The Florida Surveyor

Volume XXVI, Issue 3

March 2018

Introducing the Young Surveyors Network

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A publication of the Florida Surveying and Mapping Society since 1992

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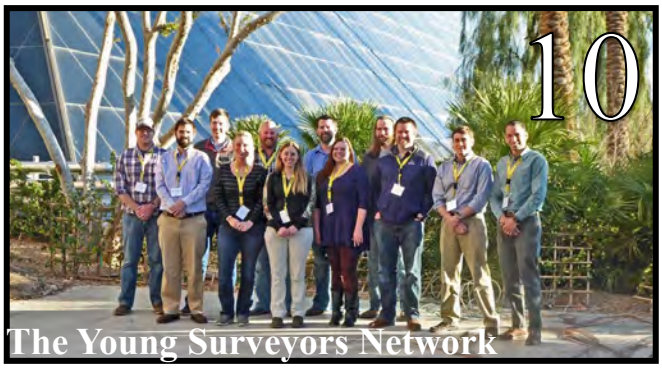

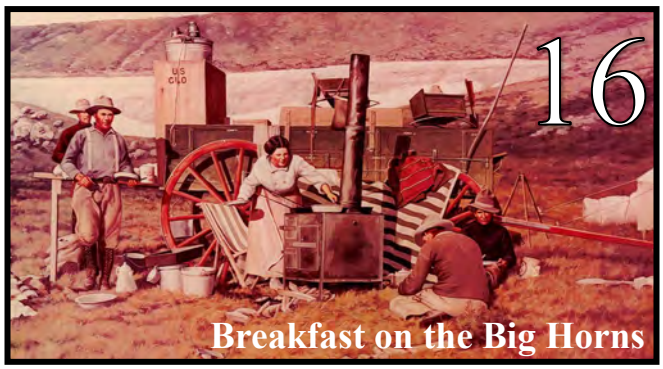

Cover Credit: Captain Kimo

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President's Message

Now that February is quickly coming to a close, our FSMS dues are paid and the day of "love" (Valentine's Day) is behind us. Hopefully all of us will keep some of that love in our hearts throughout the year. To love somebody or something is truly a positive spiritual emotion and it cannot be bought or sold. It is the unselfish act of giving back and paying forward to others and it is a God-given gift which we all possess, but sometimes fail to acknowledge, or appreciate, the power of.

Hopefully, this love that we have also manifests in the work we do every day as surveyors and mappers. If we truly love what we do, how do we keep that spiritual feeling going? Daily prayer, affirmations, meditation, exercise and time off? These things are great and make us better individuals, but there is something else that also will build and keep that spirit of love in your life, and that is giving back and paying forward to the surveying & mapping profession which we have chosen to work in. Paying dues and volunteering in your professional association is exactly that: paying forward and giving back to the profession that supports us and provides for the life that we love.

So, you ask, what does FSMS pay forward or give back to me from my hard-earned dues?

1) Maintains and supports a 63-year-old professional society network of surveyors and mappers in Florida and across the U.S. This network serves and adds credibility and value to your daily interactions with your peers and business partners.
2) Protects and enhances your license and practice laws in Florida by working with the BPSM (Board of Professional Surveyors and Mappers).
3) Maintains a full-time lobbyist and PAC - one of the largest in the country – which constantly watches out for our industry and daily businesses.
4) Promotes and encourages the future youth in our profession through several scholarship funds, college programs, high school programs, CST programs, and technical programs and seminars.
5) Monitors and addresses unlicensed practice in Florida with a very active state-wide committee.
6) Provides CEC education opportunities with a voucher for 3 credits, as well as additional credits for attending local meetings and seminars.

Your dues also pay your affiliate membership to be one of 21,000 members of the National Society of Professional Surveyors (NSPS). Being a member of NSPS puts your voice and value on the national level, as well as a voice in our nation's capital, which also works to keep our businesses protected and prosperous. National Surveyor's Week is March 18-24. Let's all get out and give some of our time to observe this week, which is dedicated to our profession, and proudly promote our profession to others.

"I invite all Americans to look back at the historic contributions of surveying and look ahead to the new technologies which are constantly modernizing this honored and learned profession."

Ronald Reagan

Ronald Reagan
National Surveyors Week Proclamation
February 13, 1984

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Surveyors in Government

Richard Allen, PSM, CFM

This month, I am going to touch on two points I view as big issues affecting my organization and, maybe, yours as well. The first is data governance and management, and who is responsible for that data, including the scope of data collection. The second is the sharing of data across the organization. I have been working to get everyone on the same page about the specifics of what should be required in a survey and what deliverables are required. In most cases, we get the data as specified, but not in every case.

I often find that when a service is procured through a different continuing service that is not managed by a surveyor, the deliverable is not always what it should be. The certification does not cover everything it should, or the survey type is not 100% correct. The survey division within the City of Orlando should review all projects involving surveys, but with an organization of 4,500 people, deficiencies exist and projects are not always submitted to us for review or acceptance.

I regularly find problems in projects involving the right of way that are only topographic surveys. We continually use a Specific Purpose right of way and topographic survey for work in the right of way. This is vital, as the right of way must be shown and referenced for determining whether private property is affected by the planned activities and to determine whether easements are needed.

A few of the projects I see that are at the 60% plan review stage don't qualify the right of way and are only topographic surveys. The question I have is whether this is intentional, or just a result of the surveyor being provided with a poor scope of work. This is something I see regularly in the surveys that involve civil or stormwater services.

Many more surveys never make it across my desk for review. Only later do I find out that the survey is not covering what was needed and there are areas of deficiency in the data. This includes the proximity of cross sections and lack of detail with some improvements. Additionally, you will find that signed and sealed surveys that are properly certified were never provided once the task is complete. This problem arises when a professional service is not properly vetted! Everyone believes that the data delivered is the certified survey and we know that this is not the case without the certified survey or the surveyor's report.

"I often find that when a service is procured through a different continuing service that is not managed by a surveyor, the deliverable is not always what it should be."

Without all of this information, how do you know which datum or control points the survey is based upon? You don't, and most of you, if not all, have some of this unknown data. Setting up organization-wide data governance standards is important and that is what I am trying to get stakeholders across my organization to understand. We are getting there, but in incremental steps.

The expected deliverable of a survey product is not always known by project managers and senior staff. I continually educate project managers on what is expected for deliverables, but alas, I am just an unruly surveyor to some! That is, until the project has issues, at which point I explain that

there is a reason I stress the importance of what is required. This is why there is substantial need for strong data governance within an organization! Surveyors should be responsible for reviewing all surveys submitted for any public procurement of the organization. I understand this is difficult for smaller organizations, but they generally have someone that understands surveying who manages these tasks.

Now, to my second point: the sharing of data is incredibly important within a government organization and across government agencies. I find it amazing that data sharing is still limited in many organizations, especially ours. We are working to fix that, but with a limited number of essential staff, it becomes difficult trying to manage this alongside our regular duties. These duties - which include reviewing construction plans and survey proposals, checking subdivision plats, managing field staff and attending meeting after meeting - limits our ability to correct issues across the organization. But it also provides opportunities, as there are times in these meetings and reviews that you can interact with your co-workers and preach about organization-wide data practices. Every chance I get, I work to educate on data and listen to others in regard to what they need or use data for – most notably, surveying and assets. Asset management and the internet of things are becoming more popular, and if we do not embrace them and begin to better manage data, someone else will!

You can reach Richard at Richard.Allen@cityoforlando.net or 407.246.2788

Reminiscences of an Old Surveyor

Measuring a Distance by Taping

Part II

Knud E. Hermansen, PLS, PE, PhD, Esq.

Long ago, some entrepreneur invented a tape clamp. The tape clamp was a handy little gadget that allowed the user to firmly secure the tape with the clamp using the two finger rings that were part of the clamp. Using the finger rings, the tape could be easily pulled without bending of the tape or permitting a slippage along the tape.

I doubt much money was made from the invention. The survey firms that had purchased this gadget were likely as not to leave it unused in the office. When brought to the field, it never seemed to be with the tape person that needed it.

Having mastered the combination of holding the tape level, keeping pressure on the tape, and keeping the plumb bob string firmly attached to a mark along the tape, the tape person could now focus their attention to the suspended plumb bob that was likely as not swinging over the ground much as a lookout does in a crow's nest over a ship in rough seas. Restraining the plumb bob from wild gyrations required the tape person to periodically tap the plumb bob into the ground until the swinging of the plumb bob settled down.

The person at the rear of the tape had a mark that the plumb bob had to be over. When he was satisfied that he had wrestled the plumb bob and by extension the appropriate part of the steel tape over this point he would repeatedly shout some agreed upon term to the forward tape person to let that person know that a measurement could now be reliably made by the forward tape person.

I have seen the patience of the rear tape person sorely tested by the inability of the lead tape person to make a timely mark or reading. The rear tape person will make repeated statements of "good" or "mark" to indicate that he is over the point and the measurement can be made. After some repetition, the rear tape person will become agitated by his own endless repetition and may be heard to stop the repetition in order to yell: "god damn it, I'm good at this end. What is taking so damn long."

If the forward tape person was not measuring to a previously established point, they would tap the plumb bob point onto the ground to make a mark in the dirt, having previously kicked away grass, leaves, and twigs to clear a space on the ground. Once the forward tape person was satisfied the mark made by the plumb bob point represented a fair measurement, they would release the tension in the tape and put a pin into the ground at the mark. This pin would become the basis for the rear tape person to advance upon and measure over.

As I previously mentioned my employer was a kindly man but did not feel justified in purchasing equipment that was not absolutely necessary. Rather than using chaining pins, as they were commonly known, to fix the limit of the tape measurement, we would use nails or sticks with flagging tied to the end of the stick.

Having marked the length of the tape on the ground, the forward person would drag the tape in the direction of the survey to begin again the process of making the next measurement. The rear tape person would follow with the other end of the tape. Now if the rear tape person was not paying attention, they would likely as not kick the pin or nail out of the ground before they spotted it. If the rear tape person did a good job of kicking the pin loose from the ground, the taping would have to begin anew back at the starting point with numerous expletives used against the rear tape person for not paying attention to where they placed their feet. To avoid repeating the process of taping or bringing upon themselves embarrassment and attracting the ire of the other crew members, more than one rear tape person made a

best guess where the pin may have resided before they inadvertently kicked it out. If possible the misfeasance was corrected without the forward tape person realizing what was being done.

I should mention that had the forward tape person measured into a mark or corner already fixed, his job was a little more difficult. Rather than stick a pin, nail, or stick in the ground, he had to find a way to maintain the tension, keep the tape horizontal, maintain a steady plumb bob over the point, and read the marks on the tape at the plumb bob string.

This was done by firmly clasping the plumb bob string over and on the tape using the index finger and thumb and sliding the string along the tape until the plumb bob was over the desired point. The tension was then released while still keeping a firm grasp of the string on the tape. Once all the other distractions were eliminated, the forward tape person could peak under his thumb and see what incremental hundredths of a foot mark the string was held upon.

