



# PLANETARY HEALTH WEEKLY

BRINGING YOU CURRENT NEWS ON GLOBAL HEALTH & ECOLOGICAL WELLNESS

December 7, 2017

<https://planetaryhealthweekly.com>

Volume 3, Number 49

## UNIVERSITY OF SASKATCHEWAN RESEARCH REVEALS CONTROVERSIAL INSECTICIDES ARE TOXIC TO SONGBIRDS

Research led by Margaret Eng, a post-doctoral fellow is the first study to show that imidacloprid (neonicotinoid) and chlorpyrifos (organophosphate)—two of the most widely used insecticides worldwide—are directly toxic to seed-eating songbirds. The paper, published in Scientific Reports, shows these chemicals can directly affect songbird migration. Neonicotinoids have become the most popular class of insecticides among farmers because they are very successful at killing pests and are easy to apply.

[Read More on University of Saskatchewan](#)



## ALSO IN THIS ISSUE:

Global Response To Malaria @ Crossroads Laos & Cambodia Eliminate Trachoma Impact Bonds For MCH In India	2
Human-Caused Warming Increasing Impact of Coral Bleaching Hydrogen Cars: One Step Closer To Reality	3
China Saves World By Going Off Grid Rise of Populism Affects Wildlife Management Why Lost Ice Means Lost Hope For Inuit Village	4
Quote of the Week on Health & Events	5
FYI#1: New Book: Never Out of Season	6
FYI#2: ASD: Lower Socioeconomic Communities	7
FYI#3: Solar Greenhouses Create Electricity	8
FYI#4: Green Roofs To Reduce Climate Change	9
FYI#5: The Good Side of Tobacco	10
FYI#6: Outbound Mobility Vital For Canada	11

Backpage: Harmony, Peace and Health

## SOARING GROWTH OF SOLAR POWER DEMONSTRATED IN ONE CHART

In the case of the rapidly rising rate of solar installations for electricity generation, numerous forecasts by internationally respected bodies have proven woefully conservative. In every case, the agency's revisions raise the starting year to the actual previous capacity growth, but assume that the capacity added in future will continue to be linear, rather than growing exponentially as it has thus far. The general tenor of the discussion agreed that wind and solar together will be the two main sources of renewable energy—and that they continue to grow at a pace not yet absorbed by the general public.

[Read More on Solar Daily](#)





## GLOBAL RESPONSE TO MALARIA AT CROSSROADS

After unprecedented global success in malaria control, progress has stalled, according to the World Malaria Report 2017. There were an estimated 5 million more malaria cases in 2016 than in 2015. Malaria deaths stood at around 445,000, a similar number to the previous year. The WHO Global Technical Strategy for Malaria calls for reductions of at least 40% in malaria case incidence and mortality rates by the year 2020. A major problem is insufficient funding at both domestic and international levels, resulting in major gaps in coverage of insecticide-treated nets, medicines, and other life-saving tools. An estimated US\$ 2.7 billion was invested in malaria control and elimination efforts globally in 2016. That is well below the US \$6.5 billion annual investment required by 2020 to meet the 2030 targets of the WHO global malaria strategy. [Read More on WHO](#)

## LAOS AND CAMBODIA ELIMINATE TRACHOMA

The Lao People's Democratic Republic and the Kingdom of Cambodia have officially eliminated trachoma, the leading infectious cause of blindness around the world, according to an announcement by the World Health Organization (WHO). A neglected tropical disease that causes visual impairment or blindness in 1.9 million people worldwide, trachoma thrives in crowded living conditions where sanitation and access to safe water is inadequate. The disease is caused by the bacterium *Chlamydia trachomatis* and is spread by contact with an infected person or with flies that have been in contact with discharge from eyes or nose of an infected person.

