



**ROCKS NEVADA**

**2018**

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**October 16-18 RENO - NEVADA**

**Nevada Geographic Information Society**

Whitney Peak Hotel



## **Welcome!**

The members of the Conference Planning Committee extend a warm welcome to all attendees and vendors to the 27<sup>th</sup> Nevada Geographic Information Society Conference. The Planning Committee and NGIS Board are extremely grateful that you all have taken the time out of your busy schedules to attend this conference, and we hope that you won't be disappointed. Take time to reconnect with a colleague from a different part of the state; explore new ideas; and take this opportunity to share with others some of the interesting aspects of the geospatial projects and events you've been involved with since we last gathered.

This year, the Planning Committee decided to mix things up a bit with regards to the conference location and the conference handout materials. In keeping with the times, the program, presentation schedule and presentation abstract documents are available to view online at [www.ngis.org/NGIS-2018](http://www.ngis.org/NGIS-2018).

The word has gotten out that Reno is an exciting place to live. Please take the time to explore the surrounding area and all that Reno has to offer. The Planning Committee has worked hard to create a value-driven event complete with individual presentations, workshop-style sessions, vendor exhibits, and other social activities.

Again, welcome, and let's get this show on the road!

Sincerely,

Gary Zaepfel, President  
NGIS



## NGIS 2018 Conference Committee Members

Dixie Rudebusch  
Don Harper  
Eric Ingbar  
Gary Zaepfel  
Karla Chavez  
Karin Hagen

Jay Johnson  
Jorge Morteo  
Mark Morrison  
Mitch Markey  
Moni Fox  
Polly Boardman  
Rebecca Reid

## NGIS Board of Directors

### Board Officers

President – Gary Zaepfel  
Vice President – Don Harper  
Secretary – Karin Hagen  
Treasurer – Karla Chavez

Washoe County  
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### Directors

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Moni Fox  
Jorge Morteo  
Jennifer Vlcan

City of Henderson  
Michael Baker International  
USGS  
Washoe County  
City of Las Vegas  
Nevada Bureau of Mines and Geology



### Keynote Address

#### **“The Exploration and Mapping of Saturn’s Moon Titan”**

Wednesday, 8:45 am, Whitney Peak 1

Michael J. Malaska, PhD

Scientist III Planetary Ices Group

NASA / Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA



Saturn’s moon Titan is the most Earth-like world in the Outer Solar System. Just like Earth, Titan has a thick nitrogen atmosphere that supports an active weather cycle underneath Titan’s opaque organic haze layers. The Cassini spacecraft discovered that underneath Titan’s haze layers are familiar features like rivers, lakes, seas, dunes, plateaus, canyons, and mountains. But unlike Earth, frigid Titan’s rainfall is liquid methane, the lakes and seas are liquid hydrocarbons, the mountains are made of rock-hard water ice, and the dunes, plains, and plateaus are organic sediments. All of this creates an eerily similar, yet very alien landscape compared to Earth. We are using the dataset collected by the Cassini-Huygens mission to map, inventory, and explore the surface of Titan and see how the landscape and geological processes on that world compare with those of planet Earth.

Dr. Michael Malaska is a scientist in the Planetary Ices Group at NASA/JPL. He obtained his undergraduate degree in chemistry from MIT, his PhD in chemistry from UC Berkeley, and performed postdoctoral research in neurochemistry at Mayo Clinic Jacksonville in Florida. After a 20-year career in the pharmaceutical industry inventing new medicines, images of Titan’s alien surface sent down by the Cassini spacecraft ignited his passion in planetary science. He went from being an interested amateur, to a volunteer researcher, and ultimately changed his career to planetary science and astrobiology. His current research program combines laboratory simulation, spacecraft remote sensing, and field geology to explore and understand Saturn’s moon Titan. He has done field work in North Carolina, the Mojave Desert and Salton Sea in California, the Greenland Ice Sheet, and an extremophile sulfide cave in southern Mexico.

Michael.J.Malaska@jpl.nasa.gov



## MENUS

### **Breakfast**

**October 17<sup>th</sup> 7:00 AM – 8:30 AM**

Coffee, Tea, Orange Juice, Apple Juice, Grapefruit Juice  
Breakfast Potatoes  
Egg Strata

Assorted Fresh Pastries  
Fresh Fruit Parfait, Strawberry Cream Cheese  
Chicken Apple Sausage

### **Lunch**

**October 17<sup>th</sup> 12:00 PM – 1:30 PM**

Build Your Own Sandwich Bar  
Turkey, Roast Beef  
Green Salad

Assorted Bread and Rolls  
Pasta Salad  
Assorted Cookies

### **Evening Social**

**October 17<sup>th</sup> 5:00 PM – 7:00 PM**

Mashed Potato Martini Station  
Caveman – Paleo Way  
Cash Bar

Pacific Rim Hors D'oeuvres  
Fruit, Cheese, Crudités

### **Breakfast**

**October 18<sup>th</sup> 7:00 AM – 8:30 AM**

Coffee, Tea, Orange Juice, Apple Juice, Grapefruit Juice  
Breakfast Burrito (vegetarian included)

Assorted Fresh Pastries  
Fresh Fruit Salad

### **Business Meeting Lunch**

**October 18<sup>th</sup> 12:00 PM – 1:30 PM**

Spring Greens  
Grilled Tandoori Chicken Kabobs  
Curried Vegetables

Fruit and Nuts  
Basmati Rice and Raisins  
Cheesecake

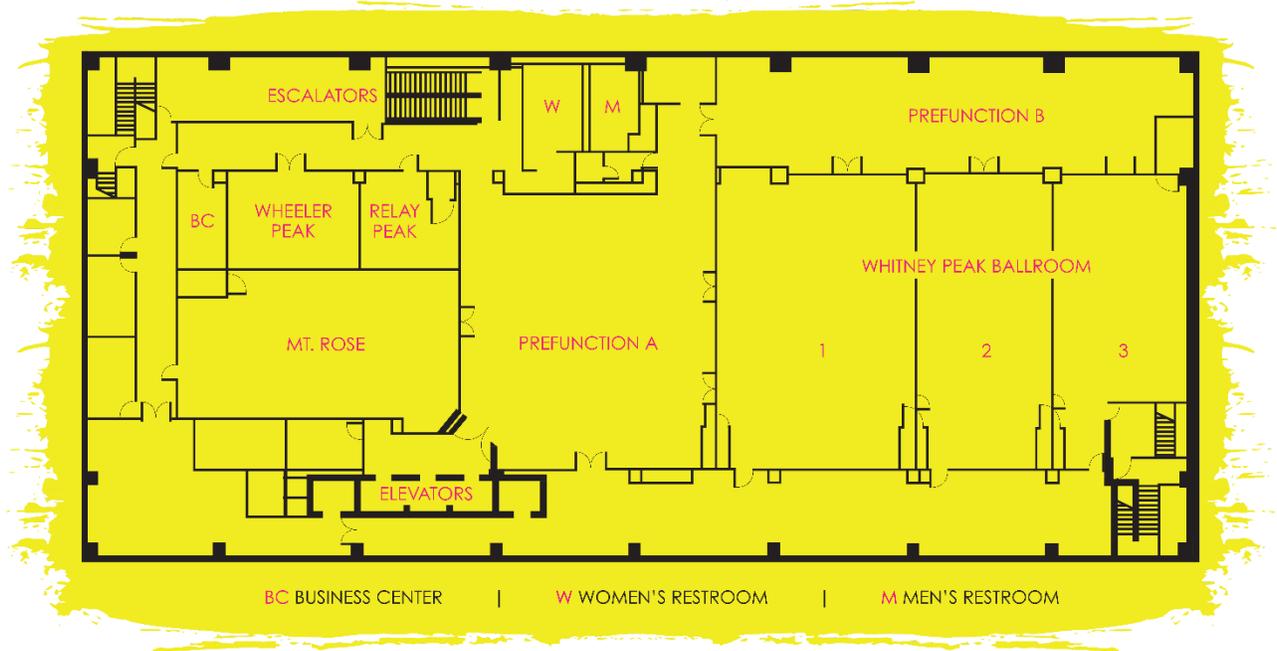


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AT WHITNEY PEAK HOTEL



Please note that the Mt. Rose room is referred to as the Boundary Peak Ballroom in our listing of events.



