

## **TAGCAMS Bennu Operations Data Caveats – September 12, 2021 Update**

1. First TAGCAMS image acquired during asteroid operations occurred on October 30, 2018.
2. Eight NavCam 1 images acquired on November 14, 2018 were corrupted by a radiation-induced upset that created an 8x1 pixel artifact of approximately 440 DN (digital number) that repeated every 440 columns.
3. One NavCam 1 image acquired on December 9, 2018 has a 2-3 pixel-wide under-responsive row due to a radiation event outside of the active pixel area.
4. One NavCam 1 image acquired on December 14, 2018 is a partial image due to a data dropout.
5. One NavCam 1 image acquired on December 16, 2018 is a partial image due to a data dropout.
6. One NavCam 1 image acquired on December 18, 2018 is a partial image due to a data dropout.
7. One NavCam 1 image acquired on December 28, 2018 is a partial image due to a data dropout.
8. One NavCam 1 image acquired on January 3, 2019 has a 3 pixel-wide under-responsive row due to a radiation event outside of the active pixel area.
9. 42 out of 94 NavCam 1 images acquired on January 11, 2019 have DN (digital number) offset/wrapping errors due to a radiation event.
10. One NavCam 1 image acquired on January 18, 2019 is a partial image due to a data dropout.
11. One NavCam 1 image acquired on January 24, 2019 has a 2-3 pixel-wide under-responsive row due to a radiation event outside of the active pixel area.
12. 46 NavCam 1 images acquired on January 25, 2019 used non-commanded image exposure times, 23 out of the 46 images are generally unusable.
13. One NavCam 1 image acquired on January 29, 2019 is a partial image due to a data dropout.
14. Two NavCam 1 images acquired on February 5, 2019 are partial images due to a data dropout.
15. On February 7, 2019 eleven StowCam images of the OSIRIS-REx sample return capsule (SRC) and spacecraft deck were acquired. This is a standard image set that we have been acquiring in cruise and four of the eleven images in this set are quite dark due to the illumination conditions at the time the exposures were acquired.
16. One NavCam 1 image acquired on February 9, 2019 is a partial image due to a data dropout.

17. One NavCam 1 image acquired on February 10, 2019 is a partial image due to a data dropout.
18. One NavCam 1 image acquired on February 18, 2019 is a partial image due to a data dropout.
19. One NavCam 1 image acquired on February 21, 2019 is a partial image due to a data dropout.
20. One NavCam 1 image acquired on February 26, 2019 is a partial image due to a data dropout.
21. Two NavCam 1 long-exposure images acquired on March 25, 2019 have significant stray light.
22. 18 NavCam 1 long-exposure images acquired on March 26, 2019 have significant stray light.
23. Four NavCam 1 long-exposure images acquired on March 27, 2019 have significant stray light.
24. One NavCam 1 long-exposure image acquired on March 30, 2019 is a partial image due to a data dropout.
25. Two NavCam 1 long-exposure images acquired on April 13, 2019 have significant stray light.
26. 16 NavCam 1 long-exposure images acquired on April 14, 2019 have significant stray light.
27. 16 NavCam 1 long-exposure images acquired on April 15, 2019 have significant stray light.
28. 18 NavCam 1 long-exposure images acquired on April 16, 2019 have significant stray light.
29. Two NavCam 1 long-exposure images acquired on April 17, 2019 have significant stray light.
30. Two NavCam 1 images acquired on April 19, 2019 are partial images due to a data dropout.
31. 16 NavCam 1 long-exposure images acquired on April 30, 2019 have significant stray light.
32. 18 NavCam 1 long-exposure images acquired on May 1, 2019 have significant stray light.
33. 18 NavCam 1 long-exposure images acquired on May 2, 2019 have significant stray light.
34. 12 NavCam 1 long-exposure images acquired on May 3, 2019 have significant stray light.
35. Eight NavCam 1 long-exposure images acquired on May 4, 2019 have significant stray light.
36. One NavCam 1 image acquired on May 6, 2019 is a partial image due to a data dropout.
37. One NavCam 1 image acquired on May 20, 2019 is a partial image due to a data dropout.