[Read More on Jama Network](#)



## RALLYING BEHIND MATERNAL AND NEWBORN HEALTH: A NEW IMPACT BOND LAUNCHES IN INDIA

The world's 5th development impact bond (DIB) will launch at the Global Entrepreneurship Summit in India. This new impact bond aims to improve maternal and neonatal mortality rates in the state of Rajasthan, which are among the highest in India. The deal has the potential to reach up to 600,000 pregnant women with improved care during delivery and save the lives of up to 10,000 women and newborns over five years, tying the achievement of impact metrics to an \$8 million outcome fund.

[Read More on Brookings](#)



## HUMAN-CAUSED WARMING INCREASING LIKELIHOOD OF RECORD-BREAKING HOT YEARS

A new study finds human-caused global warming is significantly increasing the rate at which hot temperature records are being broken around the world. Global annual temperature records show there were 17 record hot years from 1861 to 2005. The new study examines whether these temperature records are being broken more often and if so, whether human-caused global warming is to blame. The results show human influence has greatly increased the likelihood of record-breaking hot years occurring on a global scale. Without human-caused climate change, there should only have been an average of seven record hot years from 1861 to 2005, not 17. Further, human-caused climate change at least doubled the odds of having a record-breaking hot year from 1926 to 1945 and from 1967 onwards, according to the new study. [Read More on Science Daily](#)

## IMPACT OF CORAL BLEACHING ON WESTERN AUSTRALIA'S COASTLINE

The 2016 mass bleaching event is the most severe global bleaching event to ever be recorded. Coral bleaching occurs as the result of abnormal environmental conditions, such as heightened sea temperatures that cause corals to expel tiny photosynthetic algae, called 'zooxanthellae.' The loss of these colourful algae causes the corals to turn white, and 'bleach'. Bleached corals can recover if the temperature drops and zooxanthellae are able to recolonise the coral, otherwise the coral may die. Researchers from the University of Western Australia conducted surveys on the health of coral reefs along the Western Australian coastline from tropical to temperate locations. [Read More on Science Daily](#)



## HYDROGEN CARS FOR MASSES ONE STEP CLOSER TO REALITY, THANKS TO UCLA INVENTION

UCLA researchers have designed a device that can use solar energy to inexpensively and efficiently create and store energy, which could be used to power electronic devices, and to create hydrogen fuel for eco-friendly cars. The device could make hydrogen cars affordable for many more consumers because it produces hydrogen using nickel, iron and cobalt - elements that are much more abundant and less expensive than the platinum and other precious metals that are currently used to produce hydrogen fuel. "Hydrogen is a great fuel for vehicles: It is the cleanest fuel known, it's cheap and it puts no pollutants into the air - just water," said Richard Kaner, the study's senior author and a UCLA distinguished professor of chemistry and biochemistry, and of materials science and engineering. [Read More on Space Daily](#)



## CHINA SAVES THE WORLD, AND AMERICA TOO BY GOING OFF THE GRID

Yes, China is going to save the world, and America too. 1st they will go off-the-grid as a country. Along the way they will help other countries go off grid too. The anticipation of the solar adoption curve is driving everyone. The fast of furious of our industry are footnotes already. Those that rode the internet wave are patient, slow and eager to be present when adoption hits. Slow down Musk. We actually think you have some good ideas, but watching you burnout is not as pleasant as it sounds. And hit it will! The Solar Adoption curve will grow at a faster pace than the adoption of email. The disruption of mass solar adoption makes the Internet look like a dirt road. Internet freedom was very short lived. [Read More on Solar Daily](#)

## RISE OF POPULISM AFFECTS WILDLIFE MANAGEMENT IN UNITED STATES

Researchers at Colorado State University and The Ohio State University have found that a cultural backlash stemming from the rise of populism may limit opportunities for state fish and wildlife agencies to adapt to changing social values in the United States. The team reached this conclusion by analyzing more than 12,000 surveys from 19 states and studying ballot initiatives related to hunting. Based on the new study, researchers found that in states with the largest change in social values, individuals who held traditional values had lower levels of trust in the state wildlife agency. In contrast to traditional values, in which people believe wildlife exists for their benefit, the researchers describe an emerging set of values, in which wildlife and humans are seen as part of a connected social community, as mutualism. [Read More on Science](#)



