

Theresa M. Crimmins

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EDUCATION

- 2005 Ph.D., School of Renewable Natural Resources, University of Arizona, Tucson, AZ
- 1999 M.A., Geography, Western Michigan University, Kalamazoo, MI
- 1997 B.S., Biological Sciences, Western Michigan University, Kalamazoo, MI

PROFESSIONAL EXPERIENCE

- 2019-present Associate Director, USA National Phenology Network, Tucson, AZ
- 2006-present Adjunct Professor and Associate Research Specialist, School of Natural Resources and the Environment, University of Arizona, Tucson, AZ
- 2015-2019 Assistant Director, USA National Phenology Network, Tucson, AZ
- 2008-2015 Partnerships & Outreach Coordinator, USA National Phenology Network, Tucson, AZ
- 2002-2006 Quantitative Ecologist, Sonoran Desert Network Inventory & Monitoring, National Park Service, Tucson, AZ
- 2002-2004 UA/NASA Space Grant Fellow, University of Arizona, Tucson, AZ

HONORS & AWARDS

Professional and Academic Honors & Awards

- 2018 **Alumni Achievement Award**, Department of Geography, Western Michigan University
- Globally-Engaged Pillar Award**, College of Arts and Sciences, Western Michigan University
- 2005 **On-the-Spot Award**, Sonoran Desert Network, National Park Service for outstanding job performance
- 2003-2004 **University of Arizona/NASA Space Grant Graduate Fellowship**, University of Arizona/National Aeronautical Space Administration Space Grant Program

- 1999 **Department Graduate Research and Creative Scholar**, Western Michigan University Graduate College
- 1999 **Outstanding Graduate Research Award**, College of Arts & Sciences, Western Michigan University
- 1999 **Graduate Student Outstanding Scholastic Achievement Award**, Department of Geography, Western Michigan University
- 1997 **Clifford and Ella Chapman Distinguished Senior Scholarship**, Western Michigan University
- 1996 **Frank Hinds Zoology Award**, Western Michigan University Department of Biology
- 1993-1997 **Excellence Scholarship**, Western Michigan University

Team Awards

- 2019 **Outstanding Scholarly Achievement** for the USA-NPN's Pheno Forecast maps. School of Natural Resources and the Environment, University of Arizona. Project team member and nomination author.
- 2018 **USGS Shoemaker Award for Communication Product Excellence**, Excellence for the Webpage/Website category for "Tracking the Appearance of Spring: USA National Phenology Network's Status of Spring website and maps product." Project team member and nomination co-author.
- Climate Adaptation Leadership Award for Natural Resources**. Presented to the National Coordinating Office of the USA National Phenology Network. Association of Fish and Wildlife Agencies. Project team member and lead nomination author.
- Blue Pencil & Gold Screen Award of Excellence** for the USA National Phenology Network 2016 Annual Report. J.F. Weltzin, T.M. Crimmins, and T. Moody.
nagc.com/2018-blue-pencil-gold-screen-awards
- 2017 **Renewable Natural Resource Foundation Outstanding Achievement Award** for USA-NPN's Start of Spring Maps and Access Tools. Project team member and nomination co-author.
- 2016 **USGS Environmental Achievement Award** in Climate Champion category. Project team member and lead nomination author.
- Greening the Department of Interior**, Honorable Mention.
www.doi.gov/greening/awards/2016 Project team member and lead nomination author.
- 2015 **Healthy Workplace Award**. Presented by the Arizona Chapter of the American Psychological Association. Project team member
- 2014 **USGS Shoemaker Award for Communication Product Excellence**, Internet Product category for "Connecting People with Nature to Benefit Our Changing Planet: The *Nature's Notebook* website." Project team member and lead nomination author.

PUBLISHED WORKS

Peer-reviewed Journal Articles, Book Chapters, Technical Reports and Datasets

Prudic, K.L., J.K. Wilson, J.C. Oliver, K.L. Gerst, A.H. Rosemartin, **T.M. Crimmins**, M. Toshack. Creating the urban Farmer's Almanac with citizen science data. *Insects*. Under revision.

