**National Atmospheric Deposition Program/National Trends Network**

**2000 Annual & Seasonal Data Summary for Site CO97**

**Part 1: Summary of Sample Validity and Completeness Criteria**

(Printed 10/08/2002)

<table>
<thead>
<tr>
<th>Site Identification</th>
<th>Sample Validity for Annual Period</th>
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<tbody>
<tr>
<td>Site Name</td>
<td>Buffalo Pass</td>
</tr>
<tr>
<td>Site ID</td>
<td>CO97</td>
</tr>
<tr>
<td>State</td>
<td>CO</td>
</tr>
<tr>
<td>County</td>
<td>Routt</td>
</tr>
<tr>
<td>Operating Agency</td>
<td>USFS-Routt NF</td>
</tr>
<tr>
<td>Sponsoring Agency</td>
<td>USFS</td>
</tr>
<tr>
<td>Latitude</td>
<td>40:32:16</td>
</tr>
<tr>
<td>Longitude</td>
<td>106:40:35</td>
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<tr>
<td>Elevation</td>
<td>3234 m</td>
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<tr>
<td>Number of samples</td>
<td>51</td>
</tr>
<tr>
<td>Valid Samples</td>
<td>42</td>
</tr>
<tr>
<td>with precipitation</td>
<td>38</td>
</tr>
<tr>
<td>with full chemistry**</td>
<td>36</td>
</tr>
<tr>
<td>without chemistry</td>
<td>2</td>
</tr>
<tr>
<td>without precipitation</td>
<td>4</td>
</tr>
<tr>
<td>Invalid Samples</td>
<td>9</td>
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<tr>
<td>with precipitation</td>
<td>9</td>
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<td>missing precipitation data</td>
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**Summary Period Information**

<table>
<thead>
<tr>
<th></th>
<th>Annual*</th>
<th>Winter*</th>
<th>Spring*</th>
<th>Summer*</th>
<th>Fall*</th>
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</thead>
<tbody>
<tr>
<td>Summary period duration</td>
<td>371</td>
<td>91</td>
<td>91</td>
<td>91</td>
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<tr>
<td>Number of samples</td>
<td>51</td>
<td>11</td>
<td>13</td>
<td>12</td>
<td>13</td>
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<tr>
<td>Measured precipitation (cm)</td>
<td>136.0</td>
<td>53.8</td>
<td>33.1</td>
<td>14.4</td>
<td>29.8</td>
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<tr>
<td>Valid samples with full chemistry**</td>
<td>36</td>
<td>8</td>
<td>11</td>
<td>6</td>
<td>8</td>
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<tr>
<td>Valid field pH measurements</td>
<td>26</td>
<td>7</td>
<td>8</td>
<td>3</td>
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</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>79</td>
<td>69</td>
<td>92</td>
<td>54</td>
<td>85</td>
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<tr>
<td>2. Summary period with precip coverage (%)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>3. Measured precipitation with valid samples (%)</td>
<td>85</td>
<td>71</td>
<td>92</td>
<td>61</td>
<td>90</td>
</tr>
<tr>
<td>4. Collector efficiency (%)</td>
<td>44</td>
<td>31</td>
<td>51</td>
<td>88</td>
<td>54</td>
</tr>
<tr>
<td>Precip with full chemistry and valid field pH (%)</td>
<td>71</td>
<td>64</td>
<td>67</td>
<td>45</td>
<td>90</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.
Part 2: Statistical Summary of Precipitation Chemistry for Valid Samples

### Precipitation-Weighted Mean Concentrations

<table>
<thead>
<tr>
<th>Season</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>0.11</td>
<td>0.012</td>
<td>0.009</td>
<td>0.022</td>
<td>0.12</td>
<td>0.81</td>
<td>0.03</td>
<td>0.61</td>
<td>1.35E-02</td>
<td>1.50E-02</td>
<td>4.87</td>
<td>4.83</td>
</tr>
<tr>
<td>Winter*</td>
<td>0.05</td>
<td>0.006</td>
<td>0.008</td>
<td>0.012</td>
<td>0.15</td>
<td>0.84</td>
<td>0.03</td>
<td>0.71</td>
<td>1.58E-02</td>
<td>1.45E-02</td>
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<td>4.84</td>
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<tr>
<td>Spring*</td>
<td>0.21</td>
<td>0.021</td>
<td>0.013</td>
<td>0.031</td>
<td>0.11</td>
<td>0.69</td>
<td>0.04</td>
<td>0.59</td>
<td>7.96E-03</td>
<td>1.05E-02</td>
<td>5.10</td>
<td>4.98</td>
</tr>
<tr>
<td>Summer*</td>
<td>0.13</td>
<td>0.017</td>
<td>0.018</td>
<td>0.031</td>
<td>0.19</td>
<td>1.34</td>
<td>0.06</td>
<td>0.69</td>
<td>1.71E-02</td>
<td>2.05E-02</td>
<td>4.77</td>
<td>4.69</td>
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<tr>
<td>Fall*</td>
<td>0.09</td>
<td>0.009</td>
<td>0.007</td>
<td>0.017</td>
<td>0.09</td>
<td>0.64</td>
<td>0.03</td>
<td>0.49</td>
<td>1.12E-02</td>
<td>1.46E-02</td>
<td>4.95</td>
<td>4.84</td>
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</table>