## **Business Meeting Agenda**

### **Nevada Geographic Information Society Business Meeting October 18<sup>th</sup> – 12:45 PM – Boundary Peak Ballroom**

- 1.) Call to Order
- 2.) Adoption of the Agenda
- 3.) Officer Reports
  - a) Secretary – Approval of the minutes from the 2017 NGIS Business Meeting
  - b) Treasurer – NGIS Financial Report
  - c) President – State of the Society Report
- 4.) Old Business
  - a) Summary of the 2017 NGIS Conference
  - b) Preliminary 2018 NGIS Conference Report
  - c) Nevada Geographic Information Foundation (NGIF) Report
- 5.) New Business
  - a) National States Geographic Information Council (NSGIC)
  - b) Approval of Proposed Changes to NGIS Bylaws
  - c) Results of Voting for 2018 NGIS Board Election for Officers and Directors
  - d) Passing of the Gavel
  - e) President's Remarks
- 6.) Other Business
- 7.) Adjourn



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## **Meeting Minutes**

### **Nevada Geographic Information Society Business Meeting May 4, 2017**

#### Call to Order

The meeting was called to order by NGIS President Gary Zaepfel at 12:32 pm.

#### Agenda Review

Motion to adopt, seconded. Agenda adopted as written.

#### Officer Reports

##### *Secretary Report (Karin Hagan)*

Minutes from the 2015 Business Meeting. Motion to approve as written, seconded. No discussion. Vote – all aye. Motion passes.

##### *Treasurer Report (Gary Johnson)*

Gary reported that we were notified earlier in the year that our recorded business name still included “a Chapter of URISA”, which was a holdover from when this organization was first created. He has been working all year to remove the reference to URISA, and now we are officially “just” NGIS according to the IRS and the State of Nevada. He is currently in the process of changing the name on the bank accounts. Gary reported that the Board has approved a motion to add new signatories to the accounts, and is just waiting on the outcome of today’s election to add those signatories. He also noted that Mark O’Brien was previously a signatory on the accounts, but has stepped back from that authority so Gary will be removing him.

We currently have \$34,316.33 in our operating accounts, \$10,300.52 in the grant account, and \$223.94 in our PayPal account, which will be transferred to the operating accounts. The money in the grant account is intended to send a representative to NSGIC, which is what we have left to do to fulfil the grant requirements. Our operating expenses are approximately \$2,800 per year and include the web accounts, Google, Amazon, PayPal, and the Board member and officer insurance. Membership dues go to cover the operating expenses, so our goal is 100 members. We generally have between \$18,000 and \$20,000 in the accounts which serves as see money for the next conference.

It has been a fun 20 years with NGIS, thank you for the time and the opportunity.

*President – State of the Society Address (Gary Zaepfel)*

Gary reported that we currently have 112 members with a half-dozen or so new members who joined during the conference. He noted that membership in NGIS provides you with membership tracking data for certifications as well as access to member content on the website such as videos of the presentations from the conference.

Other Reports

*2015 NGIS Conference Report (Eric Schmidt)*

The 2015 Conference was held at MontBleu Resort Casino & Spa in Lake Tahoe. We had 144 registered attendees, with a total of 170 +/- including vendors and volunteers. We had 16 vendors with booths at the conference. The 2014 Conference had a net income of approximately \$2,000. Eric then challenged the room for the Challenge Coins presented to attendees; three present had their coins.

*2017 Preliminary NGIS Conference Report (Tommie Weckesser)*

The 2017 Conference has 7 vendors with booths and 120 registered attendees, with a total of 135 +/- including vendors and volunteers. Thank you to the vendors, your support is crucial. Thank you to the planning committee, and especially to Kristy Graczyk and the CCDOA for printing the programs, signs and the awards. Thank you to the presenters. Thank you to Sam's Town and their staff.

*Geospeak (John Ellis)*

John said that it has been a privilege to be the editor for Geospeak for the last five years. He is stepping down now, and will be happy to assist in finding a new editor. Let him know if you're interested. This is a great opportunity because you get to work with great people in GIS throughout the state. He'll send out an email blast to ask for volunteers.

*NGIF Report (Sonya Wilson)*

Thank you to the planning committee and to the presenters for the great content. NGIF is the nonprofit side of NGIS and is a 503(c) organization with a mission to enhance GIS education in Nevada by providing scholarships. ESRI, Pictometry, and Miller are sponsors of the golf tournament. If you want to be involved in NGIF you can do so by serving on the Board or in a volunteer position.

New Business

*NSGIC (Eric Schmidt)*

Eric stated that NSGIC tries to provide guidance for best practices and standards to provide interconnection between states. They reached out to the Nevada government, which reached out to NGIS to encourage participation. Rachel Micander, Nevada Bureau of Mines and Geology, is the new Nevada representative to NSGIC and will attend the fall meeting to close out the grant.

*Education Subcommittee (Laura Rosales Lagarde)*

Laura reported that the subcommittee had an informal meeting yesterday after the teacher workshop where we discussed education in Nevada and how low enrollment is. The subcommittee also discussed whether GIS is a profession or a tool. What can we do as employees to let the education sector know what is valued in a GIS education? Laura reported that a survey of the education sector is in progress and is being led by Cheryl Collins with Desert Research Institute. The subcommittee is also looking at what the best approach is for GIS education. Should we target the college level or

elementary and high school? The subcommittee will have conference calls through the year to hold our meetings. Laura is leading the subcommittee in a temporary capacity and is looking for volunteers to lead on a more permanent basis.

*Elections 2017-18 (Don Harper)*

President – Gary Zaepfel

Treasurer – Karla Chavez

Vice President – Don Harper

Secretary – Karin Hagan

2017-2019 Board Members – Andrea Adams, Polly Boardman, Jorge Morteo

*President's Remarks (Gary Zaepfel)*

Gary reminded everyone that the raffle will be held at 3:30 pm during the closing session. Please pick up your posters by the end of the day. Be sure to pick up your certificates if you are a presenter or volunteer. Also, please return your name badge to the front desk and we will reuse them next year.

*Open Discussion*

Tommie Weckesser – Thank you to the City of Las Vegas and ESRI for the ArcGIS Pro workshop. Thank you to Nevada State College and NGIF for hosting the teacher workshop.

Next year's conference will be held in northern Nevada, in a location to be determined. Should it be held in the spring or fall? The audience was approximately 50 / 50. Over the next year the Board will be reviewing the Bylaws and may have changes to present to the membership at the next conference. We will also be finalizing the change in business name now that we have the election results and can authorize the new signatories.

Meeting adjourned at 1:09 p.m.



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**NEVADA GEOGRAPHIC INFORMATION SOCIETY  
BYLAWS**

**Approved by NGIS Board – April 23, 2013  
Approved by NGIS Membership – May 16, 2013**

ARTICLE I.

