

GEORGIA LAND SURVEYOR

SUMMER 2020



SAMSEF SCHOLARSHIP RECIPIENTS & DONORS

"What Does This Scholarship Mean to You?" | 7

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IN THIS ISSUE

NEWSLETTER

The Georgia Land Surveyor is a publication of the Surveying and Mapping Society of Georgia and published six times a year, in the off number months. The articles are not necessarily the position of the society. Articles may be reprinted with due credit.

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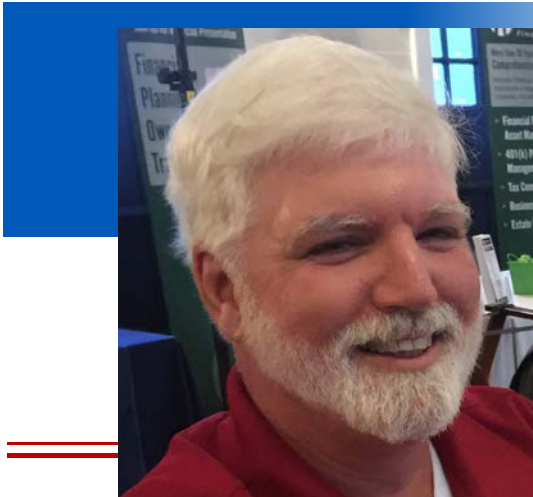
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Cover Photo: AMTRAK Station in VA near Potomac River. Photo credit: Chris Mayfield.



PRESIDENT'S REPORT

Phillip O. Brown, PLS

THE SURVEYING AND MAPPING SOCIETY OF GEORGIA, RECOGNIZING THAT SERVICE TO OUR SOCIETY, TO OUR STATE, AND TO OUR NATION IS THE FUNDAMENTAL PURPOSE OF SURVEYING AND MAPPING, DOES HEREBY DEDICATE ITSELF TO THE PROMOTION AND THE PROTECTION OF THE PROFESSION, AND SURVEYING AND MAPPING AS A SOCIAL AND AN ECONOMIC INFLUENCE VITAL TO THE AFFAIRS OF MEN, WOMEN AND OF THE COMMUNITY. (CONSTITUTION & BYLAWS OF THE SURVEYING & MAPPING SOCIETY OF GEORGIA)

IT HAS BEEN AN HONOR TO SERVE AS THE PRESIDENT OF THIS ORGANIZATION OVER THE LAST YEAR. Looking back on the 2019-2020 year, we have made progress in many different areas. With the continued support from all our members, teamwork, and cooperation, we will continue to thrive as a professional society, promote our profession and shape the future for the new generations to follow in our footsteps.

SAMSEF has updated how the Ben W. Fortson scholarship is managed and operates. The fund now supports one student per year with a \$3,000 annual scholarship.

SAMSEF also operates five “flow-through” regional scholarships. These scholarships are supported by donations from 15 companies and/or individuals throughout the state. These donations provided five \$3,000 scholarships per year to degree seeking land surveying students.

SAMSEF also operates the SAMSEF Technical Scholarship, established to financially assist students pursuing education in the land surveying profession but who are not enrolled in a formal associate’s or bachelor’s degree. This scholarship assists 6 students per semester with \$250 scholarships.

WE HAD OUR FIRST SUCCESSFUL WEB BASED MEETING ON MAY 9TH, 2020. We were able to conduct the business of your Society without having to meet face to face. As a society, everyone is having to adapt to the new social norms of distance learning and meetings.

A NEW INTERNET VOTING PROTOCOL HAS BEEN ESTABLISHED AND USED.

1. Email the Motion to the Executive Director.
2. The Executive Director will distribute the Motion to the Officers and Directors (i.e. a “quorum”).
3. A “Second” can be made at any time.
4. Give one day for time for all to have time to read the motion, give comments, and accept any changes. All comments and recommendations will be emailed back to the Executive Director to be redistributed.
5. Call for a vote by Electronic means one day after the original Motion or amended motions have been discussed.
6. The motion will have to be approved by a majority of the Board.

SAMSOG HAS BEEN WORKING CLOSELY WITH THE STATE BOARD OF REGISTRATION ON THE NEW RULE 180-7.04 TOPO AND VERTICAL DATA MEASUREMENTS. We are also keeping an eye on the discussion of the US foot and the International Foot.

ON MARCH 7, 2020, TOMMIE DONALDSON RECEIVED THE WELL-DESERVED “LIFETIME MEMBER AWARD”. This was truly an honor to be able to present the award to someone who has given so much to our profession.

THE UPCOMING YEAR HOLDS MANY NEW OPPORTUNITIES TO PURSUE. I will start with the SAMSOG Multi Employer Retirement Plan (MEP).

Advantages of using a MEP:

1. Small companies can pool their resources together to minimize the associated cost of running individual plans.
2. Employers can customize their part of the plan.
3. Employees can have their contributions to the plan deducted from their paycheck. Savings is easier if you never see the money.
4. Larger total plan assets often mean better investment options.
5. One audit for the plan avoids the expense of separate audits for every company.
6. One Form 5500 filing for the plan avoids the hassle of separate filings for every company.
7. Businesses both large and small can offer a competitive retirement plan along with the other benefits of being a member of SAMSOG.

