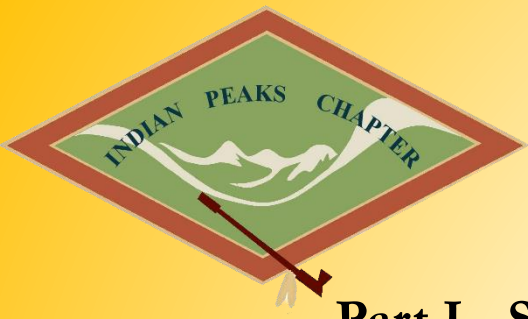


Social Media, Mobile Technology, and Archaeology WORKSHOP



Presented by:
Chris & Allison Kerns
September 30, 2017





Outline

Part I - Social Media

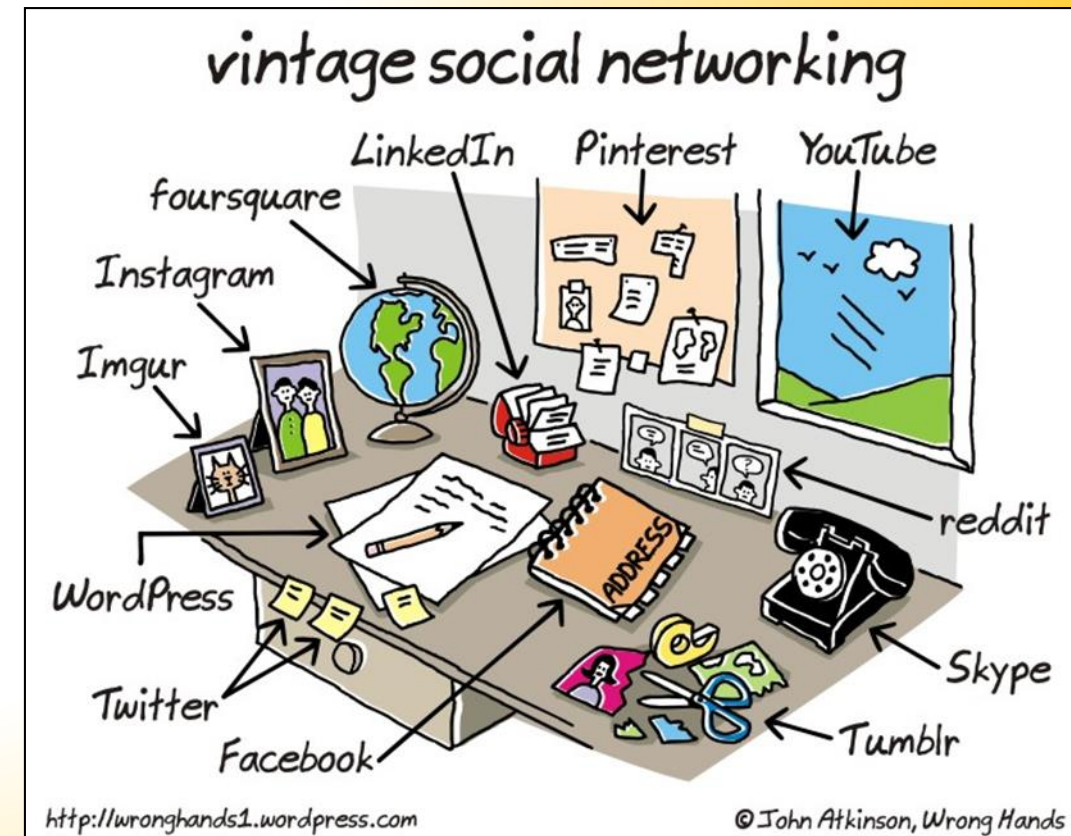
- Setting up Social Media Accounts and getting Started
 - Facebook
 - Twitter
 - Google

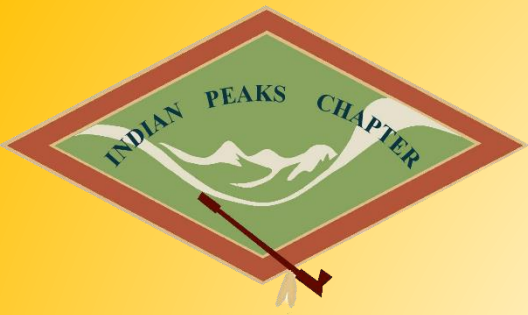
Part II - Keeping up with Archaeology News

- Groups/Pages on Facebook and Twitter
- RSS Feeds
- Podcasts and Youtube Channels

Part III - Mobile Applications

- The Best Applications for Archaeologists
- GPS Recording
- Photogrammetry
- D-Stretch

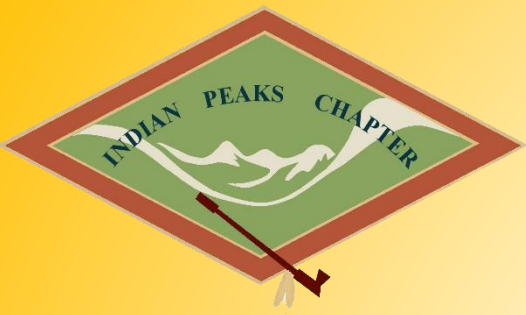




What is Social Media?