NAME

The name of this non-profit organization is the Nevada Geographic Information Society, hereinafter referred to as "NGIS".

ARTICLE II.

PURPOSE

The purpose of this organization is to promote professionalism, cooperation, mutual assistance and sharing of knowledge and experience. This organization is committed to provide a forum for the exchange of ideas, information and technology as they relate to the advancement of spatial data (GIS) and technology within the state of Nevada

OBJECTIVES

A. Education. Recognizing a need to stimulate, encourage and otherwise provide for the advancement of an interdisciplinary approach to planning, designing, and operating urban and regional geospatial information systems, the objectives of NGIS are:

1. To provide an objective educational forum without political, social, financial or national bias;
2. To foster the exchange of ideas and studies focused on the planning, operation, and consequences of such information systems; and,
3. To promote professional interaction, stimulate research, encourage publication, and generally aid the advancement of its members and other organizations having related objectives.

B. Equal Opportunity. Being mindful of the undesirable effects of institutionalized discrimination, NGIS shall conduct its activities on a fair and equitable basis without bias. Further, NGIS shall encourage and promote equal opportunity participation in all NGIS activities.

C. Political Activity. NGIS may provide testimony or participate in limited lobbying to influence legislation, but shall not expend a substantial part of its budget in these matters; nor shall it participate in or intervene in (including the publishing or distributing of statements) any political campaign on behalf of any candidate for public office. It is the responsibility of individual NGIS members, officers and duly appointed representatives participating in any legislative process to be aware of legal and professional limits.

ARTICLE III.

## MEMBERSHIP

A. Eligibility. Any responsible individual or organization with a serious interest in the field of geographical information systems or geospatial data and approving of the objectives of the NGIS shall be eligible for membership in NGIS.

B. Categories. The categories of NGIS membership are:

1. Regular or Individual: Any individual interested in the mission and objectives of NGIS paying dues for a given year.
2. Corporate: Any business interested in the mission and objectives of NGIS paying dues for a given year.

C. Duration. All members shall hold membership for a period of one year unless otherwise specified in these bylaws.

D. Rights and Privileges. All dues-paying members shall have full voting rights. Only dues-paying members that are members in good standing may hold elected office. Members shall be informed of the activities and progress of NGIS through annual or more frequent reports, newsletters, and/or NGIS meetings.

E. Dues. Initial NGIS dues for each defined membership category shall be established by the NGIS's Board of Directors, hereinafter referred to as "the Board". Thereafter, any change in NGIS dues must be approved by the membership.

## ARTICLE IV.

### MEETINGS

A. Meetings. NGIS shall hold at least one regular meeting, every year, at a time and place as determined by the Board. At least one meeting per year shall be designated as the "Annual Meeting" of the NGIS. Special Meetings of the NGIS may be called at any time by the President, at the request of a majority of the Board or upon the written petition of ten percent (10%) or more of the members in good standing. Location, date, and time of Annual Meetings and Special Meetings must be announced at least 30 days in advance of the meeting.

B. Quorum. At any meeting of NGIS, a quorum shall consist of ten (10) or ten percent (10%), whichever is greater, of the members in good standing.

C. Voting. At all meetings of NGIS membership, all members not otherwise restricted by a special membership category and in good standing, shall have one (1) vote. Unless otherwise specifically provided by these Bylaws, a majority vote of the members present and voting shall govern.

D. Rules of Order. The current edition of "Robert's Rules of Order" governs NGIS in all parliamentary situations that are not provided for in the NGIS Bylaws.

## ARTICLE V.

### OFFICERS AND DIRECTORS

#### Section 1.

#### Officers.

A. NGIS officers consist of the following positions:

1. President. The President shall be the chief elected officer and the official spokesperson for the NGIS. He or she shall preside at all meetings of the Board and NGIS membership. The President may make and sign contracts and agreements, in the name of NGIS, with approval of the Board and in accordance with guidelines set forth by the Board. The President shall be elected to serve a term of one year. The President may be re-elected for no more than 4 consecutive terms. He or she must be an active member in good standing.
2. Vice-President. The Vice-President shall be elected to serve a term of one year. The Vice-President may be re-elected for no more than 4 consecutive terms. He or she assumes the duties of the President in the absence of the President. He or she performs other duties as the President and Board recommend. He or she must be an active member in good standing.
3. Secretary. The Secretary shall prepare accurate minutes of all proceedings and meetings of NGIS and Board meetings. The Secretary will keep and file copies of all NGIS, Board, and Committee meeting agendas, minutes, final reports, financial reports, and correspondence. He or she must be an active member in good standing.
4. Treasurer. The Treasurer shall be responsible for managing NGIS finances and shall handle NGIS funds in accordance with procedures established by the Board. The Treasurer shall be responsible for the verification and

filing of the Annual NGIS Report, which includes NGIS's financial statement, and shall be responsible for all other reports and filings as required by other agencies. He or she must be an active member in good standing.

B. Elections. Prior to the Annual Meeting, all nominations for officers and directors shall be presented to the board by the Nominating Committee. Additional nominations may be made from the floor when the slate is presented to the membership for approval. The nominees for all officer positions shall reside and/or work within the defined geographic area of NGIS. No member shall hold more than one (1) elective office during a term.

C. Tenure of Officers and Directors. Officers and Directors shall assume office on the First day following the Annual Meeting. Officers shall be elected to serve for a one (1) year term. Officers shall serve without compensation.

D. Vacancy. Vacancy. In the event of a vacancy in the office of the President, other than expiration of tenure, the Vice-President shall automatically succeed to the Presidency. Vacancies in any other elective office may be filled by the Board for the balance of the remaining term, at any regular or special Board meeting.

E. Removal. Any officer may be removed from office by the Board if, after due and proper hearing, he or she is found guilty by the Board of neglect of duty, improper conduct, violation of these Bylaws, or other causes as defined by the Board. Removal of any officer or director shall require two thirds (2/3) vote of all Board members.

F. No officer of this Society shall incur any liability on behalf of NGIS except with the approval of the Board, in any case, the amount shall not exceed that available in the NGIS Treasury.

## Section 2.

### Board of Directors

A. The governing body of this organization shall be the eleven-member board.

B. The Board of Directors shall consist of the President, Vice-President, Secretary, Treasurer, and seven (7) directors elected by the members. Directors shall serve without compensation.

C. The seven (7) additional elected directors shall be elected from the membership for a term of two (2) years on a staggered basis, with expiring directors' positions being elected at each annual meeting. Directors should be active members as defined in Article III (D) and represent a diverse cross-section of the GIS community.

D. The NGIS Board shall act as an advisory board to the President and shall assist in formulating policies and procedures, and have full supervision and control over all NGIS business affairs, so far as this delegation of authority is consistent with the laws of the State of Nevada, the Society's Charter, Constitution and By-Laws.

E. Removal. Members of the board may be removed from office by the Board if, after due and proper hearing, he or she is found guilty by the Board of neglect of duty, improper conduct, violation of these Bylaws, or other causes as defined by the Board. Removal of any officer or director shall require a two-thirds (2/3) vote of all Board members.

F. Vacancy. A vacancy of any elected position on the board shall, be filled by the board for the un-expired portion of the term, except as otherwise stated by these by-laws.