I look forward to taking on the challenges of the upcoming year.



INTRODUCING...

Sarah Wang, Assistant Editor

SARAH WANG HAS COME ONBOARD AS AN ASSISTANT EDITOR OF THE SAMSOG GEORGIA LAND SURVEYOR MAGAZINE. She earned her Bachelor's degree in Computational Media from Georgia Tech, where she studied Design and Computer Science. Sarah currently works for eGPS Solutions in Norcross, GA. During her free time, she enjoys drawing, cooking, and listening to podcasts.

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SCHOLARSHIP RECIPIENTS

“WHAT DOES THIS SCHOLARSHIP MEAN TO YOU?”



“*I am honored to be the recipient of the Ben W. Fortson, Jr. scholarship*

And look forward to completing my last few semesters at Kennesaw State University, majoring in Geospatial Science with a concentration in Surveying and Mapping. My ultimate goal is to carry on the Dunahoo Family tradition of land surveying in Georgia by becoming a fourth-generation licensed surveyor. While building on our long family history and foundation, my hope is to bring my GIS knowledge and geospatial practices into the business.

Terrell Wall

Ben W. Fortson Scholarship Recipient 2020

“*Receiving the SAMSEF Northwest Georgia Regional Scholarship is certainly one of the better ways to begin a future career as a land surveyor.*

With this scholarship, a significant portion of my time will be able to be freed in order to focus on class studies rather than working, for which I am immensely grateful. Hopefully, with continued success and support, I can flesh out my own fully fledged corner of land surveying in Georgia.

Yanni A. Costarides

SAMSEF Regional Scholarship Recipient 2020





“ *I thank you and SAMSEF for this awesome opportunity.*

This scholarship will be used to help fund my last full semester at Georgia Southern University and also allow me to take a couple of classes at Kennesaw State University to finish up my surveying courses. These funds lifted a substantial burden off of myself and my family for this fall.

Adam Jones
SAMSEF Regional Scholarship Recipient 2020

“ *This scholarship is a symbol of Redemption in my life.*

It is going to open many doors as I navigate this journey of becoming a land surveyor. Since I received this scholarship, I have been more affirmed and motivated to continue pursuing this career. I am extremely excited for the future and grateful for this scholarship!

Clay Bauknight
SAMSEF Regional Scholarship Recipient 2020



“ *I am incredibly excited and proud to be the winner of this year's scholarship.*

Receiving this year's scholarship was a milestone accomplishment in my journey to be a land surveyor. This scholarship will help relieve some of the expenses of education and allow me more study time to ensure quality grades. I look forward to meeting and getting to know members of SAMSOG throughout my career.

Zachary Frederick
SAMSEF Regional Scholarship Recipient 2020





“ Thank you again for choosing me as one of the SAMSEF scholarship recipients.

You do not know how much this means to me. For over a decade, I have dreamed of becoming a licensed surveyor, and the SAMSEF Scholarship is helping to make that a reality. Words cannot describe what this organization's generosity means to me and to my family. We will be forever grateful.

Noah Sirmans
SAMSEF Regional Scholarship Recipient 2020

Mr. Turk and SAMSEF members,
I am beyond grateful that you chose me as the recipient of this amazing scholarship. What a blessing this is (and will be) to my family. I can't wait to meet all of you in person very soon.

Thank you again,
[Signature]

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SAGE QUOTE FROM A SAMSOG SURVEYOR MEMBER

“I have often wondered if
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*Surveyors, solving the
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FROM EXECUTIVE DIRECTOR

Ginger Jones

THANK YOU ATTENDEES, GUESTS, SPONSORS, AND SPEAKERS FOR A GREAT MEETING IN SAVANNAH, GEORGIA. Even though COVID-19 loomed large, more than 95 people attended some part of the weekend. Thank you SPONSORS [Allen Precision Equipment](#), [Carlson Equipment & Software](#), [eGPS Solutions](#), [Leica Geosystems Solutions Center](#), [Remote Mapping Group](#), and [Thomas and Hutton](#). I would like to express sincere appreciation to Grant Shepherd for planning an interesting and interactive program, Teeple Hill and Wright Powers for assisting with the Low Country Boil, Golf Tournament, and Clay Sporting Event, Dean Olson for assisting with registration, transportation and photographs, and Lynne Shepherd for leading the Auxiliary program.

The 20th Annual Ski Bashinski Golf Outing was held at Bacon Park Club where Bryan Hunnicutt, Lee Jones, and Wayne Eleton finished in first place! The Clay Sporting Event was won by Aaron Carroll, Teeple Hill, 2nd place and Bryan Hunnicutt, 3rd place...is there anything Bryan is not good at? Thank you exhibitors: [Carlson Equipment & Software](#), [Duncan-Parnell](#), [eGPS Solutions](#), [Leica Geosystems](#), [Remote Mapping Group](#) and [RHD Services](#). Although there was no official Corn Hole tournament this year, friends partnered in the evening to enjoy the private courtyard the Brice Hotel provided, and competition was stout! The annual "Not so Silent Auction" raised \$3,000 for the Surveying and Mapping Political Action Committee.

