



THE FLORIDA SURVEYOR

December 2021
Volume XXIX, Issue 11

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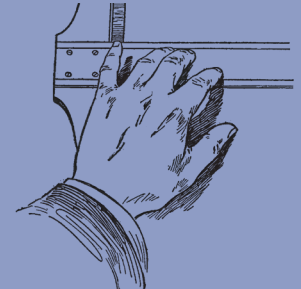
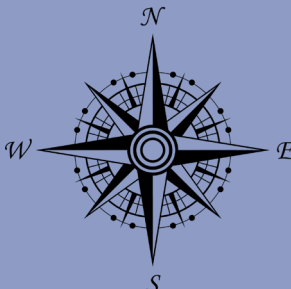
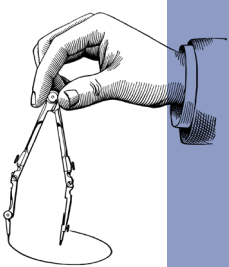
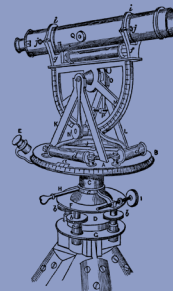
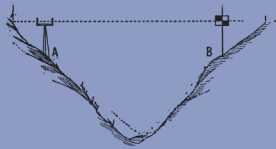
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PRESIDENT'S Message

Merry Christmas!!

The year 2021 is quickly coming to a close, and 2022 is JUST AROUND THE CORNER!!!

2021 has been a great year for FSMS, with many challenges – COVID, uncertain economy, annual conference, any many more. I am proud to say that our staff has done an outstanding job throughout the year.

I have been very honored to serve as your FSMS President for 2021, and although we haven't been able to meet in person as much as I would have liked, we have had a successful year. Personally, this is a highlight of my career, and it has been a pleasure to serve. I would encourage all of you to be involved in FSMS, at both a chapter and state level. The time spent is minimal, and the relationships you will build both personally and professionally are very rewarding.

Moving into the new year, our Society is in great shape financially, and we are ready to address the challenges of the year ahead.

Our biggest challenges still appear to be on the legislative front, and our Political Action Committee – “FSMPAC” is critical to our ability to influence legislators to our positions on proposed legislation. Please consider a donation to FSMPAC either individually, or through your company.

<https://fsms.memberclicks.net/donate-to-fsmpac>

Going into the new year, please welcome Lou Campanile as our incoming President, I know he will do well.

Please enjoy your holidays, and hopefully you can take some time to spend with your loved ones and relax for a few days. January 2022 will be here soon!!



President

Hal Peters

(352) 304-9534

hpeters@gpinet.com

“Personally, this is a highlight of my career, and it has been a pleasure to serve.”

2022

Membership Renewals

FSMS Membership Renewals for 2022 have begun!

Please Log In to your [FSMS Membership Account](#) to Renew and Update your contact information.

If you need help logging in to your account, call us at (850) 942-1900 or email us at communications@fsms.org





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FLORIDA SURVEYING & MAPPING POLITICAL ACTION COMMITTEE

What is FSMPAC?

FSMPAC (Florida Surveying & Mapping Political Action Committee) is a non-partisan, non-profit Political Committee formed under Florida law by FSMS to support the profession in legislative and political activities.

Without regard to political party affiliation, contributions and support are made to candidates and political parties that understand issues and initiatives important to the profession.

How does FSMPAC work?

Our mission is accomplished through voluntary contributions by concerned Surveyors and Mappers interested in promoting and protecting our profession. Funds are used to research, select and support the election of candidates who are supportive of our concerns.

Why do I need to be involved?

Involvement in your PAC is essential to maintaining a dialogue with elected officials and candidates that understand the importance of our profession to the organized development of Florida's infrastructure, as well as the impacts of undue regulation on our practice.

There will always be interest groups that have agendas contrary to the interests of our profession, and given the opportunity will encroach on our practice.

This reality demands that we remain vigilant and maintain a well-funded PAC to support and defend our interests. Without your support and input, the PAC cannot effectively complete its mission.

**Click & Donate to FSMPAC Today!
We Thank You for Your Support!**

Surveyors in Government



By: Richard Allen, PSM, CFM

Richard.Allen@orlando.gov

(407) 246-2788

Upcoming Legislative Session for Fiscal Year 2022

DEPENDING ON YOUR SIZE OF GOVERNMENT, you are likely finding yourself in some matter of addressing or planning to address proposed house and senate bills that are being suggested as we speak or will be submitted early next year. Items currently being discussed are the issues with changing the education requirement for surveying, changes to the Florida Building Code (what's new), proposed changes when it comes to local level changes, and now having to provide a cost for the local law changes as it relates to matters of development, floodplain or other issues. Providing a dollar-cost amount for local law changes could be daunting, as one may not know the fiscal impact of the proposed code changes when they differ from state rule. State rules and requirements were always seen as the minimum, and then more stringent requirements are on the local level if the state requirements are not substantial enough.

These items are being discussed, and counter-measures to these items are being proposed by professional associations and special interest groups. There is always a tricky line to define between government overreach and needed codes and requirements. One may think an agency is being too restrictive with development on or near a floodplain or within a conservation tract or easement. Still, the federal requirements are becoming more stringent for the local agencies to be in compliance. And the only way to deal with the issues based on staffing and the availability for inspection or review, is to have the more stringent requirements to put developers or applicants on notice of the requirements, so the boundaries of the regulatory issues are not pushed and creating compliance issues for the agency.

Other legislative items may be creating a Community Redevelopment Agency (CRA) within your organization, and as the surveyor, you will

be preparing the description for the legislation. This upcoming legislative session will involve a Main Street legislative action to designate more Main Street Districts in Orlando. I will be preparing legal descriptions for three more of the districts in the next few weeks for proposed legislation. Last year we created six extensive legal descriptions of areas near the existing Main Street districts to allow historical zoned restaurants that are typically smaller the ability to reach more patrons due to the pandemic. One may never know how they will be involved in a legislative matter. Still, when legal descriptions are concerned, most times, a surveyor will be involved, and it will be beneficial for you to be knowledgeable of the process and be engaged within those efforts and more. This is the point where you hear from those in the PAC Fund for legislative efforts involving surveying, getting to know your legislators, which is true for those in government. There may be legislation being proposed that may impact your agency or your area of duties that may have a huge impact, and you will need to speak out for or against that legislation. That is if your agency allows it.

I will give our legal staff a heads up before I charge forward in support or opposition of most matters if it may impact the legislation the agency is involved with. Not saying I will not voice my opinion; I just give them the courtesy to know that I am supporting or opposing a matter based on my professional opinion if I think it is harmful or beneficial to the protection of the public and our duties as surveyors. If there are matters outside of those constraints, that it is my duty as a registered voter to provide my opinion on the issues that may impact me as a resident. Knowing those legislators in the house and senate can help you in any situation that may impact your career, your job, or your well-being. You must be engaged to have a voice and be given the chance to be heard.