G. Meeting of the Board of Directors.

1. Designated Meetings. The first meeting of the Board shall be held following the annual meeting of members. The final meeting of the Board shall be held prior to the annual meeting of its members.
2. Regular Meetings. In addition to designated meetings, the Board will hold a minimum of (4) quarterly meetings throughout the year. The place and time of such meetings will be determined by the Board, provided a (10) day written notice is sent to each board member.
3. Special Meetings. Special meetings of the Board may be held at any reasonable time and place, if called by the President or by any five (5) members of the Board. Ten (10) days prior written notice of such meeting, stating the purpose thereof, shall be sent to each board member by the Corresponding Secretary. No other business may be conducted thereat.
4. Meetings of the Board may be held at any time without formal notice, provided all the members are present and those not present have waived notice thereof. Such meetings shall be held at such time and place as the notice thereof or waiver may specify.
5. Business transacted shall require a majority vote of the directors present, unless a different vote is required by these Bylaws.

6. Quorum of the Board: A majority of the eleven (11) members of the Board shall constitute a quorum for the transaction of business at any meeting of the Board; but a lesser number may adjourn any meeting from time to time. Notice shall be given to all members of the Board of the time and place of any such adjournment.
7. Business of the Board may be conducted by mail, email, FAX, or telephone. Any action or vote taken by telephone must be subject to ratification of the Board by mail within ten (10) days.

Section 3.  
Non-Elected Officers.

1. Newsletter Editor. The Newsletter Editor shall prepare and distribute a periodic newsletter, other announcements or documents as deemed in the interest of NGIS, and shall be an ex officio, nonvoting member of the Board of Directors. The Newsletter Editor shall be appointed by the President, with the approval of the Board, for an undefined term. This position can be held by any NGIS member in good standing, board member, or officer.

ARTICLE VI.  
STANDING AND SPECIAL COMMITTEES  
Section 1.

Special committees of the NGIS shall include:

- A. Conference committees with a set duration and a committee Chairperson and committee Secretary appointed by the President, and approved by the Board. Duties of the Chairperson include development and hosting an NGIS conference, workshop, or other event and other duties as defined by the Board. Duties of the Secretary include preparing committee meeting agendas and minutes, and forwarding copies of agendas, minutes, budgets, reports, and other committee correspondence to the NGIS Secretary.
- B. Other committees as needed dealing with special topics including, but not limited to, communications, finance, membership, and publications may be established as needed by the President with approval of the Board. The President, with approval by the Board, shall establish the duties, duration, and membership of such committees as appropriate to support NGIS's needs.

ARTICLE VII.  
Section 1.  
Proposal of Amendments

Amendments to these Bylaws may be proposed by one of the following means:

- (a) Resolution passed by two-thirds (2/3) vote of the Board of Directors.
- (b) Written proposal signed by fifteen (15) members of The Society.

Section 2.  
Consideration of Amendments

No later than 10 days before a properly called Annual Meeting the proposed amendments shall be published in the NGIS newsletter and/or NGIS Web site. Copies of the proposed amendment will also be distributed to members at the beginning of the Annual Meeting. At the Annual Meeting the proposed amendment shall be passed upon receipt of a two-thirds (2/3) affirmative vote of the active members present and voting.

ARTICLE VIII.  
AFFILIATED ORGANIZATIONS

- A. Any active provincial, municipal, regional or national organization whose interests and purposes are similar to those of NGIS, may on request, and on approval of the Board, become affiliated with NGIS to work together more effectively in the achievement of their common goals.
- B. The Board shall determine what privileges of NGIS may be granted to affiliates.
- C. The Board may sever the affiliation of the organization with NGIS when it is no longer in the best interests of the organization and after notification to its officers that termination has been voted by the Board.

ARTICLE IX.  
DISSOLUTION

NGIS may be dissolved at any time by the written consent of not less than two-thirds (2/3) of the members. In the event of the dissolution, whether voluntary or involuntary, or by operation of law, no property, assets, nor any proceeds of NGIS shall be distributed to any members of the NGIS. But after payment of the debts, its property and assets shall be given to one or more organizations of similar exempt purpose within the State of Nevada. This to be determined by the Board prior to dissolution of the organization within the meaning of Section 501(c)(3) of the Internal Revenue Code of 1954 (or corresponding provisions of any future United States Internal Revenue law).

ARTICLE X.  
OPERATION LIMITATIONS

Notwithstanding any other provisions of these articles, the NGIS shall not carry on any other activities not permitted to be carried on (a) by a corporation exempt from Federal Income Tax under Section 501(c)(3) or Section 501(c)(6) of the Internal Revenue Code of 1954 (or corresponding provision of any future United States Internal Revenue Law) or (b) by a corporation contributions to which are deductible under Section 170(c)(2) of the Internal Revenue Code of 1954 (or the corresponding provision of any future United States Internal Revenue Law).

REVISIONS

Ehrenberg 2004

Hagan 2010 – update of Article V, Section 2, Paragraph G, Subparagraph 2.

Hagan 2013 – update of Article III, Paragraphs B and C.

Hagan 2013 – update of Article V, Section 1, Paragraphs A, C, and D; Section 2, Paragraphs B, C and G subparagraph 6.

Hagan 2013 - update of Article VI.

NGIS wishes to thank  
our generous Vendors



**NGIS 2018 Conference Agenda at a Glance**

**October 16 (Tuesday)**

	Time	RM: Whitney Peak 1	RM: Whitney Peak 2	RM: Whitney Peak 3	Other
<i>Von Schmidt Survey Tour</i>	8:30 am - 12:30 pm				Washoe County Admin Complex, Building C, Central Conference Room, then to Verdi area
<i>LiDAR Workshop</i>	2:00 pm - 4:00 pm			LiDAR Workshop	

**October 17 (Wednesday)**

	Time	RM: Whitney Peak 1	RM: Whitney Peak 2	RM: Whitney Peak 3	Other
<i>Registration Open</i>	7:00 am - 4:00 pm				Pre-Function A, 3d Floor
<i>Breakfast Provided by NGIS</i>	7:00 am - 8:15 am				Boundary Peak Ballroom
<i>Opening Ceremonies, Keynote, Vendor Lightning Round</i>	8:30 am - 10:30 am	Opening Ceremony, Keynote, Vendors			
	10:00 am - 10:30 am				
<i>Break (sponsor: EagleView)</i>	10:30 am - 10:45 am				
<i>Presentations 1</i>	10:45 am - 12:00 pm	GIS In 5 Years			
<i>Lunch Provided By NGIS</i>	12:00 pm - 1:30 pm				Boundary Peak Ballroom
<i>Outgoing NGIS Board Meeting</i>	12:00 pm - 1:00 pm				Alpine Board Room
<i>Presentations 2</i>	1:30 pm - 3:00 pm	Federal GIS	Next Gen 911	Asset Management	
<i>Break (sponsor: Graphic Imaging Services)</i>					
<i>Presentations 3</i>	3:15 pm - 4:45 pm	SMAC Meeting	GIS on the Go: Mobile Apps	Local Government	
<i>Social and Poster Contest (sponsor: Esri) Appetizers and hors' d'oeuvres, cash bar</i>	5:00 pm - 7:00 pm				Pre-Function A/B
<i>Bocce at Renaissance Hotel</i>	8:00 pm - 10:00 pm	Bowling starts at 8 PM sharp!			

