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Supplementary Information

Meeting Earth Observation Requirements for Global Agricultural Monitoring: An Evaluation of the Revisit Capabilities of Current and Planned Moderate Resolution Optical Earth Observing Missions. *Remote Sens.* 2015, *7*, 1482-1503

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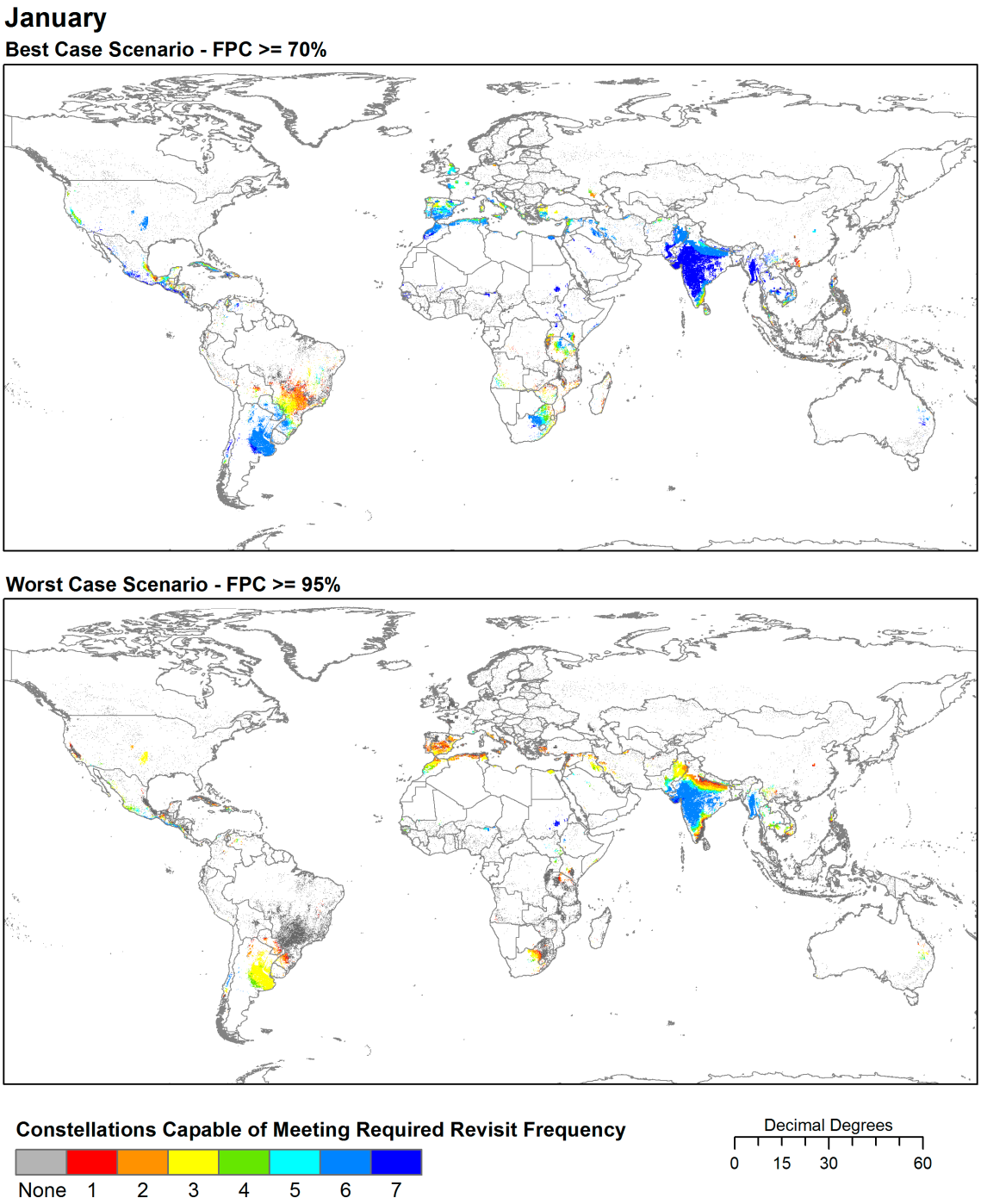

Figure S1. During the month of January, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