## SPOTLIGHT ON INDIGENOUS HEALTH:

### WHY LOST ICE MEANS LOST HOPE FOR AN INUIT VILLAGE

The Inuit have a word for changes they are seeing to their environment: uggianaqtuq. It means “to behave strangely.” But it is not just the weather that’s in turmoil. For the past decade, Ashlee Cunsolo, a public health researcher and director of the Labrador Institute of Memorial University in St. John’s, Newfoundland, has seen the disorienting effects of climate change take a toll on the mental health of people along the coast. In hundreds of interviews conducted between 2009 and 2014 across five indigenous communities in the Nunatsiavut region of Labrador, Dr. Cunsolo and her team found that the melted ice, shorter winters and unpredictable weather made people feel trapped, depressed, stressed and anxious, and, in some cases, led to increased risk of substance abuse and suicidal thoughts. [Read More on NY Times](#)

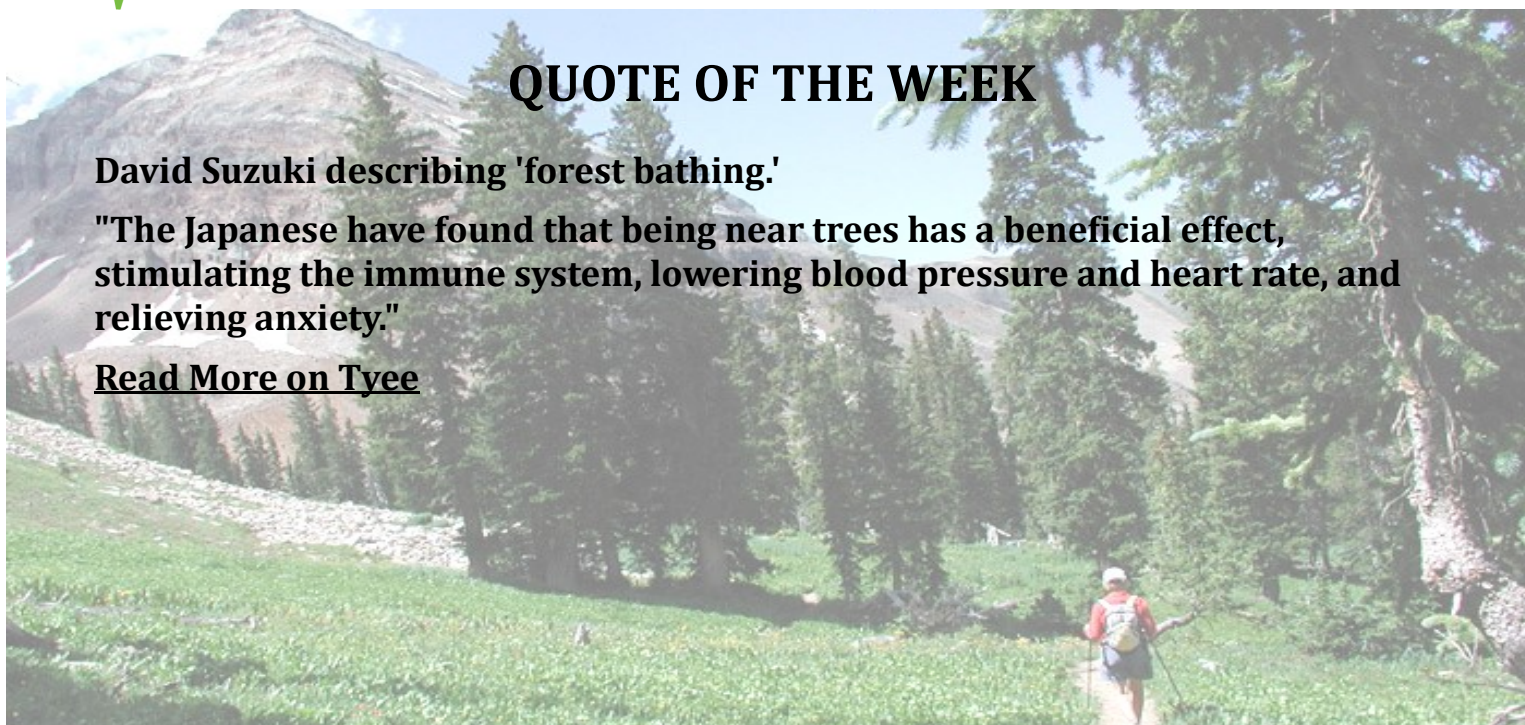


## QUOTE OF THE WEEK

David Suzuki describing 'forest bathing.'