I wish you all health and happiness, until next month my friends!

Around the State



Manasota Chapter Social Event

Great Turnout, with about 30 members attending and participating in the Chapter's Gun Raffle.

Manasota Chapter Social Event

from Left to Right:
Clement Erenati,
Rich Abernathy, Joe Carnevale,
Priscilla Seleska, with Dennis
and Zack Brigham





Bill Knight with his wife Cindy, son David, daughter-in-law Shannon and granddaughters.

From Left:
Kavin Wilmott and
Russell Hyatt engage
in surveying
“shop talk.”



GPS on BenchMarks

***** NOTICE: NGS has extended the December 31, 2021 cut-off date for GPS on Bench Mark submissions! The new cut-off date to submit GPS on Bench Mark data for use in the 2022 Transformation Tool is now December, 31, 2022. *****

Get your community prepared for the modernized National Spatial Reference System by participating in NGS's crowd-sourced data collection program called GPS on BenchMarks (GPSonBM). For the last 200 years, the Nation's foundational mapping infrastructure has relied on hundreds of thousands of survey marks set in the ground across the country. In 2007, NGS embarked on a decades-long endeavor to update the mapping infrastructure to take full advantage of modern technology and dramatically improve the accuracy of height measurements. To fully realize the billions of dollars in benefits that will come through moving to the modernized NSRS, Federal, State, and local governments and private sector firms will need to prepare and adapt their procedures and workflows. The GPSonBM program harnesses the power of partnerships across the country to move us all along the path toward realizing the benefits of the modernized NSRS. Benefits of participation include:

- Automatic generation of 2020.0 Reference Epoch Coordinates (REC) upon release of modernized NSRS and eventual generation and release of Survey Epoch Coordinates
- Local improvements to the 2022 Transformation Tool, which will enable conversions from current vertical datums to the North American-Pacific Geopotential Datum of 2022 (NAPGD2022) and will be integrated into the NGS Coordinate Conversion and Transformation Tool (NCAT).
- Update Passive Control Status: mark recoveries and shared solutions provide NGS and other users of the NSRS with insight into the health of the passive control network and updated information for project planning.
- Tie your local control stations to the NSRS
- RTN Check Stations – Get updated coordinates on marks in your area for field checks of RTN rovers to ensure consistency with NSRS coordinates

NGS has created a **prioritized list of survey marks** where new data would be most beneficial. Anyone can participate by searching for, finding, and reporting back about the condition of the marks on the list. Those with access to survey grade GPS equipment can help further by collecting GPS data on these marks and sharing it with NGS.

Recover, Observe, Report

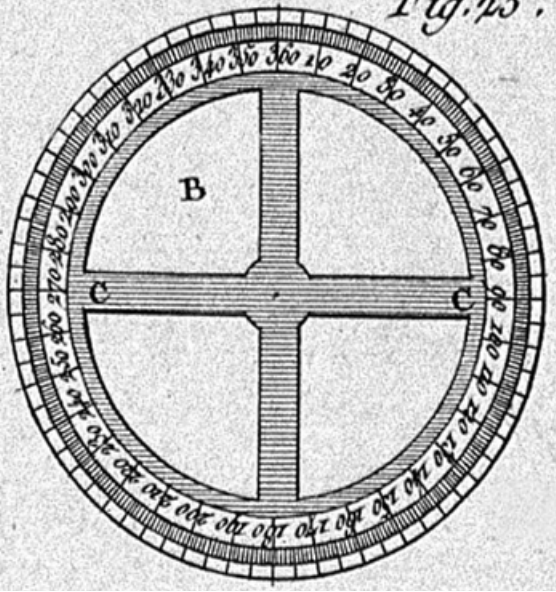
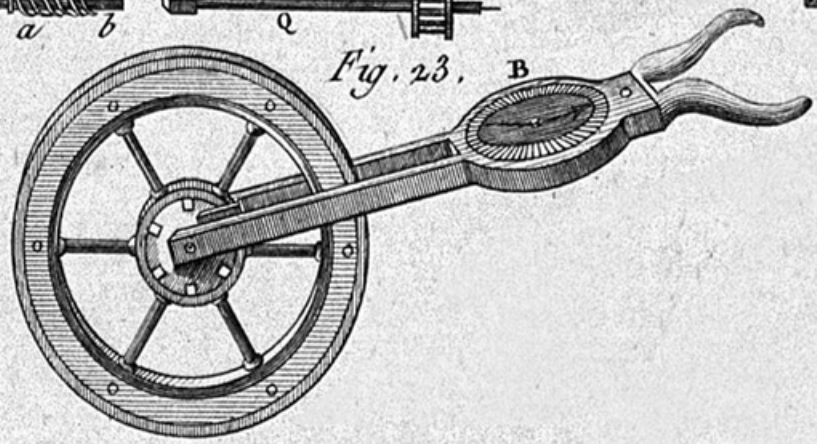
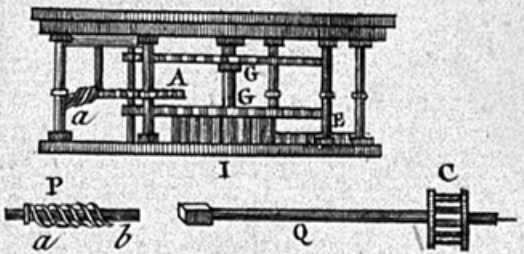
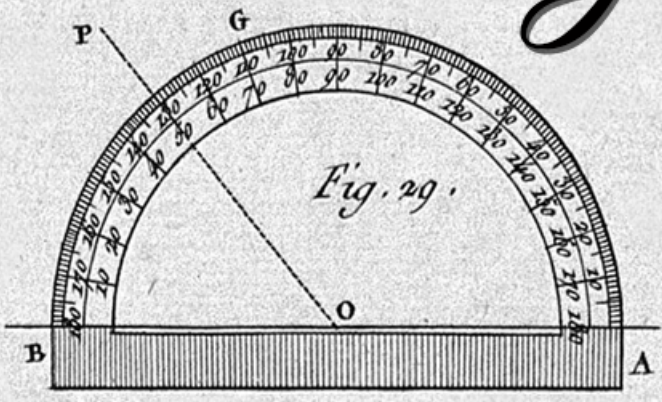
Regardless of your objective, GPS on BM will always include three important steps: recover, observe, and report.

Recover: Use **GPSonBM web map** to identify priority marks in your area, or the **NGS Data Explorer** to look up the description of existing benchmarks. Follow the instructions on the **Recover page** to find bench marks of interest.

Observe: Follow instructions on the **Observe** page and record field notes, take digital photos, and collect GPS observations for the benchmark you visit.

Report: Use the online **Mark Recovery Form** to submit your recovery notes and photos and **Share the OPUS Solutions** from your **GPS observations**.