Any online tool that helps you connect and engage with individual people, groups, organizations, businesses, etc... and enables the production of User Generated Content or Consumer Generated Media

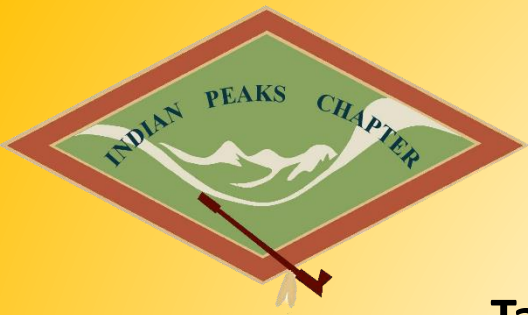


GETTING STARTED: Setting up Facebook



- Available on IOS via the app store, on Android via Google Play, and at www.facebook.com
- Download guides to help you get started from the IPCAS website (Not IPCAS Produced)
- Make sure you like the IPCAS Page
- Set up news feed preferences if you would like to
- Add friends from the society, as well as from life
- Use hashtags #, and @'s within your posts to link your post to broader groups, people or themes
- When posting, consider Privacy setting
- Key terms: Like, Follow, Post, Share, Friend





ADVANCED TIP: Facebook Posts - How To



Tagging someone in a post or Page

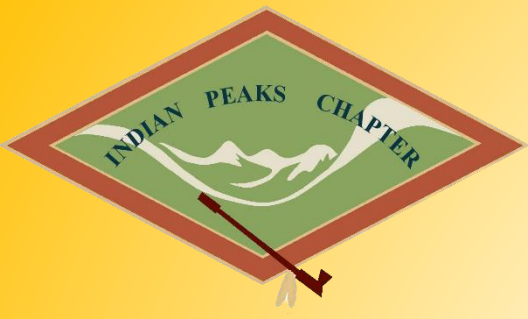
Use @ symbol, then type name → suggestions might auto-populate
When commenting on a post, you can link to someone in your response by following the same steps

Hashtags

Turns topics and phrases into clickable links in your posts
Use search bar to find posts about topics you're interested in
Must be written as a single word, without any spaces
You can include numbers in a hashtag, but punctuation and special characters (like \$ and %) won't work
#IPCAS #SAVEArchaeology

Scheduling a post

Choose the month, day, and time
Can view/edit post once it is scheduled



ADVANCED TIP: Facebook Posts - How To



Keep your content short

Add your location with a post

Upload an image

Share a post

On your Timeline

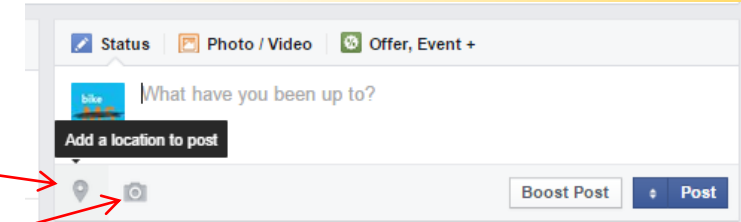
Friends Timeline

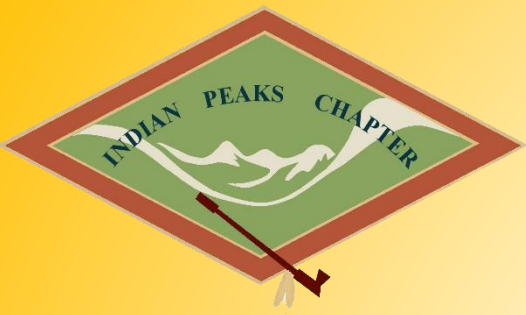
In a group

Private message

On a page you manage

Privacy settings on post



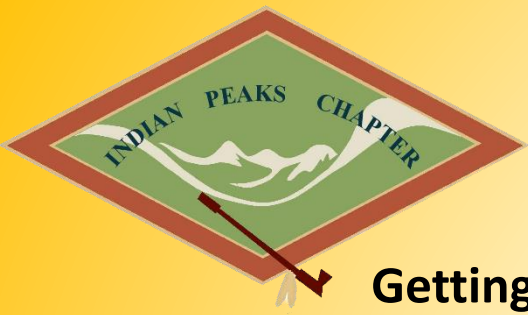


GETTING STARTED: Setting up Twitter



- Similar to Facebook, Twitter has both an online version as well as mobile applications.
- Mobile application are available on IOS via the app store, on Android via Google Play.
- To start setting up your account, visit www.twitter.com
- Download guides to help you get started from the IPCAS website (Not IPCAS Produced)
- Make sure you follow the IPCAS twitter handle @IndianPeaksCAS
- You can also follow friends, organization and news groups which interest you
- Twitter is what made #’s and @’s part of most social media
- Key terms: Followers, Follow, Tweet, Retweet, Message, Handle, Mention





GETTING STARTED: Twitter Basics



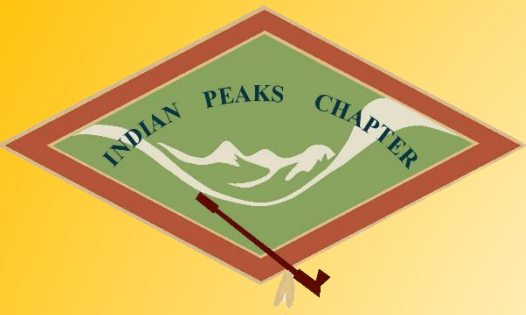
Getting set up

- Your handle is your calling card – use a version of your name
- Use your bio to provoke interest and let people know what you're going to bring to their Twitter feeds
- Make yourself easy to recognize in your profile picture
- Header photos are like Facebook cover photos – try to find a landscape oriented picture

Who to follow

- Find out which of your friends are on Twitter and follow them
 - Then, check out who they are following!
- Look up and follow your favorite brands, comedians, public figures, etc. (IPCAS)





ADVANCED TIPS: Twitter Posts



What to say and how to say it

Find your Tweeting Voice:

- Ask yourself what you are trying to get out of Twitter
Looking for entertainment? Trying to make professional connections?
- What about you is interesting and will pull people in?
Are you an expert on something? Are you funny?

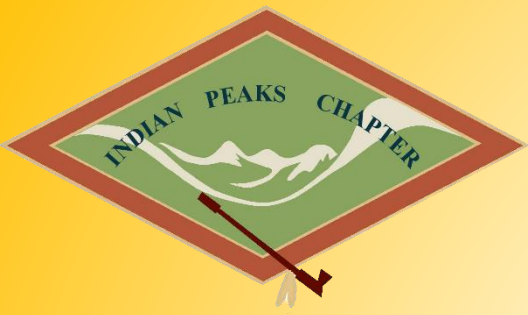
Tweet Tips

- Keep tweets to around 110 characters
- Avd. 2 mny abrvs.
- Shorten links by using a service like bit.ly
- Add pictures where you can!
- Avoid tweeting sprees
- Don't just push out information - join a larger conversation
- See what hashtags are trending and add your insight If you're at an event, use that event's hashtag to connect with other attendees

Twitter Etiquette: Minding your @'s and #'s

Golden Rule: If you wouldn't say it in front of someone, don't tweet it.