At this point it is worth mentioning a problem that has plagued surveyors using a tape or chain for a couple of centuries – keeping track of the whole lengths that are used when measuring between two points. When a survey crew measures long distances, it is necessary to tally the number of full tape lengths used. Now it would be wise for a crew member to make a mark in a field book each time a tape length is achieved. What is wise and what was done are two different things. If field books were not available putting notches on a stick or moving stones or acorns from one pocket to another was employed. Despite the best efforts, there are numerous distances where a tally was lost or added that should not have been.

I have alluded to a plumb bob suspended from the tape to the ground. The term 'suspended' is only accurate after some effort is obtained to stop the plumb bob from swinging in arcs over the ground. It is not possible to get a plumb bob to hang from the tape to the ground without some swinging. The plumb bob was determined to be contrary when let loose to hang. There were times when the plumb bob was stationary but not vertical as in the case when the plumb bob had to be dropped from chest height and there was a strong wind blowing across the open field. It seems to me that the wind was usually combined with cold temperatures. To all the other problems I have alluded to in trying to keep the plumb bob steady over a mark must be added the lost sensitivity of the fingers when using gloves and the shaking of the body from the cold temperature.

Eventually, the plumb bob was finally settled into compliance by tapping the plumb bob upon the ground until finally the tip of the plumb bob was confined to a small area meeting the tolerance of the tape person. Of course before the tapping could take place, the forward tape person usually had to expose the ground by kicking away sod, sticks, leaves, and other debris using the toe of his boot. This often accounted for the delay that caused the agitation of the rear tape person that I have previously mentioned.

I must not close this reminisce on taping before adding a few more tidbits that provide some added insight into taping practice.

Many tapes were not marked or inscribed like a more recent steel tape or the fiberglass tape still found in the surveyor's tool kit. What I mean is the tape did not contain marks to the hundredth of a foot along the entire length of the tape. The old tapes were only marked every foot except for the very end of the tape where the tenths and hundredth of a foot marks could be found. This necessitated the rear tape person find a whole foot mark to hold to and the forward tape person use the end of the tape to measure the increments of a foot. To set this up involved the forward tape person yelling back to the rear tape person to 'take a foot' or 'give a foot.'

While on the subject of marks on the tape, I must state that dragging a tape along the ground for days, weeks, and years often succeeded in smoothing the tape and erasing the stampings of the whole feet and making the marking of whole feet difficult to read. More than once I had to look up or down the tape to find a readable mark and work my way back to the mark I was to hold at in order to know what whole foot I was holding at.

I have about exhausted my memory of taping but for three situations often encountered in taping. One situation is the delicate taping required when taping through an electrified cow fence with a steel tape. I need say no more on that topic as the reader can well imagine what often happened. I must add that in addition to the electrified wire, once the survey crew has cleared the electric fence and entered the field, the reason for the electrified wire becomes obvious. Curious cows tend to congregate about the surveyor and become a hindrance in the taping process. However, I suppose a curious cow or heifer is far

better than the bulls I encountered from time to time that took offense at the red often worn by the surveyor.

The second situation not fondly remembered is taping upon a concrete or asphalt surface. Since such surfaces were often flat and without obstructions, the tape was laid flat on the surface. Tension was put on the tape ends during the measurement with knuckles touching the asphalt or concrete. In such cases one tape person usually released their tension unexpectedly with the result that the other tape person often left some skin from their fingers on the rough surface of concrete or asphalt.

The third situation that still can incite bad dreams occurred when taping across a busy road or sidewalk. You did not have to experience this situation in order to imagine the peril of a tape suspended above the road surface when a car is observed much too late traveling down the road. Dropping the tape quickly to the road surface would often preserve the tape. Yet, there is many a time the survey crew returning to the office with a broken tape that claimed this very event to be the cause of the broken tape. Of course, there was nothing they could have done to prevent this happening. At least that is what they claimed.

I will close this reminisce by speaking about securing the equipment used in taping. The tape was coiled with attention paid to making consistent sized loops. The tape was then thrown. I don't mean heaved to the side. I mean that the tape was made into a figure 8 then into a compact circled loop using a twisting of the hands. Throwing a tape was an art that was often done at a surveyor's convention to show prowess. If a person did not know how to throw a tape it turned into a wrestling match where the tape refused to cooperate and often as not ended in a jumble rivaling any fishing line tangle. If the person did know how to throw the tape, a person watching would have the unmistakable impression that a magic trick just occurred. One minute the tape is in a large loop and the next it is neatly coiled in a compact loop.

The other item of equipment deserving some effort at storage was the plumb bob. To see a plumb bob being stored with the string hanging loosely from the end of the plumb bob would reflect poorly on the owner. At some point, another inventor came up with a gammon reel that wound the string up unless the owner resisted the urge of the gammon reel. Before the gammon reel arrived at the scene, a plumb bob string would be carefully wrapped around the head of the plumb bob and a slip put into the string to hold the string in place. A carefully tug on the string would unwrap the string from the plumb bob. A knot in the plumb bob string spoke of an untrained crew person. A knot in a plumb bob string was akin to a hang nail on the finger – it's presence always felt and always hanging up at inopportune times.

Keep this rendition of the taping process in mind young surveyor before disparaging that old surveyor that taped those long distance one small segment at a time.

Compiled by FSMS Lobbyist David Daniel:

Week 6 of 9

Week 6 was a slower week as the presiding officers hash out budget details behind the scenes. This budget process should have been made a little easier when late last week the Revenue Estimating Conference increased their budget estimates for FY 18-19 by nearly $500 million in primarily non-recurring dollars. The House Ways and Means Committee also debated and passed a $400 million tax relief package. We are in the final few weeks of regularly scheduled committee meetings so legislators are scrambling to get their bills through committee and in a position to pass.

UF/IFAS Geomatics Education - state budget

HB 5001 - not included in Senate budget

HB 5001 includes $636,120 in nonrecurring state funds to the UF/IFAS Geomatics Education Program.

A big hurdle we will have to overcome is not just getting this funded in the state budget for FY 18-19 but also overcoming a potential veto since these funds were vetoed by Governor Scott last year. I met with the deputy chief of staff for Governor Scott this week and expressed our support for this program and its funding. They have asked if we would encourage surveyors across Florida to communicate support for this program to the Governor's Office.

DSL Funding - state budget

HB 5001 - SB 2500

Both House and Senate spending plans include $500,000 for restoration of corners under line item 1543 on contracted services.

Licensure Fees for Veterans and Surviving Spouses (includes changes to 472)

HB 29 by Rep. Ponder (R-Destin) - SB 1884 by Sen. Broxson (R-Pensacola)

This legislation changes requirements in specific professions for veterans and surviving spouses. Section 6 and Section 7 of this legislation opens Chapter 472.015 & 472.016 to waive initial license fees for surviving spouses, current members of armed forces or their spouses or a surviving spouse of a veteran who died in active duty.

HB 29 passed the House by a vote of 115-0. SB 1884 passed the Senate Transportation and Economic Development Appropriations Subcommittee by unanimous vote and will now head to the Senate Appropriations Committee for consideration.

BILLS ON LIFE SUPPORT

Deregulation Legislation

HB 15 by Rep. Beshears (R-Monticello) - SB 526 by Sen. Brandes (R-St. Petersburg); SB 1114 by Sen. Brandes on Professional Regulation

The bill removes hair braiders, hair wrappers, body wrappers, nail polishers, makeup applicators, boxing announcers, and boxing timekeepers from DBPR regulation. Additionally, the bill reduces some licensing, training and scope of practice for specified professions. The bill does NOT include surveying and mapping. Section 34 of the bill does open up Ch. 287.055 to a conforming change.

Statewide Procurement Efficiency Task Force

SB 368 by Sen. Brandes (R-St. Petersburg) - HB 111 by Rep. Albritton (R-Wauchula)

The bill would create a 14-member Statewide Procurement Efficiency Task Force to evaluate the effectiveness and value of state and local procurement laws and policies. Members are to be appointed by July 31, 2018 with a final report to the Governor, President of the Senate and Speaker by July 1, 2019. The Task Force would terminate December 31, 2019.

Veterans Identification (includes changes to 472)

HB 107 by Rep. Williamson (R-Pace) - SB 328 by Sen. Baxley (R-Ocala)

This legislation would create a veteran identification card to be used as proof of veteran status. Section 2 of this bill makes changes to Chapter 472.015 on licensure to allow for use of a veteran identification card.

Week 7 of 9

Week 7 was a difficult week in Tallahassee. Emotions were raw following the deaths of 17 students and teachers at Marjory Stoneman Douglas High School in Parkland, Florida last week. Several legislative leaders traveled to Parkland to speak with victims and their families, and upon returning were clearly impacted by the loss. Legislative leadership, including Speaker Corcoran, Senate President Negron and Governor Scott have been working to draft legislation intended to thwart shootings like this at schools in our state. This, along with passing a balanced budget, will be the priority as we close the 2018 Session.

Budget negotiations are slowly getting started. In order to end the Session on time the state budget would need to be placed on legislator's desks in 12 days, a tall order under normal circumstances. It looks likely they will, at a minimum, need an extended session to complete their work. Progress made on the budget during Week 8 will decide if they need to extend session or call a special session later in the year.

UF/IFAS Geomatics Education - state budget

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HB 15 has passed the House and been referred to committees in the Senate. *SB 536 is stuck in the Senate Commerce Committee but the deregulation language has been included in SB 1114 by Sen. Brandes which is scheduled to be considered by the Senate Appropriations Committee during Week 8.*

BILLS ON LIFE SUPPORT

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Introducing the Young Surveyors Network

Chris Wild, PSM, Young Professionals Committee Chair

By now, everyone should have renewed their FSMS membership for 2018. On the application, you might have noticed a new group option, not present in previous years: the Young Surveyors Network (YSN). The YSN will become the newest practice section of FSMS this year and before that becomes official, I wanted to share with you all the history and background of the group and a brief overview of where it is going.

History of the YSN

There have been countless discussions throughout the surveying and mapping profession over the last decade on how to attract the next generation of surveyors. In 2014, under the leadership of FSMS President Bill Rowe, a Young Professionals Committee was formed in Florida with the hope that a committee of young surveyors would bring a fresh perspective to the issue. The committee was chaired by Justin Ferrans, who would become Florida's first representative to the newly-formed NSPS Young Surveyors Network.

The idea of a creating a network of young surveyors came out of a working group of the International Federation of Surveyors (FIG) back in 2006, and by 2009, the FIG Young Surveyors Network had been formed. The first FIG Young Surveyors North American Meeting was held in 2014 in San Diego, CA where NSPS started the discussion on how they would support and encourage the formation of the YSN nationally. In 2016, the NSPS YSN's petition for affiliation was formally approved by the NSPS Board of Directors.

The NSPS YSN is made up of an officer team and one representative from every state, plus the District of Columbia. The plan is for each state to build out their own YSN under the umbrella of the NSPS YSN, while the NSPS YSN falls under the umbrella of the FIG YSN. This structure will allow for the worldwide sharing of ideas and information while providing support and opportunities at the local level.