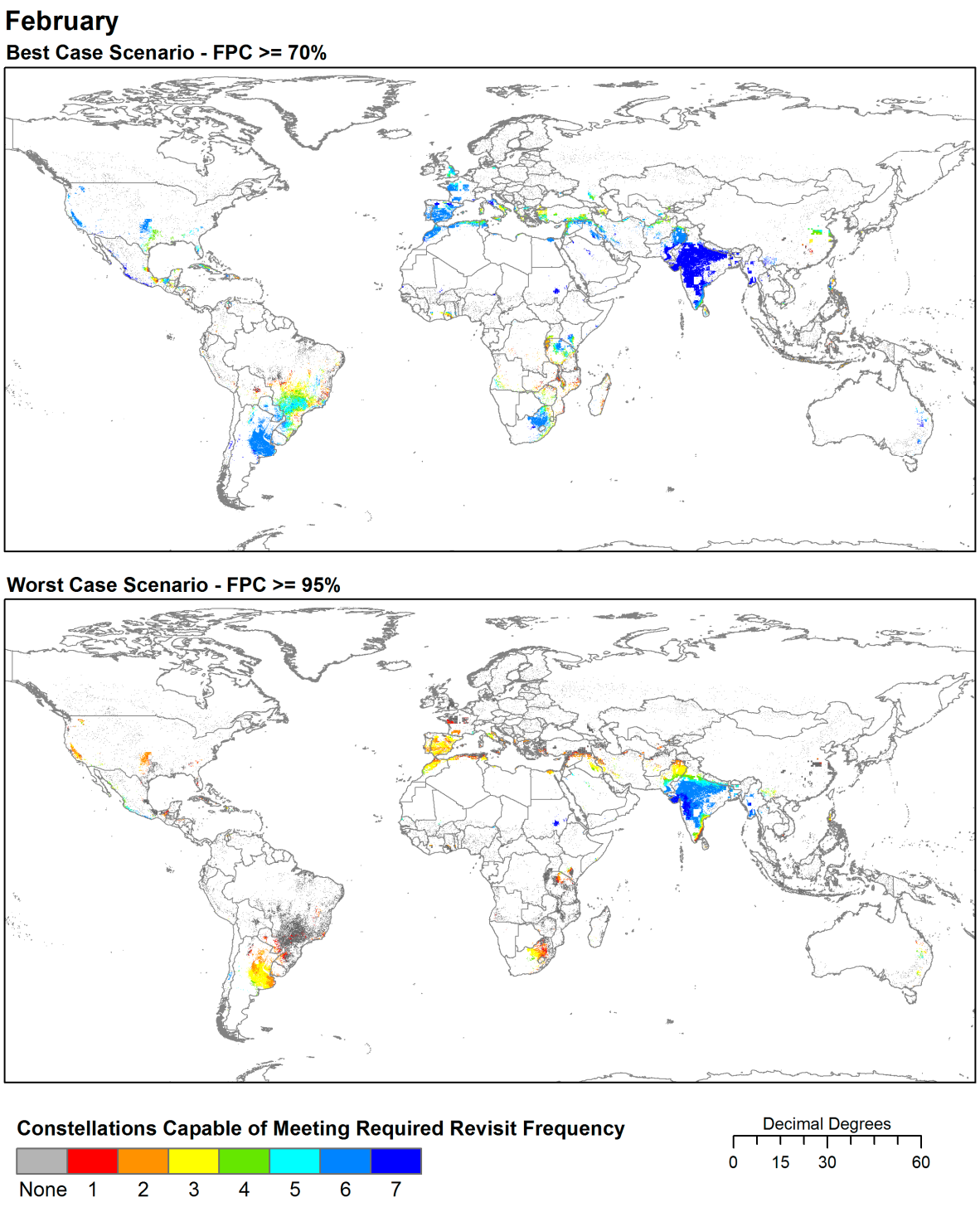

Figure S2. During the month of February, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

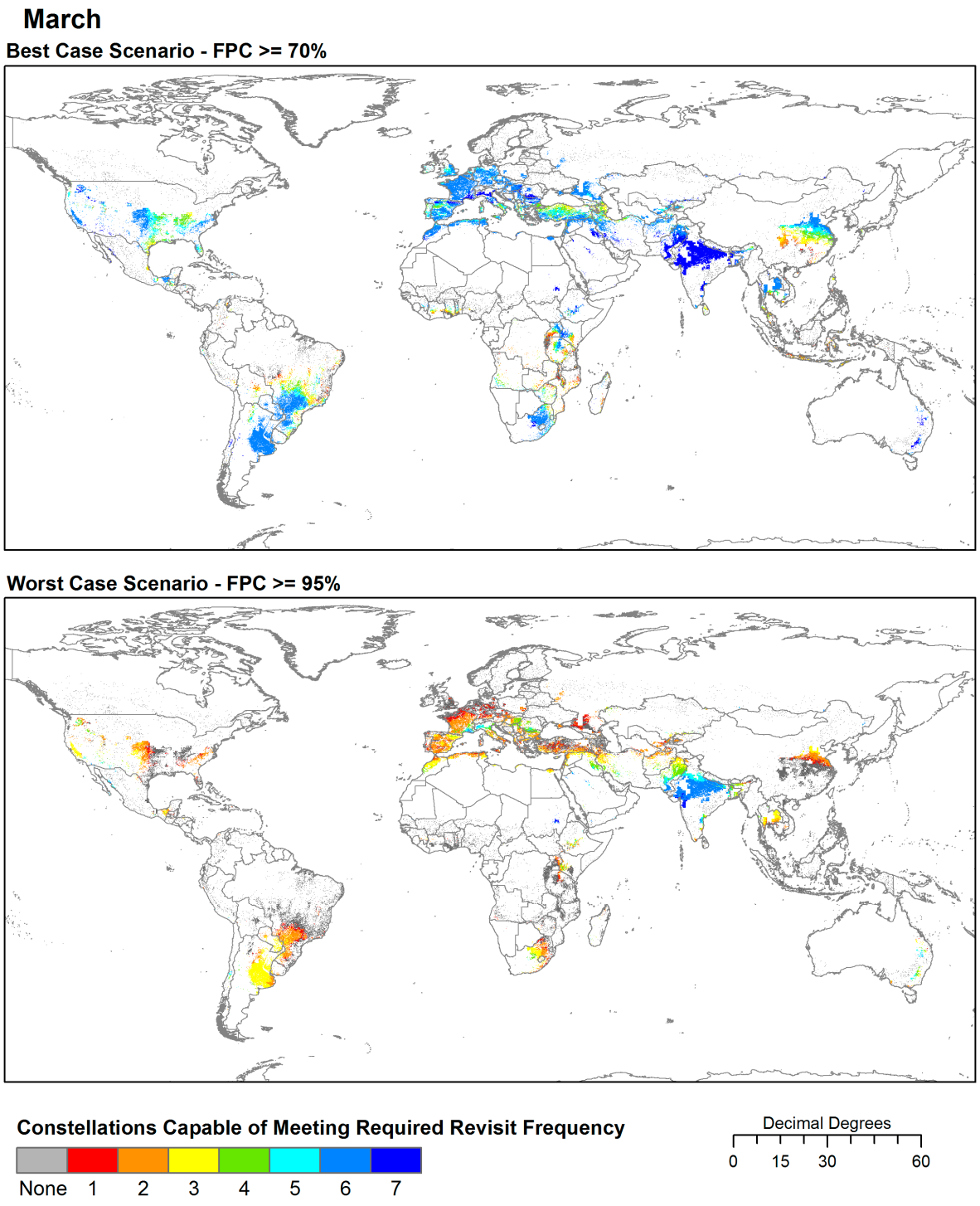

Figure S3. During the month of March, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

