

WFP 2012 to WHP 2014 Change Summary

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The 2012 Wildland Fire Potential (WFP) and the 2014 Wildfire Hazard Potential (WHP) represent the same concept from two different snapshots in time. The changes between the two datasets reflect a combination of factors, including: 1) updates to source datasets that reflect changes in mapping methodology; 2) updates to source datasets that reflect changes in landscape conditions on the ground; and 3) updates to wildfire simulation modeling and calibration methods. The change also reflects a name change intended to more clearly describe what our map depicts, and also distinguish it from other products with a similar name. One thing that did not change from 2012 to 2014 is the methodology we used to produce the WFP/WHP map. This brief summary document will touch on some of the changes between the 2012 and 2014 versions of our dataset.

Many of the changes reflected in the 2014 WHP map are a direct result of changes in the LANDFIRE data layers. The 2012 WFP was created with LANDFIRE 2008 data (version 1.1.0) and wildfire simulation outputs generated from those data in 2012. The 2014 WHP was created with LANDFIRE 2010 data (version 1.2.0), and wildfire simulation outputs generated from those data in 2014. While the LANDFIRE 2010 data do capture actual landscape changes from natural disturbances and management activities up through 2010, they also reflect significant efforts by the LANDFIRE team to improve mapping of developed, rock, agricultural, and wetland land cover classes (for more information, visit: http://www.landfire.gov/lf_120.php). These changes percolate through to the 2014 WHP map, both directly in the WHP mapping process and indirectly in the wildfire simulation outputs.

The year associated with any version of the WFP/WHP indicates the year in which the map was produced, using the best available data at the time. In the case of the 2014 WHP, it reflects a 2010 landscape because that is the vintage of LANDFIRE data that were used in its creation. This is in contrast to the monthly and seasonal “significant wildland fire potential outlook” products produced by the Predictive Services program of the National Interagency Coordination Center and Geographic Area Coordination Centers, which are based on weather and fuel moisture forecasts and named according to the month or season to which they apply (e.g., summer 2014).

Beginning with the 2014 version of our map, we have changed the name from the Wildland Fire Potential (WFP) to the Wildfire Hazard Potential (WHP). By making this name change, we intend to

avoid confusion between our product and the Predictive Services outlook products, and also to align better with standard wildland fire and risk assessment terminology (NWCG 2014, Scott and others 2013). The estimates of burn probability and intensity from FSim represent simulations of *wildfires*, as opposed to the more generic term *wildland fire*, and the integration of probability and intensity reflects the *hazard* posed by wildfires. Thus, we also feel that Wildfire Hazard Potential will be more descriptive of what the map really depicts.

Lastly, despite the temptation to compare subsequent versions of the WFP/WHP to indicate changes in fuels conditions across the landscape, we must caution against doing this. Significant changes to input data quality, wildfire simulation modeling, and WFP mapping methods occurred between older versions of the WFP from 2007 and 2010 and the more recent 2012 and 2014 versions. While the mapping and modeling methodologies are stabilizing somewhat, there were still important changes between our 2012 and 2014 map versions, and we anticipate more changes into the future. These changes, unfortunately, negate the ability to directly compare different versions to track landscape change over time. Development of wildfire simulation outputs and subsequent products like the WHP map is an evolving science, and will continue to change as our knowledge advances.

References

NWCG. 2014. Glossary of Wildland Fire Terminology. Available: <http://www.nwcg.gov/pms/pubs/glossary/>. [December 5, 2014].

Scott JH, Thompson MP, Calkin DE. 2013. A wildfire risk assessment framework for land and resource management. General Technical Report RMRS-GTR-315. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado, USA.

