Date: 2020-06-27
Flight Campaign ID: P2C1
Airport, FBO ID, City: Bismarck Municipal Airport (KBIS) - Bismarck, ND

Domain: 09 (Northern Plains)
Sites Flown: NOGP (Northern Great Plains)
Days left in Domain: 5

Report Author: Michael Wussow
Lidar Operators: Michael Wussow
Spectrometer Operators: Robb Walker
Pilots: Stephen Brawders, Will Matthews

Flight Hours: 02:33
Hours until maintenance: 76.47
GPS Instruments: 02 - FBO_KBIS, AOP_WOOD

Summary
The clouds held off just long enough for the crew to get the majority of NOGP covered under “green” sky conditions. Both survey areas have been flown completely and hopefully there will be another chance at clear skies at WOOD_DCFS for “green-up.”

Concerns
QA coverage report from yesterday’s flight is showing conflicting information with regard to the lidar data collected at WOOD_DCFS. It is showing the covered lines as flown and as a gap. All other clues point suggest that data is there, but a more in-depth look into the discrepancy is desired on Monday by AOP Science.

Comments
- The lidar lag issue seen yesterday seemed to be resolved by a power cycle overnight and all systems worked nominally today.
- Thanks to P3’s Mitch Haynes for getting the Tower Cam Computer back online and flight condition pictures recording

Daily Coverage
Estimated Cloud Cover Key

<table>
<thead>
<tr>
<th>Green:</th>
<th>Yellow:</th>
<th>Red:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10%</td>
<td>11-50%</td>
<td>&gt;50%</td>
</tr>
</tbody>
</table>

D09|NOGP

<table>
<thead>
<tr>
<th>Line #</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
<th>22</th>
<th>23</th>
<th>24</th>
<th>25</th>
<th>26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidar</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>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spectrometer</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>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Camera</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>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Cloud Cover</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>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Total number of lines flown: 19
Clear skies at NOGP today

Cumulative Domain Coverage

D09\|N09A (D09 Nominal Runway)

- Flown: 100% (1/1)
- Green: 0% (0/1)
- Yellow: 0% (0/1)
- Red: 100% (1/1)
**D09|NOGP (Northern Great Plains)**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flown: 100% (26/26)
Green: 88% (23/26)
Yellow: 12% (3/26)
Red: 0% (0/26)

**D09|WOOD_DCFS (Woodworth and Dakota Coteau Field School)**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td>32</td>
<td>33</td>
<td>34</td>
<td>35</td>
<td>36</td>
<td>37</td>
<td>38</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>41</td>
<td>42</td>
<td>43</td>
<td>44</td>
<td>45</td>
<td>46</td>
<td>47</td>
<td>48</td>
<td>49</td>
<td>50</td>
<td>51</td>
<td>52</td>
<td>53</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flown: 100% (54/54)
Green: 31% (17/54)
Yellow: 17% (9/54)
Red: 52% (28/54)

**Weather Forecast**

**Bismarck, ND**

<table>
<thead>
<tr>
<th>Sun 6/28</th>
<th>Mon 6/29</th>
<th>Tue 6/30</th>
<th>Wed 7/1</th>
<th>Thu 7/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>97°</td>
<td>70°F</td>
<td>99°</td>
<td>71°F</td>
<td>89°</td>
</tr>
<tr>
<td>Mostly Sunny</td>
<td>Partly Cloudy</td>
<td>Thunderstorms</td>
<td>AM Thunderstorms</td>
<td>Sunny</td>
</tr>
</tbody>
</table>

- 0 in

**Woodworth, ND**

<table>
<thead>
<tr>
<th>Sun 6/28</th>
<th>Mon 6/29</th>
<th>Tue 6/30</th>
<th>Wed 7/1</th>
<th>Thu 7/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°</td>
<td>68°F</td>
<td>95°</td>
<td>69°F</td>
<td>89°</td>
</tr>
<tr>
<td>Partly Cloudy/Wind</td>
<td>Partly Cloudy</td>
<td>Mostly Cloudy</td>
<td>Scattered Thunderstorms</td>
<td>Sunny</td>
</tr>
</tbody>
</table>

- 0.06 in
- 0 in
- 0.29 in
- 0.13 in
- 0 in

Cloud Cover (%)  | Chance of Precip. (%)
Flight Collection Plan for 26-27 June 2020
Flyority 1
Collection Area: Woodworth (WOOD) – Dakota Coteau Field School (DCFS)
Flight Plan Name: D09_WOOD_DCFS_C1_P1_v3.pln
On-station Time: 1000 – 1720 Local / 1500 – 2220 UTC
*Lines 8-13, 19-38, and 46-54 if clear conditions exist