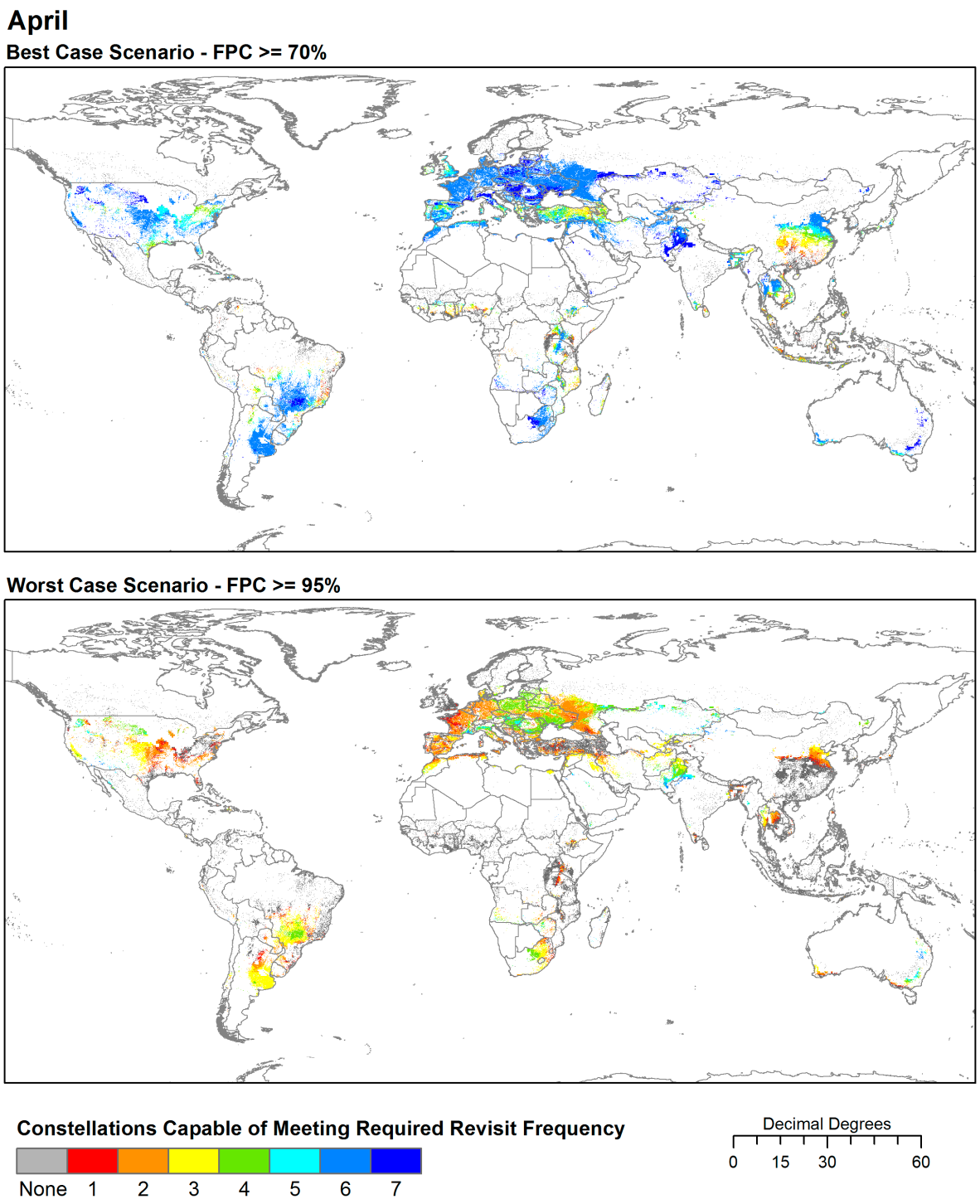

Figure S4. During the month of April, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