**October 18 (Thursday)**

	Time	RM: Whitney Peak 1	RM: Whitney Peak 2	RM: Whitney Peak 3	Other
<i>Registration Open</i>	7:00 am - 10:00 am				Pre-Function A, 3d Floor
<i>Breakfast Provided by NGIS</i>	7:00 am - 8:15 am				Boundary Peak Ballroom
<i>Presentations 4</i>	8:30 am - 10:00 am	Esri - What's Next	GIS in Action		
<i>Break (sponsor: Miller Spatial)</i>	10:00 am - 10:30 am				
<i>Presentations 5</i>	10:30 am - 12:00 pm	Regional Data Development	The Web and What Ya' Brung		
<i>Lunch Provided By NGIS</i>	12:00 pm - 1:30 pm				Boundary Peak Ballroom
<i>NGIS Business Meeting</i>	12:00 pm - 1:00 pm				
<i>Presentations 6</i>	1:30 pm - 3:00 pm	The Web and Open Data	Remote Sensing, LiDAR		
<i>Closing Remarks and Raffle must be present to win!</i>	3:00 pm - 3:30 pm	Closing Remarks and Raffle			
<i>New NGIS Board Meeting</i>	3:30 pm - 4:00 pm				Alpine Board Room

## NGIS 2018 Conference Presentation Sessions

Track	Session and Papers	Breakout Session
<b>WEDNESDAY</b>		
<b>Presentations 1</b>		
<b>Whitney Peak 1 &amp; 2</b>	<b>Geospatial Nevada in 2023: Visions and Ideas (Panel and Open Discussion)</b>	
<b>11:00 am - 12:00 pm</b>	Moderator: Eric Ingbar	
	Panelists: Melissa Christie (Quantum Spatial), Don Harper (Bureau of Land Management), Eric Ingbar (AppGeo / Gnomon), Mathew Lawton (City of Carson City), Carol Ostergren (USGS), Rachel Micander (Nevada Bureau of Mines and Geology), Jennifer Vlcan (Nevada Bureau of Mines and Geology), Gary Zaepfel (NGIS)	
<b>Presentations 2</b>		
<b>Whitney Peak 1</b>	<b>Federal GIS: Open Discussion and Demonstrations</b>	2.1
<b>1:30 pm - 3:00 pm</b>	Moderator: Don Harper, Bureau of Land Management	
<b>Whitney Peak 2</b>	<b>Next Generation 9-1-1 and Emergency Services</b>	2.2
<b>1:30 pm - 3:00 pm</b>	Moderator: Jeff Ledbetter	
<b>1:30 pm - 1:50 pm</b>	Jeff Ledbetter: GIS Data Development And Validation For Next Generation 9-1-1	
<b>1:50 pm - 2:10 pm</b>	Jeff Ledbetter: How Can I Serve My Public Safety Emergency Communications Center	
<b>2:10 pm - 2:30 pm</b>	Jeff Ledbetter: Why Is Addressing So Hard?	
<b>2:30 pm - 3:00 pm</b>	Dustin W. Nelson: Where We Police	
<b>Whitney Peak 3</b>	<b>Asset Management</b>	2.3
<b>1:30 pm - 3:00 pm</b>	Moderator: Aaron Smith	
<b>1:30 pm - 2:00 pm</b>	Aaron Smith, Chuck Wright: Turning GIS Data into Actionable Information	
<b>2:00 pm - 2:30 pm</b>	Open Forum and Discussion	
<b>2:30 pm - 3:00 pm</b>		
<b>Presentations 3</b>		
<b>Whitney Peak 1</b>	<b>State Mapping Advisory Committee Meeting</b>	3.1
<b>3:15 pm - 4:45 pm</b>	Moderator: Jennifer Vlcan	
<b>Whitney Peak 2</b>	<b>GIS On The Go: Mobile Apps and Uses</b>	3.2
<b>3:15 pm - 4:45 pm</b>	Moderator: Jeremy Hall	
<b>3:15 pm - 3:45 pm</b>	Jay Johnson: Washoe County Mobile Apps	
<b>3:45 pm - 4:15 pm</b>	Jeremy Hall: Combining Collector and Survey 123 Mobile Applications to Optimize Field Data Collection	
<b>4:15 pm - 4:45 pm</b>	Esri - Nakul Bhatia: How to Get Started With Mobile Apps	
<b>Whitney Peak 3</b>	<b>Local Government Success Stories</b>	3.3
<b>3:15 pm - 4:45 pm</b>	Moderator: TBA	
<b>3:15 pm - 3:45 pm</b>	Ben Sher: The As-Built GeoSpatial Portal	
<b>3:45 pm - 4:15 pm</b>	Kieran O'Shea, Matthew Lawton, Jason Woosley: Interconnecting Public Works - How Carson City Utilized the Capital Projects Apps to Streamline the Capital Improvement Process Plan	
<b>4:15 pm - 4:45 pm</b>	Esri - Matthew Twietmeyer: Performance Management -- Improving Confidence in Government	

## NGIS 2018 Conference Presentation Sessions

Track	Session and Papers	Breakout Session
<b>THURSDAY</b>		
<b>Presentations 4</b>		
<b>Whitney Peak 1</b>	<b>Esri - What's Next and Q&amp;A</b>	4.1
8:30 am - 10:00 am	<i>Moderator: TBA</i>	
8:30 am - 9:30 am	Nakul Bhatia: What's Next -- The Science of Where	
9:30 am - 10:00 am	Q & A For Esri Team	
<b>Whitney Peak 2</b>	<b>GIS In Action</b>	4.2
8:30 am - 10:00 am	<i>Moderator: TBA</i>	
8:30 am - 9:00 am	Gerald Heston: Mapping Your Family History With GIS	
9:00 am - 9:30 am	Preston Denney: Creating Assessor Ag Maps With Multiple Editors In A Single Editor Enviroment	
9:30 am - 10:00 am	Jed Hammer, Dan Bartholomew: Customized Web Apps Utilizing AGOL to Bring Value to AGIS Data at RTAA	
<b>Presentations 5</b>		
<b>Whitney Peak 1</b>	<b>Regional Data Development</b>	5.1
10:30 am - 12:00 pm	<i>Moderator: Susan Buto</i>	
10:30 am - 11:00 am	Raymond ("Robby") Craig: 2020 Census Geographic Operations and Programs	
11:00 am - 11:30 am	Susan Buto: The National Hydrography Infrastructure	
11:30 am - 12:00 pm	Susan Buto: StreamStats - A Web-Based Geospatial Hydrography Framework	
<b>Whitney Peak 2</b>	<b>The Web and Run What Ya' Brung</b>	5.2
10:30 am - 12:00 pm	<i>Moderator: Matthew Lawton</i>	
10:30 am - 11:00 am	Kieran O'Shea, Matthew Lawton, Jason Woosley: Enhancing the Local Experience - How the Carson City Visitor's Bureau Portal Has Modernized Tourism Guides Through Web-Enabled GIS	
11:00 am - 11:30 am	Jay Johnson: The Story On Washoe County's Story Maps	
11:30 am - 12:00 pm	Dale Casale, Gary Zaepfel: Washoe Regional Mapping System	
	<i>Audience Show and Tell as Time Allows</i>	
<b>Presentations 6</b>		
<b>Whitney Peak 1</b>	<b>The Web and Open Data</b>	6.1
1:30 pm - 3:00 pm	<i>Moderator: Gary Zaepfel</i>	
1:30 pm - 1:50 pm	Lucia Maria Patterson: Open Data Sites - Linking Disparate Databases for Research Efficiencies	
1:50 pm - 2:10 pm	Rachel Micander: Nevada Bureau of Mines and Geology Open Data - Making It Easy To Share Free Geospatial Data in Nevada	
2:10 pm - 2:30 pm	Jay Johnson, Gary Zaepfel: Washoe County's Open Data Site	
2:30 pm - 2:50 pm	Don Harper, Michael Schade: BLM Data Sources	
2:50 pm - 3:00 pm	Discussion	
<b>Whitney Peak 2</b>	<b>Remote Sensing, LiDAR, and Photogrammetry</b>	6.2
1:30 pm - 3:00 pm	<i>Moderator: Carol Ostergren</i>	
1:30 pm - 2:00 pm	Greg Saunders, Bryan Sweetwood: NDOT Unmanned Aerial Vehicle Program: Temporal Change Detection	
2:00 pm - 2:30 pm	Carol Ostergren: Lidar In Nevada: Partnership Success To Build On	
2:30 pm - 2:50 pm	Melissa Christie: Mapping With LiDAR	
2:50 pm - 3:00 pm	Discussion	