Surveying History



The Original Contracts and Instructions for the General Land Office Surveys of Central Florida

by Gordon D. Wood
Orlando, Florida

I am sure that all of you who are now engaged in the practice of Land Surveying know of the importance and make use of the original Government survey notes and the Government township plats, but have you ever wondered, when examining these notes and township plats, just why some of the Sections were run in a direction contrary to the General Instructions and the excess and deficiency placed on the South and East instead of the North and West as the General Instructions have always said?

Have you ever wondered why some areas were hastily sectioned or not sectioned until years after the original surveys were completed? Why some of the larger lakes were meandered and others not meandered? Do you ever wonder, when going over the original Government notes, what type of man came into the wilderness to make the original surveys? Did he do it for love, money, or because he enjoyed the independence

of his work? Why was one man's work excellent and that of another only fair? These and hundreds of other questions come to mind. We can all do a better job of retracing the work of these pioneer surveyors when we know the answers.

IN JUNE OF 1959, during the First Land Surveyors short course given at the University of Florida by the Florida Society of Professional Land Surveyors, Mr. James A. Thigpenn III, of Jacksonville conducted an excellent class on the "Unusual Problems in Subdivision of Sections" and those of us who were able to attend will remember that he presented some thought-provoking questions. Mr. Thigpenn pointed out that although we are now able to avail ourselves of the Government Manuals of Instruction, these publications were issued a good many years after the Public Land Surveys in Florida were begun, it is not now entirely clear as to what instructions were given the surveyors

who performed the original surveys, and therefore we must rely on our own interpretation of the original field notes and plats.

A part of this is true. We have been relying on our own judgment and interpretation of the original Government notes without sufficient knowledge of what the original surveyor was instructed to do. Our firm obtained photographic reproductions of instructions, along with contracts covering each part of the work, at a very nominal cost from the National Archives, Washington, D.C. These copies of the original contracts, letters of instruction, and the special instructions issued to the Deputy Surveyors making the original surveys in our section of Florida are now in our possession.

Such contracts and instructions pertinent to our own county are replete with valuable information. Information that no one

engaged in the profession of Land Surveying should be without.

Today the “Manual of Instructions for the Survey of the Public Lands” is a good-sized book, but the General Instructions that were issued to each Deputy Surveyor in 1843 to 1850 in Florida was one legal size sheet, printed on both sides. In addition to the General Instructions, the Deputy Surveyors were given special instructions to govern their procedure. In these special instructions, you will find the answers to some of the questions that arise during a study of their field notes. You will note in the letter quoted below that Standard Meridian and Standard Parallel are referred to in the special instructions, but the General Instructions have no reference or explanation of these terms.

Following is a letter of special instructions written by V.Y. Conway, Surveyor General to Col. Henry Washington, and a portion of another letter that passed between the same two gentlemen. The first letter is of general interest in that it will give an idea of what type of instructions were issued to the Deputy Surveyors.

**Office of the
Surveyor General
Tallahassee, Florida
November 8th, 1842**

Sir:

Having entered into bond, you will have your chain and compass adjusted by the standard instruments of this office.

You will receive herewith a letter to the commandant at Cedar Keys, who will furnish you with a sufficient escort to secure your safety, whilst engaged in the prosecution of your surveys.

You will repair to the Southwest corner of Township 13, Range 23 South and East and run from thence a Standard Meridian Line (marked and designated on the diagram accompanying these instructions as K-L) in a due South course until such line shall strike a point on the Gulf of Mexico (L).

You will next proceed to run a Standard Parallel at right angles with this Meridian between Township 22 and 23 extending from the Gulf of Mexico to the Atlantic Ocean (designated on the diagram as C-D).

You will run another Standard Parallel (and at right angles to the Meridian first run) between Townships 27 and 28 to extend in like

manner as the first from the Gulf of Mexico to the Atlantic Ocean.

These Standard lines being all established in conformity with your General Instruction, you will thence proceed to District A (on the accompanying diagram) and there run out the Township lines in that district (excluding all such lines as have heretofore been run, and which are designated on an accompanying diagram) closing these lines with the prior surveys.

Whilst you are at work on these lines your attention will be particularly directed to such parts of the district as are becoming settled, or such portions of the country as in your judgment would seem the most desirable of from the location you are led to believe will be first settled. At this point, you are to locate five townships which you will afterward section in conformity to the General Instructions now furnished.

Notice has been forwarded to a newspaper published at St. Augustine apprizing claimants of the surveys which are in progress and a plat of the proposed surveys deposited with the Keeper of the Archives at the above-mentioned place for the information of all claimants who are requested to be in

person or by an agent on the ground to show you the beginning corners to any private claims which may be within your district. You will give the utmost publicity in your power, upon arrival on the ground so that all claimants may have an opportunity of identifying their interests leaving on your part no excuse for their delinquency.

You are furnished with the special instructions for your government in the survey of all private claims to which you will strictly adhere.

All claims by settlers in conformity to the act of congress on the 4th of August 1842 are to be surveyed and returned in manner and form of private claims requiring for a warrant of their survey, the certificate of the Register, and the receiver. A copy of which is herewith furnished.

Your attention is especially called to the following particulars contained in a letter from the Commissioner of the General Land Office which you will consider as forming a part of their instruction.

“It is desirable that the surveys should be so extended as to embrace those points where it is probable the settlements will be formed, and the lands will be wanted

for market. Great care should be taken in running and marking the Standard Meridian K-L laid down on the map near Fort King, and the Standard Parallels C-D and E-F which if correctly surveyed will serve to limit any irregularities in the intermediate surveys and prove useful checks on the present and future field operations of your deputies. The settlements should whenever practicable, conform to the section lines, they should likewise be represented on the Township map by a distinctive color say a pink shade, with the name of the applicant and the number of his notice written thereon.

As the permits cannot interfere with such groves of Live Oak and Red Cedar timber abounding on the Public Lands as the proper department shall cause to be selected and set apart for Naval purposes, you will be particular in requiring your deputies to note in their field books where those timbers exist, and you will cause them to be carefully and conspicuously designated on the Township maps. In addition to the evidence on file in your office, you will procure from the Land Office and the Keeper of the Public Archives at St. Augustine all necessary information of the

boundaries of the confirmed and such unconfirmed private claims as having been duly filed with the commissioners, the former of which you will have surveyed and laid down on the Plats in connection with the section lines and the letter where they have been duly filed before any board of the United States Commissioners.

You will of course not have surveyed but cause them to be laid down on the Plats showing their connections as near as may be, by dotted lines with names of the claimants and number of the claims and the dates of the reports embracing them, to protect them from sale or settlement until final action shall be had thereof.”

You are not to over-run your contract except the amount of it should be done while you are at work on the interior of a township in which event you are to close the township and there stop. You are enjoined to peruse your General Instructions and Special Instructions carefully and often to a close adherence to them in all your operations.