Creating a Florida YSN

The FSMS Young Professionals Committee served a useful purpose and gave Florida an avenue to connect with the NSPS YSN, but the organizational structure had its limitations. The committee was able to hold meetings and organize social events, but had no reliable method to reach out to other young surveyors and eventually the communication channels became disjointed.

With the goal of involving all young surveyors in the group, the idea of transitioning to a Practice Section within FSMS was proposed to the FSMS Board of Directors last year. With the Board's endorsement, the committee got to work creating a set of bylaws for the Practice Section to operate under. Those bylaws are now ready to be approved by the Board of Directors to officially create a Young Surveyors Network within FSMS.

Mission and Vision for Florida's YSN

While operating as the Young Professionals Committee, we established the following Mission Statement that closely corresponds to the mission of the NSPS YSN, and we will carry it forward to the new YSN Practice Section:

"There have been countless discussions throughout the surveying and mapping profession over the last decade on how to attract the next generation of surveyors."

Promote
Ensure young surveyors and mappers are working together with FSMS to promote the surveying and mapping profession to the public by sharing materials, ideas and opportunities.

Connect
Ensure young surveyors and mappers are connected with FSMS and experienced surveyors and mappers for mentoring, support, and career guidance.

Represent
Ensure young surveyors and mappers are present and represented at local, state and national surveying and mapping organizations and associations.

Participate
Ensure young surveyors and mappers are engaged, active and have the opportunity to get a voice at local, state and national surveying and mapping organizations and associations.

As Florida's current representative to the NSPS YSN, and Young Professionals Committee chair, I have developed the following higher-level goals for Florida's YSN:

- Develop future leaders within FSMS and the greater surveying and mapping profession.
- Provide informational resources to young surveyors beginning their career.
- Create networking opportunities for young surveyors around the state.
- Retain student members within FSMS after graduation.

As FSMS continues to look toward the future, I hope that the YSN will engage more young surveyors within the society. Please look for more information about the continued development of this group in upcoming issues of *The Florida Surveyor*.

"As FSMS continues to look toward the future, I hope that YSN will engage more young surveyors within the society."

Chris, second from left, at the 2018 Spring NSPS YSN meeting in Las Vegas.

National Geodetic Survey Positioning America for the Future geodesy.noaa.gov

Issue 10, January 2018

NSRS Modernization News

For all issues of **NSRS Modernization News**, visit:
geodesy.noaa.gov/datums/newdatums/TrackOurProgress.shtml

Blueprints

NOAA Technical Report NOS NGS 64, "Blueprint for 2022, Part 2: Geopotential Coordinates" was released on November 13th.

Foundation CORS

After a slow start, the Foundation CORS project is underway again. A formal project plan exists, outlining the strategies for completion of this network by December 2022. A significant portion of the network will be through incorporation and refurbishment of existing GNSS infrastructure. For more information, contact the Foundation CORS project manager, Dr. Kevin Choi.

Upcoming Outreach

In the next few months, two national conferences will host sessions on NSRS Modernization. They are:

- The **ASPRS/ILMF** conference in Denver, CO will have a panel session entitled ***North American Terrestrial Reference Frame of 2022 Modernization Program***, which is scheduled from 3:15 to 4:30 on February 6.
- The **ASCE-UESI** conference in Pomona, CA is holding a two-part session entitled ***NSRS Modernization*** from 1:45 2:40 and 3:30 to 4:50 on April 23.

Progress of Ongoing Projects

There are currently 18 ongoing projects directly related to NSRS modernization around NGS. Here are highlights from a select few:

State Plane Coordinates for 2022

Project Manager: Michael Dennis

Draft policy and procedures have been developed for SPCS2022, and they will be released for public comment within the next few weeks. A new report will also be published soon: ***NOAA Special Publication NOS NGS 13, "The State Plane Coordinate System of 1983: History, Policy, and Future Directions."*** This document includes definitions for every SPCS zone ever created by NGS. An NGS webinar on SPCS2022 is scheduled for March 8 (sign up at https://geodesy.noaa.gov/web/science_edu/webinar_series/Webinars.shtml).

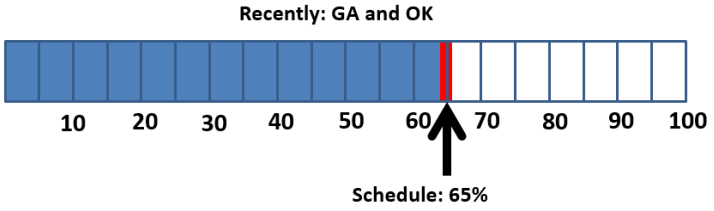
OP2IDB Project Manager: Dr. Mark Schenewerk

In November, 2017, BETA OPUS-Projects wrapped up its series of "quick start" training webinars and demos. The presentation (.ppt) and recording (.mp4) of these webinars are available here: ftp://ftp.ngs.noaa.gov/pub/corbin/Beta%20OPUS%20Projects%20webinar%20material/

xGEOID Annual Project Manager: Dr. Yan Wang

xGEOID18 will come with enhancements not seen in previous xGEOID releases. Of note, all three areas which will eventually be covered by GEOID2022 (North American/Pacific, American Samoa and Guam/CNMI) will be covered. Additionally a companion deflection of the vertical model, xDEFLEC18 will be released with xGEOID18.

GRAV-D progress last quarter: up 1.3% to 65.2%
Ahead of Schedule!



Boundaries

How the Mason-Dixon Line Settled a Family Feud & Divided a Nation

Book Synopsis Part IV: Chapters 10-11

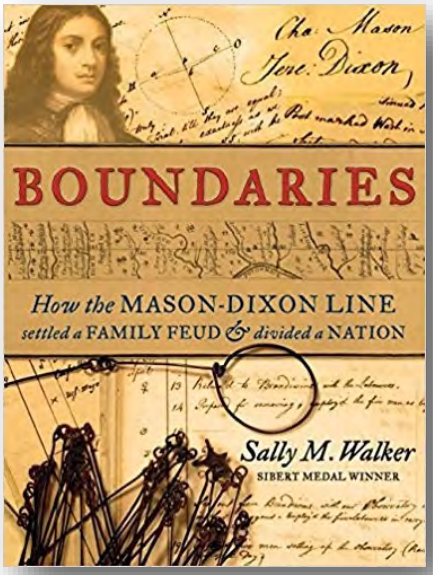
Editor's Note:

This is the fourth of five installments that presents the entire history of the Mason-Dixon Line through a synopsis of "Boundaries", by Sally Walker.

Today, the Mason-Dixon Line is used to reference the boundary between Southern states and Northern states. This present-day application began during the Civil War. However, the Mason-Dixon Line was actually completed nearly 100 years before the start of the Civil War, and originally served as the boundary line delineating Maryland and Pennsylvania.

The story of the Mason-Dixon Line begins over a century before its completion, in 16th century England. It involves two aristocratic families, the Calverts and the Penns. Across the Atlantic in the New World, the families would find themselves in perhaps the most infamous land dispute in history.

At the time, the Mason-Dixon Line was the largest and most ambitious survey project in history to ever be attempted.



To read previous installments, click below:

Part I - George Calvert founds Maryland and William Penn's Youth
Part II - Escalating Tensions and Introduction to Mason and Dixon
Part III - Surveying the Tangent Line and West Line

Clearing back to Post Marked West

Surveying resumed in March of 1766. Mason and Dixon picked up where they left off before winter, 117 miles into the West Line. Unpredictable weather prevented their crew manager, Moses McClean, from reaching them on time. He finally joined up with the duo on April 14, 1766.

The surveying now became especially arduous, because of the increasingly mountainous terrain they encountered while traveling further west into America. The first large hill they encountered was Sideling Hill, which had a summit of 2,300 feet.

From May 19th through June 5th, 1766, the crew surveyed across 10 hills and mountains over a 25 mile-stretch (between miles 140 and 165 on the West Line). On June 18th, after reaching mile 165, the crew stopped for the year. They had traversed as far as their commission and budget for 1766 permitted.

Savage Mountain was the last mountain on the 165-mile line. Mason hiked to its peak and wrote that it was one mountain in a chain that formed the "boundary between the natives and the strangers; in these parts of his Britannic Majestic Colonies."

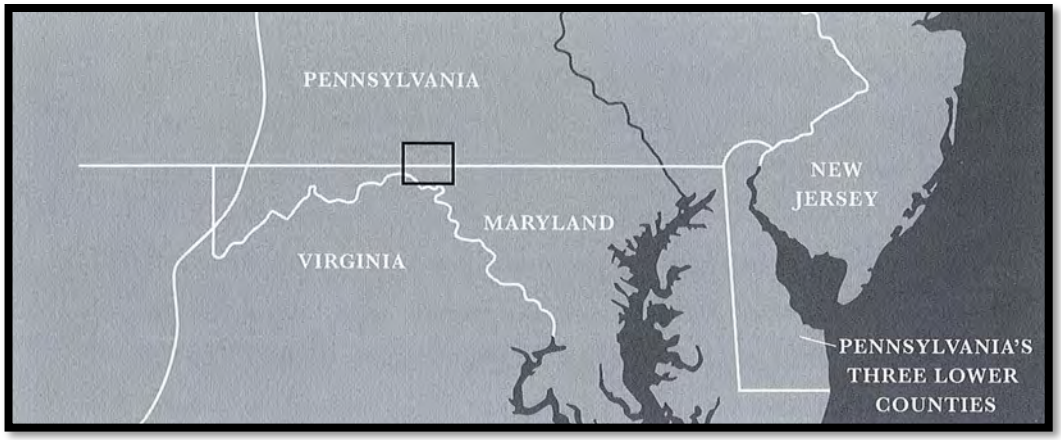
He continued: "From the top of these solitary mountains, the eye gazes round with pleasure, filling the mind with adoration to that pervading spirit that made them."

Now the crew turned back east, cutting a swath through the forest along the boundary line. The axmen cleared vegetation and cut down trees, clearing an eight-foot wide path along the entirety of the 165-mile line. The work was completed on September 30th, 1766, after arriving back at Post Marked West.

Extending the West Line

After winter passed, the commission ordered Mason and Dixon to extend the West Line further west in order to finish the entire southern boundary of Pennsylvania. The original land charter from the Crown stated that Pennsylvania was to extend five degrees longitude west of the Delaware River. To accomplish this, the survey crew would have to venture into the land of the Six Nations, a league comprised of six Native American tribes previously known as the Iroquois Confederacy.

Under a 1763 proclamation of the English Crown, colonists



The black box indicates miles 145-160 on the West Line, which was extremely mountainous.

could not settle or travel in these lands. An agreement with the Six Nations stipulated that this area belonged strictly to Native Americans.

Therefore, the Governors of Maryland and Pennsylvania petitioned William Johnson – the British ambassador to the Six Nations – to ask the Six Nations for permission to survey into this territory. Johnson was a resident of New York who lived near Mohawk territory. He not only spoke Mohawk but was married to a Mohawk woman. The Council of the Six Nations consented to the requests of Johnson and agreed to send Native American escorts to travel with the survey crew.