Please note the 2021 Technical Seminar and 2021 Annual Meeting and Summer Convention information below and [remember, Chapter Representatives are voting positions.](#)

THURSDAY, 1/14/2021 AND FRIDAY, 1/15/2021 (A HALF DAY MIGHT BE ADDED SATURDAY, 1/16/2021)

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Reservation cutoff 6/22/2021.

Please note, the meetings listed above could change depending on the current COVID-19 pandemic. Every effort for your safety will be taken into consideration before any decisions are made, and you will be notified of any changes immediately.

If you have any questions, please do not hesitate to ask.

Ginger Jones



Summer Meeting Recap







Lonnie Sears, PLS, eGPS Solutions President. Lonnie is Chairman of the Geospatial Committee.



Karie Colburn, PLS, GeoTerra Partner. Karie is the Chairperson of the Public Relations Committee.

2019-2020 President's Awards

Awards were also presented to Spencer Johnson, PLS, Legislative Committee Chairman; Mark Lincoln, PLS, State Licensing Board Committee Chairman, and Pete Sanchez, PLS, Website Committee Chairman.

20th Annual

Ski Bashinski

Golf Outing

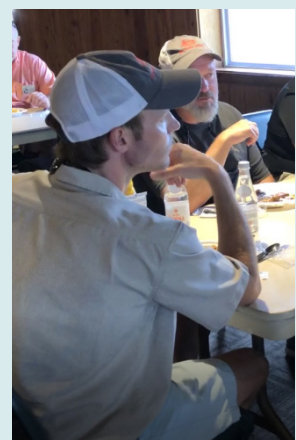


The 20th Annual Ski Bashinski Golf Outing was held at Bacon Park Golf Club with 18 players participating. The winning team pictured left to right: Bryan Hunnicutt, Leica Geosystems, Lee Jones, PLS and Wayne Eleton, PLS. Thank you ALLEN PRECISION EQUIPMENT and LEICA GEOSYSTEMS for sponsoring the lunch and beverage cart.



Pictured above, Aaron Carroll, PLS and Teeple Hill, PLS, Annual Committee Chairman.

Aaron Carroll, PLS and Teeple Hill, the top three winners of the Clay Sporting event sponsored by THOMAS and HUTTON. Fifteen participated in the 50-target event Saturday afternoon. Bryan Hunnicutt, Leica Geosystems, placed 2nd.



Pictured Bryan Hunnicutt, Leica Geosystems, 1st place Clay Sporting event.



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2020 NSPS Plat & Map Contest winners were announced 8/27/2020 and Georgia's own Shane Rousey with Donaldson, Garrett & Associates placed FIRST in the Miscellaneous Maps category. Congratulations, Shane!

NSPS Stolen Equipment Registry

NSPS

NSPS continues to maintain a [registry](#) of stolen equipment.

In order to register the loss, please provide the following information by [email](#):

1. Description of Instruments including Serial Number
2. Location where equipment was stolen, include nearest Town and State
3. Date stolen
4. Contact person to provide information, include phone and/or email

Delayed Release of the Modernized NSRS

NOAA's National Geodetic Survey (NGS) is announcing a delay in the release of the modernized National Spatial Reference System (NSRS).

