

INSTITUTE OF OUTDOOR RECREATION AND TOURISM

TAPPING INTO SOCIAL MEDIA DATA TO IDENTIFY THE PUBLIC'S MOST VALUED LANDSCAPES



Lael Gilbert; Jordan W. Smith, Ph.D.; Derek van Berkel, Ph.D.; Boris van Zanten, Ph.D.



November 21, 2016



IORT-PR-2016-07

ABSTRACT

Today, millions of people are using social media to share information and images about the places they visit for outdoor recreation and leisure. This fact sheet reviews recent research which analyzed over 7.5 million photos posted to Instagram, Flickr, and Panoramio to examine which European landscapes individuals value most. The research is the first of its kind to use social media data to identify the public's most valued landscapes across an entire continent.

Your Instagram pictures of the great outdoors are more than just electronic eye candy. Your photos, combined with millions of others uploaded by the outdoor-loving public, can be grouped, mapped and used to identify the natural landscapes that people value most. New research by faculty from the Institute of Outdoor Recreation and Tourism at Utah State, along with colleagues from NC State University and VU University in Amsterdam, used social media to identify which natural landscapes individuals value most; the research was conducted across Europe (van Zanten et al. 2016).

Other methods for determining how people value natural places have severe limitations, which makes the use of social media data an attractive alternative. For example, surveys are expensive and do not allow managers to compare one place with another. Additionally, surveys do not capture differences across social, political, and ecological boundaries.

The research, which was published in the Proceedings of the National Academy of Sciences, used data from Flickr, Instagram, and Panoramio to identify 'hot spots' of highly valued landscapes across Europe. The researchers assumed the more people photographed, posted, and shared information about a specific geographic location, the more they valued it. People place value on natural landscapes for a variety of reasons: aesthetic appeal, the recreational activities they support, social or cultural significance, or for how the landscape contributes to their psychological well-being.

"This is really exciting because it allows us to identify, in an objective way, which natural landscapes are valued and used by the public. This is something that we haven't been able to do with traditional social science research methods," stated Dr. Jordan Smith, Director of the Institute of Outdoor Recreation and Tourism and co-author on the paper.

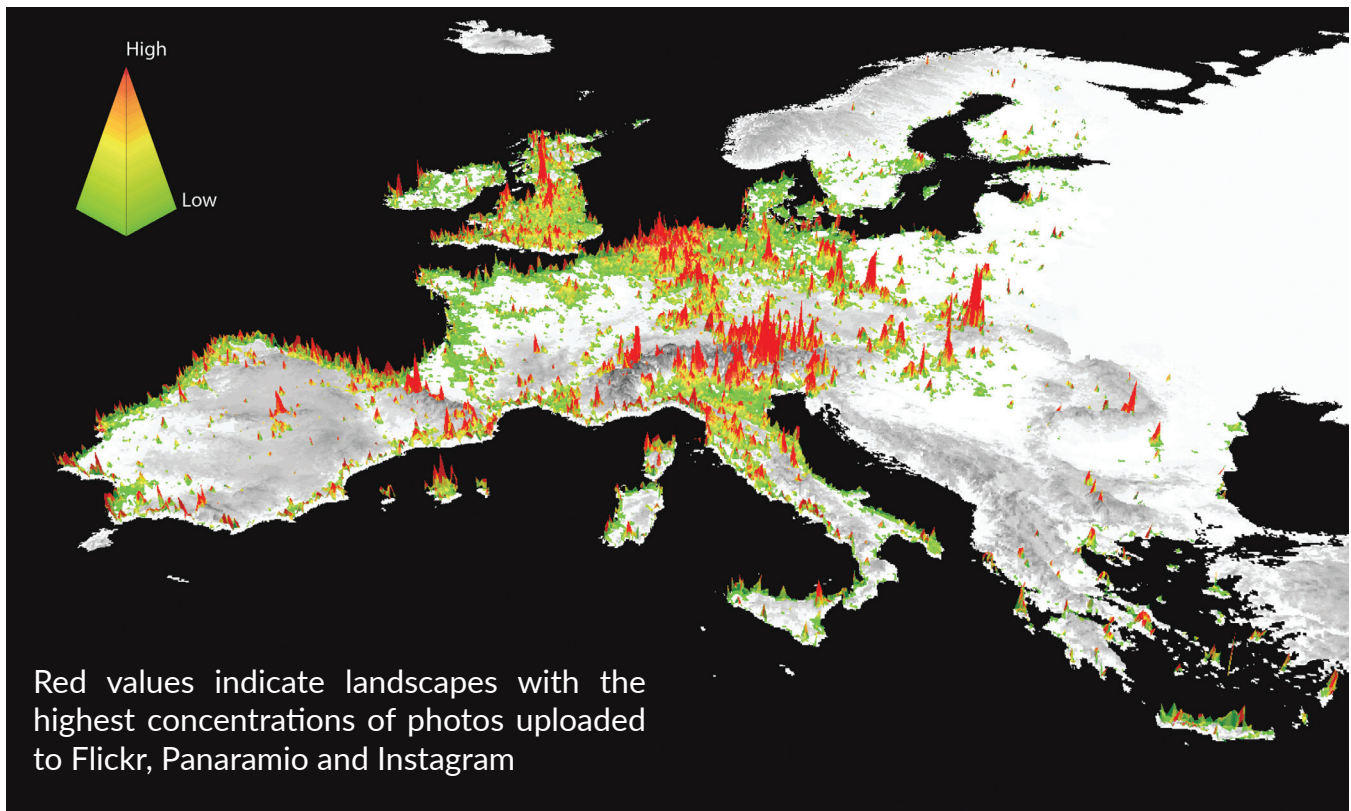
Panoramio and Flickr are websites that let users upload and display geotagged photos. Users of these sites tend to be photography enthusiasts that post images of natural landscapes. Instagram has a broader user base who tend to post images with descriptors (captions and hashtags). In the United States, 28% of people with access to the

Internet are estimated to be active on Instagram. In Europe, estimates vary, but users number in the tens of millions. “The representativeness of social media data is a limitation to this research, but one that is mitigated by using data from different platforms” said Smith.

The analysis revealed social media users highly value mountainous areas such as the Alps, Pyrenees and the Scottish Highlands (image below). Coastal areas such as the Costa Brava and the Balearic Islands of Spain also stood out. Photo “deserts” included the agricultural inlands of Spain and France as well as sparsely populated areas in Nordic and Baltic countries. Factors such as accessibility, infrastructure, the presence of parks

and protected areas as well as the proximity to cities also played a role in how places were valued.

When a natural place is mapped and combined with volunteered commentary, like captions and hashtags, scientists get a better understanding of how people perceive and value the environment around them. This information can be applied to land management. For example, the information can be used to inform decisions about how management dollars are allocated. It can also be used to provide managers with a better understanding of how and why people are attached to their favorite outdoor places. Similar research, focusing on how social media data can be used to quantify visitation levels, is also being done in the United States (Wood et al., 2013).



REFERENCES

- van Zanten, B. T., Van Berkel, D. B., Meentemeyer, R. K., Smith, J. W., Tieskens, K. F., & Verburg, P. H. (2016). Continental-scale quantification of landscape values using social media data. *Proceedings of the National Academy of Sciences*, 113(46), 12974-12979.
- Wood, S. A., Guerry, A. D., Silver, J. M., & Lacayo, M. (2013). Using social media to quantify nature-based tourism and recreation. *Scientific Reports*, 3, 2976.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions. Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities. This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Kenneth L. White, Vice President for Extension and Agriculture, Utah State University.