38. One NavCam 1 image acquired on May 27, 2019 is a partial image due to a data dropout.
39. Twelve NavCam 1 long-exposure images acquired on May 28, 2019 have significant stray light.
40. All 18 NavCam 1 long-exposure images acquired on May 29, 2019 have significant stray light.
41. 17 NavCam 1 long-exposure images acquired on May 30, 2019 have significant stray light.
42. All 10 NavCam 1 long-exposure images acquired on May 31, 2019 have significant stray light.
43. All 18 NavCam 1 long-exposure images acquired on June 1, 2019 have significant stray light.
44. All 10 NavCam 1 long-exposure images acquired on June 2, 2019 have significant stray light.
45. All 16 NavCam 1 long-exposure images acquired on June 3, 2019 have significant stray light.
46. 4 NavCam 1 long-exposure images acquired on June 4, 2019 have significant stray light.
47. Four NavCam 1 images acquired on June 19, 2019 are partial images due to a data dropout.
48. Two NavCam 1 images acquired on June 20, 2019 are partial images due to a data dropout.
49. Six NavCam 1 images acquired on June 24, 2019 are partial images due to a data dropout.
50. Seven NavCam 1 images acquired on June 24, 2019 are corrupted due to a radiation event.
51. 33 NavCam 1 images acquired on June 29, 2019 have stray light artifacts.
52. One NavCam 1 image acquired on June 30, 2019 is a partial image due to a data dropout.
53. 30 NavCam 1 images acquired on June 30, 2019 have stray light artifacts.
54. 13 NavCam 1 images acquired on July 1, 2019 have stray light artifacts.
55. One NavCam 1 image acquired on August 13, 2019 is a partial image due to a data dropout.
56. One NavCam 1 image acquired on August 14, 2019 is a partial image due to a data dropout.
57. One NavCam 1 image acquired on August 15, 2019 is a partial image due to a data dropout.
58. One NavCam 1 image acquired on August 20, 2019 is a partial image due to a data dropout.
59. One NavCam 1 image acquired on August 22, 2019 is a partial image due to a data dropout.

60. Three NavCam 1 images acquired on August 23, 2019 are partial images due to a data dropout.
61. Two NavCam 1 images acquired on August 25, 2019 are partial images due to a data dropout.
62. One NavCam 1 image acquired on August 28, 2019 is a partial image due to a data dropout.
63. Two NavCam 1 images acquired on August 29, 2019 are partial images due to a data dropout.
64. Two NavCam 1 images acquired on August 30, 2019 are partial images due to a data dropout.
65. One NavCam 1 image acquired on September 1, 2019 is a partial image due to a data dropout.
66. One NavCam 1 image acquired on September 2, 2019 is a partial image due to a data dropout.
67. One NavCam 1 image acquired on September 4, 2019 is a partial image due to a data dropout.
68. One NavCam 1 image acquired on September 6, 2019 is a partial image due to a data dropout.
69. Two NavCam 1 images acquired on September 7, 2019 are partial images due to a data dropout.
70. One NavCam 1 image acquired on September 8, 2019 is a partial image due to a data dropout.
71. One NavCam 1 image acquired on September 12, 2019 is a partial image due to a data dropout.
72. Three NavCam 1 images acquired on September 13, 2019 are partial images due to a data dropout.
73. One NavCam 1 image acquired on September 14, 2019 is a partial image due to a data dropout.
74. Eight NavCam 1 images acquired on October 1, 2019 have stray light artifacts.
75. 18 NavCam 1 images acquired on October 2, 2019 have stray light artifacts.
76. 18 NavCam 1 images acquired on October 3, 2019 have stray light artifacts.
77. 12 NavCam 1 images acquired on October 4, 2019 have stray light artifacts.
78. 12 NavCam 1 images acquired on October 6, 2019 have stray light artifacts.
79. 18 NavCam 1 images acquired on October 7, 2019 have stray light artifacts.
80. 18 NavCam 1 images acquired on October 8, 2019 have stray light artifacts.
81. 18 NavCam 1 images acquired on October 9, 2019 have stray light artifacts.

82. 16 NavCam 1 images acquired on October 10, 2019 have stray light artifacts.
83. 11 NavCam 1 images acquired on October 11, 2019 have stray light artifacts.
84. Four NavCam 1 images acquired on October 13, 2019 have stray light artifacts.
85. 18 NavCam 1 images acquired on October 14, 2019 have stray light artifacts.
86. 18 NavCam 1 images acquired on October 15, 2019 have stray light artifacts.
87. One NavCam 1 image acquired on October 15, 2019 is a partial image due to a data dropout.
88. 18 NavCam 1 images acquired on October 16, 2019 have stray light artifacts.
89. 18 NavCam 1 images acquired on October 17, 2019 have stray light artifacts.
90. Four NavCam 1 images acquired on October 18, 2019 have stray light artifacts.
91. One NavCam 1 image acquired on October 19, 2019 is a partial image due to a data dropout.
92. One NavCam 1 image acquired on October 20, 2019 has stray light artifacts.
93. 18 NavCam 1 images acquired on October 21, 2019 have stray light artifacts.
94. 18 NavCam 1 images acquired on October 22, 2019 have stray light artifacts.
95. 18 NavCam 1 images acquired on October 23, 2019 have stray light artifacts.
96. 18 NavCam 1 images acquired on October 24, 2019 have stray light artifacts.
97. 14 NavCam 1 images acquired on October 25, 2019 have stray light artifacts.
98. One NavCam 1 image acquired on November 13, 2019 is a partial image due to a data dropout.
99. Two NavCam 1 images acquired on November 14, 2019 are partial images due to a data dropout.
100. One NavCam 1 image acquired on November 16, 2019 is a partial image due to a data dropout.
101. One NavCam 1 image acquired on November 27, 2019 is a partial image due to a data dropout.