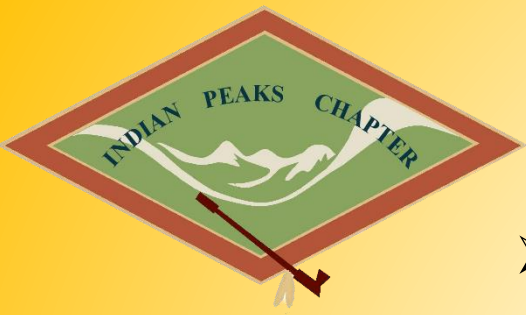
- #Don't #use #a #hashtag #for #every #word
- Don't fall into a ranting trap – people will scroll on by
- Everyone likes a little gratitude – thank your followers! #FF
- Practice thoughtful retweeting



GETTING STARTED: Google & Google+



- Google has its own social media platform, Google Plus.
- Definitely worth considering setting up a Google email account (Gmail)
- To start setting up your account, visit www.google.com
- Google has a large number and variety of free applications which can be very useful, not only for archaeologists, but for everyone
- Download guides to help you get started from the IPCAS website (Not IPCAS Produced)

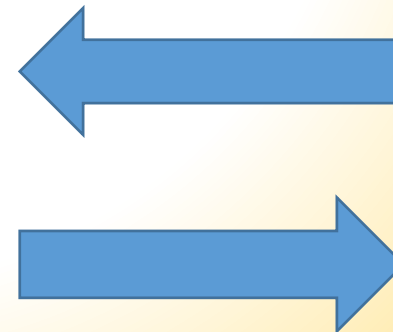
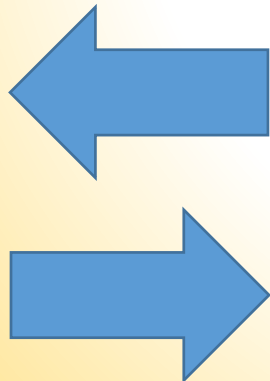


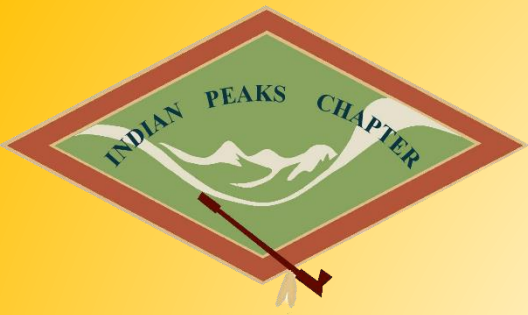
Advanced TIP: Linking Social Media Accounts

- Allows you to post on one social media platform and have it posted on all of your synced/linked social media platforms.
- Very handy if you prefer one platform over the other as your main method of engaging with social media
- Download guides to help you get started from the IPCAS website (Not IPCAS Produced)
- Visit these sites:

<https://www.pcmag.com/article2/0,2817,2389341,00.asp>

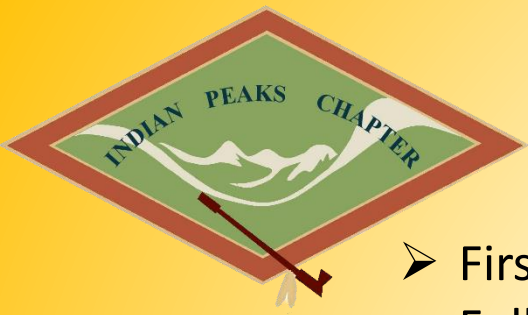
<https://blog.hubspot.com/marketing/instagram-to-facebook-company-page>





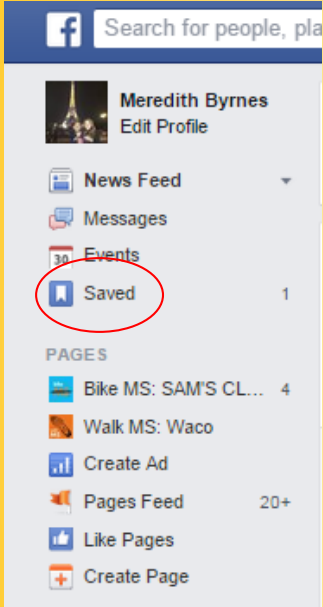
Staying informed about Recent Development in Archaeology: Archaeology News

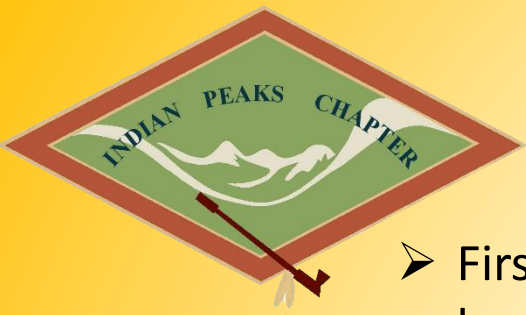
- Once upon a time... you had to subscribe to every journal or visit the library every month just to know about what was happening in archaeology (unless in made the local or national news).
- Social Media has made it really easy to keep up to date with recent developments.
 - News articles are online and can be aggregated (RSS)
 - Follow people and groups (like IPCAS) on social media sites like Facebook and Twitter
 - Listen to podcasts
 - Watch YouTube videos
 - Sign up for alerts from some of the journals so you know what and when they have published something that might interest you.
- You don't have to visit a bunch of websites either just to stay informed