Gerst, K.L., **T.M. Crimmins**, E.E. Posthumus, A.H. Rosemartin, and M.D. Schwartz. How well do the Spring Indices predict phenological activity across plant species? *International Journal of Biometeorology*. In review.

Published

2019 Elmendorf, S.C., **T.M. Crimmins**, K.L. Gerst, and J.F. Weltzin. Time to branch out? Application of survival models in plant phenology. *Agriculture and Forest Meteorology*. In press. doi.org/10.1016/j.agrformet.2019.107694.

Crimmins, M.A. and **T.M. Crimmins**. Does an Early Spring Indicate an Early Summer? Relationships between Intraseasonal Growing Degree Day Thresholds. *Journal of Geophysical Research - Biogeosciences*. In press. doi.org/10.1029/2019JG005297

Crimmins, M.A. and **T.M. Crimmins**. Data from: Does an early spring indicate an early summer? relationships between intra-seasonal growing degree day thresholds. [doi:10.5061/dryad.pp045j3](https://doi.org/10.5061/dryad.pp045j3)

Crimmins, T.M., K.L. Gerst, D.G. Huerta, R.L. Marsh, E.E. Posthumus, A.H. Rosemartin, J. Switzer, J.F. Weltzin, L. Coop, N. Dietschler, D.A. Herms, S. Limbu, R.T. Trotter III, M. Whitmore. 2019. Short-term forecasts of insect phenology inform pest management. *Annals of the Entomological Society of America*. doi.org/10.1093/aesa/saz026

Crimmins, T.M., L. Barnett, E.G. Denny, A.H. Rosemartin, S. Schaffer, and J.F. Weltzin. 2019. "From tiny acorns grow mighty oaks: what we've learned from nurturing *Nature's Notebook*." In: *Handbook of Citizen Science in Ecology and Conservation*. Eds. C. Lepczyk, T. Vargo, and O.D. Boyle. University of California Press. In press.

Posthumus, E.E., L. Barnett, **T.M. Crimmins**, P.L. Warren, E. Stancioff, and J. Einerson. 2019. "Building local resilience to climate change through citizen science, environmental education, and decision-making." In: *Addressing Climate Change at the Community Level in the United States*. Eds. P.R. Lachapelle and D.E. Albrecht. New York: Routledge/Taylor & Francis, pp 50-64.

Gerst, K.L., A.H. Rosemartin, E.E. Posthumus, and **T.M. Crimmins**. Successes and challenges on a spectrum of stakeholder engagement. Collaboration Now for the Future: Biodiversity and Management of the Madrean Archipelago VI meeting proceedings, Tucson, Arizona, May 14-18, 2018. In press.

2018 Waller, E.K., **T.M. Crimmins**, J.J. Walker, E.E. Posthumus, and J.F. Weltzin. 2018. Differential changes in the onset of spring across US National Wildlife Refuges and North American migratory bird flyways. *PLoS ONE* 13(9): e0202495. doi.org/10.1371/journal.pone.0202495

Weltzin, J.F., **T.M. Crimmins**, E.E. Posthumus, J.J. Walker, and E.K. Waller. 2018. Spring leaf and

bloom index dates (1880-2013) and migratory bird flyways: U.S. Geological Survey data release, doi.org/10.5066/P9Z4C9LE.

Browning, D.M., **T.M. Crimmins**, D.K. James, S. Spiegel, M.R. Levi, J.P. Anderson, and D.C. Peters. 2018. Synchronous species responses reveal phenological guilds – Implications for management. *Ecosphere* 9(9):e02395. doi.org/10.1002/ecs2.2395

Crimmins, T.M. 2018. The USA National Phenology Network's growing degree day maps and online visualization tool support management decisions. *Journal of Extension*. 56: 3, 3TOT4. www.joe.org/joe/2018june/tt4.php

Rosemartin, A.R., M.L. Langseth, **T.M. Crimmins**, and J.F. Weltzin. 2018. Development and release of phenological data products--A case study in compliance with federal open data policy. U.S. Geological Survey Open-File Report 2018-1007. doi.org/10.3133/ofr20181007.