The survey crew assembled in July of 1767 at Fort Cumberland. The crew now sat at 65 men, which included: eight instrument bearers, five cooks, three tent keepers, and 37 axmen. The crew traveled with a total of 657 pounds of bacon, 644 pounds of flour, four bushels of oats, and 55 sheep.

On July 16, at mile 169, 11 Mohawk and three Onondaga escorts joined the survey crew. Twenty miles later, at the 189-mile mark, the entire survey party crossed into land that was frequently traveled by Lenni-Lenape and Shawnee tribes, which were enemies of the Six Nation tribes. In mid-August, a group of Lenni-Lenape entered the camp, but after quick discussions, they left without incident.

By early September, the crew swelled to 110 men. They were split into two crews: one that would begin clearing a swath back east along the boundary, and one that would continue surveying west with Mason and Dixon.

On September 29th, at mile 222, the crew entered the home territory of the Lenni-Lape and Shawnee. Because of the pervasive escalating tensions between Native Americans and colonists throughout the colonies, 26 men abandoned the survey crew out of fear, and Mason and Dixon had to send word for replacements.

In early October, at mile 231, the crew crossed over the "Indian War Path", a path once used by members of the Six Nations in an earlier war. The leader of the Native American escorts refused to go any further, stating that the original instructions from the Six Nations chief demanded that the survey crew not go any further than the War Path. Mason and Dixon attempted to persuade this leader to stay, but he would not give in.

It was simply too dangerous for the crew to proceed into hostile territory without Native American escorts. Mason and Dixon, therefore, had to halt the work and end the survey of the West Line near the War Path. Their progress ended at 233 miles in, still 31 miles short of five degrees longitude west of the Delaware river. To this day, the state of Pennsylvania is 31 miles shorter than it should have been.

Returning Home

All surveying activity stopped on October 17, 1767. But not all the work was completed. The crew now had to turn back east and begin clearing a swath along the boundary once more. However, they only had to clear back to mile 199, because the second crew had already cleared the boundary to that point.

The same type of boundary stones which had been previously used to mark the borders awaited them at mile 134. However, because the cost of placing the remaining stones was so high, the duo decided to use "homemade" markers instead. Therefore, between miles 134-233, Mason and Dixon marked the border with stone cairns that were placed atop high ridges along the boundary.

On November 5th, 1767, the Native American escorts departed the crew, as well as all but 13 crewmen. Mason and Dixon sent word to Philadelphia that they would be arriving on December 15th, having completed their mission. Soon after, the rest of the crew disbanded, and Mason and Dixon would spend Christmas Day with the boundary-line commissioners.

Before departing America, there was still some business left to do. The commissioners asked Dixon (an excellent draftsman) to draw a map of the colonies with the newly-surveyed boundary lines. They then had 200 copies of Dixon's map engraved and printed.

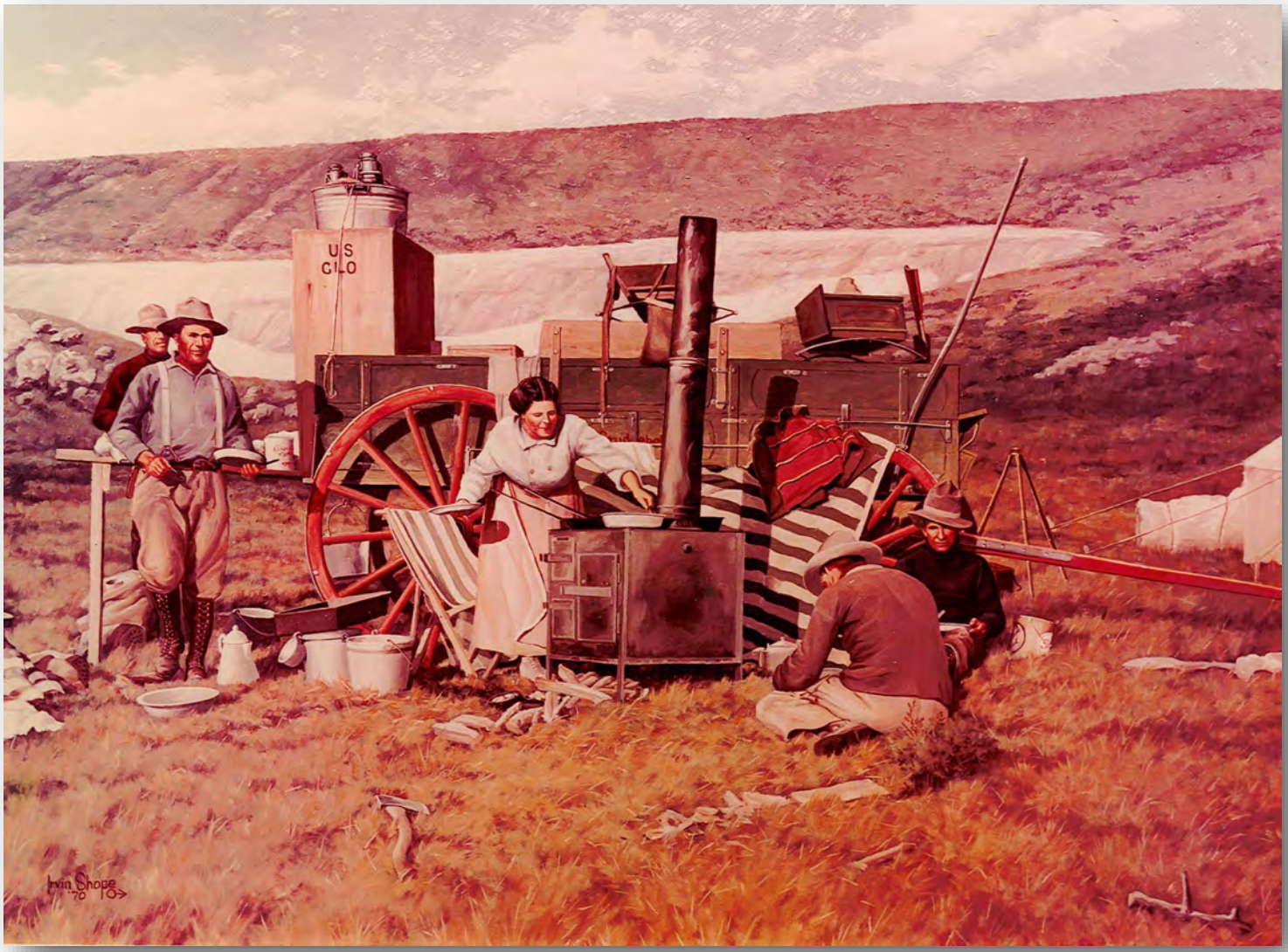
Prior to leaving, Mason and Dixon delivered the final invoice to head commissioner Benjamin Chew for 1,502 days of work. It totaled 3,256 pounds and one shilling.

Finally, on September 8th, 1768, nearly 5 years since first arriving in America, the duo left Philadelphia and headed to New York. On September 11th, at 11:30am, they set sail on the *Halifax* for England. Mason concluded in his journal: "thus ends my restless progress in America."

Breakfast on the Big Horns

W.R. Bandy

Editor's Note: In last month's *From The Archives,* we featured the painting titled "Breakfast in the Big Horns", which depicts a survey crew in the Big Horn Mountains in Wyoming in 1912. The following is the story from W.R. Bandy that accompanies the painting.



BREAKFAST ON THE BIG HORNS

By W. R. Bandy

This colorful painting is from an early morning photograph of an over-night camp of my survey party on the summit of the Big Horn Mountains in northern Wyoming. It was breakfast time on that August morning back in 1912. The survey crew was nearing the end of a 200 mile move overland by horse-drawn wagons in order to survey some Homestead lands along the Little Big Horn River. We had camped by this giant bank of last winter's snow because melting snow provided water for our horses and camp. We had found water scarce along the ancient Indian trail we had been following northward along the summit of the Big Horn Range. Most of the springs and water holes in the vicinity of the trail were well down on the slopes, difficult to reach with the heavily loaded wagons. We had traveled late before finding the trickle of water from the snow drift.

We carried with us food supplies, horse feed, tents, dishes, bed-rolls and everything needed for camping out, thus being prepared to live off the country for weeks at a time. It will be remembered that this was long before the day of the plush motels and roadside hamburger stands now available to cross country travelers.

It was the custom then throughout the west for travelers to go prepared to stop wherever night overtook them. Therefore, freighters, surveyors, stockmen and others thought nothing of pitching camp in the edge of town rather than to seek accommodations locally. Usually, of course we were traveling in unsettled country where accommodations were not available. At the time I took this photograph, we were many miles from any settlement, and from any traveled road.

There was no thought at the time that the scene might at some time in the distant future have historical value. However, a close study of the painting does reveal many interesting features peculiar to that time only.

A leisurely contemplation of the artist's work, and by letting one's imagination have full sway, especially if he enjoys the outdoor life, one can read much between the lines. This would be especially true if one knew some of the crew members!

One familiar with outdoor life and similar surroundings may sit and ponder this painting and relive many of the better experiences of his life. Wide is the range his imagination will take him if he gives it free rein! Most of them will have happy endings, for the Good Lord has fixed us so we tend to remember better our more pleasant experiences. One of the greater values of a painting of this kind are the memories it

recalls to mind; deeds of yesteryear, possibly tender moments words cannot describe! "Art! Its value lies in what its worth to live with, for that is the true value of Art".

The decision to take a picture of the camp that morning came to me on the spur of the moment as I awaited the call to breakfast, enjoying the aroma of frying mountain grouse and the coffee pot. The bright sun rising slowly in the east, behind me, cast a warm glow upon the colorful domestic scene ahead, catching a perfect view of my wife, Inez, as she stands rosy cheeked that frosty morning between the stove and the red and green painted wagon. She dominates the scene as the center of attraction, so aptly planned by the skillful artist.

With the stove loaded with frying pans, and skillets, she deftly spears a choice piece of tender grouse with that ever busy left hand of hers. So intent is she, my picture taking went unnoticed. It is that unforgettable scene that I wished to record for the admiration of future generations!

I should mention here that I was not really in the picture. The artist painted me in place of the teamster who was standing there expectantly, with plate in hand! My brother, Willis, standing in rear had bagged the tasty grouse with his 22 Special Colts.

About Our Camp

Our little camp stood there, nestled in the shelter of a natural cove. Protected from the north winds by towering Sheep Mountain (not shown). The background of our camp scene is a most unusual one for a wagon camp to have in mid-summer. It was none other than a 50 foot deep bank of crusted snow, the remains of drifts many times that size. After breakfast the crew could not resist the temptation to have a frolic on the snowdrift on that mid-summer day, and have their pictures made as they clamored over the ice-hard snow. The very existence of this giant snowdrift testifies to the high altitude of the place, which, according to a nearby bench mark established by the U. S. Geological Survey, is 9546 feet above sea level.