Using Facebook and Twitter to stay Informed

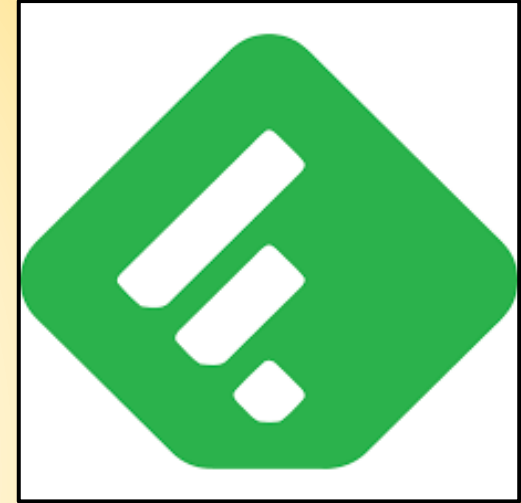
- First, go to the IPCAS Facebook feed and check out the pages IPCAS follows. Follow the ones from there you find interesting. Also check out different organizations websites, sometimes they have ways for you to click to follow them on both Facebook and twitter straight from their website (like we do)
- On your menu board on Facebook there is the option to just look at the Pages feed, you can also save articles, and manage your news feed preferences if you don't want to miss posts from a specific page or group
- On twitter, Tweets you are likely to care about most will show up first in your HOME timeline. Twitter chooses them based on accounts you interact with most, Tweets you engage with, and much more.
- You can also create additional timelines based on lists you curate or as search results

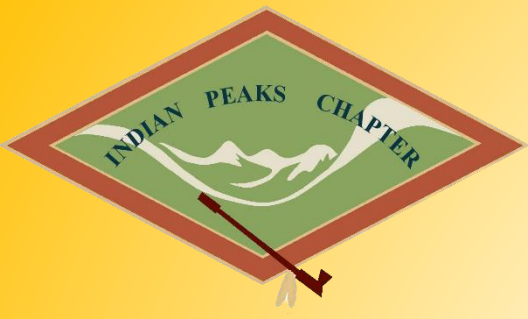




RSS Feeds: What are they and how they can work for YOU

- First, there are many RSS feed applications, Google used to have its, own but no longer. I recommend feedly. Sign up for it here: <https://feedly.com/i/welcome>
- It also has App version for both IOS and Android
- On feedly you can do a search for Archaeology News and follow certain site feeds. You can also search out specific feeds that you are interested in. If you find the icon, you can click on it to add it to you feedly feed, or add a google search to it.
- RSS (Rich Site Summary) is a type of web feed which allows users to access updates to online content in a standardized, computer-readable format. These feeds can allow a user to keep track of many different websites in a single news aggregator.



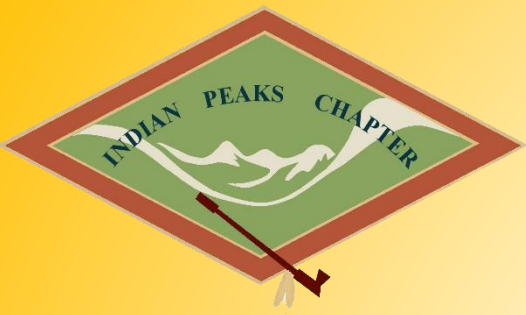


Podcasts and YouTube Channels



- Podcasts and YouTube Channels are a great way to keep up with archaeology news.
- First you'll need the Apps for viewing/listening. I suggest **PODCAST REPUBLIC** for Android and **Itunes** for IOS. YouTube application as well.
- To start off with, I recommend subscribing to the following podcasts:
 - Mesa Verde Voices: <https://www.mesaverdevoices.org/>
 - Archaeology Podcast Network: <https://www.archaeologypodcastnetwork.com/>
- On YouTube you can subscribe to Channels or to Topics. Channels are produced by specific organizations, while topics include Archaeology, Prehistory, etc...
- I recommend the following Channels: ArchaeologyTV (AIA), ArchaeologySouthwest, World Archaeology (Current Archaeology Magazine), The Archaeology Channel, and Center for Digital Archaeology

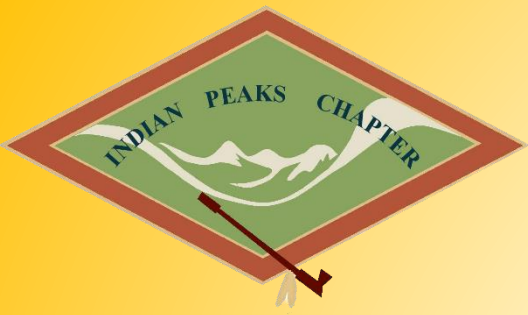




Mobile Applications: There's an App for That

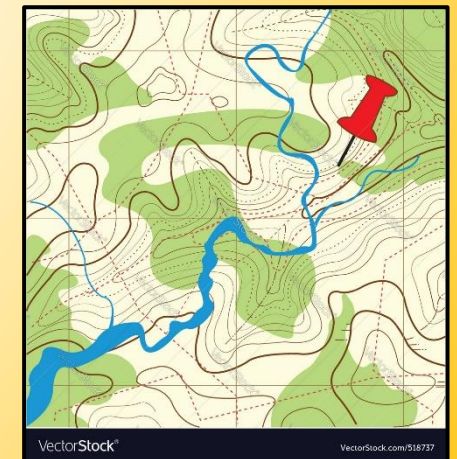
- I have broken down Mobile applications for Archaeology into FOUR, broad, and basic Categories. Some applications can combine two or more of these categories into what I would consider Field Data Collection. The Four Categories are:
 - Mapping
 - Measuring
 - Imaging/Drawing (includes photography, photogrammetry, and D-Stretch)
 - Researching
- I've used these categories to break up the list of the Best Applications for Archaeology that I put together with the help of several websites. Most of the reviews are from those websites or the Apps Developer.

