



Goals

- ◎ **WARNING: You may not care about this!!**
 - Interesting
 - Learn things (you will never use)
 - Why would someone do things like this?

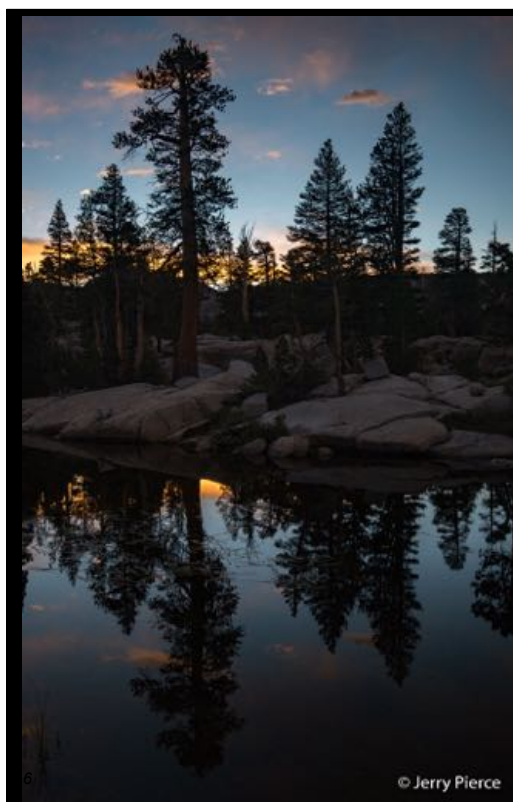
Just like the rest of
the retreat.



What is Backpack Photography?

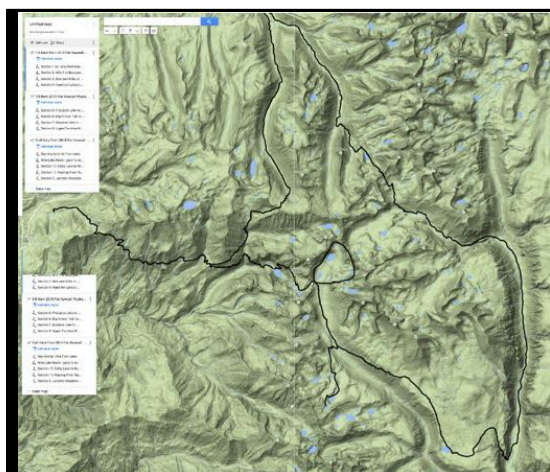
- ◎ You sleep on the ground
- ◎ It can be cold / hot / mosquitos / raining
- ◎ No shower for days
- ◎ Things may break. You may break.
 - Ask me about my hernia...or not.
- ◎ Opportunistic photography
 - If you can get the shot - great - otherwise hike on.
- ◎ No porter carries your stuff.





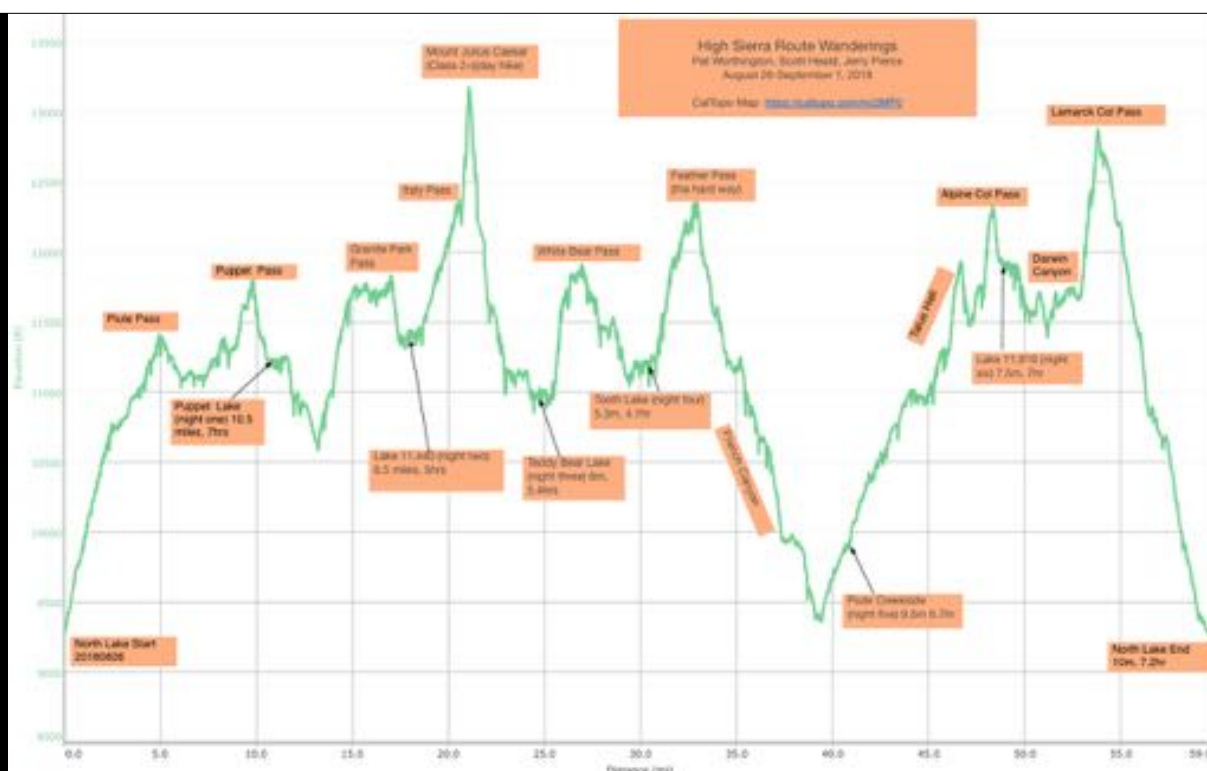
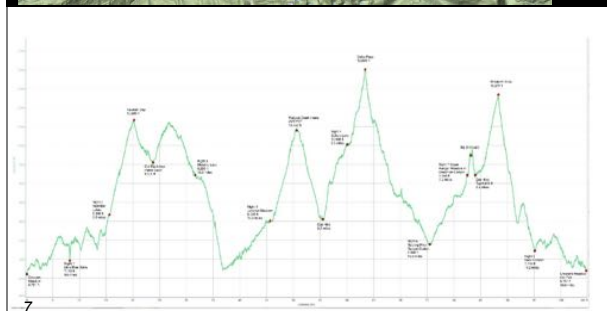
Outline