Signed/ V.Y. Conway
Surveyor General

The second letter began as follows:

**Office of the
Surveyor General
St. Augustine, Florida
February 10th, 1845**

Sir:

Having entered into bond with approved security and your chain and compass adjusted by the standard instruments of this office, you are expected to repair with all possible dispatch to the work assigned you.

You will run all the exterior lines of the Townships which are indicated on the accompanying diagram of District E. As it has been reported impracticable to connect with the surveyed lands East of the marshes of the St. Johns, you will begin on the North and West sides of the District and throw the errors on the South and East in conformity with the survey heretofore made.

After running these exterior lines, you will proceed to subdivide into sections five Townships, selecting for this purpose that portion which in your

judgment would seem most desirable for location and settlement, and an affidavit will be required of you that the Townships subdivided were occupied by settlers or were the best lands contained in your contract. When you report any part of your contract impracticable an affidavit will be required of you to that effect and a full statement of the causes that render it so.

This letter continues with various instructions, but the point that I wish to bring out by this portion is that here we can see at times the excess or deficiency was thrown into the South and East sides of certain Townships with reason, and that some areas were left to be surveyed later for economic reasons. The work originally omitted was filled in later and under a later contract with some differences in the special instructions.

In trying to retrace the original surveys, the information obtained from these letters of instruction amplifies the instructions in the field notes. Among the instructions, contracts, and correspondence we can also obtain with little imagination an insight into the character, ability, and personal habits

of the original Deputy Surveyors. I would like to give you an example of this by quoting a portion of a letter transmitting contracts and bonds from **Robert Butler, Surveyor General to the Commissioner in Washington. It is dated St. Augustine, Florida September 27th, 1847.**

Sir:

I have the honor to enclose the contracts and bonds of Deputies John Jackson and Ralph W. Norris, and others will follow in a few days.

The latter gentleman, having reformed his habits and pledged himself to me for regularity and sobriety in the future, and withal, given me a good reason of which but lately advised himself for the imperfection of his line run between Templeman and Whitner, that the compass injured by Templeman; (taken out of this office) was sent to him by the late incumbent, to run this line with and previous to its being repaired, which alone would have given rise to the imperfections of that work, from the care

manifested in him when executing, I have therefore determined to give him a contract, knowing his capacity to perform the duty well.

From this letter, we can assume that even back in 1847 there were some surveyors who fell off the wagon now and then. In trying to check this work today we have a clue as to his ability and character. You wonder when going over his notes, was this one of his good days or a bad one.

Another question that arises is: “Were these men adequately paid for their work and were they paid promptly?” In our area, we find that the going price was \$4.00 per mile and at times \$5.00 per mile was allowed for difficult work. From all indications the Deputy Surveyors paid all of their own expenses from this fee and also paid the wages of their help. It doesn’t seem adequate, does it? The Deputy Surveyors were obliged to bond themselves for double the amount of their contract and on average were allowed six months

to complete a 500-mile contract. This hardly seems enough money or time to allow a man to do accurate work. Perhaps this accounts for some of the “campfire surveys” that crop up now and then in the field notes.

We also find that at times the payment for the work completed was slow, very slow. This is shown in a letter

“No one can accurately interpret the original field notes without knowing what these men had been ordered to do.”

from Robert Butler to the Commissioner dated February 6, 1846, in which he requests that payment be made upon submission of field notes and a lucid diagram of the work performed and not upon the completion of all maps and computations by his office.

He gives as an example a Deputy, completing a contract for 900 miles in November of the previous year and

not having been paid as of the date of the letter, the following February. This of course meant that the man could not take another contract due to lack of funds with which to finance himself. Such procedure was poor incentive for the best men to enter this field of endeavor. These are but a few of the examples of the priceless information contained in these letters of instruction and contracts. The uses to which we can place that information today are endless. All of you engaged in the active practice of the Land Surveying profession should avail yourselves of this information as it pertains to your territory. No one can accurately interpret the original field notes without

knowing what these men had been ordered to do. We should not guess at the instructions but should have them available and use them in conjunction with the original field notes and Township plats when trying to retrace the steps of the original surveyor. ■

FUND IMPACT REPORT

Florida Surveying and Mapping Society Scholarship

Dr. Terrell T. "Red" Baker

Director

School of Forest, Fisheries, and Geomatics Sciences

UF Institute of Food and Agricultural Sciences (UF/IFAS)

Thank you for your commitment to creating life-changing opportunities in the UF Institute of Food and Agricultural Sciences (UF/IFAS). I am pleased to share that the following individual(s) benefited from the Florida Surveying and Mapping Society Scholarship this year:

- Abdulla Sadeque, Geomatics
- Braden Rossi-Landon, Geomatics
- Kaitlyn Maynard, Geomatics
- Karol Hernandez, Geomatics
- Kevin Macmunn, Geomatics
- Lia Comparini, Geomatics
- Mary Voor, Geomatics
- Michael Blaize, Geomatics
- Scott Vannetta, Geomatics
- Tevin Cruz, Geomatics
- Youssef Essabri, Geomatics
- Zachary Schreiner, Geomatics

As the UF Institute of Food and Agricultural Sciences (UF/IFAS) moves forward, your investment will ensure that so many talented young people have the means to pursue their greater purpose. Together, with your support, we will prepare the next generation of leaders, innovators and professionals.



ANNUAL HIGHLIGHTS

- **RELEASED 19 NEW CULTIVARS** including tomatoes, blueberries, citrus, caladiums, oats and Bermudagrass in fiscal year 2020, and licensed 140 cultivars to seed companies, nurseries and producers for sale on the commercial market.
- **PRIVATE SUPPORT MADE POSSIBLE** the opening of a research station's graduate student dormitory, the construction of a new 4-H camp pavilion, and the establishment of the DeLuca Preserve through a gift of 27,000 acres.
- **AWARDED MORE THAN \$560,000** to College of Agricultural and Life Sciences students during the 2020-21 academic year.



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Board of Professional Surveyors and Mappers

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*From the Fall 2021 Newsletter:

- Long time Board members, Frank Conkling and Steven Hyde successfully completed their terms and attended their last Board meeting in October.
- **July 19-20, 2022**
Board Meeting in Palm Beach Gardens (*Coincides with 2022 FSMS Annual Conference*).

INTERESTING STATISTICS ABOUT YOUR PROFESSION:

There are approximately 2500 active PSM Licenses.

Ages 40 & Under - Approximately 8%

Ages 41-60 - Approximately 45%

Ages Over 60 - Approximately 47%

*Since January 1, 2021
61 New Licenses have been issued.*



ANTIQUE LAND SURVEYOR'S TRANSIT TO HIT AUCTION

(Originally Published in *Point of Beginning Magazine Online*, April 11, 2021)

Like most great finds in land surveying history, this antique land surveyor's transit landed in the hands of a new owner at random after purchasing a storage unit at an auction last month in Tacoma, Washington.