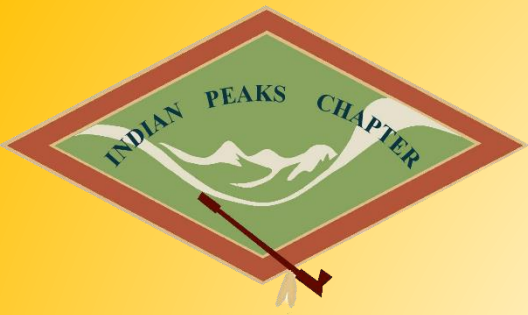




GPS Applications: The Basics

- Most phones and tablets have them these days, and many applications can work even if you don't have cellular data at the time.
- Older phones used cell towers to triangulate your location because they didn't have very good built-in satellite receivers, but that has changed.
 - UK sub-meter survey GPS units once required the addition of a cell phone to even work at all!
- GPS can be used to do the following things while doing archaeology:
 - Navigate to and from sites
 - Record locational data for a site, artifact or area
 - Some can do lines, points, or polygons
 - Used in conjunction with other applications to create Augmented realities

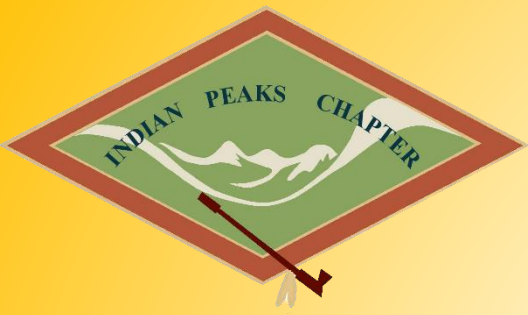




GPS Applications: Collecting Data

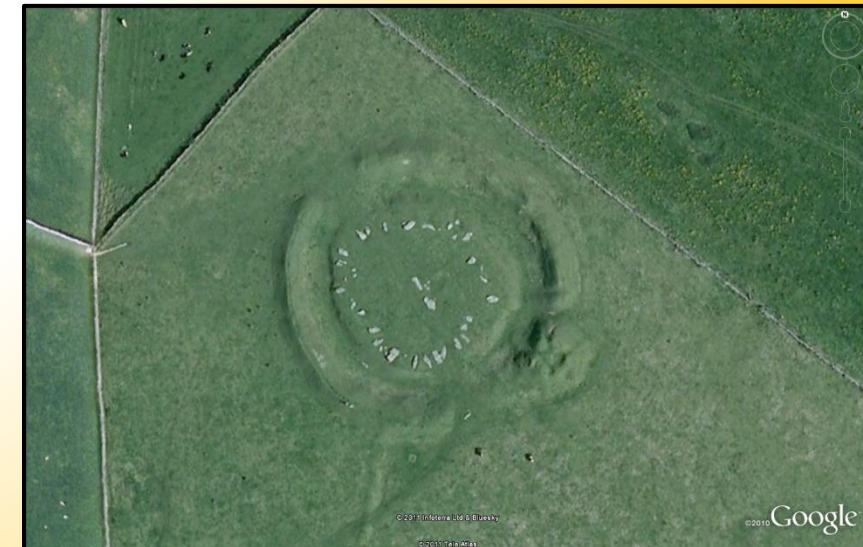
- Sub meter GPS units, are only sub-meter after processing:
 - They collect dozens of points for a single location, and average them, then get processed
- All mapping applications create points, lines, and polygons from a series of points collected from a GPS device
- GPS devices collect not only your northing and easting, but also your altitude (elevation)
- For archaeology in the USA, the standard projections system is Universal Trans Mercator (UTM), and we use the North American Datum 1983 (NAD83) as the base point.
- You should be able to set you GPS device to use these as your defaults, but google Earth does a pretty good job converting, as does ArcGIS. It can still be a bit off sometimes

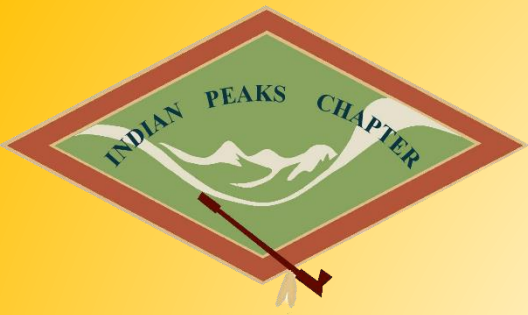




GPS Applications: Google Earth

- Google Earth is probably the easiest and most accessible GIS desktop software available for free to the average person.
- You can really do a ton with Google Earth, including:
 - Create Points, Lines, and polygons
 - Import data from GPS units, including phones
 - Export data into formats that programs like ArcGIS from ESRI can read
- It also has its own time machine function. So you can look at old imagery.
- Many sites are visible in the aerial imagery, and the aerial imagery can help determine site boundaries and additional areas to investigate



