

**DEPARTMENT OF GEOGRAPHY**  
**Presents**

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## **Impact of Homeowner Association (HOA) Landscaping Guidelines On Residential Water Use**

**Friday, October 21, 2016**

3:30-5:00 p.m.

Derby Hall 1080

The association between increasing water intensive land-cover, such as the use of turf grass and trees, and increasing water use is a growing concern for water-stressed arid cities. Appropriate regulatory measures addressing residential landscaping, such as those applied by Homeowner Associations (HOAs), may serve to reduce municipal water use, joining other water-use reducing measures under consideration by arid cities. This research assesses quantitatively the role that Covenants, Conditions, and Restrictions (CCRs) applied to landscaping by HOAs play on water consumption. Statistical comparisons and models of  $n=1,973$  parcels in Goodyear, Arizona, USA, reveal that: HOA yards have less vegetation cover and those households use less peak-season water (July) than those households in non-HOA neighborhoods. This hold true even though the HOA CCRs regulate only the minimum required front-yard vegetation and most residents maintain more than the minimum vegetation level. Furthermore, front-yard landscaping tends to be mimicked in the backyard such that total yard landscaping tracks best with total household water use. Results of the study suggest that HOA landscaping regulations have the potential to reduce peak-season water use by up to 24% if CCRs were to set maximum vegetation regulations rather than minimum and if compliance were enforced. Lowering residential water consumption in this way potentially involves tradeoffs with the cooling effects of vegetation and its consequences on the urban heat island effect, on energy use, and on home values.

*Elizabeth Wentz is dean of social sciences in the College of Liberal Arts and Sciences at Arizona State University and Professor in the School of Geographical Sciences and Urban Planning. Her research interests focus on the development and implementation of geographic technologies designed to establish better understanding of the urban environment. Significant contributions fall into three main categories: geographic tool development, urban remote sensing, and urban environmental analysis. She has been funded by NFS, NASA, NOAA, NIH, and USDA to support her research program. In her role as dean, she has built a vision that emphasizes the 'people' in society. Together with the chairs and directors of the social science units, she has constructed a vision and charter focusing on class inequality, environmental justice, science and technology literacy, and global health and well-being.*



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