- Hike?
- What you bring
- **PHOTOS!**
Taking, Storing & Sharing



Jerry's Typical Hike

- 4-9 days on / off trail
- High Sierra
 - Sleep most nights above 10K feet
- 5-8 hours per day hiking
- 2-4K feet elevation change/day
- 35-40 pounds on back at start
- 3-5 people
 - more fun and safer



What You Bring - It's all about the weight...

Every Ounce Counts...

Overview

- Clothing
- Food, water, cooking, sleeping
- Electronics and camera



EVERYTHING is considered multiple times...

Clothing

On Body 35°F to 100°F (2°/38°C)



- Need to cover an **EXTREME** temp range (can add layers)
- **NO SHORTSLEEVE SHIRT**
 - A shirt is cooler than skin
 - Protects from sun
- **Zip off pants**
 - Shows off cute legs for on-trail style
- **Phone is for navigation**

	Grams	Pounds
Hat (and leash)	66	0.15
Buff	36	0.08
Long sleeve shirt	268	0.59
undies	75	0.17
zip off pants	496	1.09
Hiking Gloves	21	0.05
Dirty Girl Gators	40	0.09
Socks	65	0.14
High top hiking shoes	1,500	3.31
Hiking Poles (with Duct Tape and Lucco tape)	485	1.07
Progressive Glasses	11	0.02
iPhoneX	215	0.47
Watch	91	0.20
Total	3,369	7.44

The Pack

- Strong / big enough to hold 40 pounds
- Comfortable to carry for 20 miles
- Easy to pack AND FIND THINGS



	Grams	Pounds
Backpack/camera case/Whistle	1640	3.62
Waterproof Cover	84	0.19
Total	1724	3.81

Tent



- Lightweight / 2 person tent / all-season / waterproof

- Sleep with the Backpack
- Stuff it (don't roll it)

	Grams	Pounds
Tent / Footprint/Entry	923	2.04
Poles/Ground stakes	336	0.74
Total	1259	2.78

Sleeping Bag and Air Mattress

- **Insulated Air Mattress (LIFESAVER!!)**
 - Air Mattress is PART of sleeping bag - can't roll off!
 - Current generation is good enough to sleep on side
- **Down jacket stuffed to feet for added warmth**
- **Good to 20°F (-7°C)**
- **Waterproof stuff sack**
 - In case of rain /wet backpack



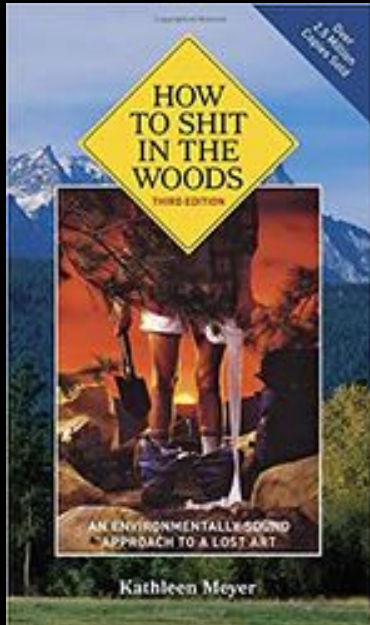
	Grams	Pounds
Sleeping Bag and stuff sack	1278	2.82
Air mattress	484	1.07
Total	1762	3.89