Although we were well above timber line, and it froze ice every night, many alpine flowers and shrubs were struggling to live out their life cycle in spite of the handicaps! As the snowedge moved slowly upward, gradually uncovering the dormant plants, the impatient buttercups, Johnny Jumpups, snowdrops, and clustering rock asters lost no time in adding their "thing" to brighten their part of the world.

Even with an inch or more of snow yet to go, the sun's life giving rays penetrated the icy pane, causing the struggling bulb to push up through the ice, straighten up its head and unfold in all its glory! Some of us stuck flowers in our hatbands. It was proper to pick wild flowers under those circumstances! That was as it should be. How else would the little flower get up in the world? That was their only chance to add their bit! Had it not been for our accidental visit, those beauties might have lived in vain! Probably a long, long wait before other visitors came.

Other Visitors

The existence of half buried teepee rocks nearby bore silent proof of other visits by humans ages ago. Who? When? Let's pretend it was a demure Indian maiden happily picking flowers in the alpine garden above the clouds!

Permanent Residents!

As we romped over the rocky ledges along the ridge top, and over the long slide-rock slopes, other residents made their presence known. A brown marmot the size of a badger would stand at the door of his rocky home and bark his defiance. Then lope to his neighbor's door, keeping flat on the ground. His short legs, made for digging, seemed to stick out instead of down as he ran. The little four inch long coney sits on his haunches with his ears sticking up, and his mouth full of grass. He's ready to dive in if you make a false move. He's the greatest hay maker! He's forever carrying hay into his den, preparing for a hard winter!

But we must move on! We've got surveying to do at the end of the road! With wagons piled high with tents and beds, we climb on top and yell "Wagons Ho." Winding along the top of the highest ridge we felt as though we were looking down at the whole world! But Lo! Glancing skyward we saw a black speck a half mile above us. A bald eagle, wings motionless, sailed, apparently without effort. Maintaining silent vigil over his domain below! Not much happens in the eagle's homeland that escapes his notice. If a stranger goes near his nesting place, he is quick to scream a warning. Surprisingly, seeing the big bird sailing so high above us, we never once even imagined that one day we might be performing more improbable feats.

The old trail we have been following has now lead us to where the mountains break off into a series of spurs and canyons sloping down to the prairie lands on the Crow Indian Reservation in Montana. For a ways we are in a sort of no man's land, near the State Line.

The trail begins to peter out. The sheepmen of Wyoming did not graze their sheep in the Indian Reservation and had no reason for taking wagons beyond this point. Likewise, the Indians had no reason for making a road into Wyoming. Being in a strange land with no wagon tracks to follow, we had to judge for ourselves the best route to take to get off the mountain.

To guide us, we could see in the hazy distance, a green streak outline the position of the cottonwoods and fields along the Big Horn River. Off to the right was a smaller green strip where the Little Horn ran. Our plan was to hit the Little Horn valley a few miles north of the Montana Boundary Line. With those features in mind, we must pick our own way, always mindful of the possibility of coming to a jumping off place where we could not get wagons over.

We often had to roughlock the rear wheels on hills too steep to get back up if we got stuck. In such cases, we would have someone reconnoiter ahead before going blindly down! Naturally, though we took many chances, depending on our judgement in our haste. I might explain that a "roughlock" is made by wrapping a log-chain around the tire of the rear wheel so it would drag on the ground with the end of the chain fastened to the front bolster. As a last resort on a real steep place, a good sized tree with the branches on, was tied to the back of the wagon, with some boys riding on the tree. We did that once in Wyoming on Dead Indian Hill.

In closing I will say that luck was with us on this trip. We arrived safely on a traveled road running up the Little Big Horn; whence all we had to do was drive up south a few miles to our next job.

Our caravan consisted of two wagons, a four-horse team; a two-horse team and a saddle-horse; the crew; of five survey-aids, a cook and teamster. Some are not shown in the painting.

The Painting: By Artist Irvin (Shorty) Shope of Helena, Montana.

M r. James A. Thigpenn,
Jaxksonville, Fla.

921 Monroe Ave. Helena Montana
February 13, 1972. 59601

Dear Jimmy:

On October 30, 1971 I sent you two cassettes of my Life History for you to have typed off in your office. The first one is called TEAM sides A and B and covers the period 1913 from Green River Wyoming to Winnett Montana. The other is called Snoy Sides A and B covering the period 1914 and 1915 in Montana.

Having hezrd nothing about those I am wondering what progress your typists have made on those two cassettes. They may have gotten mislaid or something. Or you may be too busy. If they are having any difficulty in arranging them, or anything, maybe I can help straighten them out.

I greatly appreciate what you are trying to do to help me, and do not want to appear impatient, at all.

Sincerely,
Roy
Will iam R. Bandy

P.S I am sending under ~~seporate~~ cover a picture Titl ed "Breakfast of the Big Horns!"

I am also enclosing a four page description of the trip we made at the time of thecamp scene. I hope you and your family will enjoy reading it as you look at the picture, and discuss camping trips you may have made, or episodes it recalls! It took me lomg enough to write it!

Correspondence between W.R. Bandy and former FSMS President James Thigpenn III. Bandy was 27 years old at the time of the painting in 1912. He passed away just months after this letter was written, in July of 1972 at age 87.

Family Photos

MaryHanna Clodfelter snapped this picture at Mardi Gras, which she attended with her daughter Jessica.

Tom and Karen Shahan hiking to Bow Glacier in Alberta, Canada for their 40th wedding anniversary.

Ricardo Johnson with his wife Dana, daughter Lauren (left), and grandkids Charlie and Violet at Discovery Cove in Orlando.

Steve Brickley's newborn daughter, Caroline Alice, held by her sister Hannah.

The seniors in the UF Geomatics program at Lou Nash's business, Measuretronics.

FSMS Member Honored at E-Week Awards Banquet

Robert Heggan, Jr.'s work to play instrumental role in study of marine life behavior

Charlotte Harbor Chapter Press Release -

Bradenton, FL: The Florida Engineering Society and the American Society of Civil Engineers held their First Annual E-Week Awards Banquet on Friday, February 23rd at the South Florida Museum. Among many distinguished and notable professionals in the engineering field, the Suncoast Branch of the American Public Works Association honored Robert Heggan, Jr. as 2018 Project Manager of the Year.

The award was presented for Mr. Heggan's work in the connection with the O'Leary's Shoreline Stabilization Project at Bay Front Park in the City of Sarasota. This project consisted of two phases; the first being the design and construction of a 245-foot traditional seawall and the second being the design and construction of a 212-foot "living" seawall. In addition, Mote Marine Laboratories is conducting biological monitoring of benthic species and finfish. They will assess the physical and chemical attributes of water quality, sediment structure, and wave energy using a wireless sonic wave sensor.

The first phase traditional seawall was constructed using ESP 8.5 Vinyl Sheet Piles driven to an approximate depth of 10 feet. A continuous

dead-man wall was run parallel with the outer wall and 1-inch aluminum tie-rods were secured to it at 10 feet on center. It was topped with a 18" by 22" concrete cap.

The second phase included the design and placement of a "living" seawall. It consists of 35 6-foot wide "Eco Rap" modules of varying compositions to disperse wave energy and provide habitat for marine life. The modules were custom designed and fabricated for the existing slope of the bay floor and anchored to the bay floor using fiberglass rods.

Mote Marine Laboratory is studying the efficiency of the "living" seawall in wave deflection and habitat creation. The study applies scientific methodologies to our "living" seawall site as well as nearby shoreline habitats including an intertidal sand-shell-rubble substratum, mangrove fringe, muddy- sand beach, and marina basin seawall. These habitats will be monitored

A diagram of the shoreline and seawalls.

and compared to our "living" seawall site for species diversity and habitat utilization. These nearby sites will in effect be the baseline comparison to gauge the effectiveness of the "living" seawall. Mote took samples before and after the traditional seawall was constructed. They will take additional samples two years following the completion of the "living" seawall. Mote scientists will measure wave energy, biota, and water chemistry in order to form a biological assessment regarding the success of the project.

The project restored approximately 70% of the useable beach area. The immediate impact of the traditional seawall was realized only weeks after its completion. Hurricane Irma brought damaging waves and tides to the area. Where lessor storms had previously caused considerable damage to the shoreline, the newly constructed seawall held with only minor upland erosion in places.

Storm damage sustained in May 2017 only weeks prior to the start of construction, causing the need for a FDEP permit modification to place fill prior to installation of the sheet piles.

Traditional seawall days after the passing of Hurricane Irma in August of 2018.

Did you Ever WONDER Why?

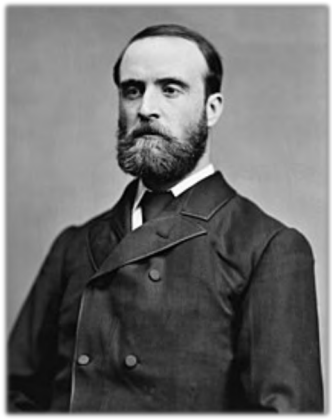
Michael Whitling, PSM

Special thanks to Mike - this is his 175th DYEWW article, dating back to November 1999!

Why was "9-1-1" chosen as the emergency phone number?
The code 9-1-1 was chosen simply because it best fit the needs of all parties involved. First, and most important, it met public requirements because it was brief, easily remembered, and could be dialed quickly. Second, because it was a unique number. It had never been authorized as an office code, area code, or service code, and it best met the long range numbering plans and switching configurations of the telephone industry.

Why is someone who is trying to overhear a conversation called an "eavesdropper?"
It began in Anglo-Saxon England. The word came from Old Norse "eavesdrop" which referred to the area around a building that was liable to be wetted by water flowing off the projecting eaves of the roof above (gutters hadn't been invented yet). There was an ancient custom that stopped a landowner from building within two feet of his boundary, for fear that the water cascading off the eaves might cause problems for his neighbor. By the early 1600's, the word "eavesdropper" had been invented for somebody who stood within this strip of ground, under the projecting eaves and close to the walls of a building, in order to listen secretly to the conversations within. The verb to "eavesdrop" in the same sense came along about a century later.

Why is deciding not to buy or use something out of protest called a "boycott?"
Captain Charles Cunningham Boycott was an Englishman working in Ireland. In the 1870s he was farming in County Mayo and serving as a land agent for an absentee English landlord. This was at the time of the campaign organized by the Irish Land League for reform of the system of landholdings. In September 1880, protesting tenants demanded that Captain Boycott give them a substantial reduction in their rents. He refused. Charles Parnell, the President of the Land League, suggested in a speech that the way to force Boycott to give way was for everyone in the locality to refuse to have any dealings with him. Laborers would not work for him, local shops stopped serving him (food had to be brought in from elsewhere for him and his family), and he even had great trouble getting his letters delivered. In the end, his crops were harvested that autumn through the help of fifty volunteers from the north of the country, who worked under the protection of nine hundred soldiers. The events aroused so much passion that his name became an instant byword. It was first used in the Times of London in November 1880, even while his crops were still being belatedly harvested and within weeks it was everywhere. It was soon adopted by newspapers throughout Europe, with versions of his name appearing in French, German, Dutch and Russian. By the time of the Captain's death in 1897, it had become a standard part of the English language.