2018 NGIS  
CONFERENCE

Whitney Peak Hotel, Reno, NV October 16-18

Presentation  
Abstracts

**Nakul Bhatia**  
**Solution Engineer**  
**Esri**

**Thursday**  
**8:30 am – 9:30 am**  
**Whitney Peak 1**

### **What's Next -- The Science of Where**

Come see What's Next at ESRI! We will show highlights of this year when it comes to the Science of Where, and new exciting things coming in 2019!

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**Nakul Bhatia**  
**Solution Engineer**  
**Esri**

**Wednesday**  
**4:15 pm – 4:45 pm**  
**Whitney Peak 2**

### **How to Get Started with Mobile Apps**

Overview of things to consider when developing and distributing mobile apps.

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**Susan Buto**  
**National Watershed Boundary Dataset Lead**  
**U.S. Geological Survey**

**Thursday**  
**11:00 am – 13:00 am**  
**Whitney Peak 1**

### **The National Hydrography Infrastructure**

The U.S. Geological Survey (USGS) National Geospatial Program provides a suite of hydrography and elevation data that forms the foundation of a National Hydrography Infrastructure (NHI). The NHI is an integrated set of components including a geospatial framework that enables the referencing, discovery, and analysis of water-related information for the Nation. This presentation will provide an overview of the NHI, its component datasets, and its use and application, and the future direction of the NHI both nationally and for Nevada.

**Susan Buto**  
**National Watershed Boundary Dataset Lead**  
**U.S. Geological Survey**

**Thursday**  
**11:30 am – 12:00 pm**  
**Whitney Peak 1**

### **StreamStats: A Web-Based Geospatial Hydrography Framework**

Streamflow statistics, such as the 1-percent flood and the 7-day low flow, are used by government agencies, engineers, scientists, and others for water resources and land-use planning and management. Streamflow statistics can be computed from available data collected at U.S. Geological Survey (USGS) stream gauges; however, these statistics often are needed at non-gauged sites where streamflow information is not available. To determine estimates of streamflow statistics at non-gauged sites, basin characteristics are computed and inputted to multiple-regression equations. In Nevada, regression equations to compute high-flow statistics were last updated using streamflow records collected prior to 1986. Regression equations to determine low-flow statistics have never been developed. Estimation of streamflow statistics and basin characteristics at non-gauges locations is a time and resource intensive process. Different methods can be employed for these tasks which could produce incomparable results. To address these concerns, USGS has developed StreamStats, a web-based application built on a geospatial hydrography data framework. StreamStats allows users to quickly obtain streamflow statistics, basin characteristics, and descriptive information for USGS gaging stations and user-selected non-gauges surface-water locations throughout Nevada. This presentation will provide an overview of StreamStats and current (2018) efforts to develop the application for Nevada.

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**Dale Casale**  
**Sr. Technology Systems Developer**  
**Washoe County**

**Gary Zaepfel, GISP**  
**Sr. Business Systems Analyst**  
**Washoe County**

**Thursday**  
**11:30 am – 12:00 pm**  
**Whitney Peak 2**

### **The Washoe Regional Mapping System**

The Washoe Regional Mapping System, affectionately known as “WRMS,” is the result of a recent comprehensive update/re-invention of the long-standing online Quick Map application by GIS staff. WRMS is a robust mapping and data visualization tool that is widely used by internal county staff from throughout the enterprise, and by a diverse group of private businesses and citizens. Administration of WRMS users is managed using “groups” and the ability to assign county staff and public visitors to specific data layers and tools. Detailed property information is accessible via the map interface and multiple search tools. We’ll present an overview of the working components of WRMS, followed by a short discussion regarding the programming tools used to create the application.

**Melissa Christie**  
**Western Regional Account Manager**  
**Quantum Spatial**

**Thursday**  
**2:30 pm – 2:50 pm**  
**Whitney Peak 2**

### **Mapping with LiDAR**

Review and discuss many different uses for mapped features from LiDAR and Imagery.

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**Raymond T. Craig**  
**Geographer**  
**U.S. Census Bureau**

**Thursday**  
**10:30 am – 11:00 am**  
**Whitney Peak 1**

### **2020 Census Geographic Operations and Programs**

The US Census Bureau conducts various operations in preparation for the 2020 Census. The presentation will give a brief overview of the Boundary and Annexation Survey (BAS), Spatial, Address, and imagery Data (SAID) program, Local Update of Addresses Operation (LUCA), New Construction program, Participant Statistical Areas Program (PSAP), along with the upcoming 2020 Decennial Schedule of operations.

**Preston Denney**  
**GIS Coordinator**  
**Churchill County**

**Thursday**  
**9:00 am – 9:30 pm**  
**Whitney Peak 2**

### **Creating Assessor Ag Maps with Multiple Editors in a Single Editor Environment**

For many years, the Assessor's Office has been using ArcMap to create Ag Maps for all farms in Churchill County. Unfortunately, they were not using the complete capabilities of the software to create feature classes. Instead they were using the Draw Tool to identify the different classifications for each farm that led to creating a new map even when only minor changes were needed. In 2016, the GIS Coordinator proposed developing a GIS project to create Ag Maps using feature classes and a standard map layout; the County Assessor agreed. The new Ag Map project was developed to accomplish the following:

1. Saving time during initial creation and subsequent edits.
2. Working for multiple editors in a single editor environment.
3. Performing all needed area calculations.

Each editor uses their own File Geodatabase to categorize each farm. Using a Python script, their edits are copied to a central File Geodatabase for map creation. Python is used to create a summary label that lists the parcel number and each classification using data from a referenced table. Since implementation, the Assessor's Office has saved significant time in creating Ag Maps.

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**Jed Hammer**  
**Planner II/GIS Manager**  
**Reno-Tahoe Airport Authority**

**Dan Bartholomew**  
**Vice President of Planning, Engineering, and Environmental Management**  
**Reno-Tahoe Airport Authority**

### **Customized Web Apps Utilizing AGOL to Bring Value to AGIS Data at RTAA**

Reno-Tahoe Airport Authority (RTAA) has implemented a web-based suite of spatial applications that leverages the flexibility and affordability of ArcGIS Online to provide increased efficiencies to everyday business practices, support ongoing and future capital programs and allow for the sharing of a common set of data across airport departments. Some of the business areas that directly benefit from these applications are property/leasehold management, environmental compliance, operational safety, asset tracking and document/drawings retrieval. An additional component of implementation utilizes the AGOL Data Collector application. This allows various airport departments to map associated assets in the field (airside and landside), as well as utilizing FME software for more robust data integration. Throughout the length of the project, Standards and Procedures were developed for utilization and management of all data and to accommodate for the expansion of the application suite into the future.