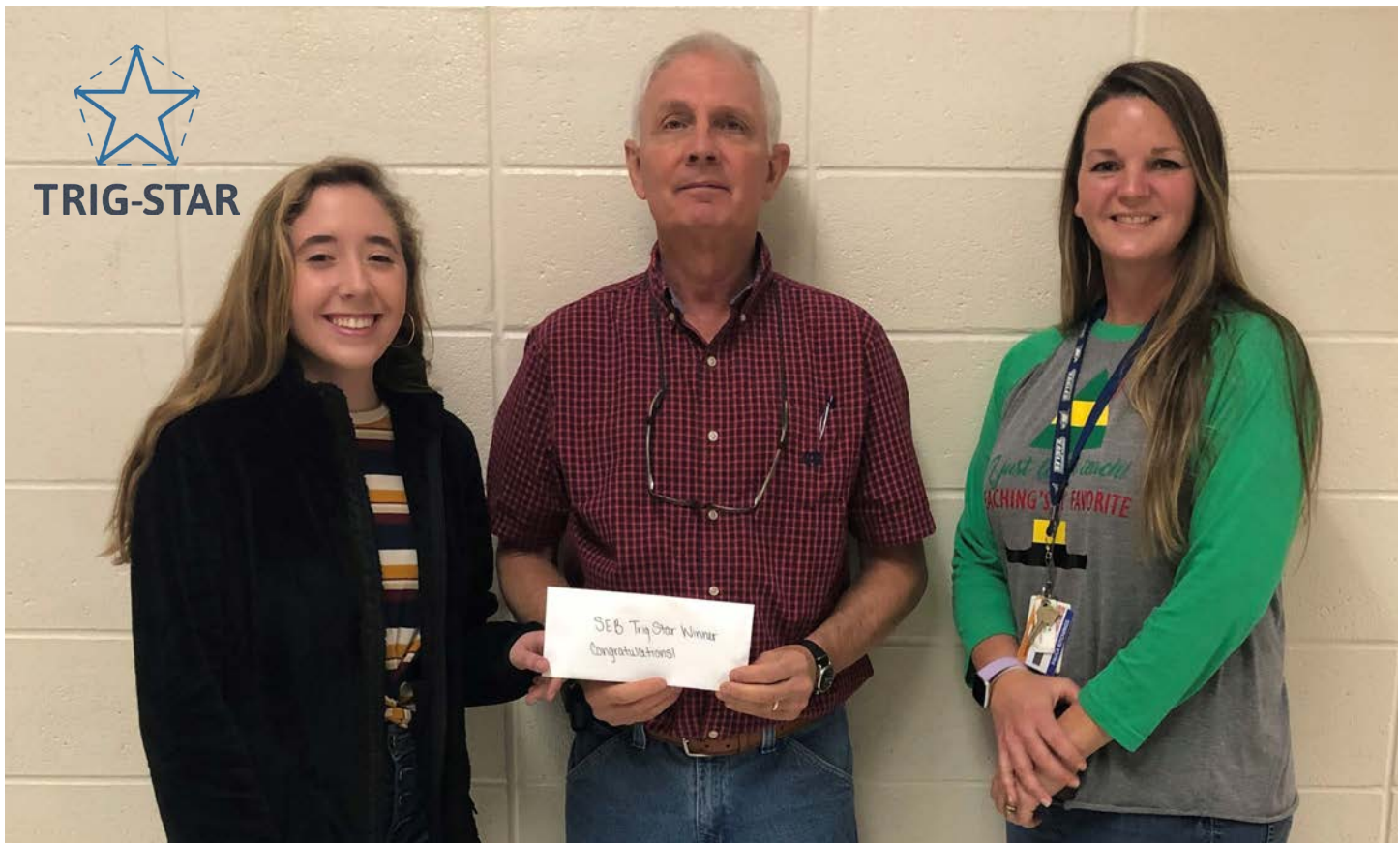
In 2007, NGS began planning for the modernized NSRS, acquiring its first airborne gravimeter, creating and initiating the Gravity for the Redefinition of the American Vertical Datum (GRAV-D) project and by 2008 had codified its modernization plans into a Ten Year Plan. At that time, the target completion date was 2018. By 2013, that date seemed unlikely, due to both the broadening of the GRAV-D coverage area and the experience of five years of operational planning and execution.

In 2013, NGS revised its 2008 Plan, and targeted 2022 as the date of the release of the modernized NSRS. This date was reinforced with a 2018 Strategic Plan revision. By 2017, confidence in hitting the 2022 target was high enough to reach final agreement with Canada and Mexico on a naming convention for certain components, to include "2022" in their names.

Since 2017, operational, workforce, and other issues have arisen and compounded, causing NGS to recently re-evaluate whether a successful roll-out by 2022 is possible. The most significant impacts have been in workforce hiring and retention, and in meeting GRAV-D data collection milestones, which underpin the NSRS modernization efforts.

NGS is currently conducting a comprehensive analysis of ongoing projects, programs, and resources required to complete NSRS modernization and will continue to provide regular updates on our progress. To get the latest news on NSRS modernization and track our progress, subscribe to [NGS News](#) or visit our ["New Datums" web pages](#). Further details, and more answers are available on this [FAQ](#).

Source: National Geodetic Survey website



Pictured left to right: Samantha Yancey, Student Winner - Southeast Bulloch High School; Jim Anderson, PLS, Trig-Star Committee Chairman and Paula Kitchings, Teacher Winner.- Southeast Bulloch High School.

2019-2020 TRIG-STAR COMPETITION

The Trig-Star competition for 2019-2020 was interrupted by the COVID-19 pandemic. We had 17 schools in total signed up to participate in the State Trig-Star Contest when school attendance was stopped. Only 2 schools had given the test at that point. SAMSOG Board of Directors decided to move forward and award the winner.

Due to the COVID-19 pandemic, NSPS was unable to conduct the national 2020 Trig-Star competition. Still, several state societies from across the country were able to hold the local competition. In recognition of the efforts of the NSPS members who made this happen, and the student's winners in those states, NSPS presented those students with a 1st place medal recognizing their accomplishment, and a monetary reward of \$100.

Congratulations Georgia Student winner Samantha Yancey and Teacher Paula Kitchings of Southeast Bulloch High School sponsored by James M. Anderson & Associates.

