

Product Name: 2019 VIIRS Global Surface Type Classification Map

File lists:

- VIIRS_GST_IGBP_2019: data file, u8 (unsigned char) binary
- VIIRS_GST_IGBP_2019.hdr: text header file providing information on data type, dimension, projection and coordinate system, type names and a predefined color table. It can be used to load the data in ENVI or ARCMAP

Format: ENVI generic binary, 1 band u8, 17 classes IGBP coded classification map.

Class values and names (also see .hdr file):

- 1 - Evergreen Needleleaf Forests
- 2 - Evergreen Broadleaf Forests
- 3 - Deciduous Needleleaf Forests
- 4 - Deciduous Broadleaf Forest
- 5 - Mixed Forests
- 6 - Closed Shrublands
- 7 - Open Shrublands
- 8 - Woody Savannas
- 9 - Savannas
- 10- Grasslands
- 11- Permanent Wetlands
- 12- Croplands
- 13- Urban and Built-up Lands
- 14- Cropland/Natural Vegetation Mosaics
- 15- Snow and Ice
- 16- Barren
- 17- Water Bodies
- 31- Nodata

Dimension: row: 21600, column: 43200.

Projection: Sinusoidal, 1 km. See .hdr file for more details.

Data source: JPSS S-NPP and NOAA-20 VIIRS data acquired in 2019.

Production and delivery: September, 2020.

Accuracy assessment: This product has an overall accuracy of $78.0 \pm 0.6\%$, which is derived based on 6000 validation points selected using a stratified random sampling method. In the confusion matrix below, the values for the 17 classes and the row/column totals are area proportions in percentage. U Acc. and P Acc. are user's and producer's accuracies (%), respectively.

Map	Reference																	Total	U Acc.	P Acc.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
1	1.93	0	0.07	0.03	0.25	0.01	0.01	0.23	0.03	0.02	0	0	0	0.01	0	0	0.01	2.62	73.7±2.9	75.4±3.4
2	0	8.56	0	0.08	0.12	0	0	0.41	0.08	0.02	0.02	0.05	0	0.08	0	0	0	9.4	91.0±1.2	93.9±1.0
3	0.06	0	0.96	0	0.15	0	0.03	0.11	0	0	0.03	0	0	0	0	0	0	1.35	71.2±4.2	63.3±4.9
4	0	0	0.01	0.84	0.05	0	0	0.08	0.02	0	0	0	0	0.01	0	0	0	1.01	83.1±2.9	39.5±3.4
5	0.18	0.13	0.3	0.68	3.48	0.03	0	0.68	0.12	0.02	0.02	0	0	0.25	0	0	0.02	5.88	59.1±2.6	76.2±2.6
6	0	0	0	0	0	0.04	0	0	0	0	0	0	0	0	0	0	0	0.05	76.1±6.4	2.4±0.5
7	0.14	0	0.07	0.02	0.14	0.6	11.85	0.41	0.31	1.46	0.24	0.57	0	0.12	0	0.6	0.02	16.55	71.6±1.7	84.9±1.7
8	0.19	0.14	0.06	0.24	0.14	0.06	0.24	5.16	0.58	0.09	0.07	0.06	0.01	0.31	0	0	0.02	7.37	70.0±1.8	58.1±2.1
9	0	0.17	0.02	0.07	0.05	0.5	0.27	1.02	4.65	0.2	0.02	0.32	0	0.42	0	0	0	7.75	60.0±2.8	68.8±2.6
10	0.03	0	0.01	0.04	0.05	0.24	0.75	0.25	0.3	6.34	0	0.61	0.01	0.18	0	0.21	0.01	9.03	70.2±1.7	70.2±2.1
11	0.03	0	0	0	0.04	0	0.06	0.04	0.04	0.01	0.54	0	0	0	0	0	0	0.77	70.4±6.3	57.0±7.2
12	0.01	0.01	0	0.02	0.04	0.03	0.1	0.04	0.22	0.43	0.01	6.91	0.06	0.68	0	0	0.02	8.56	80.6±1.3	76.4±1.8
13	0	0	0	0	0	0	0.01	0.03	0	0.01	0	0.07	0.52	0.04	0	0	0	0.69	75.0±3.6	83.6±4.5
14	0	0.1	0.02	0.09	0.05	0.01	0.06	0.42	0.4	0.17	0	0.36	0.02	2.76	0	0.01	0	4.45	62.1±2.1	55.7±2.7
15	0	0	0	0	0	0	0.17	0	0	0	0	0	0	0	10.21	0	0	10.38	98.3±1.7	100.0±0.0
16	0	0	0	0	0	0	0.4	0	0	0.27	0	0.09	0	0.09	0	12.15	0	13	93.5±1.5	93.7±1.0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.13	1.13	100.0±0.0	91.5±3.1
Total	2.56	9.12	1.52	2.11	4.56	1.51	13.96	8.88	6.76	9.04	0.95	9.04	0.62	4.96	10.21	12.97	1.23			

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