"I believe the unit belonged to a WW II vet who didn't have someone to pass his treasures on to," says the purchaser. "I'm actually still trying to find extended family because there are antique photos from a few generations ago. There must be someone I can reunite them with."

If you think you might know the origin or original owner of the above antique land surveyor's transit, please contact POB at adolphuse@bnpmedia.com.

"I've been doing to storage unit thing for the past year and actually have a couple amazing stories reuniting people with long lost items. It's been awesome," says the new owner. "I enjoyed researching transits but before this I was completely ignorant about them."



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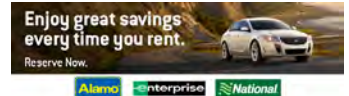
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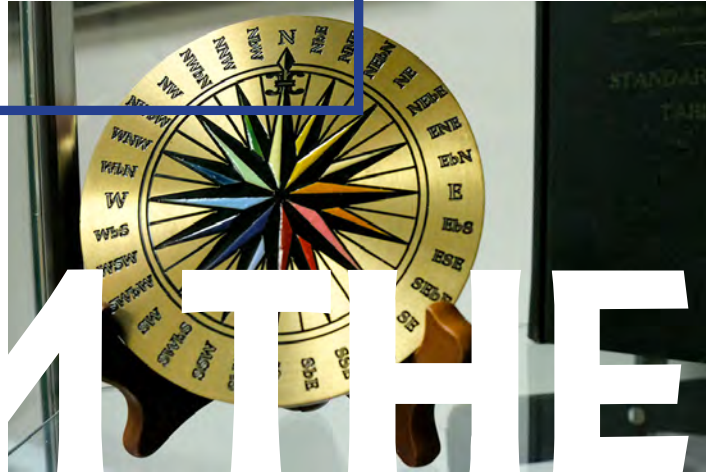
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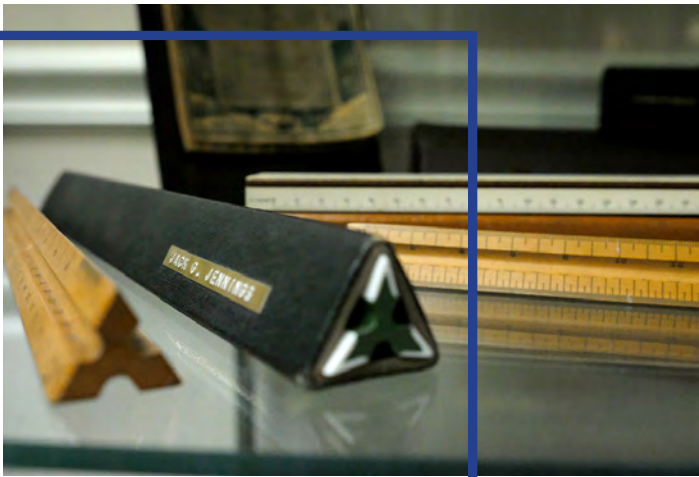
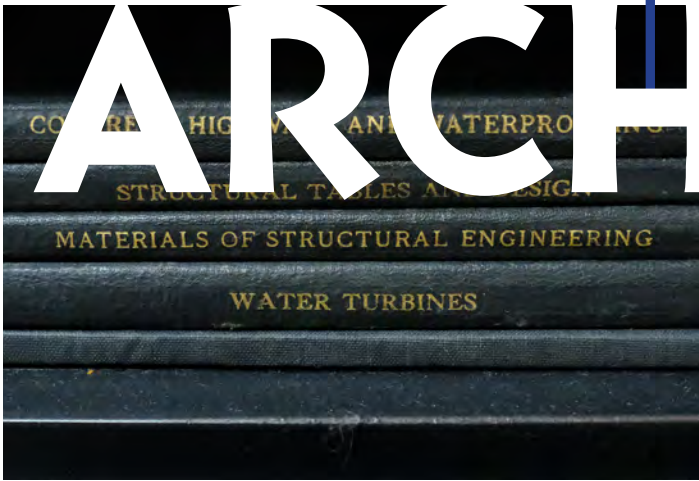
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FROM THE ARCHIVES



Whatever Happened to the Surveying and Mapping Profession?

by Charles H. Andregg

ABSTRACT. Surveying and Mapping, often called the Father of Civil Engineering, and one of the oldest professions, has had difficulty maintaining a clear identity and public recognition. This paper examines the considerable progress that has been made in the last two decades in establishing the academic base essential to a viable profession. The increasing difficulties of integrating the profession arising from increasing technical specialization into such separate fields as photogrammetry, geodesy, land surveying, hydrography, and cartography are reviewed. The technological changes that are affecting the profession and their projected impact are examined. The computer, both as a part of the surveying and mapping process and as a key element in the rapidly growing need for integrated “spatial data,” is rapidly changing the nature of the profession.

On the occasion of my last visit to Albuquerque, when as ACSM president, I talked to the convention of the New Mexico Association in 1969, I remember that I spent some time, as I had in all of my visits with state societies and ACSM Sections, talking about the importance of strengthening the surveying and mapping profession. When Ned Elder invited me to come to Albuquerque to participate in this program, he asked me to talk about something that would be of concern to the land surveyors. Since it has been some time since I have imposed on such an audience my concerns about the status of our profession and the trends in our business that will impact the future of the surveyor and mapper as a professional, I decided to talk with you about that again.

I am aware, of course, of the peril of speaking confidently about the future. Even people who have achieved recognition in the prediction business have trouble doing that. The Nobel Prize-winning economist, Professor Paul Samuelson, admitted that for one economic period experts in the stock market had predicted six of the three subsequent depressions.

I recall that when A. Philips Bill was president of ACSM, he reminded all of us time and again that the surveyor was among the

first professionals in modern civilization. He complained that within the last few decades the surveyor and mapper has been eclipsed by the other technical professions, such as civil engineering, that had grown out of surveying. It was his concern, which all of us have shared I am sure, that the splintering resulting from specialization was continuing to weaken the public image of the surveyor and mapper as a professional. This tendency toward increasing specialization appears to affect all professions, but those with a powerful public image seem to be able to maintain their cohesiveness. Medicine, law, and engineering are those we think of first; they have been able to maintain their clout through the size and strength of their umbrella national professional organizations. Let us take a look at how the surveying and mapping profession has been doing in that regard.

One of the most important things that a profession needs to do continuously to assure its health is to assess its strengths and its weaknesses to look at what can be done to capitalize on strengths and to overcome weaknesses. In the nine years since I last talked here, a great deal has been done by members of our profession in this country to identify things that need to be done to improve its status. For example, there has been a signifi-

Mr. Andregg was, at the time of writing this paper, deputy director, Management and Technology, Defense Mapping Agency, Washington, D.C. 20305. He has since retired. This paper, not printed, was presented by the author at the ACSM-ASP Fall Technical Meeting, Albuquerque, N.M., Oct. 1978.

