

Product Name: 2021 VIIRS Global Surface Type Classification Map

File lists:

- VIIRS-AST-IGBP17-SIN_v1r0_multi_s20210101_e20211231_c20210831_bin: data file, u8 (unsigned char) binary
- VIIRS-AST-IGBP17-SIN_v1r0_multi_s20210101_e20211231_c20210831_bin.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

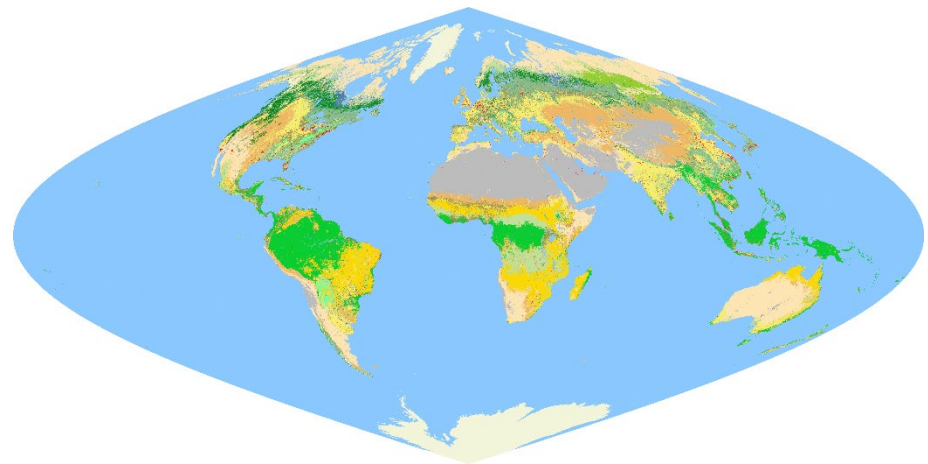
Format: ENVI generic binary, 1 band u8, 17 IGBP classes.

Other file/data format:

- VIIRS-AST-IGBP17-SIN_v1r0_multi_s20210101_e20211231_c20210831.nc: NetCDF

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 2021.

Production and delivery: September 2022.

Accuracy assessment: This product has an overall accuracy of $79.3 \pm 0.6\%$, 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.

AST	Reference																	total	U Acc
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
1	2.09	0.03	0.06	0.05	0.28	0.00	0.01	0.23	0.04	0.00	0.03	0.01	0.01	0.03	0.00	0.00	0.01	2.86	72.93
2	0.00	8.46	0.00	0.08	0.12	0.00	0.00	0.39	0.09	0.03	0.00	0.05	0.02	0.05	0.00	0.00	0.00	9.28	91.14
3	0.04	0.00	1.09	0.00	0.11	0.00	0.04	0.11	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.41	77.39
4	0.00	0.00	0.01	0.95	0.07	0.00	0.00	0.09	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	1.14	82.94
5	0.19	0.12	0.31	0.75	3.69	0.00	0.00	0.61	0.07	0.00	0.00	0.02	0.02	0.17	0.00	0.00	0.00	5.95	61.99
6	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	50.67
7	0.21	0.07	0.09	0.05	0.14	0.07	11.85	0.66	0.32	1.37	0.27	0.25	0.05	0.11	0.00	0.46	0.05	16	74.07
8	0.23	0.19	0.04	0.26	0.15	0.01	0.30	5.34	0.54	0.10	0.06	0.03	0.03	0.21	0.00	0.00	0.01	7.5	71.24
9	0.03	0.21	0.00	0.08	0.05	0.13	0.34	1.24	4.92	0.18	0.03	0.39	0.00	0.52	0.00	0.00	0.00	8.08	60.83
10	0.08	0.01	0.00	0.03	0.06	0.08	0.82	0.29	0.29	6.43	0.00	0.50	0.01	0.08	0.00	0.23	0.01	8.9	72.23
11	0.01	0.00	0.00	0.00	0.01	0.00	0.06	0.04	0.07	0.01	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.73	71.19
12	0.01	0.01	0.01	0.02	0.05	0.02	0.07	0.06	0.17	0.43	0.02	7.06	0.07	0.44	0.00	0.00	0.01	8.44	83.64
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.38	0.01	0.00	0.00	0.00	0.42	89.23
14	0.00	0.13	0.02	0.09	0.06	0.02	0.07	0.43	0.45	0.17	0.00	0.23	0.02	2.64	0.00	0.01	0.01	4.35	60.78
15	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17	0.00	0.00	0.00	0.00	10.02	0.00	0.00	10.36	96.72
16	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.14	0.00	0.05	0.00	0.05	0.00	12.78	0.05	13.37	95.61
17	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	1.06	1.13	93.75
total	2.88	9.22	1.63	2.35	4.78	0.37	14.06	9.5	7	9.04	0.94	8.61	0.61	4.31	10.02	13.47	1.21		
P Acc	72.31	91.7	66.99	40.29	77.13	9.53	84.32	56.26	70.2	71.15	55.08	82.05	61.37	61.34	100	94.88	87.92		

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