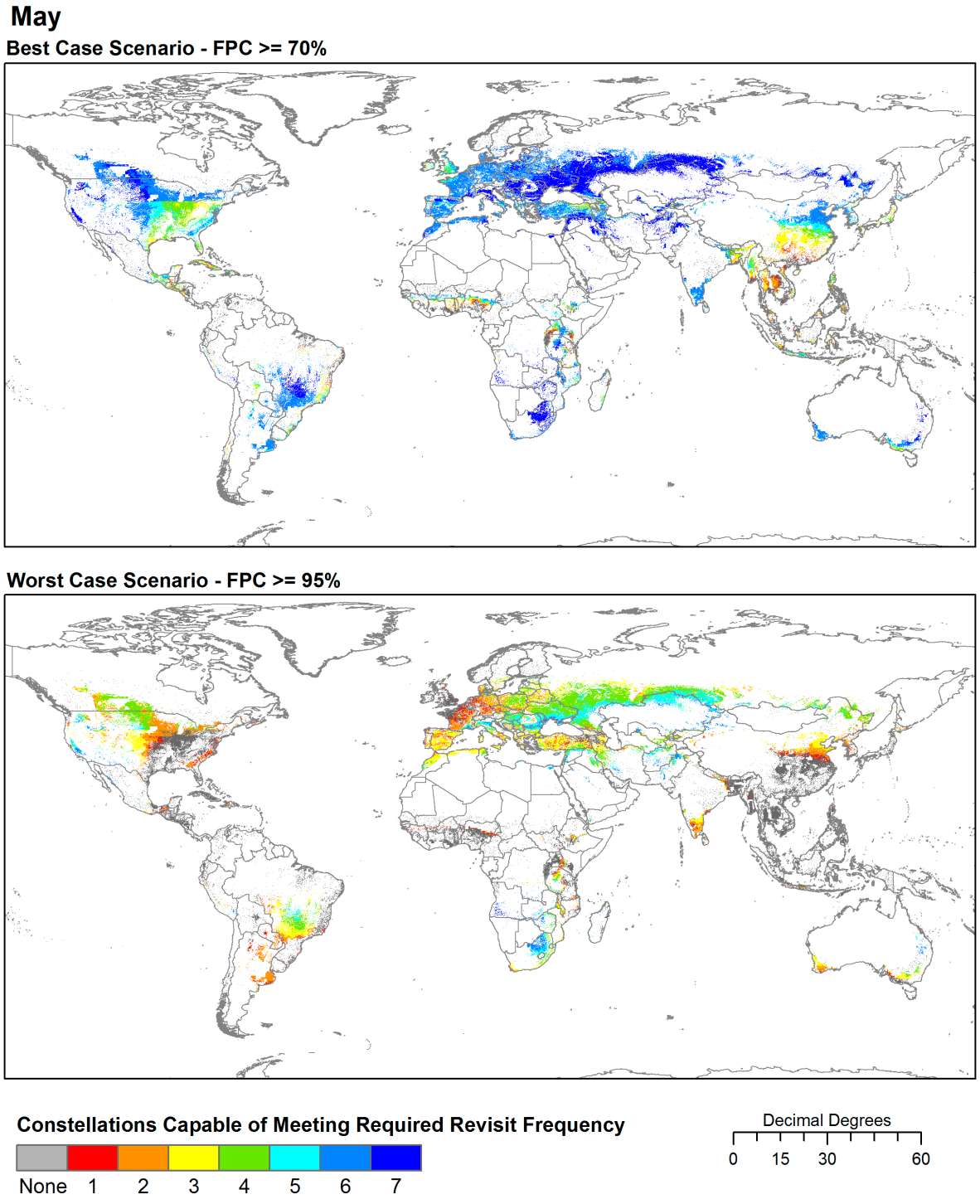

Figure S5. During the month of May, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

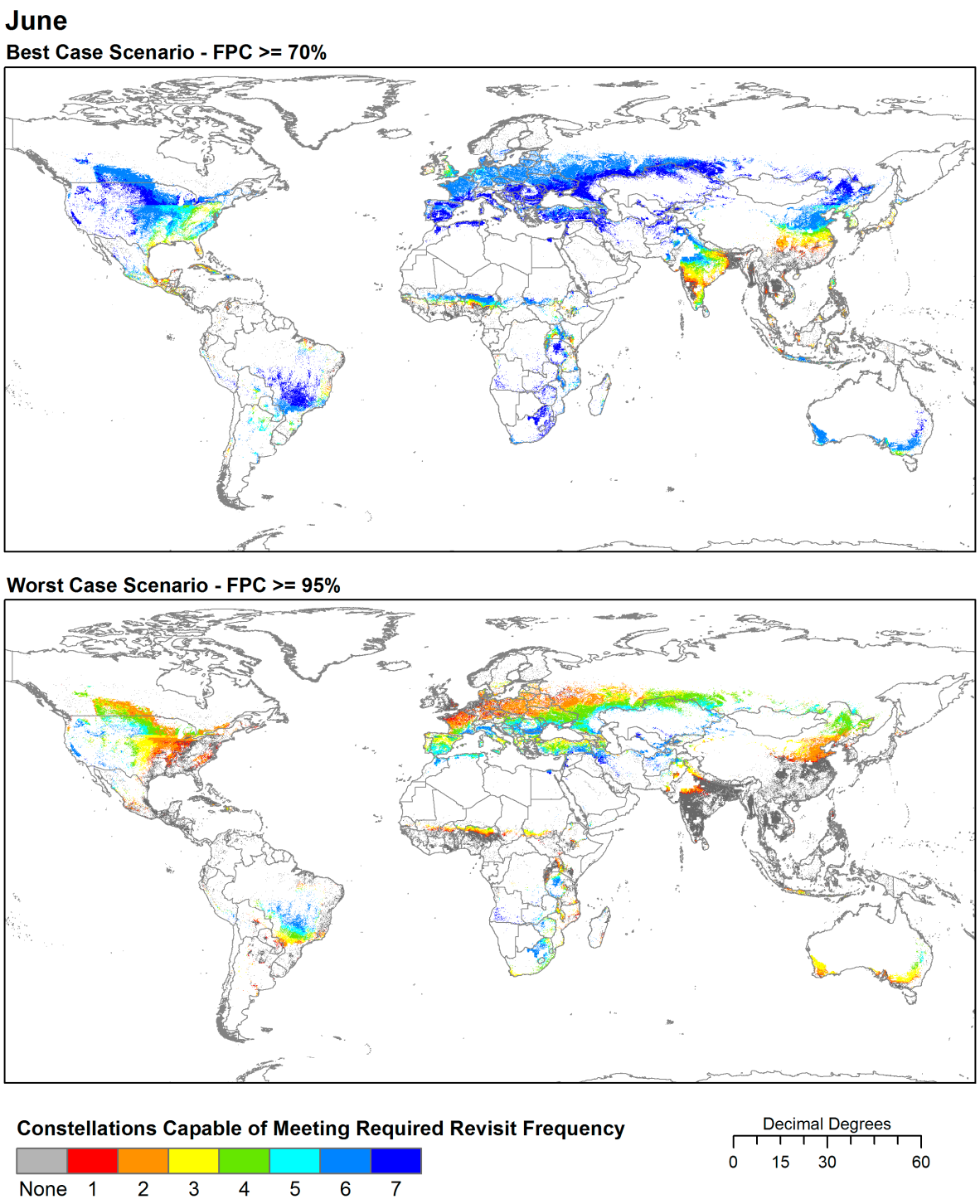

Figure S6. During the month of June, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