This year's test involved four parts, and the student with the highest score in the shortest time won. We would like to congratulate our state winners, and all who participated in the contest. Any student that participates in the Trig-Star competition and plans to enroll in a college degree program

that leads to either a two year Associates degree or a four year program leading to a Bachelor's degree in Surveying and Mapping (the Land Surveying Profession) is eligible to apply for the NSPS Foundation Trig-Star scholarship of \$5,000.00. The applicant does not have to have won at any level of the Trig-Star Contest but must have participated in the contest when offered at their high school.

We need your participation in making Trig-Star an even greater success. There are still many schools that are not aware of the competition and how easy it is to participate. All they need is for your company to be a sponsor for them. SAMSOG covers the cost of registration, which means you can sponsor a school at no cost to you individually. Since trigonometry is sometimes only taught fall semester, you would need to contact your school early in the school year to set up a date that the competition could be held. This is a great way for surveyors to expose our profession to high school students. If you are interested in becoming a sponsor for 2020-2021 and have questions, please contact Jim Anderson at James M. Anderson & Associates, Inc. at 912-764-2002. We thank those who participated in 2019-2020 and encourage more surveyors to get involved in 2020-2021.

CORONAVIRUS Relief

SAMSOG has joined forces with the army of Georgians providing vitally needed relief to our communities during the crisis of COVID-19 by donating \$5,000. Ten SAMSOG chapters, Central, Coastal, Etowah, Foothills, Golden Isles, Gwinnett, Muscogee, Northwest, Piedmont, and Southern Crescent requested and received \$500 to distribute to the local charity(s) of their choice. Here is an update on the donations at work!

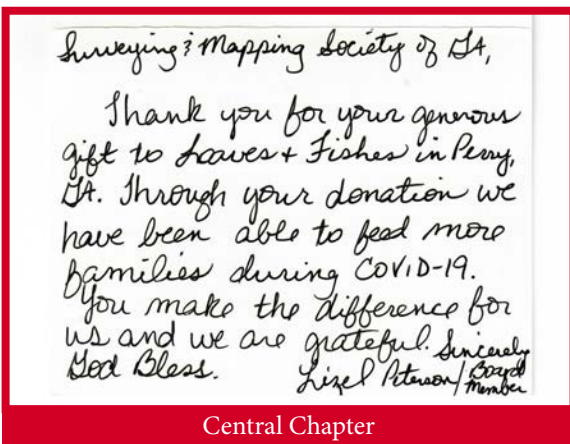
For updated information and resources, go to www.samsog.org and select "COVID-19 Resource Page".



Aaron Carroll, President of the SAMSOG Northwest Chapter, presented Alli Mitchell, the Executive Director/CEO for the United Way of Rome & Floyd County a check in the amount of \$500. This agency is working daily to help those impacted by the pandemic.



Piedmont Chapter



Central Chapter

The Southern Crescent Chapter donated \$500 to the Southern Crescent Resource Ministry, Inc. in McDonough.



Golden Isles Chapter. Pictured left to right: Norman Blood, Retired; Teeple Hill, SAMSOG Director; David Dowdy, Golden Isles Chapter President; Laura Kitchens, MorningStar Children & Family Services; Gary Nevill, SAMSOG Director; and Christopher Young, Golden Isles Chapter Representative.

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The New York Times

America Has Two Feet. It's About to Lose One of Them.

Aug. 18, 2020

By Alanna Mitchell, featuring Michael Dennis
and Tim Burch

For decades, U.S. metrologists have juggled two conflicting measurements for the foot. Henceforth, only one shall rule.

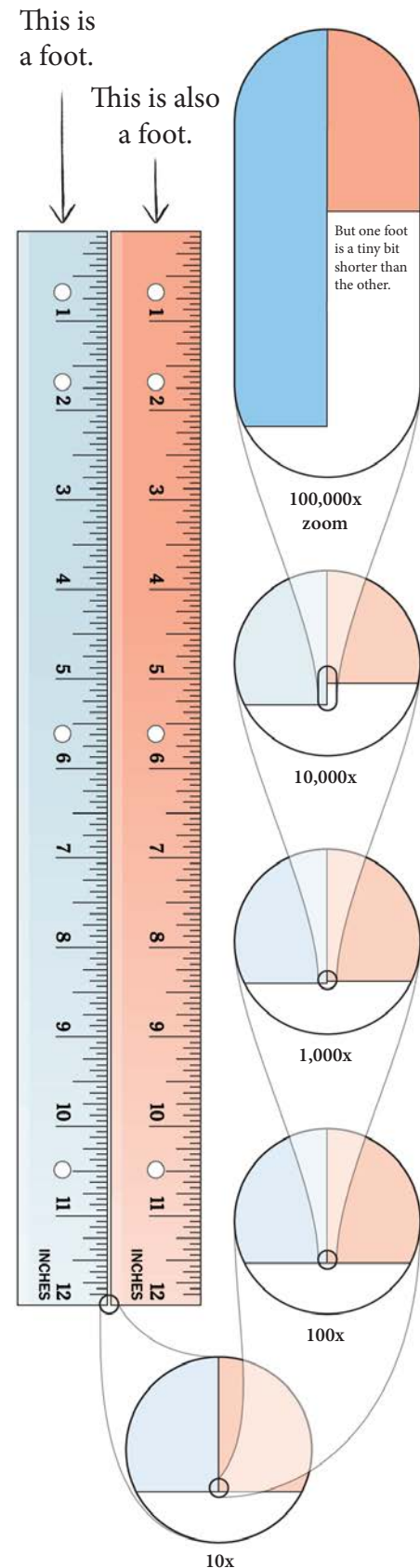
How big is a foot? In the United States, that depends on which of the two official foot measurements you are talking about. If it comes as a surprise that there are two feet, how about this: One of those feet is about to go away.