102. One NavCam 1 image acquired on November 28, 2019 is a partial image due to a data dropout.
103. Two NavCam 1 images acquired on December 20, 2019 are partial images due to a data dropout.
104. One NavCam 1 image acquired on December 25, 2019 is a partial image due to a data dropout.
105. 18 NavCam 1 images acquired on January 22, 2020 are corrupted due to a radiation event.
106. One NavCam 1 image acquired on January 24, 2020 is a partial image due to a data dropout.
107. One NavCam 1 image acquired on February 5, 2020 is a partial image due to a data dropout.
108. Four NavCam 1 images acquired on February 10, 2020 have stray light artifacts.
109. Two NavCam 1 images acquired on February 11, 2020 have stray light artifacts.
110. One NavCam 1 image acquired on February 24, 2020 is a partial image due to a data dropout.
111. Four NavCam 1 images acquired on February 25, 2020 are corrupted due to a radiation event.
112. One NavCam 1 image acquired on March 3, 2020 is a partial image due to a data dropout.
113. Two NavCam 1 images acquired on March 8, 2020 are corrupted due to a radiation event.
114. One NavCam 1 image acquired on March 19, 2020 is a partial image due to a data dropout.
115. 18 NavCam 1 images acquired on March 19, 2020 are corrupted due to a radiation event.
116. 25 NavCam 1 images acquired on March 20, 2020 are corrupted due to a radiation event.
117. One NavCam 1 image acquired on March 22, 2020 is a partial image due to a data dropout.
118. One NavCam 1 image acquired on March 25, 2020 is a partial image due to a data dropout.
119. One NavCam 1 image acquired on March 26, 2020 is a partial image due to a data dropout.
120. Two NavCam 1 images acquired on April 3, 2020 are corrupted due to a radiation event.
121. One NavCam 1 image acquired on April 13, 2020 is a partial image due to a data dropout.
122. Four NavCam 1 images acquired on April 24, 2020 are corrupted due to a radiation event.

123. 14 NavCam 1 images acquired on April 25, 2020 are corrupted due to a radiation event.
124. One NavCam 1 image acquired on May 22, 2020 is a partial image due to a data dropout.
125. Two NavCam 1 images acquired on May 27, 2020 have stray light artifacts.
126. 23 NavCam 1 images acquired on May 28, 2020 have stray light artifacts.
127. Two NavCam 1 images acquired on May 29, 2020 are partial images due to a data dropout.
128. One NavCam 1 image acquired on June 1, 2020 is a partial image due to a data dropout.
129. One NavCam 1 image acquired on June 8, 2020 is a partial image due to a data dropout.
130. One NavCam 1 image acquired on June 9, 2020 is corrupted due to a radiation event.
131. 18 NavCam 1 images acquired on June 13, 2020 are corrupted due to a radiation event.
132. 31 NavCam 1 images acquired on June 14, 2020 are corrupted due to a radiation event.
133. One NavCam 1 image acquired on June 15, 2020 is a partial image due to a data dropout.
134. One NavCam 1 image acquired on July 13, 2020 is a partial image due to a data dropout.
135. One NavCam 1 image acquired on July 20, 2020 is a partial image due to a data dropout.
136. One NavCam 1 image acquired on July 22, 2020 is a partial image due to a data dropout.
137. One NavCam 1 image acquired on August 9, 2020 is a partial image due to a data dropout.
138. One NavCam 1 image acquired on August 25, 2020 is a partial image due to a data dropout.
139. One NavCam 1 image acquired on August 30, 2020 is a partial image due to a data dropout.
140. One NavCam 1 image acquired on September 9, 2020 is a partial image due to a data dropout.
141. One NavCam 1 image acquired on September 13, 2020 is a partial image due to a data dropout.
142. Two NavCam 1 images acquired on September 18, 2020 are partial images due to a data dropout.
143. One NavCam 1 image acquired on September 19, 2020 is a partial image due to a data dropout.

144. One NavCam 1 image acquired on September 21, 2020 is a partial image due to a data dropout.
145. One NavCam 1 image acquired on September 25, 2020 is a partial image due to a data dropout.
146. One NavCam 1 image acquired on October 5, 2020 has a considerable amount of scattered light.
147. One NavCam 1 image acquired on October 18, 2020 is a partial image due to a data dropout.
148. Six NavCam 1 images acquired on October 18, 2020 corrupted due to a radiation event.
149. One NavCam 1 image acquired on October 19, 2020 is a partial image due to a data dropout.
150. One NavCam 2 image acquired on October 20, 2020 has two versions of the same image: a partial image due to a data dropout and a complete image acquired after a retransmit request.
151. Three NavCam 1 images acquired on November 15, 2020 are totally saturated due to dust contamination.
152. Three NavCam 2 images acquired on November 16, 2020 have significant stray light due to dust contamination.
153. One NavCam 2 image acquired on February 16, 2021 is a partial image due to a data dropout.
154. One NavCam 1 image acquired on April 6, 2021 is a partial image due to a data dropout.
155. Four NavCam 1 long-exposure images are almost unusable due to saturation.
156. Eight NavCam 1 long-exposure images are almost unusable due to saturation.