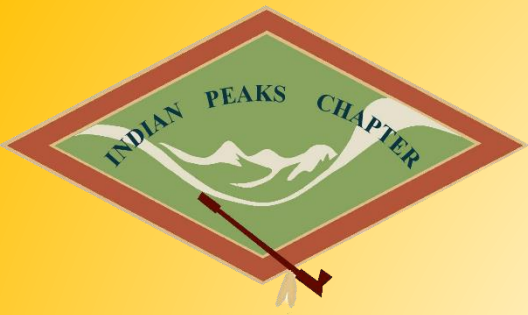


GPS Applications: Going Mobile



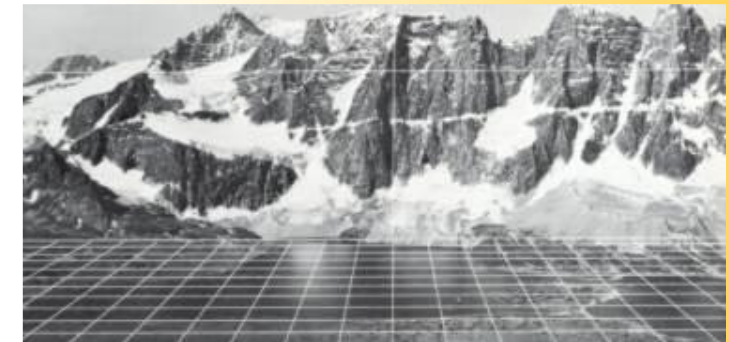
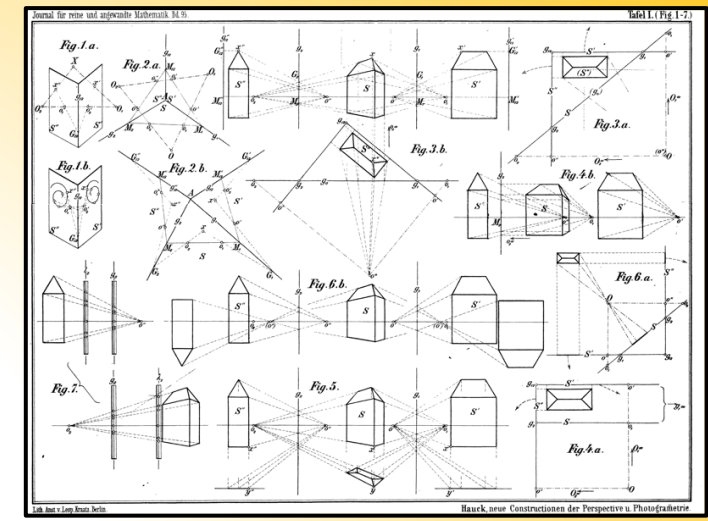
- I am most familiar with the [Polaris GPS Navigation application](#), but look forward to using Gaia at some point.
- What makes Polaris a good application for an archaeologist?
 - Ability to Navigate
 - Ability to take waypoints in UTM using NAD83 (and change accordingly)
 - Compatible with Google Maps/Earth
 - Lots of free map downloads
 - Finally, it also allows you to take pictures at your waypoints for overviews and artifact shots (VERY USEFUL)!
 - You can send the data to yourself or others via email from your phone
- I would want the same in any free GPS application for in the field.

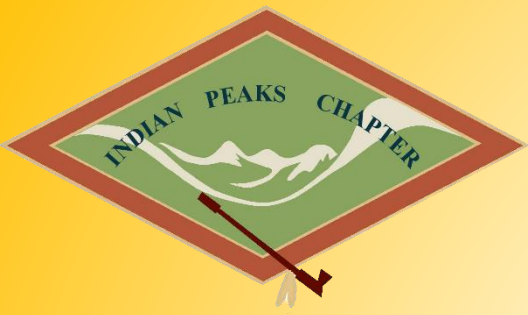




Photogrammetry: The Basics

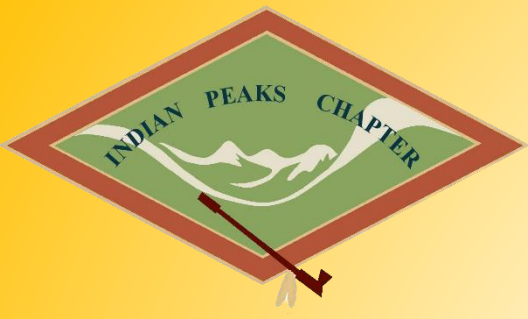
- This is not really a new technique at all, it was something Da Vinci worked on in the 15th Century and the principles developed from there on.
- The principles of perspective and projective geometry form the basic from which photogrammetric theory developed
- Was first advocated for as photogrammetry shortly after the invention of the Daguerreotype by Dominique Argo around 1840
- First used for topographic map compilation in 1849
- Really taken off over the past decade as digital photography and software has become more accessible to the broader public





Photogrammetry: Desktop vs. Mobile Applications

- Most of the difference depends on how detailed and how big your project is
- Definitely read the guides on the IPCAS website
- There is a great guide that goes through how to do it using free software for your computer.
- Unlimited number of photos can be added on a desktop, and the processing is all done on your computer
- On the mobile application, there are often limitations on how many photos and how large the project can be based on space and computing power (and the limits of the software)
- You can use video to do photogrammetry on your desktop whereas none of the mobile applications does this yet (but you can shoot the video with your phone still)

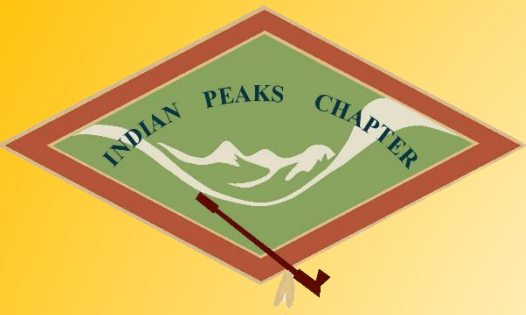


Photogrammetry: Going Mobile



- Definitely read through the Guides and links on the website!
- Only really used Scann3D so far, with varying results
- Positive, ability to see model in the field, and try again if it doesn't produce the results I wanted (Particularly useful if site/location is particularly remote)
- Negative, can't really edit the model from the mobile application to really get it the way you want

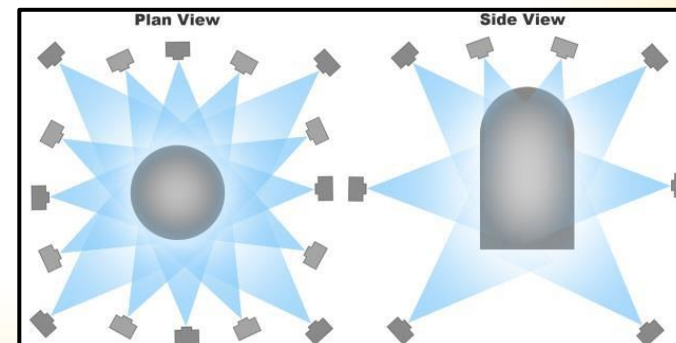
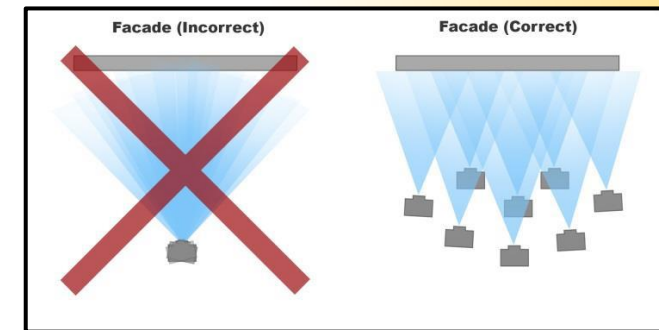
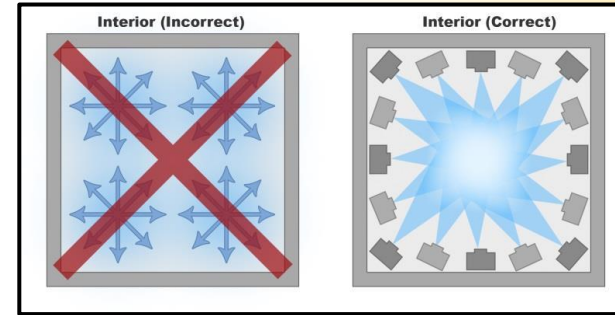