Water On Trail

- **Water on the trail extremely important**
 - 4 miles/liter (Your mileage may vary)
- **Water HEAVY (2.2 pounds/liter)**
- **Plan each day to see where water on trail - plan on filtering during hike**



	Grams	Pounds
Water Bag and tube	165	0.36
Smart Water	46	0.10
Sawyer Filter	92	0.20
Total	303	0.67



Taking Care of Business

- **Dig Cat-hole**
 - 6" deep IN ROCKS or ROOTS
- **Squat (aim) and try not to splash**
- **No paper left behind**
 - Used paper in plastic bag
- How much TP do you need for 8 days?
 - Minimum 4 squares per "sitting"
 - Plan on 2 sittings a day (assuming not sick) and bring 2x. 128 TP squares.



Toiletries	Gram	Pounds
Toilet Paper, Spade, Black Bag, Hand Sanitizer	111	0.25



Personal Stuff

	Grams	Pounds
Lighter	18	0.04
Knife/Leatherman	22	0.05
Reading Glasses	20	0.04
Sitting pad	31	0.07
Clothes Line	26	0.06
Bug Hat	23	0.05
Compass	72	0.16
Maps	18	0.04
\$\$ / Driver's license	14	0.03
Pens/Paper/Lens cleaner	31	0.07
Towel	45	0.10
Dark Glasses (and case)	86	0.19
Total	406	0.90



Eating: Bowl, Insulated mug, Spoon, Soap, Sponge, bag

Hygiene: Toothbrush, Floss, Toothpaste, comb, Advil/daily vitamins, Chapstick, Insect Repellent, Suntan lotion, bag

Stuff: Towel, extra reading glasses, lighter, tiny knife, maps and compass

All of these get use on almost every trip

	Gram	Pounds
Toiletry Bag	180	0.40
Eating (Bowl, Cup, +)	283	0.62
Total	463	1.02



Electronic Stuff



- (iPhone on body)

- Rechargeable Flashlight
- Satellite modem
- The “brick” is the elephant in the bag ... almost 1 pound!!
- Why not solar power????

	Gram	Pounds
Flashlight (usb rechargeable)	35	0.08
Headphone (USB rechargeable)	11	0.02
Satellite receiver/transmitter	125	0.28
Wires	58	0.13
Battery Brick	413	0.91
Total	642	1.42

Power Solar vs Brick

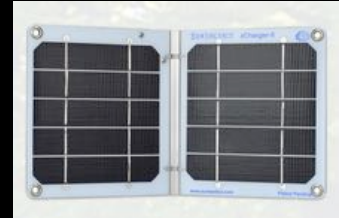
◎ Power Use:

- iPhone 20% per day or {20% times 2,800mAh} = 560mAh / day
- Garmin Fenix 3 - 50% per day or {50% times 380mAh} = 200mAh / day
- Fujifilm X-T2 15% per day or {15% times 2,000mAh} = 300mAh / day
- HeadLight 10% per day
- Earphone 10% per day

◎ Total of 1.4 AH/day to meet my needs

- ◎ 7 days = 10AH

◎ Bottom Line: Brick slightly heavier and much more convenient.