Rosemartin, A.H., E.G. Denny, K.L. Gerst, R. L. Marsh, **T.M. Crimmins**, and J.F. Weltzin. 2018. USA National Phenology Network Observational Data Documentation. U.S. Geological Survey Open-File Report 2018-1060. doi.org/10.3133/ofr20181060

2017 **Crimmins, T.M.**, M.A. Crimmins, K.L. Gerst, A.H. Rosemartin, and J.F. Weltzin. 2017. USA National Phenology Network's volunteer-contributed observations yield predictive models of phenological transitions. *PLoS ONE* 12(8), e0182919. doi.org/10.1371/journal.pone.0182919

Crimmins, T.M. and Crimmins, M.A. 2017. Plant Phenology Site Phenometrics + Accumulated Growing Degree Day Calculations for the continental United States (2009-2016): U.S. Geological Survey data release, doi.org/10.5066/F7XG900X.

Ellwood, E., **T.M. Crimmins**, and A.J. Miller-Rushing. 2017. Citizen science and conservation: Recommendations for a rapidly moving field. *Biological Conservation* 208:1-4. dx.doi.org/10.1016/j.biocon.2016.10.014

Crimmins, T.M., R.L. Marsh, J. Switzer, M.A. Crimmins, K.L. Gerst, A.H. Rosemartin, and J.F. Weltzin. 2017. USA National Phenology Network gridded products documentation. U.S. Geological Survey Open-File Report 2017-1003. DOI: 10.3133/ofr20171003.

Langseth, M.L., Hsu, L., Amberg, J., Bliss, N., Bock, A.R., Bolus, R.T., Bristol, R.S., Chase, K.J., **Crimmins, T.M.**, Earle, P.S., Erickson, R., Everette, A.L., Falgout, J., Faundeen, J.L., Fienen, M., Griffin, R., Guy, M.R., Henry, K.D., Hoebelheinrich, N.J., Hunt, R., Hutchison, V.B., Ignizio, D.A., Infante, D.M., Jarnevich, C., Jones, J.M., Kern, T., Leibowitz, S., Lightsom, F.L., Marsh, R.L., McCalla, S.G., McNiff, M., Morissette, J.T., Nelson, J.C., Norkin, T., Preston, T.M., Rosemartin, A., Sando, R., Sherba, J.T., Signell, R.P., Sleeter, B.M., Sundquist, E.T., Talbert, C.B., Viger, R.J., Weltzin, J.F., Waltman, S., Weber, M., Wieferich, D.J., Williams, B., Windham-Myers, L. 2017. Community for Data Integration 2016 annual report: U.S. Geological Survey Open-File Report 2017-1053. DOI: 10.3133/ofr20171053.

Andrianandrasana, H.T., D. Becker, A. Berardi, R. Bodmer, M. Chandler, J.A. Cousins, **T.M. Crimmins**, F. Danielsen, A.P. Giorgi, M. Huxham, A. Leslie, J. Mistry, B. Mora, M. Nelson, M.K.