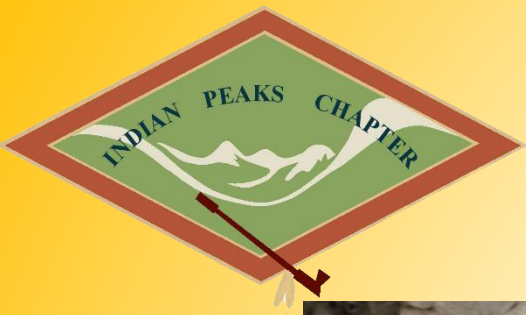


Photogrammetry: The Basics on Mobile Devices



- Use the AF/AE Lock (Auto Focus/Auto Exposure) Look up how to do on your phone. Press on the center of the screen like focusing and hold until it says locked.
- Have a solid/standard background if possible
- Keep lighting consistent (no Flashes/cloudy days are great)
- Overlap photos
- Move in a strategic and orderly fashion
- For accuracy, you may wish to use markers a measured, level, intervals

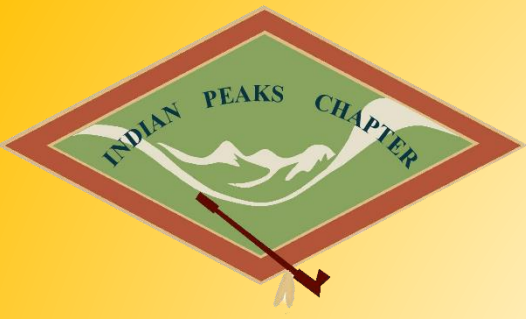




D-Stretch: What is it? Why does it work?



- DStretch is either a plugin for the imaging program ImageJ, or a mobile application for IOS or Android.
- Developed by Dr. John Harmon (dstretch@prodigy.net), www.DStretch.com
- Decorrelation stretch is an image enhancement technique that was developed to be used in conjunction with remote sensing equipment in order to enhance multispectral images
- Its enhancement techniques can bring out very faint pictographs almost invisible to the eye. Subtle differences in hue are enhanced digitally by exaggerating differences in the color spectrum.
- The desktop software is free, the mobile application is \$20.00. Professionals are asked to make a \$50.00 donation.
- Tutorials and explanations are available on the website for more details

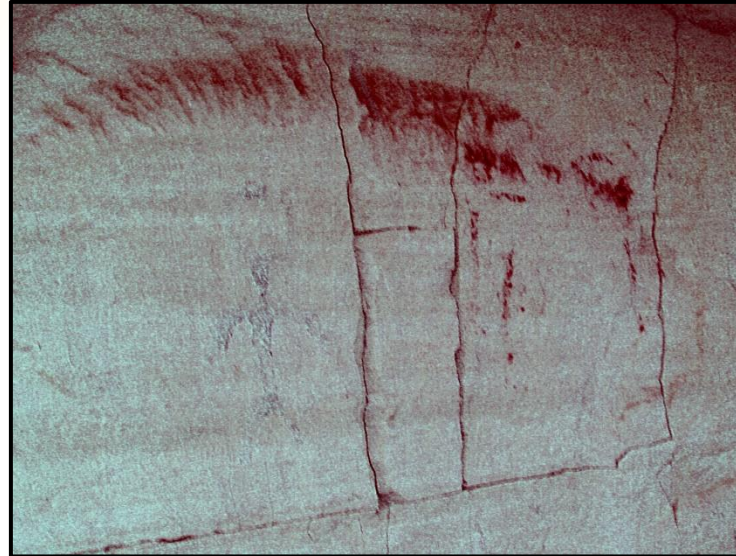


D-Stretch: Going Mobile

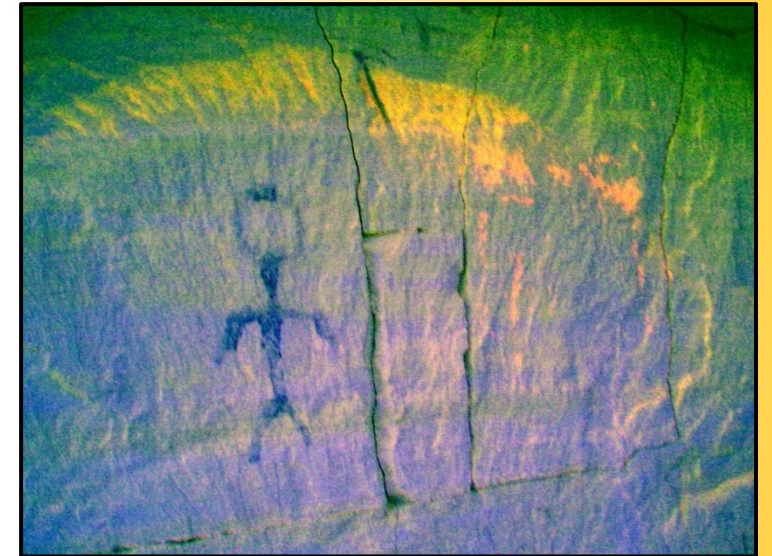
- The mobile application makes it really easy to do these visualizations, but doesn't have the ability to edit very much in app.