Solar takes about 2 hours direct sunlight to achieve about 1.2AH

Weight (including small battery): **0.88** pounds



Brick holds about 14AH
Weight: **0.91** pounds

Communication

◎ NEED to send “all OK” message once a day

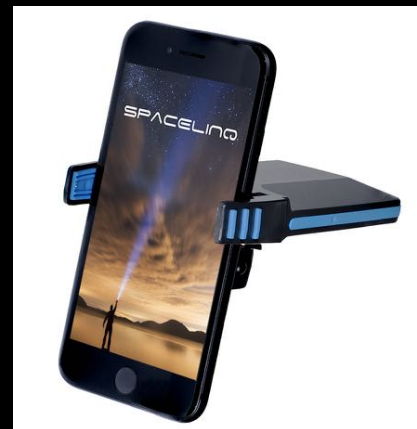
- Spousal unit requires it

◎ Emergency communication

◎ Satellite only way

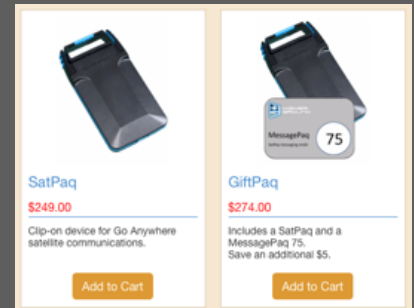
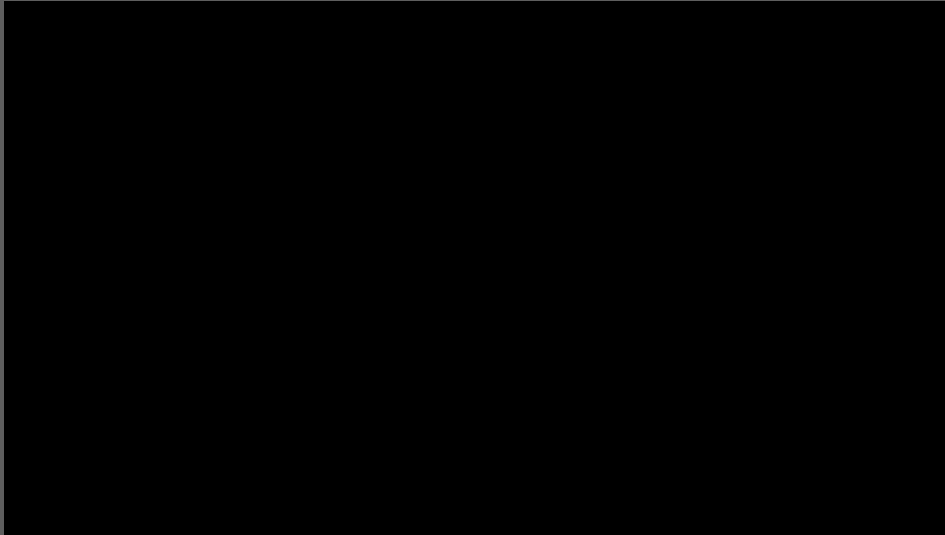
◎ InReach (low orbit sat) vs SatPaq (geosynchronous sat)

- Same weight (0.25 pounds)
- SatPaq instant feedback / faster send
- SatPaq cheaper / no monthly



SatPaq in Action

○ Video of communication



SatPaq.com

Only pay for messages (under 40¢/message), no monthly
Good for hiking and emergency communications

—
Earthquake or Remote Areas

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Camera & Accessories



○ Fujifilm X-T2 Mirrorless APS-C sensor 24Mpel

- Spare battery (about 4 days/battery - can be recharged)
- Polarized filter
- Mini-tripod

FujiFilm Camera	Gram	Pounds
Camera with Lens	1014	2.24
Battery	46	0.10
Filter	48	0.11
Tripod	63	0.14
Total	1171	2.58



Bears



- ◎ **Rules for most remote areas require the use of a Bear Canister**
 - VERY heavy, hard to pack, **GOOD CHAIR!**
- ◎ **Bears can't open these.**
- ◎ **I have seen bears in the wild**
 - Swimming nearby, eating berries, walking around

	Gram	Pounds
Bear Canister	1155	2.55

Cooking (Common Gear - split with 3-4 people)



- ◎ **Group Water filter - Gravity / 12 liters**
- ◎ **Isobutane stove and canisters**
 - 0.75 oz / person / day
 - $0.75 * 3 * 8 = 18 \text{ oz}$
- ◎ **Pots / cozy / lids / common cooking gear**

Common Gear	Gram	Pounds
Group Water Filter and bags	431	0.95
Stove	295	0.65
Extra dirty water bag	106	0.23
Spare Stove	110	0.24
Medical Kit	250	0.55
2 pots and cozy	352	0.78
Tops	80	0.18
Etc. cooking stuff	163	0.36
Isobutane (8 days/4 people) 16oz two cans	784	1.73
Total	2571	5.68
Split 4 people - per person	642.75	1.42

Food



- ◎ **Dinners: Soup and Entree (dehydrated)**
- ◎ **Breakfast: Muesli or Oatmeal w/ powdered whole milk (and Coffee)**
- ◎ **Lunch: Mixed nuts, jelly beans, jerky (and water flavoring)**
- ◎ **Dinner snacks: Chocolate**

Night	Soup	Entree
1	Sweet corn chowder	Mushroom burgundy with potato
2	Tortilla	Pulled pork with grits
3	Split pea	Arrabiata Marinara with veggies with quinoa
4	Curry Lentil/Corn Chowder	Stacked Enchiladas
5	Curry Lentil	Mushroom stroganoff with rice
6	Sweet corn chowder	Minestrone soup with potato
7	Curry Lentil/Split Pea	Pulled pork with grits
8	Split pea/Corn Chowder	Veg Chili

	Gram	Pounds
Breakfast	100	0.22
Lunch	145	0.32
Snacks/chocolate, coffee, lemonade, creamer	35	0.08
Main Meal / person	160	0.35
Per person/per day	440	0.97
8 days Total per person:	3520	7.77