The first foot is the old U.S. survey foot from 1893. The second is the newer, shorter and slightly more exact international foot from 1959, used by nearly everybody except surveyors in some states. The two feet differ by about one hundredth of a foot (0.12672 inches) per mile — that's two feet for every million feet — an amount so small that it only adds up for people who measure over long distances.

Surveyors are such people. For more than six decades, they have been toggling between the two units, depending on what they are measuring and where.

The toggling does not always work. Michael L. Dennis, an Arizona-based surveyor and geodesist with the National Geodetic Survey, has been cataloging mix-ups with the two feet for years and repairing errors. Last year, he had enough.

"I kept running into these problems with different versions of the foot, and I thought it was ridiculous that this thing had gone on this long," he said. "So I had this secret desire to kill off the U.S. survey foot,



Graphic By Eleanor Lutz

and I'd been harboring that for years."

Most states mandate the use of the old U.S. survey foot for their state coordinate systems, which allow surveyors to take into account Earth's curvature in their measurements. A few states mandate the use of the new, international foot. A handful do not specify which of the two feet should be used. Arizona, for example, is an international-foot state, but when employees with the Federal Aviation Administration or the U.S. Army Corps of Engineers or the Park Service measure there, they use the U.S. survey foot.

"There's a recipe for disaster right there, and I'm getting this all the time," Dr. Dennis said.

While such differences might seem merely philosophical, they can have vital and costly consequences in the real world. In one case, in a certain city that Dr. Dennis declined to name, the construction of a downtown high-rise that sat in the approach path to an international airport was delayed while the building was redesigned to be one floor shorter.

Other problems crop up when surveyors measure from one state to the next, unaware that the two states use different feet. In some cases, large projects employ international surveying firms whose employees are unaware that America has two feet. Some surveying computer software will not recognize the existence of two feet and even hand calculators usually default to the international foot.

Occasionally, surveyors must use one foot for horizontal measurements and the other for elevations. That happened to Dr. Dennis on an engineering project in Arizona. But while the geospatial software was capable of acknowledging both feet, it would not allow for different feet in different directions. He resolved the problem by converting everything to international feet and massaging the vertical measurements, which ought to have been in U.S. survey feet.

"It's bad enough that people are worried about getting sued over it or losing clients," Dr. Dennis said.

And then there's the problem of knowing which foot is



Michael Dennis, a geodesist with the National Geodetic Survey, wants to abolish the U.S. survey foot. Cassidy Araiza for The New York Times

which. Even the National Geodetic Survey gets muddled. In a video about how not to mix up the two feet, it mixed them up. It wrongly said that 2,000 meters was 6,561.67 international feet and 6,561.68 U.S. survey feet, reversing the correct conversions. The error went unnoticed for years until Dr. Dennis watched the video recently as he plotted to kill the old foot. He was mortified.

“This provides yet more evidence of the folly of maintaining two nearly identical versions of the same foot,” he wrote in an email.

Fed up, Dr. Dennis broached the subject of retiring, or deprecating, the old U.S. survey foot with his boss, Juliana P. Blackwell, the director of the National Geodetic Survey. The nation’s geodesists are already in the throes of recalibrating the coordinates of the National Spatial Reference System, which is needed to measure where the U.S. exists geographically. It seemed like a golden opportunity to ask those who measure the nation to shift to one foot instead of two, Ms. Blackwell said.



Edward U. Condon, the director of the National Bureau of Standards, in the bureau’s vault of weights and measures in 1947.
National Institute of Standards and Technology

“It’s one of those things that’s been with you for so long you forget that there’s an opportunity here to make things more accurate,” she said.

So, last April, Dr. Dennis braced for the worst, traveled to Arlington, Va., and told a meeting of the nation’s surveyors that the old foot was on its way out, a casualty of modernity.

“The joke was, the people who knew I was doing this said I need to wear a bulletproof vest,” he said.

To his surprise, the directors of the National Society of Professional Surveyors were in favor of the shift to a single foot. Although the directors don’t have a role in the decision, they wanted to know how their members would react. A poll told them that most support the move. But others consider it akin to blasphemy.

