</td>
<td>6.36</td>
<td>0.44</td>
<td>3.61</td>
<td>5.10E-03</td>
<td>1.51E-02</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Fall</td>
<td>0.24</td>
<td>0.018</td>
<td>0.031</td>
<td>0.072</td>
<td>0.71</td>
<td>1.04</td>
<td>0.11</td>
<td>1.31</td>
<td>3.08E-03</td>
<td>7.95E-03</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Weekly Sample Concentrations

<table>
<thead>
<tr>
<th></th>
<th>Ca</th>
<th>Mg</th>
<th>K</th>
<th>Na</th>
<th>NH4</th>
<th>NO3</th>
<th>Cl</th>
<th>SO4</th>
<th>H(lab)</th>
<th>H(fld)</th>
<th>pH(lab)</th>
<th>pH(fld)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum value</td>
<td>0.06</td>
<td>0.007</td>
<td>0.006</td>
<td>0.026</td>
<td>0.30</td>
<td>0.34</td>
<td>0.04</td>
<td>0.33</td>
<td>1.91E-04</td>
<td>7.76E-04</td>
<td>4.58</td>
<td>4.44</td>
</tr>
<tr>
<td>Percentile 10</td>
<td>0.11</td>
<td>0.009</td>
<td>0.014</td>
<td>0.034</td>
<td>0.35</td>
<td>0.48</td>
<td>0.06</td>
<td>0.45</td>
<td>2.57E-04</td>
<td>1.07E-03</td>
<td>5.25</td>
<td>4.73</td>
</tr>
<tr>
<td>Percentile 25</td>
<td>0.13</td>
<td>0.011</td>
<td>0.022</td>
<td>0.049</td>
<td>0.48</td>
<td>0.89</td>
<td>0.07</td>
<td>0.64</td>
<td>4.29E-04</td>
<td>1.56E-03</td>
<td>5.71</td>
<td>5.07</td>
</tr>
<tr>
<td>Percentile 50</td>
<td>0.21</td>
<td>0.018</td>
<td>0.039</td>
<td>0.066</td>
<td>0.71</td>
<td>1.43</td>
<td>0.11</td>
<td>0.99</td>
<td>1.10E-03</td>
<td>3.27E-03</td>
<td>5.96</td>
<td>5.48</td>
</tr>
<tr>
<td>Percentile 75</td>
<td>0.42</td>
<td>0.029</td>
<td>0.055</td>
<td>0.086</td>
<td>1.04</td>
<td>1.97</td>
<td>0.16</td>
<td>1.35</td>
<td>1.96E-03</td>
<td>8.47E-03</td>
<td>6.37</td>
<td>5.81</td>
</tr>
<tr>
<td>Percentile 90</td>
<td>0.58</td>
<td>0.047</td>
<td>0.068</td>
<td>0.154</td>
<td>1.23</td>
<td>2.33</td>
<td>0.21</td>
<td>1.68</td>
<td>5.84E-03</td>
<td>1.93E-02</td>
<td>6.59</td>
<td>5.98</td>
</tr>
<tr>
<td>Maximum value</td>
<td>0.77</td>
<td>0.063</td>
<td>0.129</td>
<td>0.180</td>
<td>1.36</td>
<td>2.54</td>
<td>0.23</td>
<td>3.89</td>
<td>2.63E-02</td>
<td>3.63E-02</td>
<td>6.72</td>
<td>6.11</td>
</tr>
<tr>
<td>Arithmetic mean</td>
<td>0.28</td>
<td>0.023</td>
<td>0.041</td>
<td>0.075</td>
<td>0.76</td>
<td>1.42</td>
<td>0.11</td>
<td>1.11</td>
<td>2.60E-03</td>
<td>6.71E-03</td>
<td>5.59</td>
<td>5.17</td>
</tr>
<tr>
<td>Arith. std dev</td>
<td>0.19</td>
<td>0.015</td>
<td>0.026</td>
<td>0.040</td>
<td>0.33</td>
<td>0.65</td>
<td>0.05</td>
<td>0.72</td>
<td>5.33E-03</td>
<td>8.32E-03</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Below detection</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

#### Other Parameters

<table>
<thead>
<tr>
<th>Measured Precipitation*** cm</th>
<th>Conductivity uS/cm</th>
<th>SO4 NO3</th>
<th>SO4 + NO3</th>
<th>Cation Anion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum value</td>
<td>0.15</td>
<td>4.6</td>
<td>0.46</td>
<td>4.10</td>
</tr>
<tr>
<td>Percentile 10</td>
<td>0.24</td>
<td>4.6</td>
<td>0.58</td>
<td>7.14</td>
</tr>
<tr>
<td>Percentile 25</td>
<td>0.74</td>
<td>7.0</td>
<td>0.71</td>
<td>14.25</td>
</tr>
<tr>
<td>Percentile 50</td>
<td>2.58</td>
<td>9.8</td>
<td>0.94</td>
<td>35.85</td>
</tr>
<tr>
<td>Percentile 75</td>
<td>4.15</td>
<td>12.6</td>
<td>1.17</td>
<td>110.02</td>
</tr>
<tr>
<td>Percentile 90</td>
<td>9.58</td>
<td>14.8</td>
<td>2.21</td>
<td>192.22</td>
</tr>
<tr>
<td>Maximum value</td>
<td>12.85</td>
<td>24.5</td>
<td>3.01</td>
<td>322.49</td>
</tr>
</tbody>
</table>

#### Annual and Seasonal Equivalence Ratios

<table>
<thead>
<tr>
<th></th>
<th>SO4 NO3</th>
<th>SO4 + NO3</th>
<th>Cation Anion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual</td>
<td>0.87</td>
<td>27.38</td>
<td>1.34</td>
</tr>
<tr>
<td>Winter*</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Spring</td>
<td>0.90</td>
<td>28.32</td>
<td>1.62</td>
</tr>
<tr>
<td>Summer</td>
<td>0.73</td>
<td>34.84</td>
<td>1.26</td>
</tr>
<tr>
<td>Fall</td>
<td>1.62</td>
<td>14.27</td>
<td>1.27</td>
</tr>
</tbody>
</table>

---

* Please see page 1 for footnotes.