- Poulsen, A.K. Pratihast, L.M. See, I. Theilade, P. Constantino, T. Vakil, and J. Williams. 2017. "The value and opportunities of community- and citizen-based approaches to tropical forest biodiversity monitoring." In: *A Sourcebook of Methods and Procedures for Monitoring Essential Biodiversity Variables in Tropical Forests with Remote Sensing*. Eds. GOF-C-GOLD & GEO BON. Report version UNCBD COP-13, GOF-C-GOLD Land Cover Project Office, Wageningen University, The Netherlands. ISSN:2542-6729.
- 2015 Wright, K.W., K.L. Vanderbilt, D.W. Inouye, C.D. Bertelsen, and **T.M. Crimmins**. 2015. Turnover and reliability of flower communities in extreme environments: Insights from long-term phenology data sets. *Journal of Arid Environments* 115:27-34.
- Fuccillo, K.K., **T.M. Crimmins**, C. DeRivera, and T.S. Elder. 2015. Assessing accuracy in citizen science-based plant phenology monitoring. *International Journal of Biometeorology* 59:917-926. DOI 10.1007/s00484-014-0892-7
- 2014 **Crimmins, T.M.** 2014. "Finding a climate change signal in unexpected places." Review of *Walden warming: climate change comes to Thoreau's woods*. *Ecology* 95: 3234-3235.
- Crimmins, T.M.**, J.F. Weltzin, A.H. Rosemartin, E.M. Surina, and L. Marsh, E.G. Denny. 2014. Targeted campaign increases activity among participants in *Nature's Notebook*, a citizen science project. *Natural Sciences Education* 43:64-72.
- Crimmins, T.M.**, C.D. Bertelsen, and M.A. Crimmins. 2014. Within-season flowering interruptions are common in the water-limited Sky Islands. *International Journal of Biometeorology* 58:419-426. DOI 10.1007/s00484-013-0745-9.
- Denny, E.G., K.L. Gerst, A.J. Miller-Rushing, G.L. Tierney, **T.M. Crimmins**, C.A.F. Enquist, P. Guertin, A.H. Rosemartin, M.D. Schwartz, K.A. Thomas, J.F. Weltzin. 2014. Standardized phenology monitoring methods to track plants and animal activity for science and resource management applications. *International Journal of Biometeorology* 58:591-601. DOI: 10.1007/s00484-014-0789-5.
- Rosemartin, A.H., **T.M. Crimmins**, C.A.F. Enquist, K.L. Gerst, J.L. Kellermann, E.E. Posthumus, J.F. Weltzin, E.G. Denny, P. Guertin, and L. Marsh. 2014. Organizing phenological data resources to inform natural resource conservation. *Biological Conservation* 173:90-97.
[dx.doi.org/10.1016/j.biocon.2013.07.003](https://doi.org/10.1016/j.biocon.2013.07.003)
- Czech, B., S. Covington, **T.M. Crimmins**, J.A. Ericson, C. Flather, M. Gale, K. Gerst, M. Higgins, M. Kaib, E. Marino, T. Moran, J. Morton, N. Niemuth, H. Peckett, D. Savignano, L. Saperstein, S. Skorupa, E. Wagener, B. Wilen, and B. Wolfe. 2014. *Planning for Climate Change on the National Wildlife Refuge System*. U.S. Fish and Wildlife Service, National Wildlife Refuge System, Washington, DC. www.fws.gov/refuges/vision/pdfs/PlanningforClimateChangeontheNWRS.pdf
- 2013 Davies, T.J., E.M. Wolkovich, N.J.B. Kraft, N. Salamin, J.M. Allen, T.R. Ault, J.L. Betancourt, K. Bolmgren, E.E. Cleland, B.I. Cook, **T.M. Crimmins**, S.J. Mazer, G.J. McCabe, S. Pau, J. Regetz, M.D. Schwartz, S. Travers. 2013. Phylogenetic conservatism in plant phenology. *Journal of Ecology* 101: 1520-1530. doi: 10.1111/1365-2745.12154.