Surveying and Mapping, Vol. XXXIX, No. 2, 1979, pp. 137–140

cant move toward identifying the need for, and establishing a sound academic base for the profession.

The recent report titled, "Geodesy Trends and Prospects," published by the National Research Council's Committee on Geodesy, describes the decline in surveying and mapping education in the United States which was evident between 1945 and 1970 and notes that this apparently has been turned around. The report identifies baccalaureate degree programs in surveying and mapping instituted in 13 universities since 1970.

In last October's *The American Cartographer*, Professor Dahlberg [Richard E. Dahlberg] states that there has also been a significant increase in other college courses related to mapmaking and cartography with some 258 schools including such courses in 1975-76. There has also been continuing emphasis on developing graduate programs. At Ohio State, where previously only graduate programs in geodetic science had been offered, a bachelor of science in surveying program has been initiated. Dr. Buckner's [R. B. "Ben" Buckner] very interesting paper in *Surveying and Mapping* last March notes the considerable difficulties experienced in establishing this program and the success that has been achieved. Fritz Petersohn gave me the other day a brochure on the excellent surveying engineering baccalaureate degree program at the University of Maine at Orono. These are representative of the new wave in surveying and mapping education that is rising. On the other hand, there remains a considerable uncertainty about the future of these courses in developing a base for the profession unless there is strong public recognition of the requirement for such education as a firm qualification for any professional activity in surveying and mapping. That is really one of the main points of my remarks here. We as individuals must continue to give our own strong support to these programs.

The National Research Council report takes note of the fact that ACSM has recommended a baccalaureate degree in surveying and mapping as a basic requirement for professional registration for surveyors. The report goes on to state, "We recommend that the current expansion of broadly based surveying programs in the universities be encouraged and that qualifications of the

practicing surveyors be upgraded so that a baccalaureate degree is a minimum requirement for a professional surveyor." They also stress the need for effective advanced degree programs in the various specializations as well as continuing education programs to maintain knowledge of the rapidly advancing technology in surveying and mapping. They recommend that a greater effort be made to encourage students to enroll in such programs. This encouragement must come from the demand that we as managers in surveying and mapping generate by requiring a sound academic background for professionals we employ and develop.

Surveying is often a lonely business, and the surveyor in his resulting public image as a rugged individualist is much admired and respected. Many were "self-made" men and proud of it, but just as we would not want a "self-made" physician to treat our physical ailments, we cannot expect to be accepted as professionals without professional training. A congressman once boasted to the publisher Horace Greeley, "I am proud to say that I am a self-made man." Greeley replied, "That, sir, relieves the Almighty of a great responsibility!" A profession cannot afford to avoid its responsibility, however.

In addition to the progress made in development of baccalaureate and graduate programs, there are increasing numbers of excellent symposia and seminars on particular technical specialties. Among these, automation in cartography, marine surveying, and land data systems have been particularly successful, but there is a great deal yet to be done. With a professional force which the National Research Council estimates to be about 30,000 and with some 280,000 total participants in the surveying and mapping business in the United States, our academic base, both in university curricula and in continuing education, seems to be considerably short of the needs to assure a level of professionalism that warrants full public acceptance.

Gerald Clohcy and Gunther Greulich, in their outstanding paper for the 1977 National Surveying Teachers Conference at the University of New Brunswick, which was published in *Surveying and Mapping*, March 1978, identify the kinds of education required to support the profession as they visualize its

organization for the immediate future. They conclude that there is a need for national professional societies such as ACSM and ASP to develop a national program for continuing education in cooperation with universities and colleges to assure recognition of reciprocity by state registration boards. They further conclude that the profession can no longer tolerate fragmentation through various other engineering disciplines. They recommend that a task force of U.S. and Canadian academicians, private practitioners, and government surveyors reexamine the needs of the profession and of society in this professional area and, if necessary, redefine the philosophy of the profession as a first step toward establishing an integrated academic base for it. We should all give our support to such an endeavor as we strive to build a strong, cohesive profession.

I think that there is general agreement that the nature of the profession and its contribution to society are rapidly changing. In his opening address to the 1977 ASP-ACSM convention in Washington, Mr. Radlinski [William A. Radlinski] talked about the national objectives for modern land data systems. He identified the fact that there is increasing interaction of the many forms of information that we generate about the land. The fantastically increasing capability of computers to support integration of data makes it imperative that all of the members of the profession understand the concept of integrated land data systems. They must be ready to work together to bring about the very important contribution that the profession must make to planning for use of the world's resources and for development of our civilization. Changes in the cities, changes in community and social organization, the increasing expectation for an improved standard of living by all the people in the world, the increasing concern for conservation of nonrenewable resources—all of these are forcing a much greater interest in the information that our profession provides. We are faced with the need for developing new means for organizing, analyzing, and presenting the data to fit these new kinds of requirements.

The Royal Society of Great Britain has just published a report this past July on a study that it has completed on the future role of the Ordnance Survey, the national surveying and mapping organization in the United

Kingdom. The study points out that the profession needs to be looking very carefully today at the impact of technological changes that will be affecting the capabilities of mapping and surveying organizations. They note that conventional survey systems will be augmented, and in some cases replaced, by new modes of data acquisition including remote sensors, such as Landsat and Geodetic satellite systems. They note the great impact of computers on storage, transmission, and processing of land information. They speak to the fact that real-time, systematic presentations of land data will be easily available to data users on remote computer terminal displays as communications systems are now developing. The rapid trend toward more complex requirements for national surveying and mapping support in Great Britain generates a strong need for a national data bank of what they call "spatial data" which must be developed by consultation between the surveying and mapping professionals and the users.

In other words, nearly everyone is now identifying the need for a more closely integrated effort on the part of the entire surveying and mapping community, and when I use that term, I mean all people involved in developing, analyzing, and presenting information about the land. Advancing technology will give us the tools to do this, but it also makes more critical the need for some understanding of the full spectrum of its technical specialties by all members of the profession.

During the past six months, I have been serving on an ACSM organization committee for President Leverenz [Jon M. Leverenz]. Our committee has been concerned about what ACSM should do to make itself a more effective national professional organization. One of the disturbing things that I have found in looking at the problem is the pressure to establish a stronger identity for various specializations within the profession at the expense of involvement in the interdisciplinary activities of the Congress as a whole. As an example, the land surveyors seem to want greater autonomy for an organization principally concerned with the technical and business problems of the land surveyor in private practice. Similar interests are being expressed by other technical specializations, such as geodetic surveying and cartography. While it

is desirable for the profession to encourage active programs within each of its specializations, it seems to me that it is at least as important that we retain the concept of each individual as a member of the profession as a whole. The professional society must thus make as one of its major thrusts the continuing broadening of the members of their profession so that they have some knowledge of the technology, the problems, and the accomplishments of all of the specialists who make up the profession. In talking with the past executive vice-president of the American Institute of Architects, he said that the strength of the architectural profession today lies in the fact that they have been able to maintain the concept of the architect as a member of a single integrated profession. A great deal of their time and effort goes into broadening experiences for members of the profession and for developing and examining the application of strong ethical standards on a profession-wide basis.