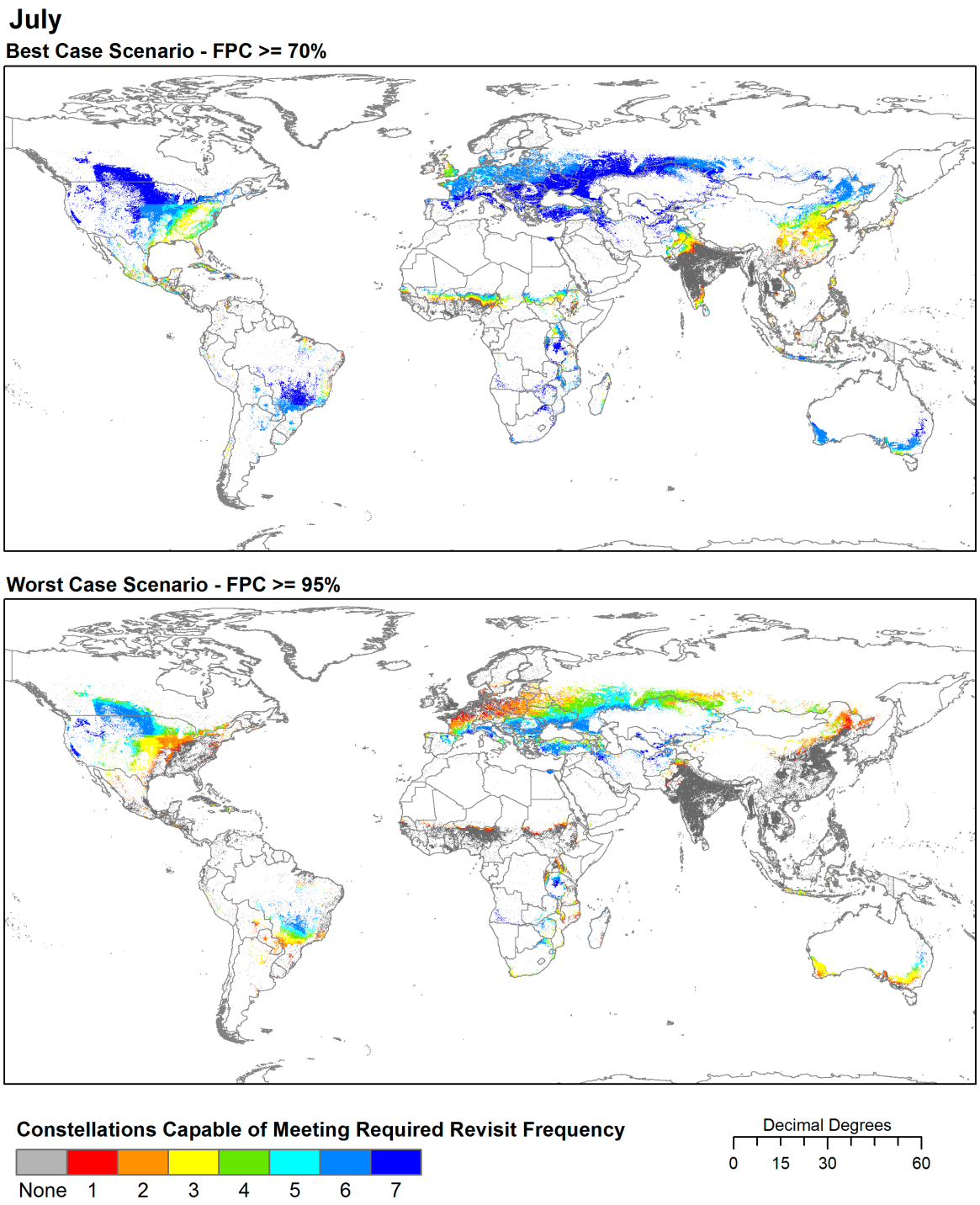

Figure S7. During the month of July, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

