

## Appendix I

### Basic Parameters of Common Satellite Sensors Used for the Detection of HABs

| Satellite Sensor | Spatial Resolution(m) | Spectral Resolution(nm) | Start Year | Stop Year |
|------------------|-----------------------|-------------------------|------------|-----------|
| MERIS            | 300                   | 3.75-20                 | 2002       | 2012      |
| SeaWiFS          | 1100                  | 20                      | 1997       | 2010      |
| MODIS            | 500                   | 10-15                   | 2000       | --        |
| GOCI             | 500                   | 10-20                   | 2011       | --        |
| HJ-CCD           | 30                    | 60                      | 2008       | --        |
| MSS              | 60                    | 100                     | 1972       | 1992      |
| TM               | 30                    | 60                      | 1982       | --        |
| ETM+             | 30                    | 60                      | 1999       | --        |
| OLI              | 30                    | 40                      | 2013       | --        |

## Appendix II

The Monitoring Statistics of HABs via all Useful Images of LDCMs from 1983 to 2016

| Year  | 1983 |    | 1984 |    | 1985 |    | 1986 |   | 1987 |    | 1988 |    | 1989 |    | 1991 |    |       |     |
|-------|------|----|------|----|------|----|------|---|------|----|------|----|------|----|------|----|-------|-----|
| Time  | A    | N  | A    | N  | A    | N  | A    | N | A    | N  | A    | N  | A    | N  | A    | N  |       |     |
| May.  | 0    | 1  | 0    | 1  | 0    | 3  | 0    | 1 | 0    | 0  | 0    | 1  | 0    | 0  | 0    | 0  |       |     |
| Jun.  | 0    | 0  | 0    | 3  | 0    | 1  | 0    | 0 | 0    | 1  | 0    | 0  | 0    | 0  | 0    | 1  |       |     |
| Jul.  | 0    | 1  | 1    | 0  | 3    | 0  | 0    | 0 | 0    | 0  | 0    | 0  | 0    | 0  | 1    | 0  |       |     |
| Aug.  | 0    | 1  | 4    | 0  | 1    | 0  | 1    | 0 | 0    | 0  | 0    | 0  | 1    | 0  | 0    | 1  |       |     |
| Sep.  | 0    | 2  | 0    | 0  | 0    | 0  | 0    | 0 | 0    | 1  | 0    | 0  | 0    | 1  | 1    | 1  |       |     |
| Oct.  | 0    | 0  | 0    | 0  | 0    | 0  | 0    | 0 | 0    | 0  | 0    | 1  | 0    | 1  | 0    | 4  |       |     |
| Sub.  | 0    | 5  | 5    | 4  | 4    | 4  | 1    | 1 | 0    | 2  | 0    | 2  | 1    | 2  | 2    | 7  |       |     |
| Total | 5    |    | 9    |    | 8    |    | 2    |   | 2    |    | 2    |    | 3    |    | 9    |    |       |     |
| Year  | 1992 |    | 1993 |    | 1994 |    | 1995 |   | 1996 |    | 1997 |    | 1998 |    | 1999 |    |       |     |
| Time  | A    | N  | A    | N  | A    | N  | A    | N | A    | N  | A    | N  | A    | N  | A    | N  |       |     |
| May.  | 0    | 0  | 0    | 0  | 0    | 0  | 0    | 0 | 0    | 0  | 0    | 0  | 0    | 0  | 0    | 2  |       |     |
| Jun.  | 0    | 0  | 0    | 1  | 0    | 1  | 0    | 3 | 0    | 1  | 0    | 1  | 0    | 1  | 0    | 1  |       |     |
| Jul.  | 1    | 0  | 0    | 0  | 0    | 1  | 2    | 1 | 0    | 1  | 1    | 1  | 0    | 1  | 3    | 1  |       |     |