“One thing is, let’s be honest, the actual name, the U.S. survey foot,” said Timothy W. Burch, the society’s president-elect, who is in favor of retiring the old foot. “For unfortunately a lot of Americans, especially in this day and age, anything that has to do with the U.S. and that naming quality being taken away, it’s like we’re under attack. So there is a portion of the country that’s like, No, this is ours, this is what we’re going to keep.”

It’s no surprise that some Americans are reluctant to do away with the old foot, said Robert P. Crease, a philosopher and historian of science at the State University of New York at Stony Brook and the author of “World in the Balance: The Historic Quest for an Absolute System of Measurement.”

“The way we measure shapes our imagination,” he said. “Changing the way that you measure requires changing the imagination, and that’s really difficult. It sounds like a neutral activity but it’s anything but.”

A step back in time

The choice of units of measurement is also laden with history. As settlers began to colonize America, they brought with them measurements from their former countries. These included the English ell for cloth but also the far shorter Dutch ell, the Rhineland rod and the British chain and the Spanish vara for measuring land, the English flitch of bacon and haddock of grain, plus the German quentchen for gold.



A 1904 engraving plaque indicating the standard meter in the Petit Luxembourg in Paris. Standardized metric units were adopted during the French Revolution. Chronicle/Alamy

By the time of Independence, 100,000 units of measurement were in use, Andro Linklater, a British historian, recounted in “Measuring America: How the United States Was Shaped By the Greatest Land Sale in History.” Opportunities for cheating were rife. Establishing common measurements, and therefore fair trade, became a political imperative.

The first message to Congress by President George Washington, in January 1790, contained a call to lawmakers about the importance of establishing a standard system of weights and measurements. Their solution was to adopt parts of the British imperial system, including the yard. In 1815, a brass yard bar made by the Edward Troughton, a London instrument maker, arrived in the U.S. to become the American standard yard.

By 1850, most states then in the union had received official copies of that yard and the other standards, a bid to make sure that every citizen and enterprise in the nation had equal access to the same units of measurement.



A page from a 1963 history of U.S. weights and measures. National Bureau of Standards/U.S. Department of Commerce

But imperial measurements, while standard, were also arbitrarily derived. The yard, for instance, evolved from the idea that “four grains of barley make a finger, four fingers a hand, four hands a foot,” Mr. Linklater noted. During the reign of Elizabeth I, those 16 fingers per foot became 12 inches and were tripled to make the yard that Mr. Troughton fashioned into a bar for America.

Even as the U.S. government shipped imperial standards across the country, the move to metric was gaining appeal in America and elsewhere, driven by a hunger for ever greater precision and easier replicability. Decimalized metric standards, which were being developed by French scientists at the urging of its National Assembly during the French Revolution, are based on scientific findings rather than folksy norms, and these days units increasingly relate to each other. The meter was originally based on one ten-millionth the distance from the geographic North Pole to the Equator; it is now derived from the speed of light. Volume and mass, in turn, are based on the meter.

9 and measures of the metric system.

MEASURES OF LENGTH.

Metric denominations and values.		Equivalents in denominations in use.
Myriameter	10,000 meters.	6.2137 miles.
Kilometer.....	1,000 meters.	0.62137 miles, or 3,280 feet and 10 inches.
Hectometer	100 meters.	328 feet and 1 inch.
Dakameter.....	10 meters.	393.7 inches.
Meter.....	1 meter.	39.37 inches.
Decimeter.....	$\frac{1}{10}$ of a meter.	3.937 inches.
Centimeter.....	$\frac{1}{100}$ of a meter.	0.3937 inches.
Millimeter.....	$\frac{1}{1000}$ of a meter.	0.0394 inches.

An act of Congress in 1866 legalized the use of metric units across the U.S.

By 1866, Congress legalized the use of metric units across the U.S., setting the meter 39.37 inches long, and in 1875, America was among the original 17 signatories of the Treaty of the Metre, which aimed to establish metric standards across the world. America broke with the imperial system of measurement in 1893 and officially adopted metric standards under the order of Thomas Mendenhall, then the superintendent of the U.S. Coast and Geodetic Survey, the forerunner of the National Geodetic Survey.

That means imperial-sounding measurements are actually derived from metric units. So at that point, the foot became a fraction of a meter. The math works like this: 36 inches divided by 3 feet is a foot, or 12 inches. Divide that by the number of inches in a meter: 39.37. Move the decimal places for ease of calculation and you get one foot is 1200/3937 of a meter, a ratio whose run-on decimal places (0.3048006096....) make it slightly imprecise because the measurement will always need to be rounded.

But the 20th century demanded greater exactitude, for the sake of accuracy as well as for international trade in machine-tooled industrial components.

“We believe that there is romance in precision measurement, and that ability to extend the absolute accuracy of measurement by one decimal place frequently demands as much in ingenuity, perseverance and analytical competence as does the discovery of a new principle or effect in science,” Allen

V. Astin, then the director of the National Bureau of Standards, said in a speech to the American Physical Society in 1953.

In 1959, the U.S. redefined the foot to align with international standards, making it exactly 0.3048 of a meter, a difference of two parts per million from the old foot. The new foot became known as the international foot.