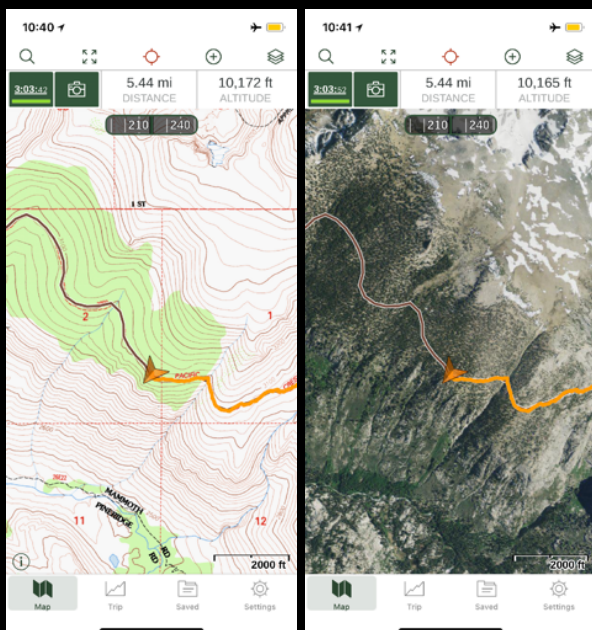
Total Weight

	Gram	Pounds
Clothing in Backpack	1814	4.00
Backpack	1724	3.81
Tent	1259	2.78
Sleeping Bag and Air Mattress	1762	3.89
Personal Water Supplies	303	0.67
TP Care	111	0.25
Eating utensils and toiletry	463	1.02
Non-Electronic Hardware	406	0.90
Electronics	642	1.42
Camera	1171	2.58
Total	9655	21.31
Bear Canister	1155	2.55
Subtotal Fixed:	10810	23.86
Group Gear	643	1.42
Food (8 days)	3520	7.77
Water (2 liters)	2000	4.42
On Back at start:	16973	37.47



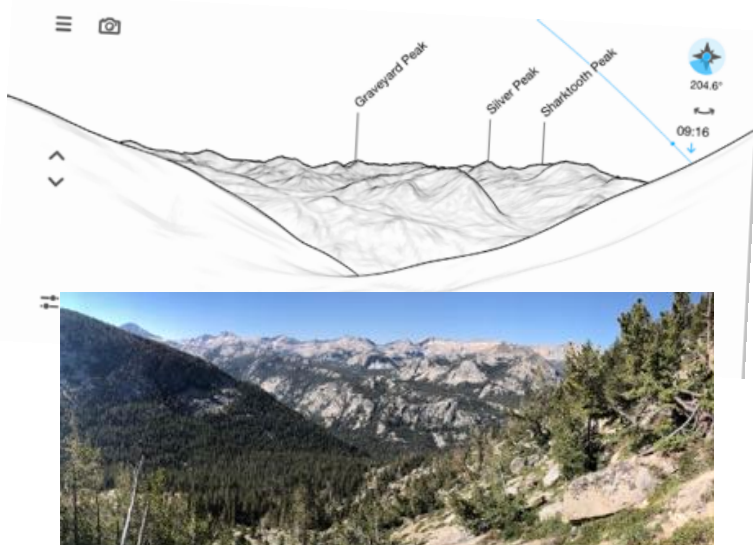


Gaia GPS



- Off grid access to many maps: USGS, Satellite,
- Can make real-time decisions on route
- (Recording of tracks my obsession)

“What Is that Mountain?”



- PeakFinder helps identify what you see.



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The Photos ...



● Outline

- The Camera
- What it takes to get a good picture?
- Workflow
- Sharing



● Fujifilm X-T2 Mirrorless APS-C sensor 24Mpel

● **18-135mm lens**

Camera

- Must have quick access to exposure controls, zoom, focus control, manual control
- Must have sharp lens
- Must have good battery life
- Most pictures taken wide angle



Why not an iPhone???

Why Not an iPhone?

- If you are taking “easy” photos - outdoor, lots of light, good contrast - iPhone does a very good job
- When the conditions are hard (like night photography), the iPhone fails
- BUT the iPhone saves about 3 pounds of weight...
- Here are some examples of “easy” photos...