### Deposition

<table>
<thead>
<tr>
<th>Season</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>
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</thead>
<tbody>
<tr>
<td>Annual*</td>
<td>1.50</td>
<td>0.163</td>
<td>0.122</td>
<td>0.299</td>
<td>1.62</td>
<td>10.96</td>
<td>0.46</td>
<td>8.30</td>
<td>1.83E-01</td>
<td>2.03E-01</td>
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</tr>
<tr>
<td>Winter*</td>
<td>0.28</td>
<td>0.032</td>
<td>0.043</td>
<td>0.065</td>
<td>0.79</td>
<td>4.54</td>
<td>0.15</td>
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<tr>
<td>Spring*</td>
<td>0.69</td>
<td>0.069</td>
<td>0.043</td>
<td>0.103</td>
<td>0.36</td>
<td>2.28</td>
<td>0.14</td>
<td>1.93</td>
<td>2.63E-02</td>
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</tr>
<tr>
<td>Summer*</td>
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<td>0.024</td>
<td>0.026</td>
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<td>0.27</td>
<td>1.52</td>
<td>0.09</td>
<td>0.99</td>
<td>2.45E-02</td>
<td>2.94E-02</td>
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<tr>
<td>Fall*</td>
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<td>0.027</td>
<td>0.021</td>
<td>0.051</td>
<td>0.26</td>
<td>1.92</td>
<td>0.08</td>
<td>1.45</td>
<td>3.32E-02</td>
<td>4.34E-02</td>
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### Weekly Sample Concentrations

<table>
<thead>
<tr>
<th>Concentrations</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>
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<tbody>
<tr>
<td>Minimum value</td>
<td>0.02</td>
<td>0.003</td>
<td>0.003</td>
<td>0.003</td>
<td>0.02</td>
<td>0.20</td>
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<td>0.10</td>
<td>4.57E-04</td>
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<td>4.50</td>
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<tr>
<td>Percentile 10</td>
<td>0.02</td>
<td>0.003</td>
<td>0.003</td>
<td>0.004</td>
<td>0.02</td>
<td>0.43</td>
<td>0.01</td>
<td>0.17</td>
<td>2.92E-03</td>
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<td>4.63</td>
</tr>
<tr>
<td>Percentile 25</td>
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<td>0.005</td>
<td>0.004</td>
<td>0.010</td>
<td>0.06</td>
<td>0.61</td>
<td>0.03</td>
<td>0.42</td>
<td>7.24E-03</td>
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<td>4.70</td>
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<tr>
<td>Percentile 50</td>
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<td>0.012</td>
<td>0.027</td>
<td>0.11</td>
<td>0.78</td>
<td>0.04</td>
<td>0.58</td>
<td>1.18E-02</td>
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<td>4.85</td>
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<tr>
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<td>0.023</td>
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<td>0.08</td>
<td>1.01</td>
<td>1.91E-02</td>
<td>1.98E-02</td>
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<tr>
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<td>5.34</td>
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<td>Arithmetic mean</td>
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<td>0.041</td>
<td>0.17</td>
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<td>0.06</td>
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<td>6.72E-03</td>
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Below detection: 0 8 8 2 6 0 3 0

### Other Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measured Precipitation cm</th>
<th>Conductivity uS/cm</th>
<th>Equivalence Ratios</th>
<th>Annual and Seasonal Equivalence Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>SO4/NO3</td>
<td>SO4+NO3/H</td>
</tr>
<tr>
<td>Minimum value</td>
<td>0.13</td>
<td>2.9</td>
<td>0.27</td>
<td>0.92</td>
</tr>
<tr>
<td>Percentile 10</td>
<td>5.23</td>
<td>4.8</td>
<td>0.42</td>
<td>1.17</td>
</tr>
<tr>
<td>Percentile 25</td>
<td>13.27</td>
<td>5.7</td>
<td>0.65</td>
<td>1.46</td>
</tr>
<tr>
<td>Percentile 50</td>
<td>26.29</td>
<td>8.6</td>
<td>0.78</td>
<td>2.16</td>
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<tr>
<td>Percentile 75</td>
<td>37.97</td>
<td>12.9</td>
<td>1.11</td>
<td>3.15</td>
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<td>Percentile 90</td>
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### Annual and Seasonal Equivalence Ratios

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<th>SO4+NO3/H</th>
<th>Cation Anion</th>
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<tbody>
<tr>
<td>Annual*</td>
<td>0.98</td>
<td>1.91</td>
<td>1.04</td>
</tr>
<tr>
<td>Winter*</td>
<td>1.09</td>
<td>1.80</td>
<td>0.95</td>
</tr>
<tr>
<td>Spring*</td>
<td>1.10</td>
<td>2.93</td>
<td>1.13</td>
</tr>
<tr>
<td>Summer*</td>
<td>0.66</td>
<td>2.10</td>
<td>1.00</td>
</tr>
<tr>
<td>Fall*</td>
<td>0.98</td>
<td>1.84</td>
<td>1.04</td>
</tr>
</tbody>
</table>

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Please see page 1 for footnotes.