- Crimmins, T.M.**, M.A. Crimmins, and C.D. Bertelsen. 2013. Spring and summer patterns in flowering onset, duration, and constancy across a water-limited gradient. *American Journal of Botany* 100(6):1-11.
- Posthumus, E.E., L. Barnett, **T.M. Crimmins**, G. Kish, W. Sheftall, E. Stancioff, and P. Warren. 2013. *Nature's Notebook* and Extension: Engaging citizen-scientists and 4-H youth to observe a changing environment. *Journal of Extension* 51(1): 1IAW1. Online: www.joe.org/joe/2013february/iw1.php.
- Schwartz, M.D., E. Beaubien, **T.M. Crimmins**, and J.F. Weltzin. 2013. "North America." In: *Phenology: An Integrative Environmental Science*. 2nd edition. Dordrecht: Kluwer Academic Publishers. Online: www.springer.com/life+sciences/ecology/book/978-94-007-6924-3 pp 67-89.
- Crimmins, T.M.**, M.A. Crimmins, and C.D. Bertelsen. Temporal patterns in species flowering in Sky Islands of the Sonoran Desert ecoregion. 2013. Pages 33-39 in: Gottfried, Gerald J.; Ffolliott, Peter F.; Gebow, Brooke S.; and Eskew, Lane G., compilers. 2012. Merging science and management in a rapidly changing world: biodiversity and management of the Madrean Archipelago III. 2012 May 1-5, Tucson, AZ. Proceedings RMRS-P-67. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Online: www.fs.fed.us/rm/pubs/rmrs_p067/rmrs_p067_033_039.pdf.
- 2012 Cook, B.I., E.M. Wolkovich, T.J. Davies, T.R. Ault, J.L. Betancourt, J.M. Allen, K. Bolmgren, E.E. Cleland, **T.M. Crimmins**, N.J.B. Kraft, L.T. Lancaster, S.J. Mazer, G.J. McCabe, B.J. McGill, C. Parmesan, S. Pau, J. Regetz, N. Salamin, M.D. Schwartz, S.E. Travers. 2012. Sensitivity of spring phenology to warming across temporal and spatial climate gradients in two independent databases. *Ecosystems* DOI: 10.1007/s10021-012-9584-5.
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- Crimmins, T.M.** and M.A. Crimmins. 2012. Appreciating and archiving present-day naturalists' contributions to science. *BioScience* 62:531-532.
- Deiz, J.M., I. Ibañez, A.J. Miller-Rushing, S.J. Mazer, **T.M. Crimmins**, M.A. Crimmins, C.D. Bertelsen, D.W. Inouye. 2012. Forecasting phenology: from species variability to community patterns. *Ecology Letters* 15:545-553.
- Cleland, E.E., J.M. Allen, **T.M. Crimmins**, S. Pau, S.E. Travers, E.M. Wolkovich. 2012. Phenological tracking enables positive species responses to climate change. *Ecology* 93: 1765-1771.
- 2011 **Crimmins, T.M.**, M.A. Crimmins, and C.D. Bertelsen. 2011. Onset of summer flowering in a 'Sky Island' is driven by monsoon moisture. *New Phytologist* 191:468-479. **Featured in a Commentary in the same issue of the journal:** "Broadening the study of phenology and climate change", R.B. Primack and A.J. Miller-Rushing, 191:307-309.
- Posthumus, E. and **T. Crimmins**. 2011. *Nature's Notebook: A Tool for Education and Research*.

Bulletin of the Ecological Society of America 92:185-187. [dx.doi.org/10.1890/0012-9623-92.2.185](https://doi.org/10.1890/0012-9623-92.2.185)

- Luvall, J.C., W.A. Sprigg, E. Levetin, A. Huete, S. Nickovic, G.A. Pejanovic, A. Vukovic, P.K. Van de Water, O.B. Myers, A.M. Budge, A.P. Zelicoff, L. Bunderson, **T.M. Crimmins**. 2011. Use of MODIS satellite images and an atmospheric dust transport model to evaluate *Juniperus* spp. pollen phenology and dispersal. Proceedings of the 34th International Symposium on Remote Sensing of Environment. Sydney, Australia. Online: www.isprs.org/proceedings/2011/ISRSE-34/211104015Final00129.pdf.
- Schwartz, K, **T. Crimmins**, and J. D'Agostino. An Online Innovation to Enhance Instruction and Assess Learning. Learning It by Living It: A Wild Ride through the Water Cycle. Proceedings of the North American Association for Environmental Education, 37th Annual Conference. 15-18 October 2008, Wichita, Kansas. Online: www.allacademic.com/meta/p240856_index.html
- 2010 **Crimmins, T.M.**, M.A. Crimmins, and C.D. Bertelsen. 2010. Complex responses to climate drivers in onset of spring flowering across a semi-arid elevation gradient. *Journal of Ecology* 98:1042-1051.
- Crimmins, T.M.** and C.L. Rupprecht. 2010. Testing Online learning modules for an extension program – useful and utilized? *Journal of Natural Resources and Life Sciences Education* 39:102-108.
- 2009 **Crimmins, T.M.**, M.A. Crimmins, and C.D. Bertelsen. 2009. Flowering range changes across an elevation gradient in response to warming summer temperatures. *Global Change Biology* 15:1141-1152.
- 2008 **Crimmins, T.M.** and G.R. McPherson. 2008. Vegetation and seed bank response to *Eragrostis lehmanniana* removal. *Weed Research* 48:542-551.
- Crimmins, M.A. and **T.M. Crimmins**. 2008. Monitoring plant phenology using digital repeat photography. *Environmental Management* 41:949-958.
- Crimmins, T.M.**, M.A. Crimmins, D. Bertelsen, and J. Balmat. 2008. Relationships between flowering diversity and climatic variables along an elevation gradient. *International Journal of Biometeorology* 52:353-366.
- Crimmins, T.**, M.S. Mauzy, and S.E. Studd. 2008. Assessing exotic plant distribution, abundance, and impact at Montezuma Castle and Tuzigoot National Monuments in Arizona, USA. *Ecological Restoration* 26:47-53.
- 2007 Crimmins, M.A., G. Zaines, N. Haas, C.K. Jones, G. Garfin, and **T.M. Crimmins**. 2007. Changes on the range: A novel exercise to explore interactions between range management decision making and climate change. *Journal of Natural Resources and Life Sciences Education*. 36:76-86.
- Mau-Crimmins, T.** 2007. Effects of removing *Cynodon dactylon* from a recently abandoned agricultural field. *Weed Research*. 47:212-221.
- 2006 Schussman, H.R., E.L. Geiger, **T.M. Mau-Crimmins**, and J. Ward. 2006. Spread and current potential distribution of an alien grass, *Eragrostis lehmanniana* Nees, in the southwestern USA:

comparing historical data and ecological niche models. *Diversity and Distributions* 12:582-592.

Mau-Crimmins, T., H.R. Schussman, and E.L. Geiger. 2006. Can the invaded range of a species be predicted sufficiently using only native-range data?: Lehmann lovegrass (*Eragrostis lehmanniana*) in the southwestern United States. *Ecological Modelling* 193:736-746.

2005 **Mau-Crimmins, T.**, J.E. de Steiguer, and D. Dennis. 2005. The Analytic Hierarchy Process and public participation in forest planning: A pilot study involving natural resource students. *Forest Economics & Policy* 7(4):501-514.

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Stitt, E.W., **T. Mau-Crimmins**, and D.E. Swann. 2005. Biogeography of Amphibians and Reptiles in Arizona. 2005. Pages 140-144 *in*: Gottfried, Gerald J.; Gebow, Brooke S.; Eskew, Lane G.; and Edminster, Carl, compilers. Biodiversity and Management of the Madrean Archipelago II. Proceedings RMRS-P-36. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Online: www.treesearch.fs.fed.us/pubs/23185

Swann, D.E., **T. Mau-Crimmins**, and E.W. Stitt. 2005. In Search of the Madrean Line: Biogeography of Herpetofauna in the Sky Island Region. 2005. Pages 149-153 *in*: Gottfried, Gerald J.; Gebow, Brooke S.; Eskew, Lane G.; and Edminster, Carl, compilers. Biodiversity and Management of the Madrean Archipelago II. Proceedings RMRS-P-36. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Online: www.treesearch.fs.fed.us/pubs/23187

2003 **Mau-Crimmins, T.** and D.S. Lemberg. 2003. Reserve site selection at a non-profit educational nature center. *The Great Lakes Geographer*. 10(1): 34-45.

Crimmins, M. and **T. Mau-Crimmins**. Climate Variability and the Spread of Non-native Plant Species at the Santa Rita Experimental Range, Arizona. *Proceedings of the Santa Rita Experimental Range: One-Hundred Years of Accomplishments and Contributions*, 30 Oct-1 Nov, 2003, Tucson, Arizona, p. 111-115.

Geiger, E., **T. Mau-Crimmins**, and H. Schussman. Predicting Lehmann Lovegrass Spread in Southeastern Arizona, USA. *Proceedings of the Santa Rita Experimental Range: One-Hundred Years of Accomplishments and Contributions*, 30 Oct-1 Nov, 2003, Tucson, Arizona, p. 116-120.

2002 de Steiguer, J.E. and **T. Mau-Crimmins**. 2002. Economic analysis in watershed management planning: Methods, applications and education. *Annals of Arid Zone* 41: 343-357.