"The Japanese have found that being near trees has a beneficial effect, stimulating the immune system, lowering blood pressure and heart rate, and relieving anxiety."

[Read More on Tyee](#)



## EVENTSTABLE

DATE	CONFERENCE	LOCATION	REGISTER
March 16-18	2018 CUGH Conference	New York USA	<a href="http://www.CUGH2018.org">www.CUGH2018.org</a>
April 14-15	Unite For Sight Conference	New Haven USA	<a href="https://slate.uniteforsight.org/register/GHIC2018">https://slate.uniteforsight.org/register/GHIC2018</a>
April 20-22	BioVision Alexandria 2018	Alexandria Egypt	<a href="http://www.bibalex.org/bva2018/home/StaticPage.aspx?page=69">http://www.bibalex.org/bva2018/home/StaticPage.aspx?page=69</a>
April 27-29	Pegasus Conference	Toronto Canada	<a href="https://eventdex.force.com/BLN_RegistrationDym?id=a192A00000BChD2QAL&amp;mc_cid=c7ca6f6818&amp;mc_eid=7a76cf866d">https://eventdex.force.com/BLN_RegistrationDym?id=a192A00000BChD2QAL&amp;mc_cid=c7ca6f6818&amp;mc_eid=7a76cf866d</a>



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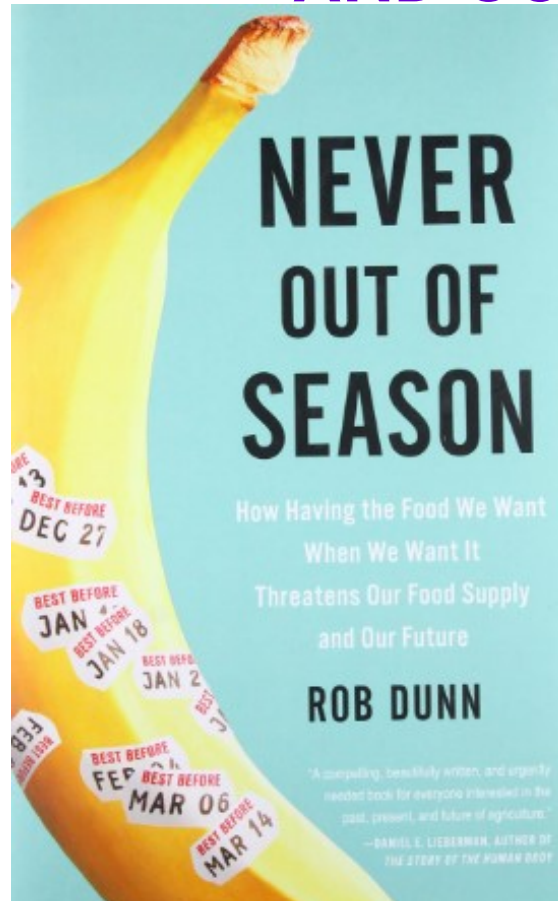


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# NEW BOOK- NEVER OUT OF SEASON: HOW HAVING THE FOOD WE WANT, WHEN WE WANT IT, THREATENS OUR FOOD SUPPLY AND OUR FUTURE



In 1950, most bananas were exported from Central America. Guatemala in particular was a key piece of a vast empire of banana plantations run by the American-owned United Fruit Company. United Fruit Company paid Guatemala's government modest sums in exchange for land. With the land, United Fruit planted bananas and then did as it pleased. It exercised absolute control not only over what workers did but also over how and where they lived. In addition, it controlled transportation, constructing, for example, the first railway in the country, one that was designed to be as useless as possible for the people of Guatemala and as useful as possible for transporting bananas. The company's profits were immense. In 1950, its revenues were twice the gross domestic product of the entire country of Guatemala. Yet while the United Fruit Company invested greatly in its ability to move bananas, little was invested in understanding the biology of bananas themselves.

