Class/Value	Description
95	**Emergent Herbaceous Wetlands** - areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.

Table 2-1. Land Cover Legend for CONUS

Pixel Value	Land Cover Class	Color Table RGB Value
250	NoData	0, 0, 0
11	Open Water	70, 107, 159
12	Perennial Ice/Snow	209, 222, 248
21	Developed, Open Space	222, 197, 197
22	Developed, Low Intensity	217, 146, 130
23	Developed, Medium Intensity	235, 0, 0
24	Developed, High Intensity	171, 0, 0
31	Barren Land (Rock/Sand/Clay)	179, 172, 159
41	Deciduous Forest	104, 171, 95
42	Evergreen Forest	28, 95, 44
43	Mixed Forest	181, 197, 143
52	Shrub/Scrub	204, 184, 121
71	Grassland/Herbaceous	223, 223, 194
81	Pasture/Hay	220, 217, 57
82	Cultivated Crops	171, 108, 40
90	Woody Wetlands	184, 217, 235
95	Emergent Herbaceous Wetlands	108, 159, 184

Table 2-2. RGB Color Values for Land Cover

2.1.2 Land Cover Change

There are many ways to represent change across a map product series. The NLCD land cover change product represents annual land cover change between one product year and the next, with those changes represented in the latter year (e.g., differences in land cover between 1985 and 1986 are shown in the 1986 land cover change product). These differences are represented categorically in the product data by concatenating the before and after land cover class codes. For example, a pixel changing from Emergent Herbaceous Wetlands (Class 95) to Woody Wetlands (Class 90), would be represented with a pixel value of 9590. Areas of no change maintain the original land cover classification of the associated year. This product can be independently derived by the user from successive land cover maps but is provided in the product suite as a convenience. Land cover change RGB values are shown in Table 2-3.

Pixel Value	Land Cover Change Class	Color Table RGB Value
9999	NoData	0, 0, 0
11	Open Water	70, 107, 159
12	Perennial Ice/Snow	209, 222, 248

Pixel Value	Land Cover Change Class	Color Table RGB Value
21	Developed, Open Space	222, 197, 197
22	Developed, Low Intensity	217, 146, 130
23	Developed, Medium Intensity	235, 0, 0
24	Developed, High Intensity	171, 0, 0
31	Barren Land (Rock/Sand/Clay)	179, 172, 159
41	Deciduous Forest	104, 171, 95
42	Evergreen Forest	28, 95, 44
43	Mixed Forest	181, 197, 143
52	Shrub/Scrub	204, 184, 121
71	Grassland/Herbaceous	223, 223, 194
81	Pasture/Hay	220, 217, 57
82	Cultivated Crops	171, 108, 40
90	Woody Wetlands	184, 217, 235
95	Emergent Herbaceous Wetlands	108, 159, 184
AABB	Change is shown by a concatenation of previous and current class values	162, 1, 255

Table 2-3. RGB Color Values for Land Cover Change (AA represents "from" land cover class value; BB represents "to" value)

2.1.3 Land Cover Confidence

NLCD land cover product generation strongly relies on supervised classification that is implemented with a series of deep learning models. The final result from the system is the output of an activation function that transforms values from the neural network into a discrete probability distribution across the output classes. The land cover confidence product provides the probability value for the final output land cover class. Because the process of map product creation incorporates a number of post-classification steps, this probability might not correspond to the maximum value across all classes. It is also important to note that the confidence value does not correspond to the absolute likelihood of the land cover being correct (i.e., these are uncalibrated probabilities) but is, of course, expected to be strongly correlated. The land cover confidence information is provided in Table 2-4.

Pixel Value	Land Cover Confidence	Color Table RGB Value
250	NoData	0, 0, 0
1	Start Value	255, 255, 255
100	Final Value	0, 0, 0

Table 2-4. RGB Color Values for Land Cover Confidence (colors are represented by grey-scale gradient)

2.1.4 Fractional Impervious Surface

The fractional impervious surface product provides the percentage of a 30-meter pixel that is covered with artificial substrate or structures (pavement, concrete, rooftops, and other constructed materials) that are assumed to be impermeable to water. The

impervious surface product provides this percent in a zero to 100 continuous value. These values provide the basis for every land cover pixel mapped as one of the four developed classes and informs the categorical developed land cover class by the thresholds provided in Table 2-5. The value 250 represents unmapped or a background value area as zero represents no mapped impervious surface on the landscape.

Pixel Value	Fractional Impervious Surface	Color Table RGB Value
250	NoData	0, 0, 0
1	Start Value	209, 209, 209
100	Final Value	158, 31, 235

Table 2-5. RGB Color Values for Fractional Impervious Surface (colors are represented by red-scale gradient)

2.1.5 Impervious Descriptor

The impervious descriptor product provides additional categorical information for developed areas. The product distinguishes between non-road ("urban") and road surfaces. It provides a map of road networks that is discernible throughout dense urban interiors and distinguishable from scattered structures and paved lots in outlying areas. Unlike versions of NLCD prior to Annual NLCD Collection 1, this is not a reporting layer for urban source information but is the direct result of a supervised classification algorithm. The impervious descriptor classes are provided in Table 2-6.

Pixel Value	Impervious Descriptor	Color Table RGB Value
250	NoData	0, 0, 0
0	Non-Urban	0, 0, 0
1	Roads	33, 113, 181
2	Urban	246, 236, 39

Table 2-6. RGB Color Values for Impervious Descriptor

2.1.6 Spectral Change Day of Year

The spectral change product provides information on the occurrence of substantial changes in spectral behavior through time. Spectral behavior refers to the directly measurable physical properties (i.e., surface reflectance in one or more wavelength bands) that are derived from Landsat remote sensing data. This product provides the day-of-year (DOY) on which any substantial deviation in surface reflectance was detected within the calendar year of the map product. Spectral changes represent abrupt non-phenological changes in the land surface that may or may not be related to land cover change. For example, a high intensity wildfire in a forested area produces both a substantial change in surface reflectance and a thematic class change within the NLCD land cover legend. Other changes, such as those produced by drought or precipitation, might produce a significant change in Landsat spectral reflectance that still occur within the same land cover class. Product sensitivity to the nature and frequency of spectral change is directly related to the behavior of the underlying change detection algorithm. See Section 4 for more information. A color palette for Spectral Change Day