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4   Supporting Information for

Imaging of Martian circulation patterns and atmospheric tides

through MAVEN/IUVS nightglow observations

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21 **Contents of this file**
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23 **Additional Supporting Information (Files uploaded separately)**
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25   Captions for Movies S1

26 **Movie S1.** The view of nightglow variations over Mars nightside is shown for one Mars
27 rotation. The bottom panel shows a nightside image of identical format to Figure 6a. The
28 image was constructed from all equinox data with appropriate geometry from L_s =130-175 in
29 MY33 and 0-60 in MY34. The anti-solar point lies at the disk center; the red line indicates the
30 location of the prime meridian; the blue line indicates midnight, with the evening terminator
31 to the left and morning to the right. At each location, we smoothed the data by averaging ±1.5
32 hours around the instantaneous local time. The top panel shows the same information but
33 mapped geographically. There is no dayside data, so a data gap moves around the map

34   opposite the location of the nightside image below. Note three surges in brightness at the
35   equator in the evening sector at left, brightest halfway through the animation when location
36   [0°,0°] moves into the nightside.

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