[Read More on Wired](#)



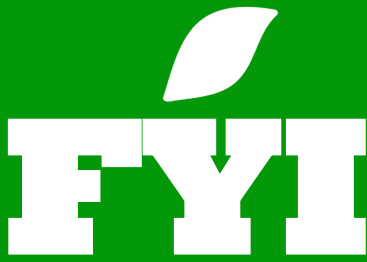
# AUTISM SPECTRUM DISORDER IN LOWER SOCIOECONOMIC COMMUNITIES



Given that reports place the costs of supporting individuals with autism spectrum disorder (ASD) throughout their lifetime at a staggering \$2.4 million, there is concerted interest in understanding the condition's epidemiological underpinnings. The understanding of autism's epidemiology has morphed considerably over time, moving from a belief that ASD is a condition of the affluent towards an increasing recognition that ASD is equally common in individuals of low socioeconomic status (SES) and, in fact, often goes underdiagnosed in that population.

Despite increasing recognition of the prevalence of ASD in disenfranchised communities, the danger that socioeconomic bias will interfere with diagnosis remains high, particularly given differences in treatment accessibility. It is imperative that community pediatricians, who stand at the front lines of caring for socioeconomically disenfranchised children, watch closely for the potential emergence of ASD. Earlier identification of these patients, which allows for commencement of early intervention behavioral therapies, leads to better outcomes. Without appropriate diagnosis, parents of these children may well think that their child with ASD is merely misbehaving and become increasingly frustrated with their failing to meet developmental milestones. In practical terms, nuanced diagnosis can be incredibly difficult due to the competing pressure of high patient volume, but it is crucial, given that timely diagnosis by a thorough pediatrician in these cases may make the difference between parents helping and hindering their child's development.

[Read More on Annals of Global Health](#)



# SOLAR GREENHOUSES GENERATE ELECTRICITY AND GROW HEALTHY CROPS



The first crops of tomatoes and cucumbers grown inside electricity-generating solar greenhouses were as healthy as those raised in conventional greenhouses, signaling that "smart" greenhouses hold great promise for dual-use farming and renewable electricity production.

Electricity-generating solar greenhouses utilize Wavelength-Selective Photovoltaic Systems (WSPVs), a novel technology that generates electricity more efficiently and at less cost than traditional photovoltaic systems. These greenhouses are outfitted with transparent roof panels embedded with a bright magenta luminescent dye that absorbs light and transfers energy to narrow photovoltaic strips, where electricity is produced.

WSPVs absorb some of the blue and green wavelengths of light but let the rest through, allowing the plants to grow. WSPV technology was developed by coauthors Sue Carter and Glenn Alers, both professors of physics at UC Santa Cruz, who founded Soliculture in 2012 to bring the technology to market.

[Read More on Solar Daily](#)



# GREEN ROOFS TO REDUCE THE EFFECTS OF CLIMATE CHANGE

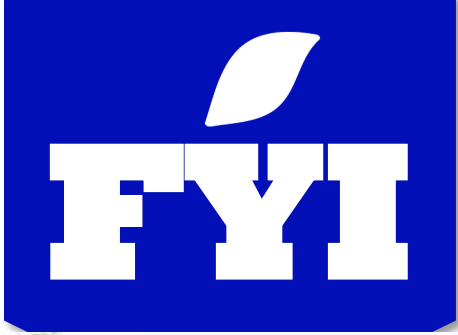


Researchers from the Higher Technical School of Agricultural Engineering of the University of Seville have published a study in which they indicate that it would be necessary to have between 207 and 740 hectares of green roofs, depending on the scenario that is contemplated, to reduce the effects of climate change in relation to the maximum temperature rises of between 1.5 and 6 degrees Celsius that are estimated by the end of the century. This would require between 11 and 40% of the buildings in the city.