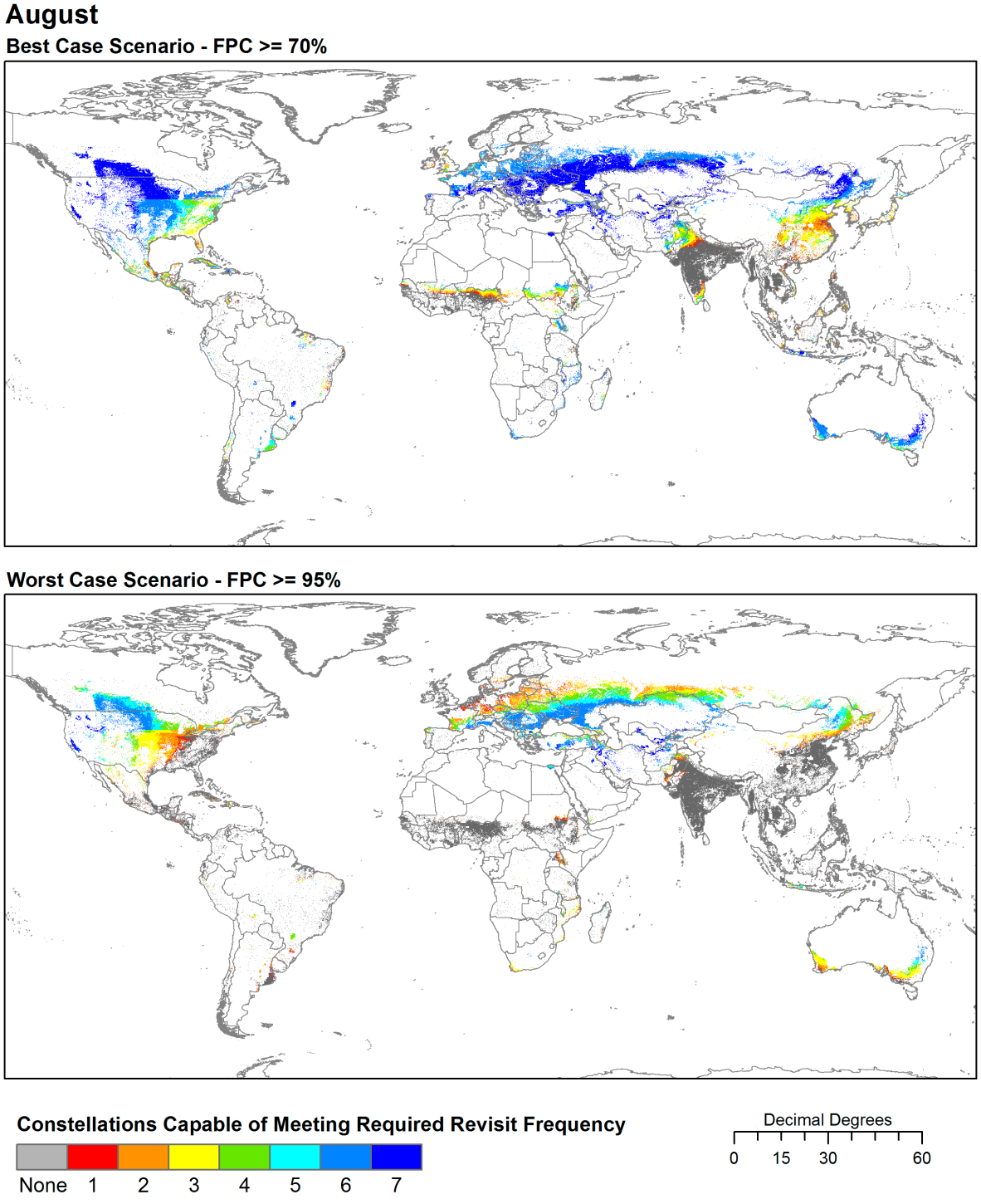

Figure S8. During the month of August, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

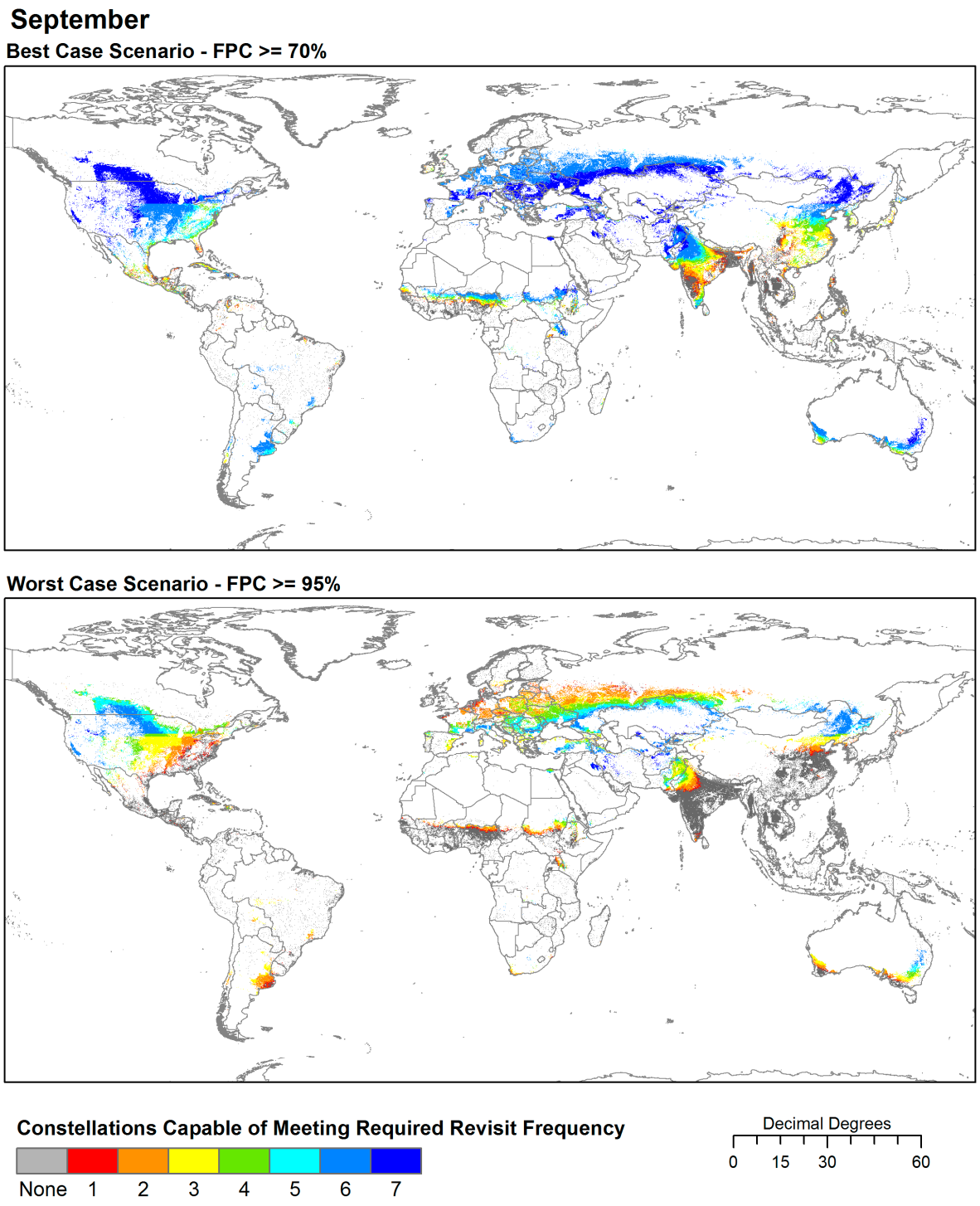

Figure S9. During the month of September, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