In a recent issue of the *Military Engineer*, John Catledge commented about the problems of professionalism today. He said that there are always great pressures brought by the very nature of the organization of society which tend to weaken professionalism. He identifies three specific problems: First, ethical standards are not always strongly maintained and can lead to improper application of academic excellence; second, personal completeness is not attained because of the pressures to move toward greater and greater specialization; and third, the pressure of work and of social activities frequently do not permit budgeting of adequate time for the additional effort needed for continuing education to maintain professional competence. All of the points he makes can be identified with our profession. I think that something is being done about each of them. We are seeing in the American Congress on Surveying and Mapping and the American Society of Photogrammetry a continuing effort to develop and police ethical standards. We are seeing a continuing concern by the professional societies and the senior members of our profession for establishing an academic base which will assure professional completeness. There is

evidence of wide interest in the growth of excellent continuing education programs in all of our specializations. There are new opportunities for exposure to the broader technology, such as that in computers and in communications that will continue to change our profession across the board.

So, I think that we can say that what has been happening to the surveying and mapping profession is generally good. But, is it enough, soon enough?

We must continue to take positive steps to move the profession forward. We should not permit splintering by giving in to the pressures which make difficult our participation in the profession as a whole, thus weakening the public image of surveying and mapping as a broad, strong, and integrated profession.

We have to be understanding and appreciative of each other in our specialties, but we dare not lose sight of the fact that we are also members of a single profession.

Those of us who are in management at any level in the profession should give strong support to the objectives stated by ACSM, recommended by the National Research Council Report, and supported by many others to require a baccalaureate degree in surveying and mapping as an entry-level requirement for professional employment and registration. We must urge and arrange for those who are already engaged in surveying and mapping to take part aggressively in educational programs that will bring them up to date with our rapidly changing technology. We must also strive for more effective communication with related professions so that they can understand the capability of our profession to service them and our needs for service from them. As we move into the era of national land data banks, of digital photogrammetry, and of more generally available satellite geodetic information, the surveying and mapping profession looks forward to healthy growth. All of us now serving the public and society in this profession have a great opportunity, indeed a great responsibility, to seize every opportunity to urge forward the development of a strong and effective surveying and mapping profession. ■

NGS News

Census & NOAA Announce Center of Population for 2020

To celebrate Geography Awareness Week, NOAA's National Geodetic Survey (NGS) worked with the U.S. Census Bureau as they announced that the 2020 Census Center of Population—the geographic center of the U.S. population—is near Hartville, Missouri. The center of population helps social scientists quantify how fast and in what direction the U.S. population is moving, see this [data visualization from U.S. Census](#).



Every decade since 1960, Census and NGS have placed commemorative survey monuments in publicly accessible locations near the actual center of population. In Spring 2022, NGS and local partners will install the 2020 Center of Population mark and conduct a high-accuracy GPS survey to tie this and nearby survey marks to the National Spatial Reference System, the nation's coordinate system.



U.S. Census Bureau, 2020 Census

Tom's Tip of the Month

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Dr. Travis Bradberry



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John Mella & Associates, Inc.	813-232-9441
Johnston's Surveying, Inc.	407-847-2179

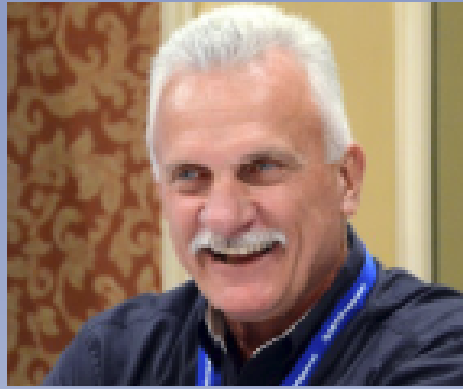
K	
KCI Technologies	954-776-1616
Keith and Associates, Inc.	954-788-3400
Kendrick Land Surveying	863-533-4874
L	
L&S Diversified, LLC.	407-681-3836
Land Precision Corporation	727-796-2737
Landmark Engineering & Surveying Corporation	813-621-7841
Langan Engineering	973-560-4900
Leading Edge Land Services, Inc.	407-351-6730
Leiter Perez & Associates	305-652-5133
Lengemann Corp.	800-342-9238
Leo Mills & Associates	941-722-2460
Long Surveying, Inc.	407-330-9717
Ludovici & Orange Consulting Engineers	305-448-1600
M	
Manuel G. Vera & Associates, Inc.	305-221-6210
Marco Surveying & Mapping, LLC.	239-389-0026
Massey-Richards Surveying & Mapping, LLC.	305-853-0066
Masteller, Moler & Taylor, Inc.	772-564-8050
McCain Mills, Inc.	813-752-6478
McKim & Creed, Inc.	919-233-8091
McLaughlin Engineering, Co.	954-763-7611
Metron Surveying and Mapping, LLC.	239-275-8575
Metzger + Willard, Inc.	813-977-6005
Mock Roos & Associates, Inc.	561-683-3113
Moore Bass Consulting, Inc.	850-222-5678
Morris-Depew Associates, Inc.	239-337-3993
Murphy's Land Surveying	727-347-8740

N	
Navigation Electronics, Inc.	337-237-1413
Northstar Geomatics, Inc.	772-485-1415
Northwest Surveying, Inc.	813-889-9236
Noble Surveying & Mapping	352-973-3811
NV5, Inc.	407-896-3317
O	
On The Mark Surveying, LLC.	321-626-6376
P	
PEC Surveying & Mapping	407-542-4967
Pennoni Associates, Inc.	215-222-3000
Pickett & Associates, Inc.	863-533-9095
Platinum Surveying & Mapping, LLC.	863-904-4699
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Porter Geographical Positioning & Surveying, Inc.	863-853-1496
Pro-Line Survey Supply	904-620-0500
Pulice Land Surveyors, Inc.	954-572-1777
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Q Grady Minor & Associates, PA	239-947-1144
R	
Reece & White Land Surveying, Inc.	305-872-1348
Richard P. Clarson & Associates, Inc.	904-396-2623
R.M. Barrineau & Associates, Inc.	352-622-3133
R.J. Rhodes Engineering, Inc.	941-924-1600
Robayna and Associates, Inc.	305-823-9316
Rogers, Gunter, Vaughn Insurance, Inc. (HUB FL)	850-386-1111