**Gerald Heston**  
**GIS, Land, and Permitting Manager**  
**Liberty Gold**

**Thursday**  
**8:30 am – 9:00 am**  
**Whitney Peak 2**

### **Mapping Your Family History with GIS**

GIS is an excellent tool for visualizing and managing family history data. Visualizing your ancestors' homes and travels in a geographic and historic context can reveal new insights about their lives. This presentation will cover several genealogical applications of GIS: Mapping land and property records to show where your ancestors lived; Georeferencing old maps helps find old place names and boundaries; using Google Earth for non-GIS professionals to post and share points and link to photos; making use of family tree software programs with mapping capability; and building Esri Story Maps or Google Maps to tell your family's story with maps and other content. I will discuss sources of historical geographic information that could be incorporated into GIS and some examples of how GIS has helped me explore my own family tree.

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**Jay Johnson, GISP**  
**Technology Systems Developer II**  
**Washoe County**

**Thursday**  
**11:00 am – 11:30 am**  
**Whitney Peak 2**

### **The Story on Washoe County's Story Maps**

Washoe County GIS recently built a Park Finder app from AGOL configurable apps to support a Health District grant project that encourages healthful activities. This brief demo offers a quick overview of the functionality of the new app and, time permitting, we will look under the hood to see how the filtering widget is configured.

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**Jay Johnson, GISP**  
**Technology Systems Developer II**  
**Washoe County**

**Wednesday**  
**3:15 pm – 3:45 pm**  
**Whitney Peak 2**

### **Washoe County Mobile Apps**

Overview of Collector Apps created for sewer manhole conditions; streetlight inventory; earthquake hazards associated with unreinforced masonry structures; county park amenities; and emergency fire access gate locations.

**Jay Johnson, GISP**  
**Technology Systems Developer II**  
**Washoe County**

**Gary Zaepfel, GISP**  
**Sr. Business Systems Analyst**  
**Washoe County**

**Thursday**  
**2:10 pm – 2:30 pm**  
**Whitney Peak 1**

### **Washoe County's Open Data Site**

Overview and presentation of Washoe County's Open Data website.

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**Jeremy Hall**  
**GIS Administrator**  
**NCE**

**Wednesday**  
**3:45 pm – 4:15 pm**  
**Whitney Peak 2**

### **Combining Collector and Survey123 Mobile Applications to Optimize Field Data Collection**

There are pros and cons to each of ESRI's Collector and Survey123 mobile applications; however, sometimes it's difficult to know which is better for a given project. Collector is better for new data collection and high resolution spatial accuracy with access to an array of basemaps. Survey123 is better for adding or updating information to existing locations with improved attribute control and reporting functionality. But what if you want the best of both worlds? This presentation will explain how to integrate Collector with Survey123 for the collection of high resolution spatial data, then linking to a survey form for greater attribute control. Demonstrations, lessons learned, and tips & tricks will be provided. Participants should have basic knowledge of Collector and Survey123 setup (e.g., how to publish feature layers, setting up web maps, building survey forms, etc.).

**Donald P. Harper**  
**Geo-spatial Manager**  
**Supervisory GIS Specialist**  
**U. S. Bureau of Land Management**

**Michael Schade**  
**GIS Specialist – SDE Administrator, GIS Coordinator**  
**U.S. Bureau of Land Management**

**Thursday**  
**2:30 pm – 2:50 pm**  
**Whitney Peak 1**

### **BLM Data Sources**

Navigator ([navigator.blm.gov](http://navigator.blm.gov)) is the Bureau of Land Management’s newly designed web app that we use to index all of our publicly available data, including GIS data. It has the look and feel of a Google search bar combined with an Esri web map—but is a bit different. It is a third-party app that was custom developed under contract for the BLM, it is constantly being updated and improved upon from suggestions from both the BLM and public.

Drupal is another third-party web app, but this one is used for the creation and maintenance of our public facing web pages. It does not have the ability to host data, only to present it in a format that is relatively easy for the public to use to find information and links. While the previously mentioned [navigator.blm.gov](http://navigator.blm.gov) is being updated to be more user friendly we have used Drupal to make finding all BLM NV GIS data easier to find. This page is our first draft of static links to GIS data within the Navigator system: <https://www.blm.gov/services/geospatial/nevada/geospatial-downloads-page>. As we are in the process of creating a new page, this one is our place holder, and a quick way to find all non-sagegrouse BLM NV GIS data.

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**Jeff Ledbetter, GISP, PMP**  
**Public Safety GIS Expert**  
**Michael Baker International**

**Wednesday**  
**1:30 pm – 1:50 pm**  
**Whitney Peak 2**

### **GIS Data Development and Validation for Next Generation 9-1-1**

Is your GIS data ready for Next Generation 9-1-1? Even the best GIS data will need some work for the coming upgrade to geospatial 9-1-1 call routing. Find out what considerations should be employed to prepare your GIS data for NG9-1-1 and how it can be used in other applications in and out of the 9-1-1 call center -- dispatch, situational awareness mapping applications, tax departments, utility billing, permitting and other systems throughout your government enterprise.

**Jeff Ledbetter, GISP, PMP**  
**Public Safety GIS Expert**  
**Michael Baker International**

**Wednesday**  
**1:50 pm - 2:10 pm**  
**Whitney Peak 2**

### **How Can I Serve My Public Safety Emergency Communications Center?**

From providing data to your public safety Computer-Aided-Dispatch system, preparing for Next Generation 9-1-1, to supporting situational awareness in the field with map-based applications, GIS is a black box of voodoo magic to most public safety professionals. This session will provide GIS professionals an understanding of the public safety perspective - so you can lift the veil (just enough) on the black box and serve your public safety and emergency management professionals better.

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**Jeff Ledbetter, GISP, PMP**  
**Public Safety GIS Expert**  
**Michael Baker International**

**Wednesday**  
**2:10 pm - 2:30 pm**  
**Whitney Peak 2**

### **Why is Addressing So Hard?**

Location awareness from a public and 9-1-1 perspective is a more complicated matter because lives are on the line. This session is designed to help the GIS professional understand the basics of addressing using a more recent case study from the City of San Jose - Master Address Database. Even sophisticated enterprise GIS organizations have a lot of work to do to compile an accurate address database that is public safety grade. We'll explore why your organization, no matter how big or small, will benefit from going through the effort to create and/or improve the precision and accuracy of your jurisdiction's address point data.

**Rachel Micander**  
**GIS Analyst/Cartographer**  
**Geologist**  
**Nevada Bureau of Mines and Geology, University of Nevada, Reno**

**Thursday**  
**1:50 pm – 2:10 pm**  
**Whitney Peak 1**

### **NBMG Open Data – Making it Easy to Share Free Geospatial Data in Nevada**

Creation of map and data services are an important part of modernization within the Nevada Bureau of Mines and Geology (NBMG). Many NBMG datasets are viewed and queried through existing web maps but are not all accessible through a single platform. The ArcGIS Open Data platform provides us with an easy to use system in which we can share our geospatial data and link to other geo-related datasets. The goal of this project was to compile all freely available NBMG data in one single platform, organize our datasets, make our data easily discoverable, and expand our data footprint in the geoscience community. Another goal of this project was to create a central location where users could locate our web applications, publications, and other materials related to geologic and geospatial data. Some of the challenges encountered during the initial set-up of this project included organizing datasets, deciding which datasets to include, and developing an organizational structure. The construction of the public facing open data site consisted of using the ArcGIS Open Data content management system, and HTML code to build pages that would become part of the NBMG open data site.