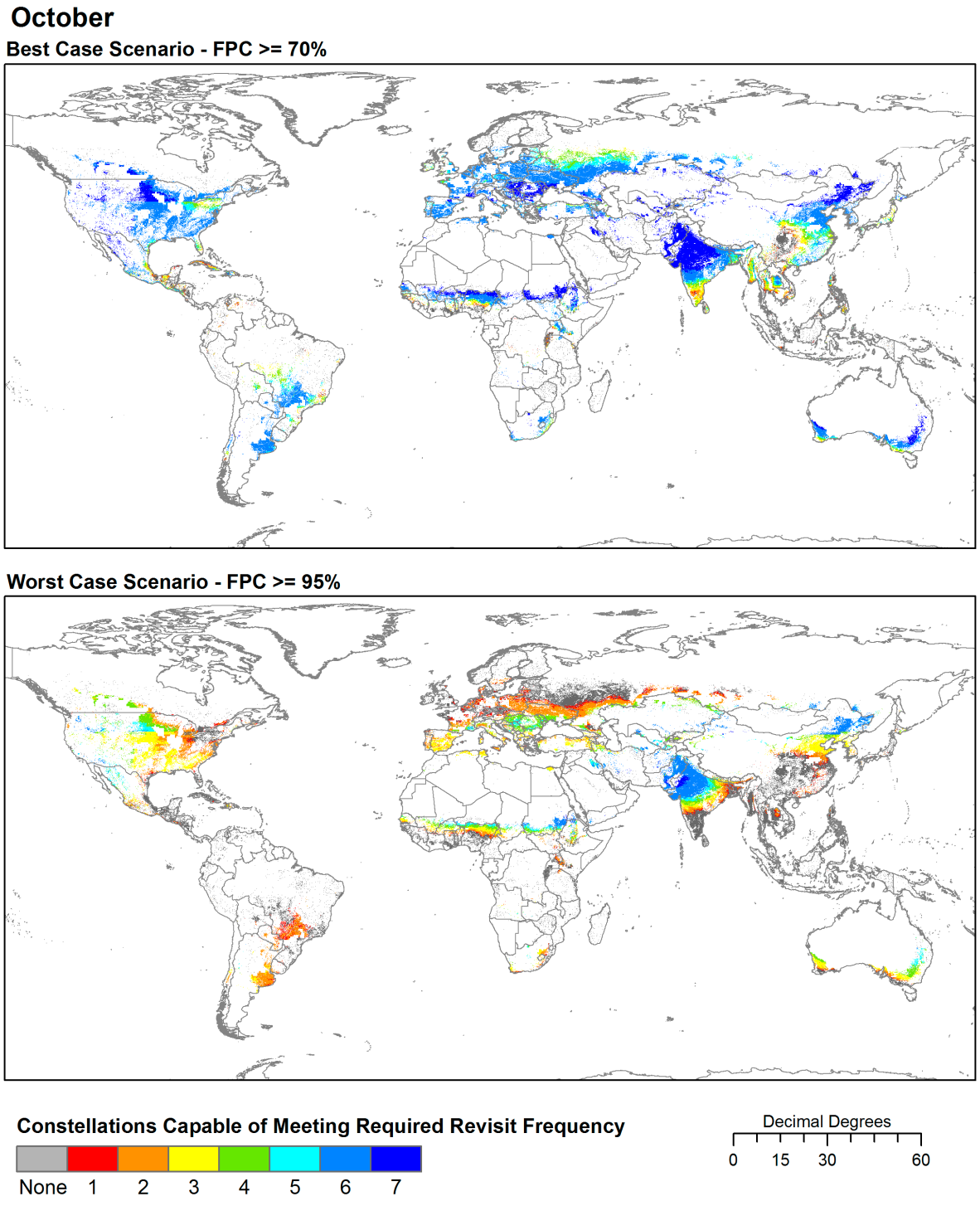

Figure S10. During the month of October, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