FujiFilm



iPhone

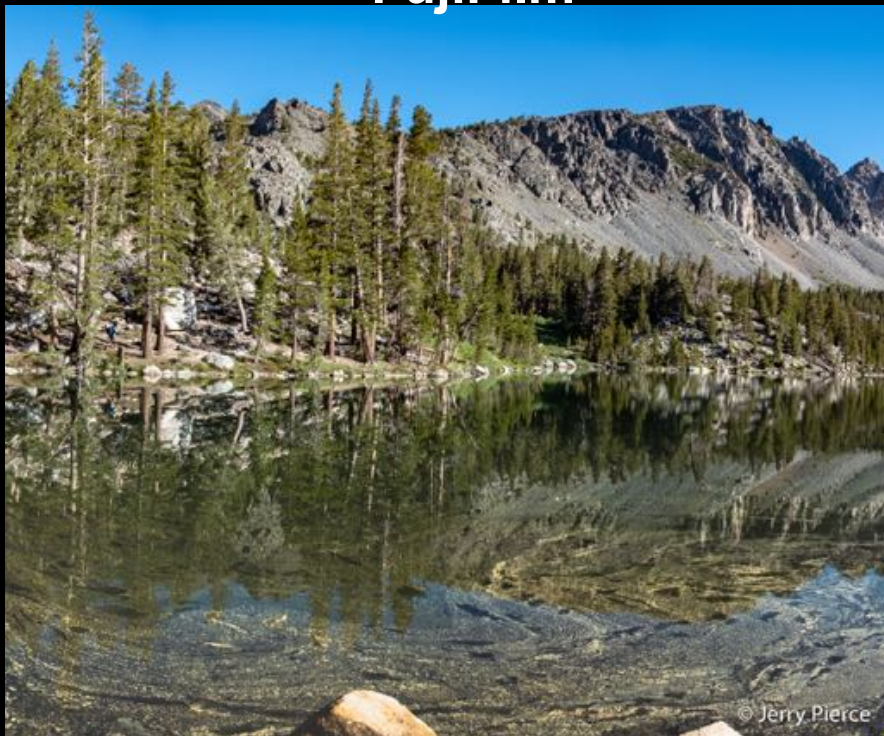


iPhone



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FujiFilm



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FujiFilm



11,848 x 5,081 60.2 MPixels

What It Takes for a Good Backpack Photo?

- ◎ **Composition, composition, composition**
 - Sometimes a composition can't be supported by a particular camera or lens
- ◎ **Unsettled Weather is the BEST - clouds!**
- ◎ **Wide views / people / water features**
- ◎ **Look at edges - lakes, mountains, trees**





The photo that started it all for me... Sawtooth 2007

Camera Settings (Not easy to set on an iPhone)

◎ Settings for digital cameras

- Fixed shutter (my go-to is 1/300sec), let the iso and aperture float!
- Bracket (± 2 stops) if tough to get right exposure
- Zoom / focus / frame for composition

