

Product Name: 2020 VIIRS Global Surface Type Classification Map

File lists:

- VIIRS-AST-IGBP17-SIN_v1r0_multi_s20200101_e20201231_c20210831_bin: data file, u8 (unsigned char) binary
- VIIRS-AST-IGBP17-SIN_v1r0_multi_s20200101_e20201231_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

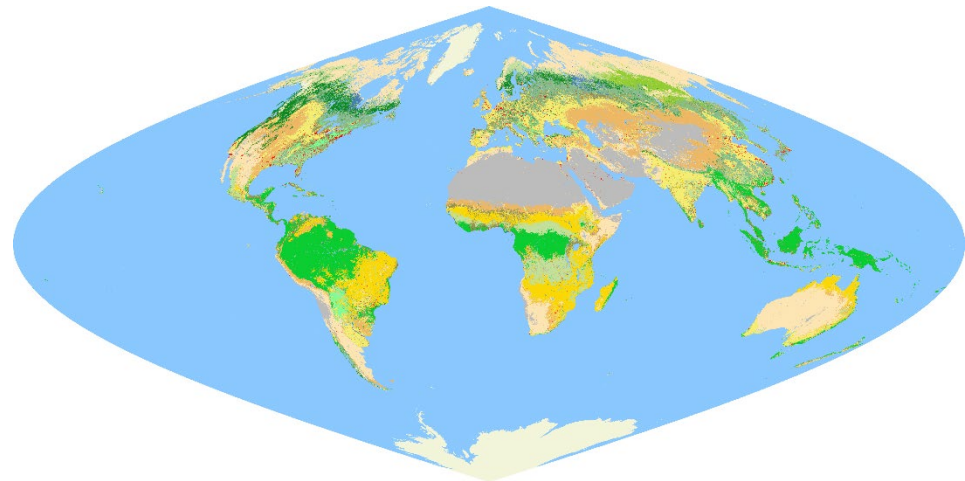
Format: ENVI generic binary, 1 band u8, 17 IGBP classes.

Other file/data format:

- VIIRS-AST-IGBP17-SIN_v1r0_multi_s20200101_e20201231_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 2020.

Production and delivery: September 2021.

Accuracy assessment: This product has an overall accuracy of $79.6 \pm 0.6\%$, 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	2.05	0.02	0.06	0.05	0.29	0.00	0.01	0.22	0.04	0.02	0.02	0.01	0.01	0.02	0.00	0.00	0.02	2.86	71.6
2	0.00	8.40	0.00	0.09	0.12	0.00	0.00	0.40	0.11	0.03	0.00	0.06	0.03	0.05	0.00	0.00	0.00	9.28	90.48
3	0.04	0.00	1.07	0.00	0.12	0.00	0.04	0.12	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	1.41	75.63
4	0.00	0.00	0.01	0.94	0.06	0.00	0.00	0.10	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	1.14	82.12
5	0.19	0.12	0.30	0.72	3.63	0.00	0.00	0.61	0.13	0.00	0.02	0.02	0.02	0.19	0.00	0.00	0.02	5.95	61.02
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	0.02	0.09	0.02	0.14	0.09	12.02	0.63	0.30	1.32	0.23	0.26	0.05	0.12	0.00	0.46	0.05	16	75.11
8	0.19	0.18	0.04	0.23	0.13	0.01	0.32	5.35	0.61	0.10	0.06	0.04	0.03	0.21	0.00	0.00	0.01	7.5	71.38
9	0.00	0.22	0.00	0.03	0.06	0.14	0.36	1.15	4.97	0.19	0.03	0.41	0.00	0.55	0.00	0.00	0.00	8.08	61.49
10	0.06	0.00	0.00	0.03	0.06	0.08	0.83	0.26	0.29	6.48	0.00	0.50	0.01	0.08	0.00	0.23	0.00	8.9	72.74
11	0.01	0.00	0.00	0.00	0.01	0.00	0.06	0.04	0.06	0.01	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.73	71.93
12	0.01	0.01	0.00	0.02	0.03	0.02	0.07	0.06	0.17	0.44	0.02	7.09	0.06	0.44	0.00	0.00	0.02	8.44	83.94
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	89.31
14	0.00	0.13	0.02	0.09	0.04	0.02	0.07	0.44	0.43	0.17	0.00	0.23	0.02	2.69	0.00	0.01	0.00	4.35	61.84
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	12.83	0.00	13.37	95.93
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	100
total	2.75	9.1	1.58	2.2	4.69	0.39	14.28	9.39	7.14	9.07	0.94	8.68	0.6	4.39	10.02	13.53	1.25		
P Acc	74.51	92.3	67.35	42.47	77.37	9.15	84.19	57.02	69.6	71.36	56.15	81.62	62.47	61.26	100	94.83	90.76		

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