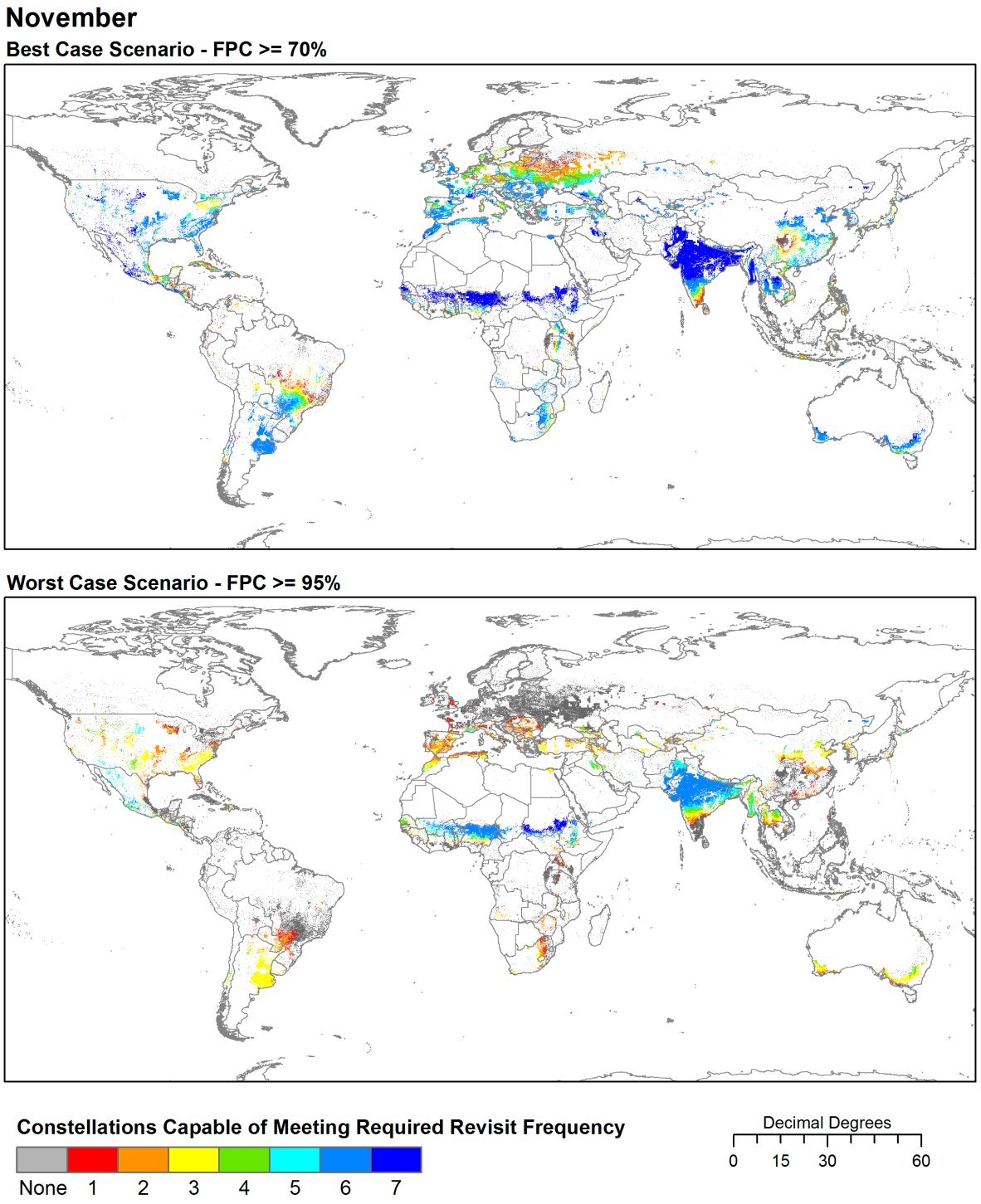

Figure S11. During the month of November, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."

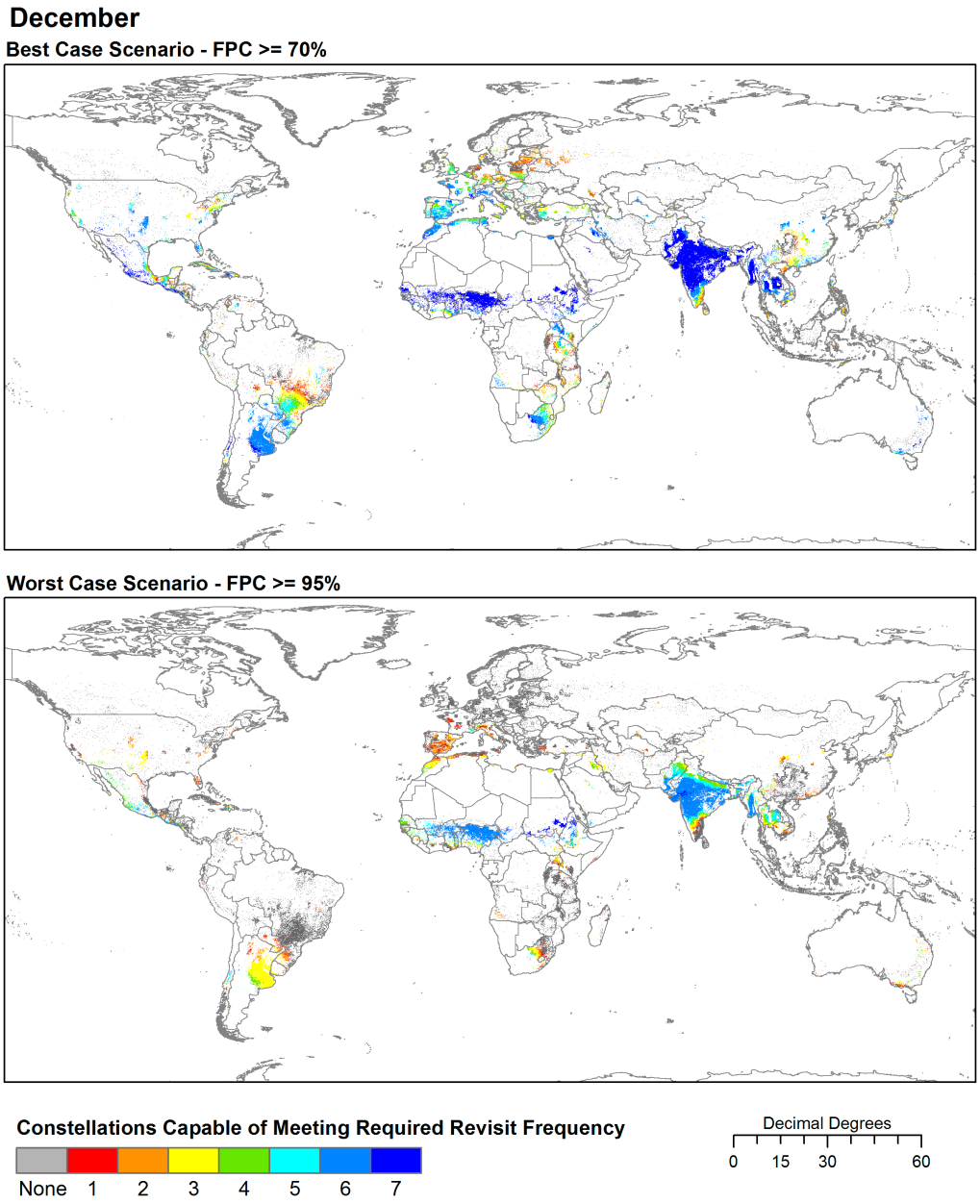

Figure S12. During the month of December, where each constellation is capable of meeting the revisit frequency required to yield a view of in-season croplands that is at least 70% ((**top**), "best case scenario") or 95% ((**bottom**), "worst case scenario") clear. In-season croplands have been defined by the growing season calendars from Whitcraft *et al.* (2014) [48] and the cropland mask from Fritz *et al.* (2015) [49]. The missions included in Constellations #1–7 can be found in Table 2. Note that constellation number both identifies the constellation, as well as denotes its rank in terms of revisit frequency (with #1 being capable of the most frequent revisit). Areas requiring a revisit more frequent than any hypothetical constellation analyzed herein are shown in gray, and denoted as "None."