The government allowed geodesists and surveyors to keep using the foot of 1893, which became known as the U.S. survey foot, in deference to the historical measurements they relied on, with the understanding that they would eventually embrace the new foot.

One foot forward

Whether they embrace the new one or not, the old foot will be obsolete as of Jan. 1, 2023, according to the National Institute of Standards and Technology, the agency within the Department of Commerce with the authority to fix weights and measures for the U.S.

“At that point, we will discourage everyone from using the U.S. survey foot,” said Elizabeth Benham, the institute’s metric program coordinator.

The switch to a single foot, which will be known as either the international foot or simply the foot, is too subtle to require surveyors to purchase new yardsticks or measuring tapes, but it is part of an intellectual

retooling among those who, as Mr. Linklater wrote, practice the “masochistic science” of land measurement.

Once, surveyors depended on handwritten deeds or plaques with century-old notes to describe plots of land, said Mr. Burch of the National Society of Professional Surveyors. Later, when Mr. Burch learned the profession from his father in the 1980s, each job felt like its own world, he said.

Today, thanks to global navigational satellite systems such as GPS, every measurement is part of a master global coordinate system. The way Mr. Burch sees it, moving to a single American foot is a small step in the long march toward standardization and precision.

“It’s funny how protective people have gotten over this change,” Mr. Burch said. “It’s just not taking into account that science and technology has allowed us to get that much smarter about this big blue marble we live on.”

As for Dr. Dennis, his successful campaign to get rid of the old foot leaves him feeling that he has made an important contribution to America’s future.

“It’s a victory for, dare I say it, common sense to have uniform standards. Even our founding fathers of the nation knew that it was important,” he said, “and it’s kind of weird that people would argue otherwise today.”



U.S. Geological Surveyors measuring a baseline near Fort Wingate, N.M., in 1883. Library of Congress

FLOODS Act introduced in U.S. Senate

NSPS

Senator Roger Wicker (R-MS), chairman of the Senate Committee on Commerce, Science, and Transportation and Senator Gary Peters (D-MI) have introduced [S. 4462](#), the Flood Level Observation, Operations, and Decision Support (FLOODS) Act, a bill to establish a National Integrated Flood Information System, primarily in the National Oceanic and Atmospheric Administration (NOAA). The bill [would improve](#) NOAA's forecasting and communication of flood, tornado, and hurricane events. It would encourage NOAA to use aerial surveys of floodwaters to improve flood mapping, improve modeling of freshwater outflow into the ocean, and establish a committee to ensure coordination of Federal departments with joint or overlapping responsibilities in water management. The bill also highlights the importance of topographic data collection by the private sector (Section 3), helps advance geospatial data standards and coordination (Section 4), and authorizes \$3.5 Million per year from FY2021-FY2030 (Section 12).

In Memoriam...

TRAVIS PRUITT, SR.

Travis Norman Pruitt, Sr. of Buford, Georgia, passed away June 21, 2020, after a short illness with cancer. He was a leader and a visionary who mentored many people over the years. His impact on his profession has been great. He leaves behind a legacy of successful businesses like Travis Pruitt & Associates, eGPS Solutions, Champion Instruments, and Remote Mapping Group.



Travis was born in Andalusia, Alabama, August 8th, 1940, to Lenton and Edith Pruitt. He was a graduate of the University of Alabama, earning a Civil Engineering Degree and did a tour in the Army, before moving to Georgia in 1966. He began Travis Pruitt and Associates, in 1972, and it continues to grow.

Travis had a love for fishing, flying, and life as well as his family and his work. He will be greatly missed for his intellect, experience, humor, advice, and the love he shared.

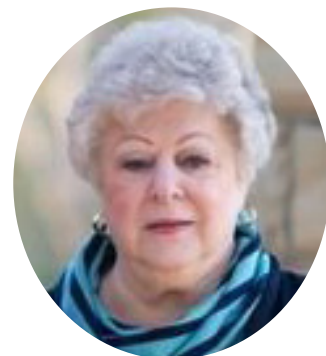
PAYNE BRADWELL “BRAD” COPELAND, II, PLS #2692



Payne Bradwell “Brad” Copeland, II, age 65, passed away at his residence on August 18, 2020 after a short illness. He retired in April 2020 from the City of Brunswick Fire Department where he was a firefighter for more than 20 years. He was a member of the Alma United Methodist Church.

MARY LOBER DONALDSON

Mary Lober Donaldson, 75, of Macon, passed away peacefully at her home, with her family by her side on Tuesday, May 26, 2020. Mrs. Donaldson was born on June 1, 1944 in Macon to the late William and Mary Lober. She was a wonderful homemaker, devoting her life to raising her children, whom were her world. She was an active member of Bellevue Baptist Church, where she was involved with the Becomer’s Sunday School Class and the Joyful Servants Baptist Womens Group. Mary enjoyed the SAMSOG Annual Meeting and Summer Conventions spouse activities and spending time with her fellow Land Surveyor wives. She will be missed.



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