| Aug.  | 0    | 0  | 0    | 0  | 0    | 1  | 1    | 1 | 1    | 2  | 1    | 0  | 0    | 0  | 0    | 2  |       |     |
| Sep.  | 0    | 0  | 0    | 1  | 0    | 3  | 0    | 3 | 0    | 2  | 0    | 1  | 0    | 2  | 0    | 2  |       |     |
| Oct.  | 0    | 1  | 0    | 1  | 0    | 1  | 0    | 0 | 0    | 2  | 0    | 2  | 0    | 1  | 0    | 3  |       |     |
| Sub.  | 1    | 1  | 0    | 3  | 0    | 7  | 3    | 8 | 1    | 8  | 2    | 5  | 0    | 5  | 3    | 11 |       |     |
| Total | 2    |    | 3    |    | 7    |    | 11   |   | 9    |    | 7    |    | 5    |    | 14   |    |       |     |
| Year  | 2000 |    | 2001 |    | 2002 |    | 2003 |   | 2004 |    | 2005 |    | 2006 |    | 2007 |    | 2008  |     |
| Time  | A    | N  | A    | N  | A    | N  | A    | N | A    | N  | A    | N  | A    | N  | A    | N  | A     | N   |
| May.  | 0    | 1  | 0    | 0  | 0    | 0  | 0    | 0 | 0    | 0  | 0    | 0  | 0    | 0  | 0    | 1  | 0     | 0   |
| Jun.  | 0    | 3  | 0    | 6  | 0    | 6  | 0    | 0 | 0    | 4  | 0    | 2  | 0    | 3  | 0    | 4  | 0     | 3   |
| Jul.  | 1    | 3  | 0    | 5  | 1    | 1  | 0    | 1 | 1    | 3  | 0    | 3  | 1    | 1  | 0    | 7  | 0     | 1   |
| Aug.  | 0    | 2  | 0    | 5  | 0    | 3  | 1    | 2 | 2    | 3  | 0    | 4  | 1    | 4  | 1    | 3  | 0     | 2   |
| Sep.  | 2    | 4  | 0    | 3  | 0    | 2  | 0    | 1 | 1    | 2  | 0    | 4  | 0    | 7  | 1    | 2  | 0     | 5   |
| Oct.  | 0    | 2  | 0    | 3  | 0    | 2  | 0    | 3 | 0    | 5  | 0    | 1  | 0    | 2  | 0    | 3  | 0     | 6   |
| Sub.  | 3    | 15 | 0    | 22 | 1    | 14 | 1    | 7 | 4    | 17 | 0    | 14 | 2    | 17 | 2    | 20 | 0     | 17  |
| Total | 18   |    | 22   |    | 15   |    | 8    |   | 21   |    | 14   |    | 19   |    | 22   |    | 17    |     |
| Year  | 2009 |    | 2010 |    | 2011 |    | 2012 |   | 2013 |    | 2014 |    | 2015 |    | 2016 |    | Total |     |
| Time  | A    | N  | A    | N  | A    | N  | A    | N | A    | N  | A    | N  | A    | N  | A    | N  | A     | N   |
| May.  | 0    | 0  | 0    | 1  | 0    | 0  | 0    | 0 | 0    | 0  | 0    | 0  | 0    | 1  | 0    | 2  | 0     | 15  |
| Jun.  | 0    | 3  | 2    | 1  | 0    | 2  | 0    | 0 | 0    | 6  | 0    | 5  | 0    | 5  | 0    | 3  | 2     | 71  |
| Jul.  | 1    | 6  | 3    | 0  | 0    | 0  | 0    | 0 | 4    | 1  | 3    | 0  | 2    | 3  | 2    | 1  | 33    | 43  |
| Aug.  | 2    | 2  | 0    | 1  | 2    | 3  | 0    | 2 | 1    | 0  | 0    | 2  | 0    | 2  | 1    | 2  | 21    | 50  |
| Sep.  | 0    | 2  | 0    | 4  | 0    | 5  | 0    | 0 | 0    | 5  | 1    | 2  | 2    | 2  | 2    | 0  | 10    | 69  |
| Oct.  | 0    | 2  | 0    | 5  | 0    | 4  | 0    | 0 | 0    | 3  | 0    | 6  | 0    | 4  | 0    | 0  | 0     | 68  |
| Sub.  | 3    | 15 | 5    | 12 | 2    | 14 | 0    | 5 | 5    | 15 | 4    | 15 | 4    | 17 | 5    | 8  | 64    | 316 |
| Total | 18   |    | 17   |    | 16   |    | 5    |   | 20   |    | 19   |    | 21   |    | 13   |    | 380   |     |

1 \* The letter A represents the column of found algal blooms images, the letter N represents the column of no algal blooms images.

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