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**Dustin W. Nelson**  
**GIS Specialist**  
**City of Henderson**

**Wednesday**  
**2:30 pm – 3:00 pm**  
**Whitney Peak 2**

### **Where We Police**

At the City of Henderson, we are working to build a model that can help improve how and where we police for specific crime types. In this presentation I will run through the model we are building to discover crime patterns for single family residential burglaries. I will show how we are using spatial analysis to predict where the most likely event will occur next. I will talk about the specific indicators I have found to help build the model and the data used to feed the model. I will show some of the tools we use to analyze data and some of the pitfalls and tricks I encountered while processing large amounts of spatial data. I will also show different visualization tools I have used to display the results to the end user and the strengths and weaknesses of the different tools we have tried.

**Kieran O'Shea**  
**GIT Associate**  
**Michael Baker International**

**Matthew Lawton, GISP, PMP**  
**Asset Manager**  
**Carson City Public Works**

**Jason Woosley**  
**Operations Manager**  
**Michael Baker International**

**Wednesday**  
**3:35 pm – 3:55 pm**  
**Whitney Peak 3**

### **Interconnecting Public Works - How Carson City Utilized the Capital Project Apps to Streamline the Capital Improvement Plan Process**

Planning capital projects across multiple departments and divisions bring up an array of issues such as ensuring consistent communication between teams, tracking multiple projects of varying cost and scope, and engaging the public for feedback on approved and funded projects. Carson City Public Works has faced these challenges for years when performing capital planning for utilities, transportation, parks, and facilities. The Capital Project Applications offered by ArcGIS Solutions for Local Government provide numerous tools that have enabled Carson City Public Works to streamline the capital project planning process. The Capital Project Plans web application provides a simple interface to define potential infrastructure projects. Plans are reviewed by department leads in the Capital Project Review application, which utilizes intuitive widgets providing detailed overviews of proposed projects. Once approved and funded, the Capital Project Journal and Capital Project Reports are used to communicate progress and potential problems between key stakeholders. Using the Capital Project Dashboard gives department executives the status of ongoing projects through a sleek, modern interface. The unified platform interconnects each web application, which allows the project data to flow through the platform to its completion. Leveraging these solutions has made capital planning more efficient and transparent for Carson City.

**Kieran O'Shea**  
**GIT Associate**  
**Michael Baker International**

**Matthew Lawton, GISP, PMP**  
**Asset Manager**  
**Carson City Public Works**

**Jason Woosley**  
**Operations Manager**  
**Michael Baker International**

**Thursday**  
**10:30 am - 11:00 am**  
**Whitney Peak 2**

### **Enhancing the Local Experience - How the Carson City Visitor's Bureau Portal has Modernized Tourism Guides Through Web-Enabled GIS**

Getting a truly authentic experience can be difficult when traveling to a new city, especially when relying on search results that cater toward large chains or paper guides that may be outdated. The Carson City Visitor's Bureau identified the value of having a home-grown application that could highlight local businesses, attractions, and services. Built in collaboration with the Carson City Public Works Department, the Carson City Visitor's Bureau Portal is a web application developed from the ArcGIS Story Maps template that provides a curated list of local destinations and attractions consolidated into a single application. The application allows users to find restaurants, hotels, trails, cultural and historic sites quickly, and provides users with descriptions, photos, and contact information for each point of interest. The responsive mobile experience enables travelers to use their location to quickly identify nearby destinations around Carson City. Self-hosting the application allows staff to regularly update the list of destinations, create categories based on locality needs, and add supporting feature layers that improve the experience for consumers. The application leverages JavaScript, which allows for further enhancements. The application's functionality and ease-of-use has enabled the Visitor's Bureau Portal to become a modern gateway for tourists visiting Carson City.

**Carol Ostergren**  
**National Map Liaison, User Engagement**  
**U.S. Geological Survey**

**Thursday**  
**2:00 pm – 2:30 pm**  
**Whitney Peak 2**

### **LiDAR in Nevada: Partnership Success to Build On**

Nevada faces unprecedented challenges related to public safety, economic development, and resource management that are underpinned and informed by high quality statewide elevation data. Critical decisions are made every day that depend on elevation data, ranging from immediate safety of life, property, and environment to long term planning for infrastructure projects and sustainable resources.

The 3D Elevation Program serves as a unifying structure for all national elevation efforts and provides a consistent set of standards and objectives for an authoritative foundation to support national needs. New QL1 and QL2 lidar data for the Reno-Carson area have just been delivered and demonstrate the partnership potential for Nevada and will provide another key step in building a state-wide elevation infrastructure.

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**Lucia Maria Patterson**  
**GIS/Field Specialist-Geologist**  
**Nevada Division of Minerals**

**Thursday**  
**1:30 pm – 1:50 pm**  
**Whitney Peak 1**

### **Open Data Sites – Linking Disparate Databases for Research Efficiencies**

Performing land research prior to staking a claim has been challenging and indirect. This does not result from lack of data but rather from poor presentation of, challenging input parameters for, and unclear locations of the data. Open data sites have not only opened the door to a new public data resource but have also created a nexus where many pieces of data can be placed in one location and formatted to meet the needs of, and assist people in, specific industries. The Nevada Division of Minerals open data site has evolved not only to be a source of data but also a utility for research which does not require any specialized software, additional data files, or knowledge of reports and query designs. The open data site was constructed to assist prospectors, exploration entities, county recorders, government land managers, and the public, who need information on mining claims utilizing-public facing BLM databases.

**Greg Saunders**  
**Photogrammetrist**  
**Nevada DOT**

**Bryan Sweetwood**  
**Photogrammetrist**  
**Nevada DOT**

**Thursday**  
**1:30 pm – 2:00 pm**  
**Whitney Peak 2**

### **NDOT Unmanned Aerial Vehicle Program: Temporal Change Detection**

NDOT's UAV program started in the spring of 2017. The program has since been focused on creating high accuracy surveys and exploring new applications for UAV use in the transportation industry. One such application is sediment change detection in detention basins. The method created makes it possible to calculate minute volumetric changes in basin and accurately map areas of deposition and erosion. This presentation will cover NDOT's growing UAV program, procedures for volumetric change detection, and future projects and goals for UAVs at NDOT.

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**Ben Sher**  
**Project Manager**  
**Rick Engineering**

**Wednesday**  
**3:15 pm – 3:35 pm**  
**Whitney Peak 3**

### **As-Built Geospatial Portals**

As-Builts are a set of drawings and related records submitted at the completion of a project. In public works and civil engineering As-Builts are an important historical reference that documents the final specifications, exact dimensions, geometry and location of all elements of work completed in the project. They may exist in digital or paper format and typically are stored in an unstructured fashion; that is often difficult to maintain and hard to find.

**Aaron Smith**  
**Asset Systems Coordinator**  
**Washoe County**

**Chuck Wright**  
**Senior Project Manager**  
**Dude Solutions**

**Wednesday**  
**1:30 pm – 2:00 pm**  
**Whitney Peak 3**

### **Turning GIS Data into Actionable Information**

An overview of Washoe County's experience implementing and using an Enterprise Asset Management System (EAMS) and how it relies on GIS.

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**Matthew Twietmeyer**  
**Solution Engineer**  
**Esri**

**Wednesday**  
**3:55 pm – 4:45 pm**  
**Whitney Peak 3**

### **Performance Management: Improving Confidence in Government**

Performance Management can be used by government agencies to monitor key performance metrics and communicate progress made on strategic outcomes to the public and other interested stakeholders. Come learn about the latest solutions that ESRI and governments have created for performance management.



SEE YOU IN LAS VEGAS  
FOR THE 28<sup>th</sup> NGIS CONFERENCE!