Why is someone who is extremely angry said to be "fit to be tied?"
It's a puzzling slang expression because of the word "fit." It isn't the "fit" that means in good physical condition ("are you feeling fit?"), nor being sufficiently skilled to take on a task ("it's all she's fit for"), nor matching accepted social standards ("a fit subject for discussion"), nor deserving or worthy ("a book fit to be read"). But these all go back to the 14th century where "fit" was a thing that was well adapted or suitable. In the 1800's, shortly after the straitjacket was invented, the slang "fit to be tied" came to be. The idea behind it is that the person (the "fit" part) was in such a state of emotional excess that they needed to be restrained to protect themselves or others.

Quick Facts:

⇒About a third of people flush while they are still sitting on the toilet. Most toilets flush in E flat.

⇒Alaska has more outhouses than any other state.

⇒Most people button their shirts upward.

⇒When John Wilkes Booth leaped on to the stage after shooting President Lincoln, he tripped on the American flag.

⇒The end of a hammer, opposite the striking end, is called a peen. The side of a hammer is called a cheek.

⇒The average lead pencil can draw a line thirty-five miles long or write approximately fifty thousand English words.

⇒The average woman's handbag weighs three to five pounds.

⇒Trivia is the Roman goddess of sorcery, hounds, and the crossroads.

⇒It took the United States only four days to build a ship during World War II.

⇒A typical double mattress contains as many as two million house dust mites.

⇒During World War II world champion chess player Reuben Fine helped the United States calculate where enemy submarines might surface based on positional probability.

⇒The very first bomb dropped by the Allies on Berlin during World War II killed the only elephant in the Berlin Zoo.

⇒During World War II, Americans tried to train bats to drop bombs.

⇒A family of six died in Oregon during World War II as a result of a Japanese balloon bomb.

⇒On some mummies that have been unwrapped, the total length of the bandages has been about 1.5 miles.

⇒Before the 1800s, there were no separately designed shoes for right and left feet.

⇒A golden razor removed from King Tut's tomb was still sharp enough to be used.

Send your thoughts to drmjw@aol.com

IN MEMORIAM

Former FSMS President

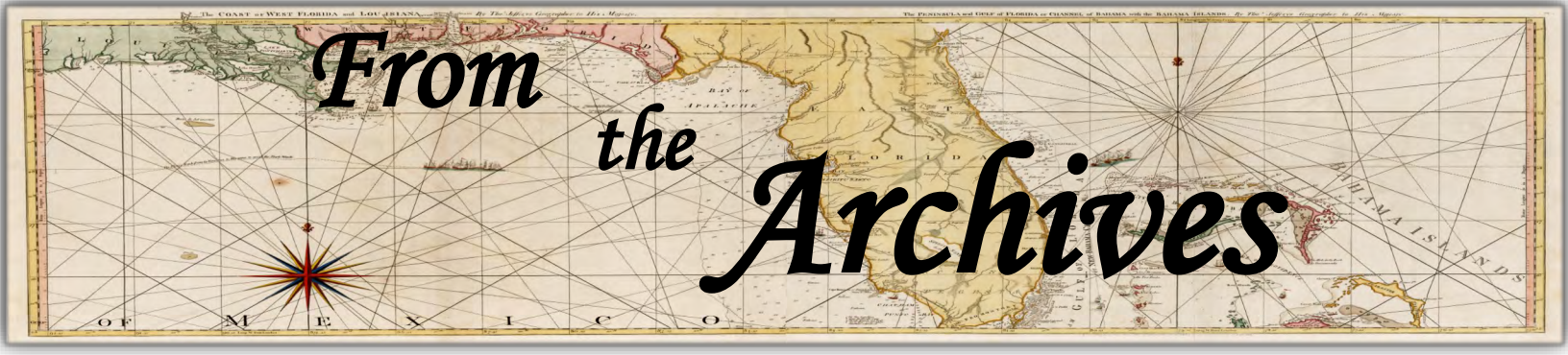
John R. Gargis

December 15, 1942 - February 15, 2018

John's President Portrait from the 1982-1983 year.

John Russell Gargis, PSM 2324, passed away February 15, 2018 in his sleep. Surveying was his first love from the time he was introduced to it at age 19. He ate, slept and breathed surveying to the end. No doubt he is surveying heaven as we speak. He is survived by his wife Kay, daughters Kim, Jamie and Keri, sons James and Kenneth, 11 grandchildren and 3 great-grandchildren.

John's celebration of life will be held at 10am, Thursday, April 5, 2018 at Royal Palm Memorial Gardens, Punta Gorda, Florida.



IN MEMORIUM: H.O. Peters *1903-1986*

H.O. Peters, founding father of the Florida Society of Professional Land Surveyors has left us, and we hope he is now, as always, blazing new trails for us to follow.

We can think of no more fitting tribute than to reprint his very first President's letter published in the Journal which over the years has evolved into this publication. In it, those many years ago, Mr. Peters had already recognized the need for the professional surveyors of Florida to band together as an industry, to work toward common goals, and to recognize the mutual problems of one another.

This very special man from the beginning saw our Society as being born of "the need and desire for the improvement of the Profession of Land Surveying in Florida." To this day, we can suggest no better goal for the existance of our Society.

Thank you, H.O. You are much missed.

Mr. Peters, 83, of Weirsdale

THE PRESIDENT'S LETTER

Dear Fellow Members:

With this first issue of "SURVEYING in FLORIDA," our Florida Society of Professional Land Surveyors is initiating another step in our dedicated program for improving the Profession of Land Surveying in this State. This first issue of the Journal, of course, is a modest step; but with the concerted efforts of us all we can make of it a publication that can go far in advancing the objectives of our Society. Through it, we can become a better acquainted and coherent organization, and can improve our education in Land Surveying (and who does not need this?). We can use this medium as an aid to make of our members a Professional Society working together for the improvement of our Profession, with resultant benefits to all; rather than, as in the past, a group of "rugged individualists" striving and competing with one another, by fair means and foul, which works to the detriment of everyone.

Another first this year will be our Annual Convention. This is to be held October 11 and 12 at the Angebilt Hotel in Orlando. DON'T MISS IT. This is an opportunity to become better acquainted with your fellow Land Surveyors. In doing so, you will find that he is not such a "bad guy" after all; that his troubles and problems are the same as your own and that by working together harmoniously, many of these annoyances can be eliminated. Among the many excellent papers that the program committee has scheduled for this Convention may be the answer to some of the problems that have been troubling you. Bring the "Ladies," entertainment will be provided for them.

Our Society was born of the need and desire for the improvement of the Profession of Land Surveying in Florida. It is dedicated to that purpose. A few have worked long and valiently toward that end, but it will take more than the efforts of these few to accomplish it. It is YOUR SOCIETY, give of yourself to it, attend its meetings, and work for it. Without YOUR ACTIVE SUPPORT, it will never be the organization that you need and want. It is up to YOU to make of it what you wish.

H.O. PETERS
President

From 1987: Page three of the Spring 1987 issue of *Backsights & Foresights*, an old FSMS publication. H.O. Peters, the founder of FSMS, had passed away in late 1986.

Around the State

Charlotte Harbor Chapter at Frontier Days

Punta Gorda, FL In advance of Surveyors and Mappers Week, the Charlotte Harbor Chapter of FSMS hosted an educational booth at Florida Frontier Days in Port Charlotte. Derek Miller and Bob Heggan, along with a field crew provided by Dave Shremshock, demonstrated early survey methods, mapping, instrumentation, and modern equipment to both students and adults during the festivities held on February 23rd and 24th.

Charlotte Harbor Chapter Secretary Derek Miller demonstrates the use of a Total Station to a potential future surveyor.

John Lynch, surrounded by papers, hard at work in his office.


You're a retired surveyor. You just left the restaurant after having breakfast...You're walking through the parking lot....When suddenly.....There it is!! A n&d ,marked Trav. Pt. with an LB#.....Yes.....sad..but true...You have OCSD...(Obsessive Compulsive Surveyor's Disorder).. The compulsive urge to look down wherever you walk...subconsciously searching the roadway for PCs and .PTs (even as you drive)constantly scanning the back of the sidewalk at the obvious lot line locations on your nightly walk(hoping for a glimpse of a rebar and cap or maybe a cm at the block corner.I developed OCSD early on in my career.I thought I had fully recovered from this affliction after my retirement a few years ago.....but.....alas.....I was just in denial.

A funny story sent to us by President-Elect Dianne Collins (zoom in if you are having trouble reading).

Florida Surveying and Mapping Society

2017 eLearning Courses

Basics of Real Property Course #8360 (3 General CEC)

$ 70.00

Boundaries in Florida Course #8255 (6 SOP/L&R CEC)

$ 120.00

Contracts for the Professional Course #8412 (3 General CEC)

$ 70.00

Elevation Certificates and the Community Rating System Course #8256 (3 General CEC)

$ 70.00

Ethics for the Design Professional Course #8621 (6 General CEC)

$ 120.00

Florida Laws Course #7149 (6 SOP/L&R CEC)

$ 120.00

Professional Ethics and Professional Courtesy FULL Video Course #8363 (6 General CEC)

$ 120.00

Georgia Technical Standards for Property Surveys Course #8554 (6 General CEC)

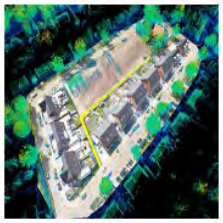
$ 120.00

History of Surveying Course #7140 (6 General CEC)

$ 120.00

Identification of Native and Non-Native Trees in Florida Course #8132 (6 General CEC)

$ 120.00



Introduction to Photogrammetry Course #7968 (3 General CEC)

$ 70.00

Land Tenure and Cadastral Systems Course #8260 (6 General CEC)

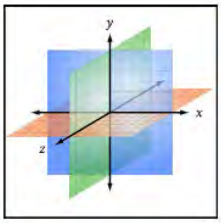
$ 120.00

Map Projections and Plane Coordinate Systems Course #8261 (6 General CEC)

$ 120.00

Mean High Water Observations & Computations Course #8262 (6 General CEC)

$ 120.00

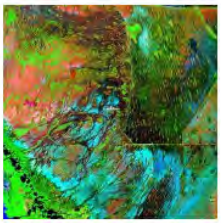


Practical Geometry for Surveyors Course #7141 (6 General CEC)

$ 120.00

Public Land Survey System Course #7147 (6 General CEC)

$ 120.00



Remote Sensing Applications to Surveying & Mapping Course #7148 (6 General CEC)

$ 120.00

Writing Boundary Descriptions Course #8362 (3 General CEC)

$ 70.00

Correspondence Courses

Step 1: Choose Course(s)