Popular Press and Trade Journals

2019 **Crimmins, T.** Maps can help you manage troublesome insects. Arbor Day Foundation blog, 15

- Apr, 2019. <https://arbordayblog.org/uncategorized/maps-can-help-you-manage-troublesome-insects/>
- Crimmins, T.**, K. Gerst, L. Marsh, E. Posthumus, A. Rosemartin, and J. Switzer. The USA National Phenology Network Expands Daily Pest Forecasts to Twelve Insect Pests. *City Trees*. May-Jun 2019. <https://read.dmtmag.com/i/1110379-may-june-2019>
- 2018 **Crimmins, T.** USA-NPN Daily Pest Forecasts Guide Timing of Pest Control Activities. *The Forestry Source*. August 2018, vol 23, no. 8.
- Crimmins, T.**, K. Gerst, L. Marsh, E. Posthumus, A. Rosemartin, and J. Switzer. USA-NPN Daily Pest Forecasts Guide Timing of Treatment for Insect Pests. *City Trees*. May-Jun 2018. <http://read.dmtmag.com/i/976857-may-june-2018>
- Crimmins, T.** Growing degree day (GDD) maps pinpoint management windows for tree pests. *City Trees*. Jan-Feb 2018. <http://read.dmtmag.com/i/925395-january-february-2018>
- 2014 **Crimmins, T.** and M.D. Schwartz. 2014. Scientists love lilacs almost as much as you do. *Lilacs*.
- Crimmins, T.** and D. Hartel. 2014. Timing is Everything: Phenology as a Tool for City Foresters. *City Trees*. Mar-Apr 2014. <http://read.dmtmag.com/i/271060>
- 2011 Enquist, C., **T. Crimmins**, and L. Marsh. 2011. "The USA National Phenology Network: A Partner for Tracking the Impacts of Climate Change on Natural Resources in the Southwest and Beyond." *Sky Islands Alliance Newsletter*, Summer 2011.
- Crimmins, T.** and E. Posthumus. 2011. "Join the USA National Phenology Network in Tracking Plants and Animals in Your Own Backyard!" *The Plant Press*, Winter 2010/11. Online: <http://www.aznps.com/documents/2011.02.PP.pdf>.
- 2010 Rosemartin, A., E. Posthumus, and **T. Crimmins**. 2010. "A National Observation and Information Management Network for Phenology." *LTER Network News*, 21 December. Online: <http://news.lternet.edu/article2263.html>.
- 2009 **Crimmins, T.** and K. Waser. "Making Simple Rainwater Harvesting Strategies Accessible: An Online Learning Module Unveiled." *Backyards & Beyond*, Fall 2009.
- 2008 **Crimmins, T.** and M. Crimmins. "The Critical Role that Citizen Scientists Can Play in Identifying Adaptation Strategies." *Arid Lands Newsletter*, June 2008. Online: <http://ag.arizona.edu/OALS/ALN/aln60/crimmins.pdf>
- 2007 **Crimmins, T.** "Five Miles & Twenty Years Later... Dave Bertelsen's Amazing Data Set." *Sky Islands Alliance Newsletter*, Summer 2007.
- 2001 **Mau-Crimmins, T.** and M. S. Kieser. 2001. "Revegetation of urban, industrial sites using native grasses and wildflowers." *Land & Water* Nov/Dec: 18-20.

Media Engagement

- 2019 Appearance in Episode 3 – “Connections” of PBS Nature program, American Spring LIVE. www.pbs.org/wnet/nature/american-spring-live/
- 2018 Appearance on Arizona Spotlight, 18 May 2018: radio.azpm.org/p/radio-azspot-splash/2018/5/18/129826-arizona-centenarians/
- 2014 Appearance in “Flower Power” episode of PBS Kids show, *SciGirls*. pbskids.org/video/?guid=52df8cf2-7ef7-4529-9067-8b12a11704e2
- 2013 Puckett, C. and **T. Crimmins**. “Tick-Tock, Nature’s Clock Out of Sync?” USGS Science Features: Top Story, Mar 20, 2013. www.usgs.gov/blogs/features/usgs_top_story/tick-tock-natures-clock-out-of-sync/?from=title.