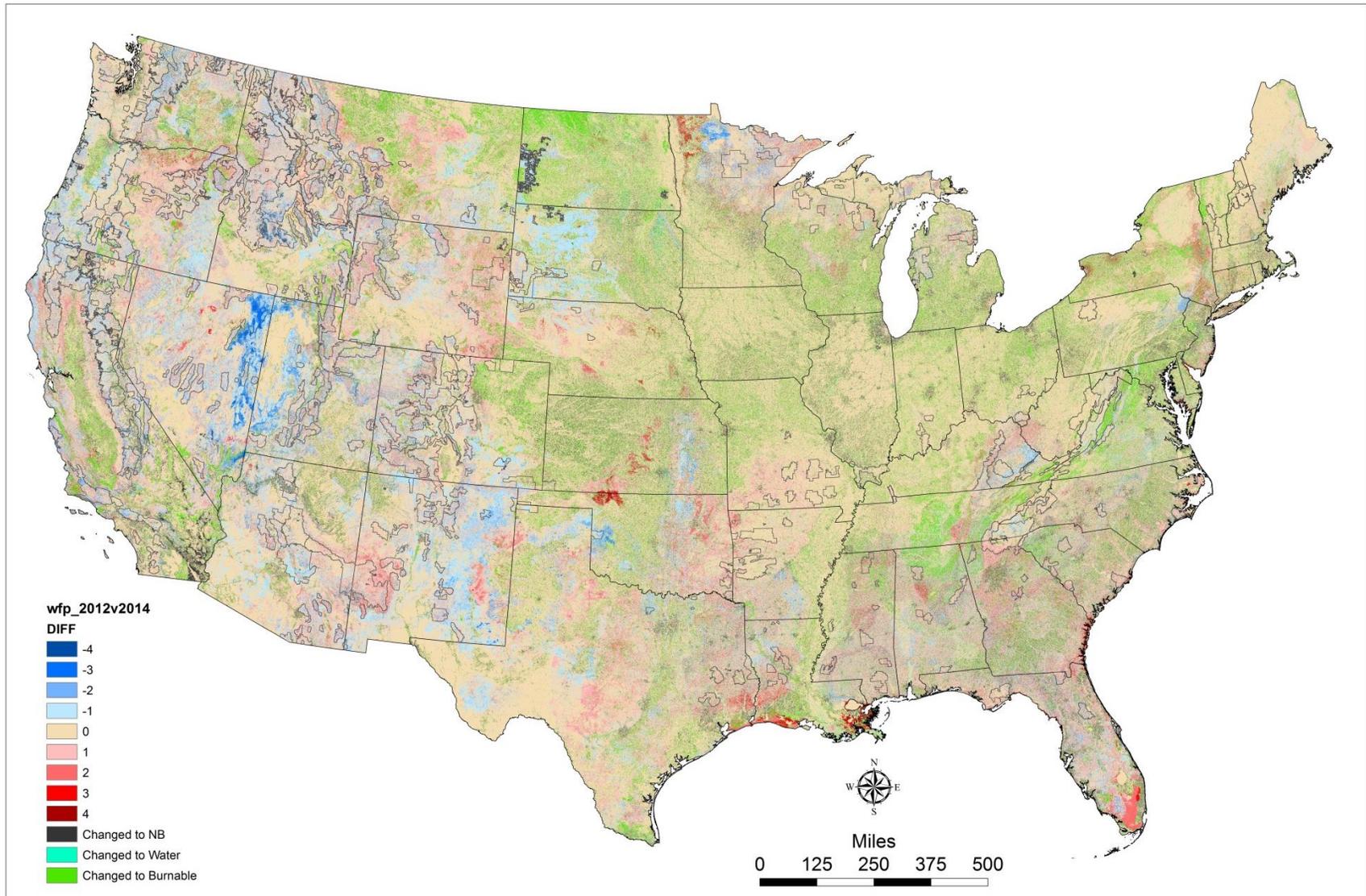


Figure 1. Difference between classified WFP maps from 2012 to 2014. Areas that decreased moved to a lower WFP class in 2014; areas with an increase moved to a higher WFP class in 2014. Other changes include pixels that changed from burnable to non-burnable and vice versa.