- ☐ **5J-17 Standards of Practice (SOP)**, #6962, 6 SOP/L&R CEC
- ☐ **A History of the Prime Meridian Marker**, #8403, 3 General CEC
- ☐ **Basics of Real Property**, #8359, 3 General CEC
- ☐ **Boundaries in Florida**, #7667, 6 SOP/L&R CEC
- ☐ **Chapter 177, Platting (Plat Law)**, #6970, 6 SOP/L&R CEC
- ☐ **Client Satisfaction Excellence for Surveying and Mapping Professionals**, #7229, 6 General CEC (*Only available by mail)*
- ☐ **Contracts for the Professional**, #8411, 3 General CEC
- ☐ **Critical Communication for Surveying & Mapping Professionals**, #7228, 6 General CEC (*Only available by mail)*
- ☐ **Digital Signatures for Surveyors**, #8491, 3 General CEC
- ☐ **Elevation Certificates and the Community Rating System**, #8257, 3 General CEC
- ☐ **Ethics for the Design Professional**, #8620, 6 General CEC
- ☐ **Florida Laws**, #6966, 6 SOP/L&R CEC
- ☐ **Georgia Technical Standards for Property Surveys,** #8553, 6 General CEC
- ☐ **Geographic Information Systems (GIS)**, #7107, 6 General CEC
- ☐ **History of Surveying**, #7108, 6 General CEC
- ☐ **Identification of Native and Non-Native Trees in Florida**, #7874, 6 General CEC
- ☐ **Introduction to Photogrammetry**, #7887, 3 General CEC
- ☐ **Land Tenure and Cadastral Systems**, #7829, 6 General CEC
- ☐ **Map Projections and Plane Coordinate Systems**, #7669, 6 General CEC
- ☐ **Mean High Water Observations and Computations**, #8220, 6 General CEC
- ☐ **Practical Geometry for Surveyors**, #7109, 6 General CEC
- ☐ **Public Land Survey System**, #6979, 6 General CEC
- ☐ **Remote Sensing Applications to Surveying & Mapping**, #6972, 6 General CEC
- ☐ **Stress Management for Surveyors & Mappers: How to be Productive Under Pressure**, #6902, 6 General CEC (*Only available by mail)*
- ☐ **Time Management for Surveyors & Mappers: How to be Productive & Exercise Time Mastery in A Hectic World**, #6901, 6 General CEC (*Only available by mail)*
- ☐ **Writing Boundary Descriptions**, #8361, 3 General CEC

Correspondence Courses Order Form

Step 2: Choose Member Type

☐ **FSMS Member**

EMAILED			**Quantity**		
6 CEC	$115 Per Course	x	_____	=	$ _____
3 CEC	$58 Per Course	x	_____	=	$ _____
MAILED					
6 CEC	$125 Per Course	x	_____	=	$ _____
3 CEC	$68 Per Course	x	_____	=	$ _____
	TOTAL		_____		$ _____

☐ **Non-Member**

EMAILED	**Fee**		**Quantity**		**Amount**
6 CEC	$135 Per Course	x	_____	=	$ _____
3 CEC	$78 Per Course	x	_____	=	$ _____
MAILED					
6 CEC	$145 Per Course	x	_____	=	$ _____
3 CEC	$88 Per Course	x	_____	=	$ _____
	TOTAL		_____		$ _____

☐ **Non-Licensed in ANY State**

EMAILED	**Fee**		**Quantity**		**Amount**
6 CEC	$100 Per Course	x	_____	=	$ _____
3 CEC	$60 Per Course	x	_____	=	$ _____
MAILED					
6 CEC	$110 Per Course	x	_____	=	$ _____
3 CEC	$70 Per Course	x	_____	=	$ _____
	TOTAL		_____		$ _____

Step 3: Payment Information

Name: _____ PSM#: _____ State: ____ FSMS Member: ___ YES ___ NO

Firm: _____ Sustaining Firm: ___ YES ___ NO

Address: _____

City/State: _____ Zip Code: _____

Email Address: _____ Work Phone: _____

Payment Information: _____ Check Enclosed (Payable to FSMS) _____ VISA/MasterCard/American Express

Card #: _____ Exp. Date: _____ Card CVV Number (3 or 4 Digits) _____

Billing Address for Credit Card: _____

Signature: _____

IF PAYING BY CHECK, MAIL FORM TO: FSMS, P.O. Box 850001-243, Orlando, FL 32885-0243

IF PAYING BY CREDIT CARD - EMAIL FORM TO education@fsms.org or FAX TO 850.877.4852

QUESTIONS? CALL 800.237.4384

Provider No. CE11 **fsms.org**

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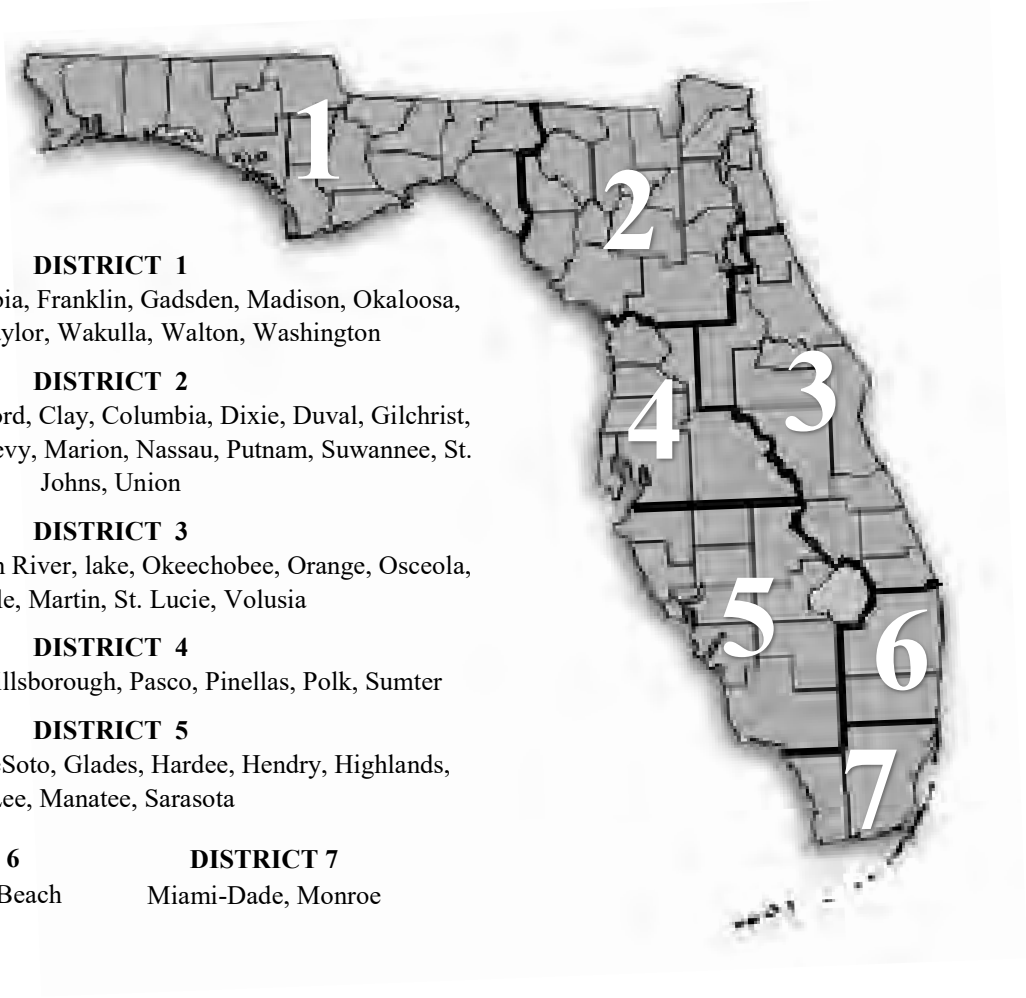

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Education Committee	Don Elder
Annual Meeting Committee	Tom Brownell
Legal Committee	Jack Breed
Strategic Planning Committee	Dianne Collins
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Constitution and Resolution Advisory Committee	Don Elder

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FDACS BPSM	Don Elder
Surveyors in Government	Richard Allen
Academic Advisory UF	Bon Dewitt

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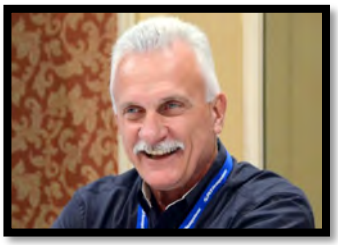
Tom Steckler



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Rebecca Culverson

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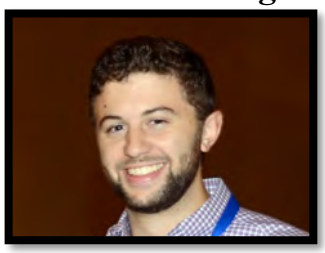
Dominic Levings



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Tom's Tip of the Month

Grit: The Power of Passion and Perseverance

Click on the picture below to view the video!

The Florida Surveyor is the official publication of the Florida Surveying and Mapping Society, Inc. (FSMS). It is published monthly for the purpose of communicating with the professional surveying community and related professions who are members of FSMS. Our award winning publication informs members eleven months of the year of national, state, and district events and accomplishments as well as articles relevant to the surveying profession. The latest educational offerings are also included.