In this project, published in the review *Building and Environment*, they have used Landsat 7 ETM+ and Sentinel-2 satellite images to obtain the normalised difference vegetation index (NDVI) and ground temperature. Given the inverse relationship observed between their values, it has been possible to determine the additional area of vegetation needed (in this case of green roofs) necessary to reduce the temperature by the same amount as it is predicted to rise in different climate change models for Seville.

The installation of these gardens would provide better insulation for the buildings, which would mean, on one hand, an energy saving for their owners, and, on the other, if there were sufficient green roofs, an improvement in environmental conditions, contributing to a reducing pollution and cushioning the higher temperatures.

[Read More on Science Daily](#)



# THE GOOD SIDE OF TOBACCO

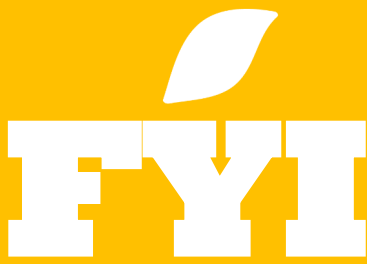


To say that *Nicotiana tabacum* is the bad-boy of the plant world is a vast understatement. *N. tabacum* is used for the majority of commercial tobacco production, and tobacco, according to the WHO, kills up to half of its users eventually, amounting to over 6 million people per year. This makes it the number one cause of preventable death globally, and we're told this ad nauseam, as we should be.

However, most people haven't heard of *N. benthamiana*; the close relative of *N. tabacum* that is used extensively within plant-virology, alongside its role in plant-based pharmaceutical production. Yup, tobacco has a good side, and this little known (outside of academia of course) nicotine-producing Australian native has a great story, which I'm going to elaborate on in this post. There is little doubt that *N. benthamiana* will have an ever-increasing role to play in the coming years. Traditional methods of producing vaccines for zoonotic viruses, like the avian flu, are resource intensive and time consuming, with plant-based production methods providing a possible high-yield solution, although there are challenges involved in optimising extraction and purification methods. Furthermore, *N. benthamiana*'s use as a model organism for plant virology remains unchallenged, for the time being.

Researchers have long been looking into alternative roles for *N. tabacum*; as decades of tobacco industry funding mean much is known about its genetic makeup. With *N. tabacum*'s prevalence as a cell culture model, and the development of alternative uses such as biofuel production; who knows, maybe one day the nicotine family's bad name will be relegated to the history books, and children in science classes will learn about the positive exploits of the famed *Nicotiana* genus.

[Read More on Medium](#)



## OUTBOUND MOBILITY “VITAL TOOL” FOR CANADA’S FUTURE



The Global Education for Canadians report, which compares the outbound mobility of students from major institutions as part of their undergraduate program, found Canada with only 11% of its domestic students going overseas. Without action, the report argued, the current level of students going abroad threatens to push Canada further behind other countries, with fewer citizens having international experiences and connections, leaving it unprepared for future challenges.

Among the challenges identified, the report highlighted changes to the nature of work, such as increased automation and a higher need for soft skills; a shift in the purchasing power of developing economies over established economies; and increasing levels of intolerance. To counteract these challenges, the report recommended a national strategy with goals including more than doubling the current percentage of Canadian students abroad to a quarter of all post-secondary over 10 years, and an increase to the numbers of students studying in emerging countries.

To promote these goals, the report outlined a national initiative, Go Global Canada, to support 15,000 students to study abroad per year over five years, with an ambition to double to 30,000 within 10, as well as a reduction in institutional barriers and the establishment of a national system to collect and compare study abroad data.

[Read More on The Pie News](#)



**Hoping for Harmony, Peace and Health Around the World**  
**Vientiane, Laos, December 4, 2017**

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**Planetary Health Weekly** is an e-newsletter published in collaboration with the **Planetary Health Commission** at Ryerson University in Toronto, Canada.

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