S	
SAM Surveying & Mapping, LLC.	850-385-1179
SCR & Associates NWFL, Inc.	850-265-6979
Sergio Redondo & Associates, Inc.	305-378-4443
Settimio Consulting Services	850-341-0507
SGC Engineering, LLC.	407-637-2588
Shah Drotos & Associates, PA	954-943-9433
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Sliger & Associates	386-761-5385
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Southeastern Surveying & Mapping Corp.	407-292-8580
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Stoner & Associates, Inc.	954-585-0997
Strayer Surveying & Mapping, Inc.	941-497-1290
Surv-Kap	520-622-6011
SurvTech Solutions, Inc.	813-621-4929
T	
T2 UES Inc.	407-629-7144
Thurman Roddenberry, & Associates	850-962-2538

U	
Upham, Inc.	386-672-9515
W	
Wade Surveying, Inc.	352-753-6511
Wallace Surveying Corp.	561-640-4551
Wantman Group Inc.	561-687-2220
WBQ Design & Engineering, Inc.	407-839-4300
Winningham & Fradley, Inc.	954-771-7440
Woolpert, Inc.	937-531-1322
Z	
ZNS Engineering, LLC.	941-748-8080

ADMINISTRATIVE staff



Executive Director

Tom Steckler
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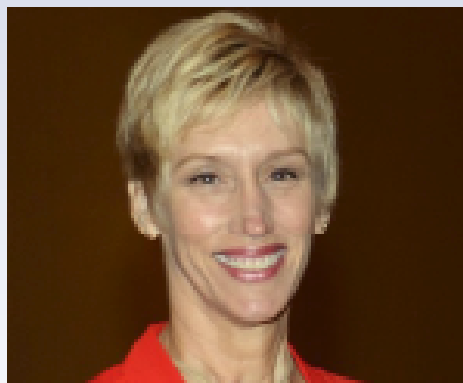
Education Director

Rebecca Culverson
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Communications Coordinator

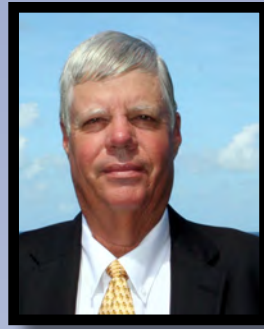
Justin Ortiz
communications@fsms.org



Regional Coordinator

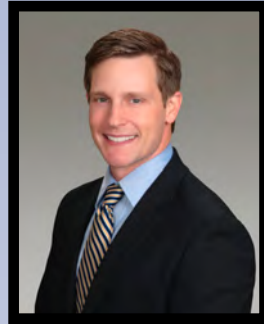
Cathy Campanile
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2021 FSMS officers



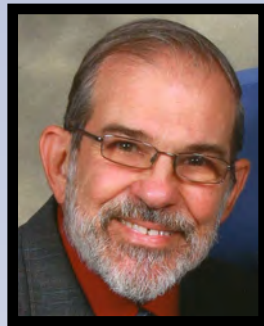
President-Elect

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Immediate Past President

Don Elder
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2021 Committees

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Education Committee	Greg Prather
Annual Meeting Committee	Hal Peters
Legal Committee	Jack Breed
Strategic Planning Committee	Lou Campanile, Jr.
Ethics Committee	Joe Perez
Legislative Committee	Jack Breed
Surveying & Mapping Council	Randy Tompkins
Constitution & Resolution Advisory Committee	Eric Stuart

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Awards Committee	Don Elder
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FDACS BPSM	Howard Ehmke
Surveyors in Government	Richard Allen
Academic Advisory UF	Bon Dewitt
FES	Lou Campanile, Jr.

Practice Sections

Geospatial Users Group	Earl Soeder
-------------------------------	-------------

2021

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Palm Beach

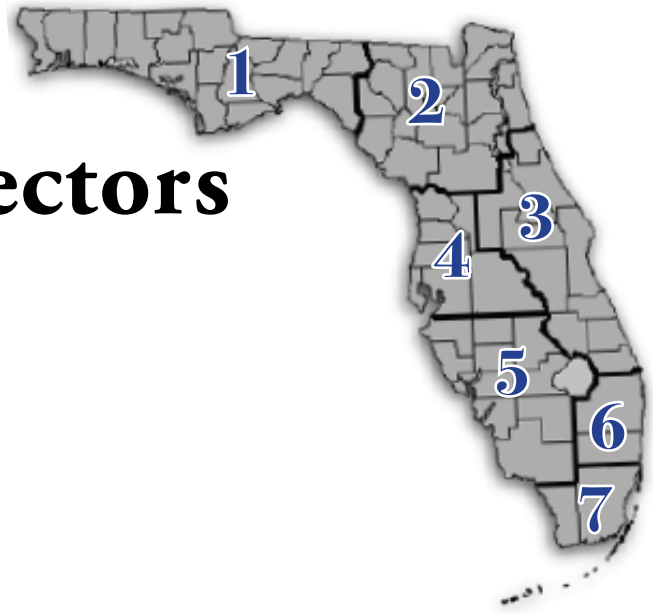
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District 7

Miami-Dade

Frank Pauas-Suiero
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2021 Districts & Directors



District 1 - Northwest

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District 2 - Northeast

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Randy Tompkins (904) 755-4235 randytompkins1@outlook.com

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Alex Parnes (727) 847-2411 alexwolfeparnes@gmail.com

District 5 - Southwest

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Earl Soeder (407) 601-5816 earl.soeder@duncan-parnell.com

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Miami-Dade, Monroe

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Jose Sanfiel (305) 351-2942 josesanfiel@woolpert.com

NSPS Director

Russell Hyatt (941) 748-4693 russell@hyattsurvey.com

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John P. Goggin
R.H. Jones

1960

Hugh A. Binyon
Russell H. DeGrove
Perry C. McGriff
Carl E. Johnson
James A. Thigpenn, III
Harold A. Schuler, Jr.
Shields E. Clark
Maurice E. Berry II
William C.. Hart
Frank R. Schilling, Jr.

1970

William V. Keith
James M. King
Broward P. Davis
E.R. (Ed) Brownell
E.W. (Gene) Stoner
Lewis H. Kent
Robert S. Harris
Paul T. O'Hargan

William G. Wallace, Jr.
Robert W. Wigglesworth

1980

Ben P. Blackburn
William B. Thompson, II
John R. Gargis
Robert A. Bannerman
H. Bruce Durden
Buell H. Harper
Jan L. Skipper
Steven M. Woods
Stephen G. Vrabel
W. Lamar Evers

1990

Joseph S. Boggs
Robert L. Graham
Nicholas D. Miller
Loren E. Mercer
Kent Green
Robert D. Cross
Thomas L. Conner
Gordon R. Niles, Jr.
Dennis E. Blankenship
W. Lanier Mathews, II
Jack Breed

2000

Arthur A. Mastronicola
Michael H. Maxwell
John M. Clyatt
David W. Schryver
Stephen M. Gordon
Richard G. Powell
Michael J. Whitling
Robert W. Jackson, Jr.
Pablo Ferrari
Steve Stinson

2010

Dan Ferrans
Jeremiah Slaymaker
Ken Glass
Russell Hyatt
Bill Rowe
Dale Bradshaw
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2020

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