2017-2018 Sustaining Firms

A M Engineering, Inc.	941-377-9178
Accuright Surveys Of Orlando, Inc .	407-894-6314
Aerial Cartographics Of America, Inc.	407-851-7880
Agnoli, Barber & Brundage, Inc.	239-597-3111
Aim Engineering & Surveying, Inc.	239-332-4569
All County Surveyors, Inc.	800-860-9119
Allen & Company, Inc.	407-654-5355
Allen Engineering, Inc.	321-783-7443
AllTerra Florida, Inc.	954-850-0795
Alvarez, Aiguesvives & Associates, Inc.	305-220-2424
AM Engineering, Inc.	941-377-7178
American Consulting Engineers Of FL, LLC	813-435-2600
American National Commercial Real Estate Service, LLC	239-963-2245
American Surveying, Inc .	813-234-0103
Amerritt, Inc.	813-221-5200
ARC Surveying & Mapping, Inc.	904-384-8377
Associated Land Surveying & Mapping, Inc.	407-869-5002
ATS Land Surveying, LLC	386-264-8490
Avirom & Associates, Inc.	561-392-2594
Bannerman Surveyors, Inc.	850-526-4460
Barraco And Associates, Inc.	239-461-3170
Bartram Trail Surveying, Inc.	904-284-2224
Baseline Engineering And Land Surveying, Inc.	561-417-0700
Bay Area Sinkhole Investigation & Civil Engineering, LLC	813-885-4144
Bay Area Surveying And Mapping, Inc.	727-271-0146
BBLS Surveyors, Inc.	239-597-1315
Bean Whitaker Lutz & Kareh, Inc.	239-481-1331
Banks Engineering	239-939-5490
Bello & Bello Land Surveying Corporation	305-251-9606
Benchmark Land Services, Inc.	239-591-0778
Benchmark Surveying & Land Planning	850-994-4882
Beta Company Surveying, Inc.	941-751-6016
Betsy Lindsay, Inc.	772-286-5753
Biscayne Engineering Company, Inc.	305-324-7671
Boatwright Land Surveyors, Inc.	904-241-8550
Bock & Clark Corporation	330-665-4821
Bowman Consulting Group, LTD., Inc.	703-464-1000
Bradshaw-Niles & Associates, Inc.	904-829-2591
Brown & Phillips, Inc.	561-615-3988
BSE Consultants, Inc.	321-725-3674
Buchanan & Harper, Inc.	850-763-7427
Buchheit Associates, Inc.	321-689-1057
Bussen-Mayer Engineering Group, Inc.	321-453-0010
Burkholder Land Surveying, Inc.	941-209-9712
C&M Roadbuilders	941-758-1933
Calvin, Giordano & Associates, Inc.	954-921-7781
Cardno, Inc.	407-629-7144
Carter Associates, Inc.	772-562-4191
Caulfield & Wheeler, Inc.	561-392-1991
Causseaux Hewett & Walpole, Inc.	352-331-1976
Central Florida Surveys, Inc.	407-262-0957
Chastain-Skillman, Inc.	863-646-1402
Choctaw Engineering, Inc.	850-862-6611
Civilsurv Design Group, Inc.	863-646-4771
Clary & Associates, Inc.	904-260-2703
Clements Surveying, Inc.	941-729-6690
Coffin & Mclean Associates, Inc.	352-683-5993
Collins Survey Consulting LLC	863-937-9052
Compass Engineering & Surveying, Inc.	727-822-4151
Compass Point Surveyors PL	954-332-8181
Control Point Associates FL, LLC	908-668-0099
Controlcam, LLC	904-758-2601
Countywide Surveying, Inc.	850-769-0345
Cousins Surveyors & Associates, Inc.	954-689-7766
CPH, Inc.	407-322-6841
Craven-Thompson & Assoc, Inc.	954-739-6400
Cross Surveying, LLC	941-748-8340
Culpepper & Terpening, Inc.	772-464-3537
Dagostino & Wood, Inc.	239-352-6085
Deal Land Surveying LLC	407-878-3796
Degrove Surveyors, Inc.	604-722-0400
Dennis J. Leavy & Associates	561-753-0650
Deren Land Surveying LLC	352-331-0010
Diversified Design & Drafting Services, Inc.	850-385-1133
DMK Associates, Inc.	941-475-6596
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Donald W. Mcintosh Associates, Inc.	407-644-4068
Donoghue Construction Layout LLC	321-248-7979
Douglass Leavy & Associates, Inc.	954-344-7994
DRMP, Inc.	407-896-0594
DSW Surveying and Mapping, PLC	352-735-3796
E.R. Brownell & Associates, Inc.	305-860-3866
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Eda Engineers-Surveyors-Planners, Inc.	352-373-3541
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2017-2018 Sustaining Firms

Flanary Surveying and Mapping, Inc.	941-915-8655
Florida Engineering and Surveying, LLC.	941-485-3100
Foley/Koloarik, Inc.	941-722-4561
Fortin, Leavy, Skiles, Inc.	305-653-4493
Franklin Surveying & Mapping, Inc.	407-846-1216
Ganung-Belton Associates, Inc.	407-894-6656
Gary G. Allen, Regis Land Surveying, Inc.	850-877-0541
Geodata Consultants, Inc.	407-732-6965
Geoline Surveying, Inc.	386-418-0500
Geomatics Corp.	904-824-3086
GeoPoint Surveying, Inc.	813-248-8888
George F. Young, Inc.	727-822-4317
GeoSurv LLC	877-407-3734
Germain Surveying, Inc.	863-385-6856
Global One Survey, LLC	786-486-8088
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GPServ, Inc.	407-601-5816
Greenman-Pedersen, Inc.	352-547-3080
GRW Engineers, Inc.	859-223-3999
Gustin, Cothern & Tucker, Inc.	850-678-5141
H. L. Bennett & Associates	863-675-8882
Hamilton Engineering & Surveying	813-250-3535
Hanson Professional Services, Inc.	217-788-2450
Hanson, Walter & Associates, Inc.	407-847-9433
Hayhurst Land Surveying, Inc.	772-569-6680
HLSM LLC	407-647-7346
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Honeycutt & Associates, Inc.	321-267-6233
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Inframap Corp.	804-550-2937
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John Mella & Associates, Inc.	813-232-9441
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Johnston's Surveying, Inc.	407-847-2179
Jones, Wood & Gentry, Inc.	407-898-7780
Keith & Associates, Inc.	954-788-3400
Keith & Schnars, P.A.	954-776-1616
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King Engineering Associates, Inc.	813-880-8881
Kugelmann Land Surveying, Inc.	321-459-0930
Kuhar Surveying & Mappin LLC	386-295-8051
L&S Diversified, LLC	407-681-3836
Landmark Engineering & Surveying Corporation	813-621-7841
Leading Edge Land Services, Inc.	407-351-6730
Leiter Perez & Associates, Inc.	305-652-5133
Leo Mills & Associates	941-722-2460
Littlejohn Engineering Associates, Inc.	407-975-1273
Lochrane Engineering, Inc.	407-896-3317
Long Surveying, Inc.	407-330-9717
Ludovici & Orange Consulting Engineers, Inc.	305-448-1600
Manuel G. Vera & Associates, Inc.	305-221-6210
Mapping Resource Group, Inc.	386-439-4848
Marco Surveying & Mapping, Inc.	239-389-0026
Mark Dowst & Associates, Inc.	386-258-7999
Maser Consulting P.A.	813-207-1061
Massey-Richards Surveying & Mapping LLC	305-853-0066
Masteller, Moler & Taylor, Inc.	772-564-8050
McKim & Creed, Inc.	919-233-8091
McLaughlin Engineering, Co.	954-763-7611
Mehta & Associates, Inc.	407-657-6662
Metron Surveying And Mapping LLC	239-275-8575
Millman Surveying, Inc.	330-342-0723
Mock Roos & Associates, Inc.	561-683-3113
Moore Bass Consulting, Inc.	850-222-5678
Morgan & Eklund, Inc.	772-388-5364
Morris-Depew Associates, Inc.	239-337-3993
Murphy's Land Surveying, Inc.	727-347-8740
Northstar Geomatics, Inc.	772-781-6400
Northwest Surveying, Inc.	813-889-9236
O'Brien Suiter & O'Brien, Inc.	561-276-4501
Oceanside Land Surveying LLC	386-763-4130
Omni Communications LLC	813-852-1888
On The Mark Surveying LLC	321-626-6376
Peavey & Associates Surveying & Mapping, PA	863-738-4960
Pec - Survey & Mapping LLC	407- 542-4967
Pennoni Associates, Inc.	215-222-3000
Pickett & Associates, Inc.	863-533-9095
Pittman, Glaze & Associates, Inc.	850-434-6666
Platinum Surveying & Mapping LLC	863-904-4699
Point To Point Land Surveyors, Inc.	678-565-4440
Polaris Associates, Inc.	727-461-6113
Porter Geographical Positioning & Surveying, Inc.	863-853-1496
Precision Surveying & Mapping, Inc.	727-841-8414
Pulice Land Surveyors, Inc.	954-572-1777
Q Grady Minor And Associates, PA	239-947-1144
Robayna & Associates, Inc.	305-823-9316
Reece & White Land Surveying, Inc.	305-872-1348
Rhodes & Rhodes Land Surveying, Inc.	239-405-8166
Richard P. Clarson & Associates, Inc.	904-936-2623
Riegl USA	407-248-9927
Ritchie & Associates, Inc.	850-914-2774
RJ Rhodes Engineering, Inc.	941-924-1600
Robert A. Stevens & Associates	863-559-1216
Robert M. Angas Associates, Inc.	904-642-8550
Rogers Engineering LLC	352-622-9214
Rogers, Gunter, Vaughn Insurance, Inc.	850-396-1111
S&ME, Inc.	407--975-1273

SCR & Associates NWFL, Inc.	850-265-6979
Sergio Redondo & Associates, Inc.	305-378-4443
Shah Drotos & Associates, Inc.	954-943-9433
Shannon Surveying, Inc.	407-774-8372
Sherco, Inc.	863-453-4113
Sliger & Associates, Inc.	386-761-5385
Southeastern Surveying And Mapping Corporation	407-292-8580
Spalding DeDecker Associates Inc	248-844-5404
Stephen H Gibbs Land Surveyors, Inc.	954-923-7666
Stephen J. Brown, Inc.	772-288-7176
Strayer Surveying & Mapping, Inc.	941-497-1290
Suarez Surveying & Mapping	305-596-1799
Survtech Solutions, Inc.	813-621-4929
Tetra Tech, Inc.	407-839-3955
Thurman Roddenberry & Associates, Inc.	850-962-2538
Tradewinds Surveying Services, LLC	863-763-2887
Tuck Mapping Solutions, Inc.	276-523-4669
Upham, Inc.	386-672-9515
Wade Surveying, Inc.	352-753-6511
Wallace Surveying Corporation	561-640-4551
Wantman Group, Inc.	561-687-2220
WBQ Design & Engineering, Inc.	407-839-4300
Winningham & Fradley, Inc.	954-771-7440
Woolpert, Inc.	937-461-5660
York & Associates Engineering, Inc.	229-248-0141
ZNS Engineering LLC	941-748-8080

Additional Information

Upcoming Events

March 23-24, 2018
Strategic Planning Meeting
Lady Lake

March 18-24, 2018
National Surveyor's Week

May 17-18, 2018
Board of Directors Meeting
Tallahassee

Past Presidents

1956	Robert S. Harris	Gordon R. Niles, Jr.
H.O. Peters	Paul T. O'Hargan	Dennis E. Blankenship
Harry C. Schwebke	William G. Wallace, Jr.	W. Lanier Mathews, II
John P. Goggin	Robert W. Wigglesworth	Jack Breed
R.H. Jones	**1980**	**2000**
1960	Ben P. Blackburn	Arthur A. Mastronicola
Hugh A. Binyon	William B. Thompson, II	Michael H. Maxwell
Russell H. DeGrove	John R. Gargis	John M. Clyatt
Perry C. McGriff	Robert A. Bannerman	David W. Schryver
Carl E. Johnson	H. Bruce Darden	Stephen M. Gordon
James A. Thigpenn, III	Buell H. Harper	Richard G. Powell
Harold A. Schuler, Jr.	Jan L. Skipper	Michael J. Whitling
Shields E. Clark	Steven M. Woods	Robert W. Jackson, Jr.
Maurice E. Berry II	Stephen G. Vrabel	Pablo Ferrari
William C. Hart	W. Lamar Evers	Steve Stinson
Frank R. Schilling, Jr.	**1990**	**2010**
1970	Joseph S. Boggs	Dan Ferrans
William V. Keith	Robert L. Graham	Jeremiah Slaymaker
James M. King	Nicholas D. Miller	Ken Glass
Broward P. Davis	Loren E. Mercer	Russell Hyatt
E.R. (Ed) Brownell	Kent Green	Bill Rowe
E.W. (Gene) Stoner	Robert D. Cross	Dale Bradshaw
Lewis H. Kent	Thomas L. Conner	Lou Campanile, Jr.

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