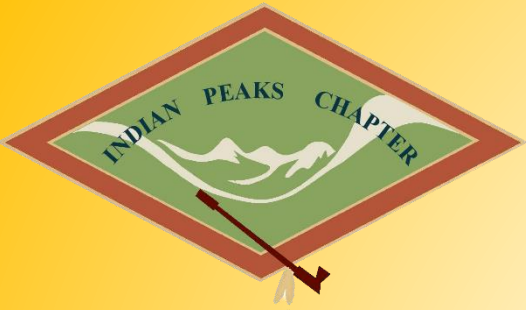
Original



YRE Permutation



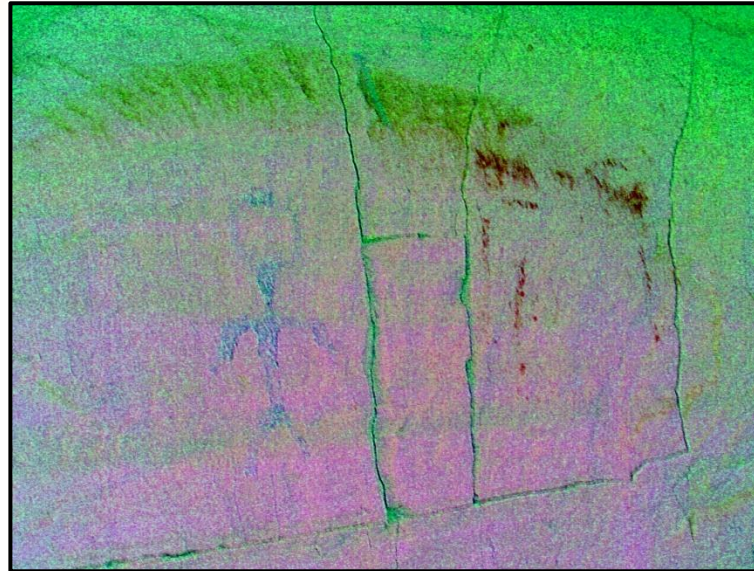
YBK Permutation



D-Stretch: Examples



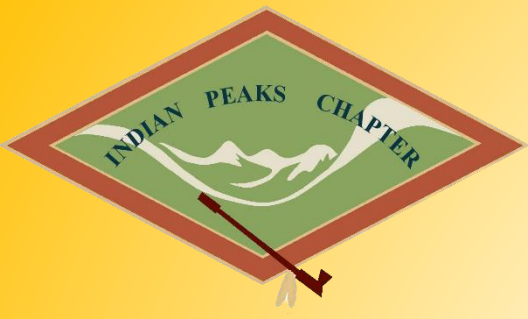
Original



CRGB Permutation



YDT Permutation



D-Stretch: Examples



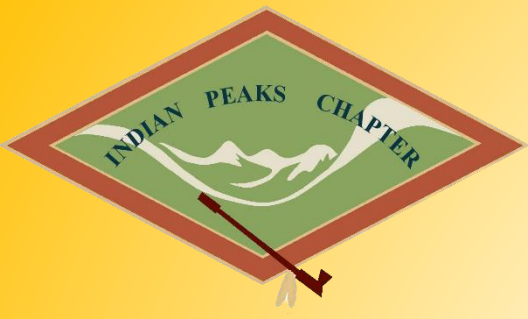
Original



RGBO Permutation



YDT Permutation



D-Stretch: Going Mobile



Original



YRD Permutation



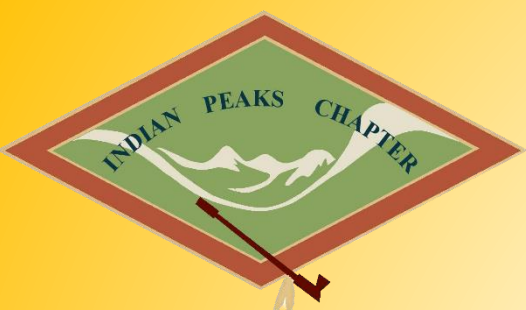
YBK Permutation



YYE Permutation



YWE Permutation



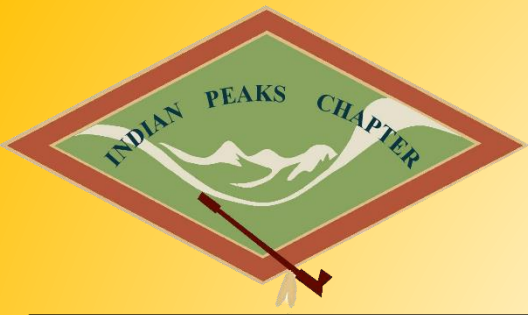
D-Stretch: Going Mobile



Original



YRD Permutation



D-Stretch: Examples



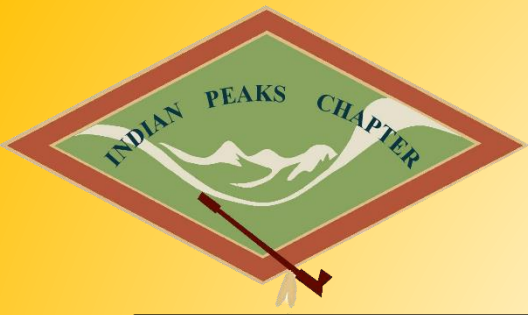
YBK Permutation



Original



RGBO Permutation



D-Stretch: Examples



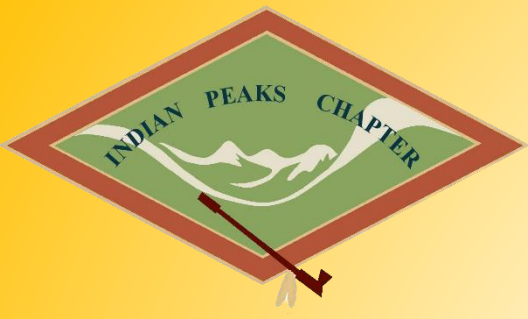
YDT Permutation



Original



YRD Permutation



Original



Now go out, record archaeology, enjoy technology, and
Happy Trails...



YDT Permutation