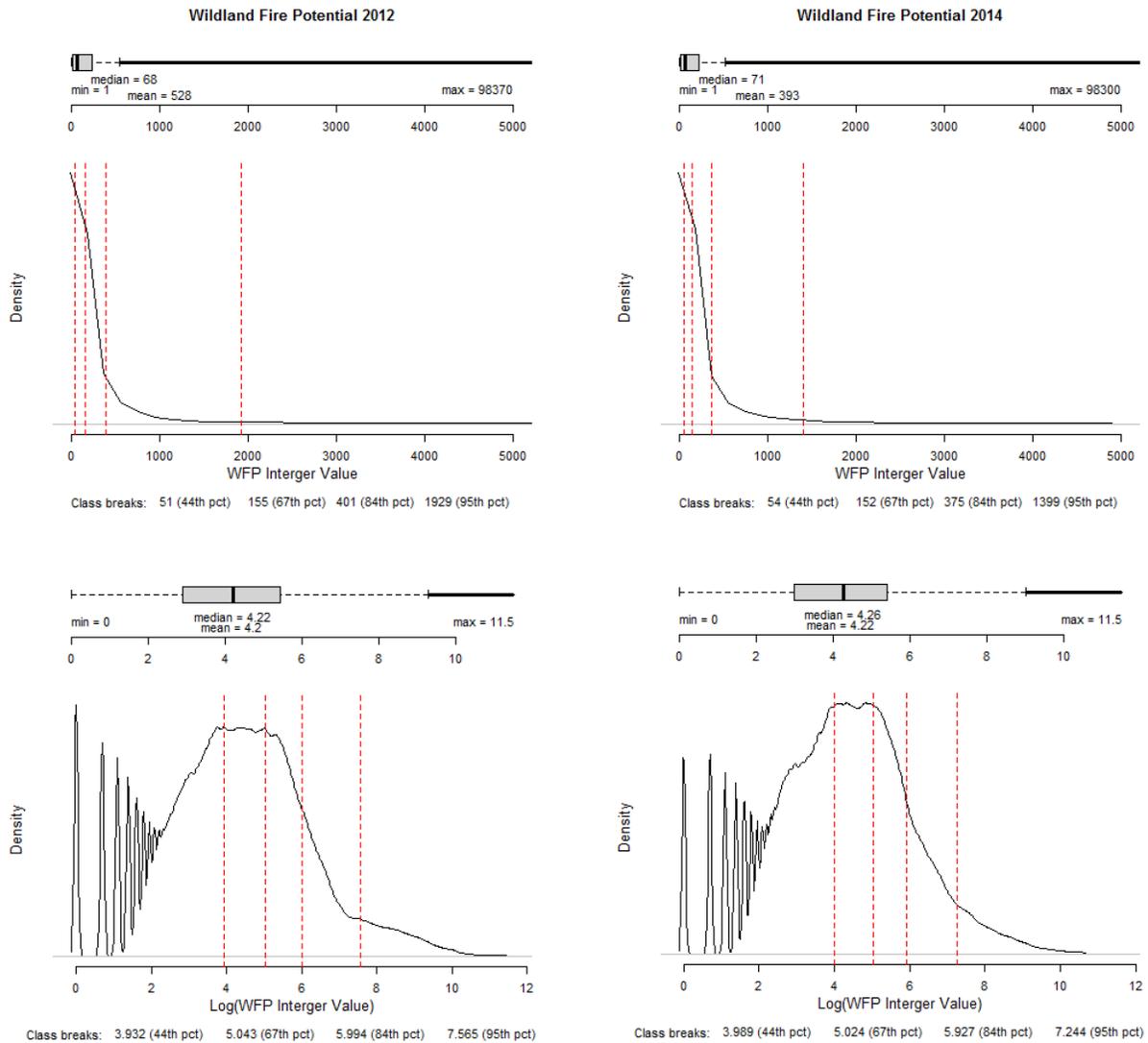


Figure 2. Distributions of continuous WFP values from 2012 (left) and 2014 (right). Overall, the distributions are very similar, but the upper end of the distribution shifted slightly to the left (lower) in the 2014 version. As a result, percentile breaks above about 50th percentile are lower in 2014, and the overall mean value is also lower. For consistency in the classified map, we stuck with the 2012 percentile breaks for classifying the 2014 map. As a result, there are slightly fewer pixels in the high and very high map classes for 2014.