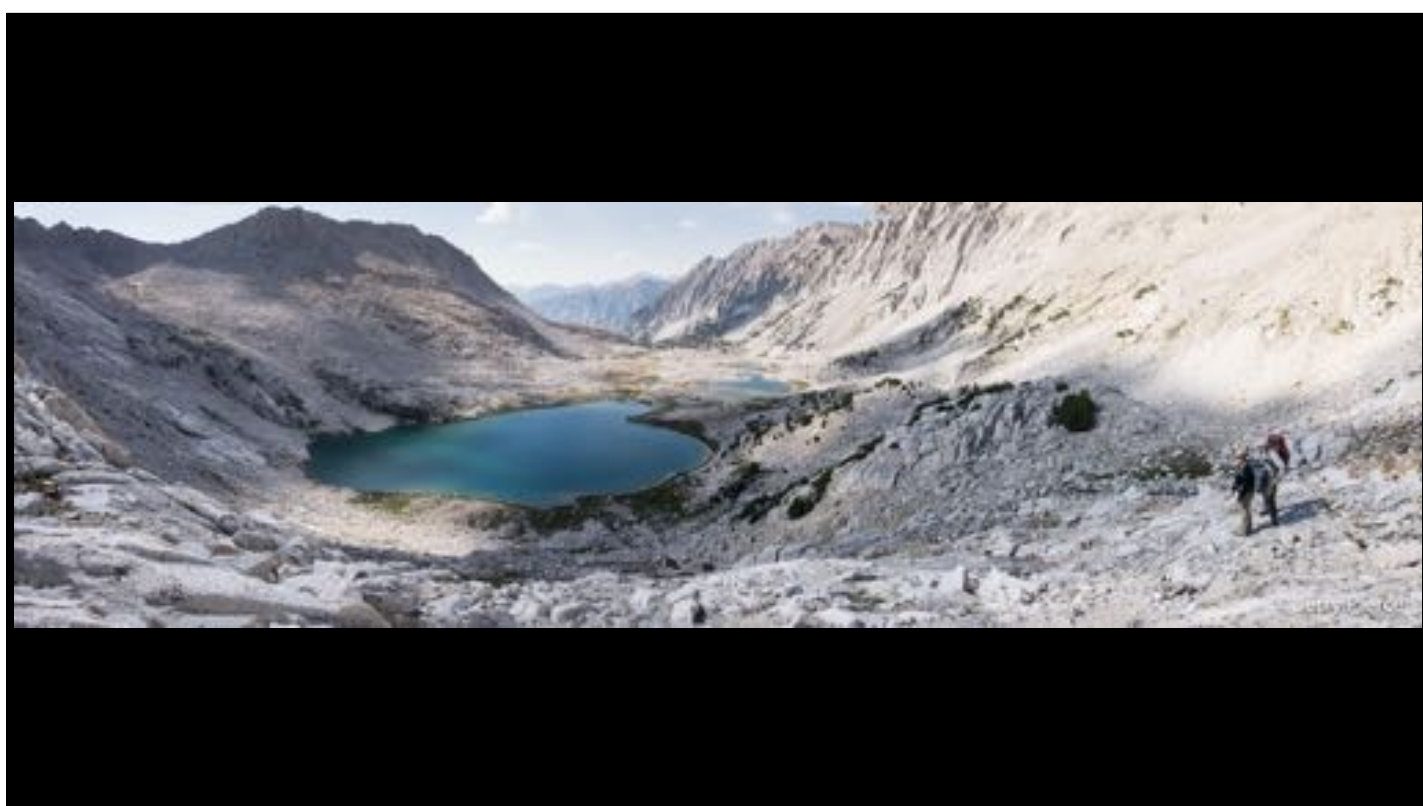




My Go-To Shot

© Panoramic created in LightRoom





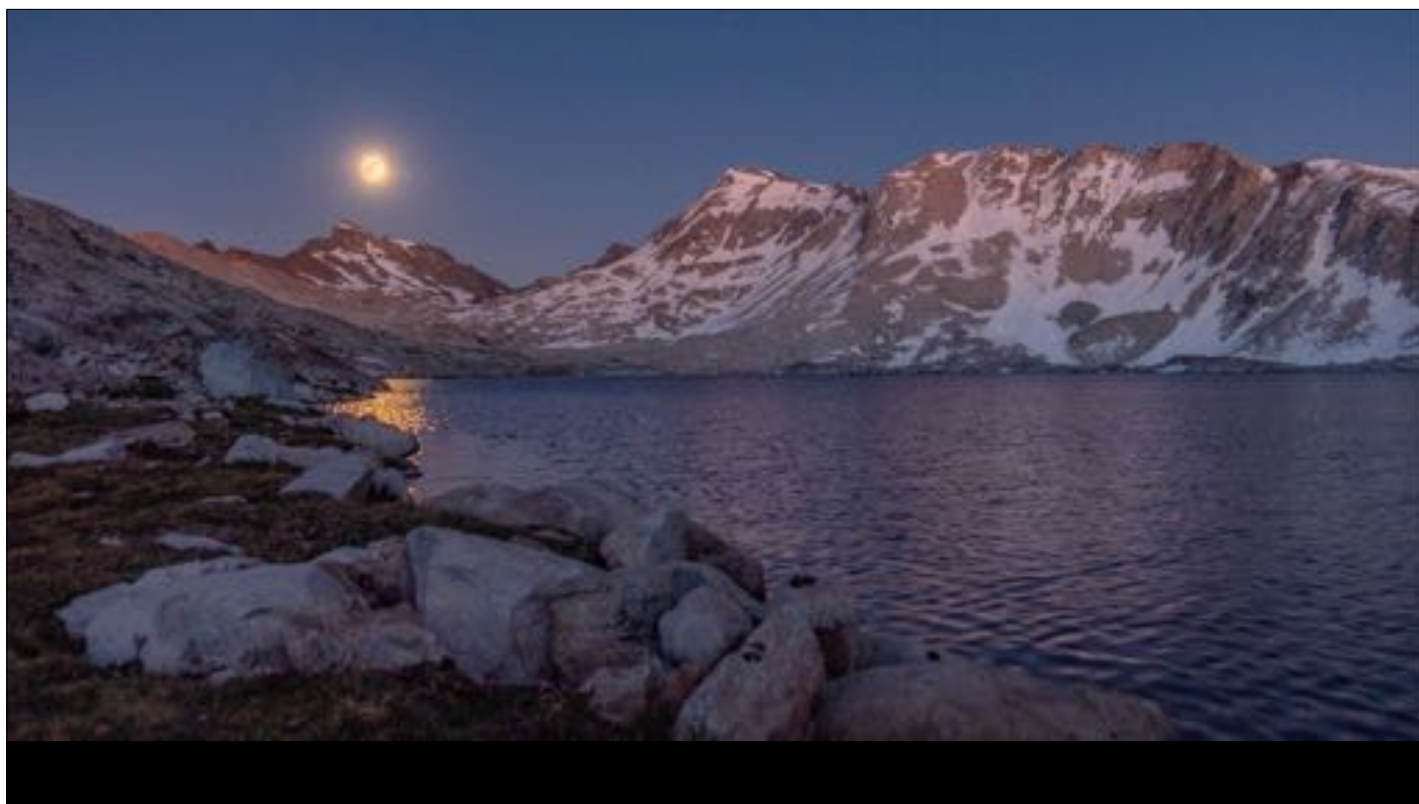
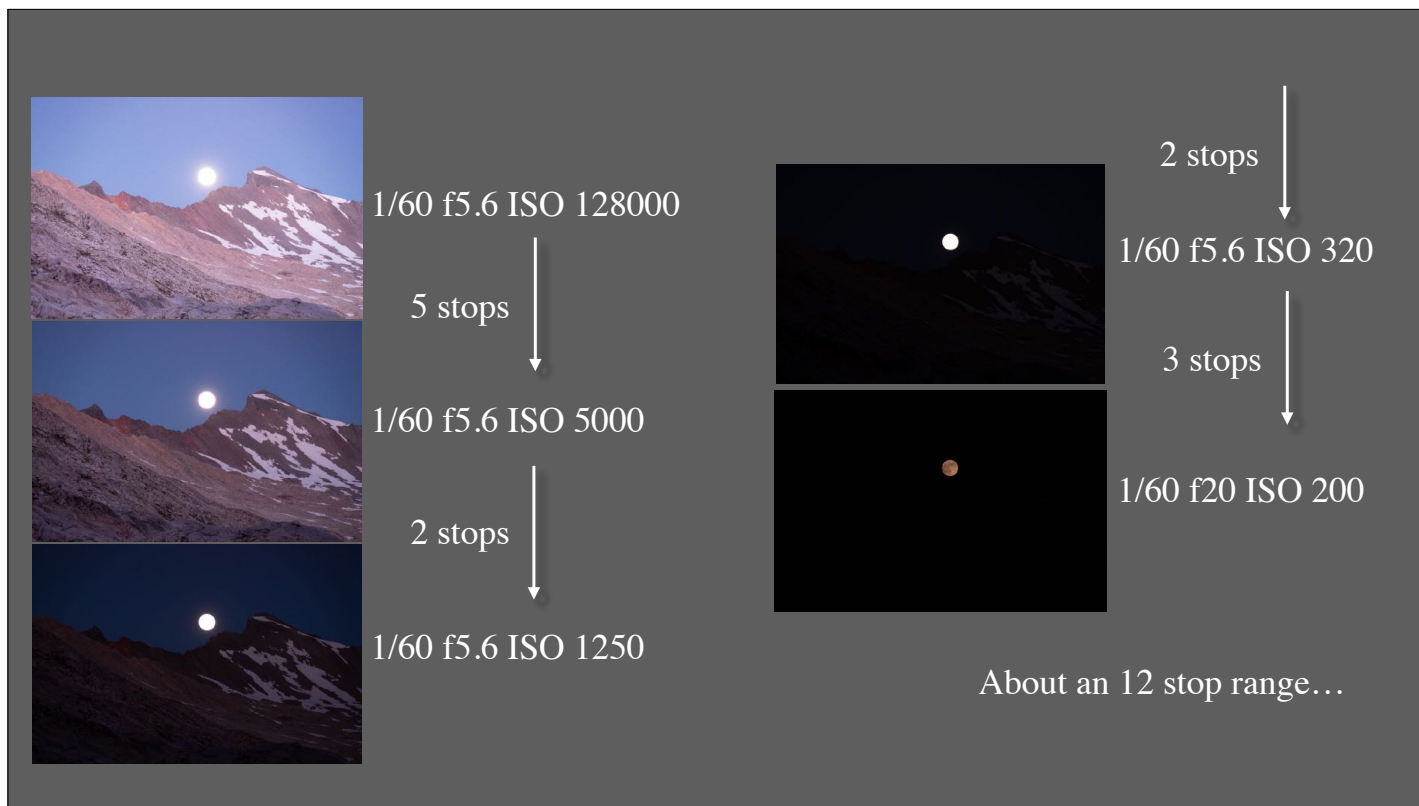




Moon Shots

- Best at moonrise/set
- Reflected light from moon is VERY bright compared to night
- iPhone will fail







Workflow



SD Card
RAW Photos
(NOT jpeg)



Import into Lightroom

1. Rename [GAP20190214 - Palm Springs - 1000]
2. Add Pierce© metadata
3. Convert to Adobe Raw •DNG
4. Store in 2019 folder (DNG versions, stored by date)



1. Look at pictures, rate interesting pics "1"
2. Combine panoramic pics
3. Do simple cropping / color correction
4. Create "Collection" for this event
5. Rate better pictures from 2-5 stars
6. Export (with watermark including date) for sharing



Special Cases only -
Photoshop!



**Sometimes there's no place / time to
set up a tripod**



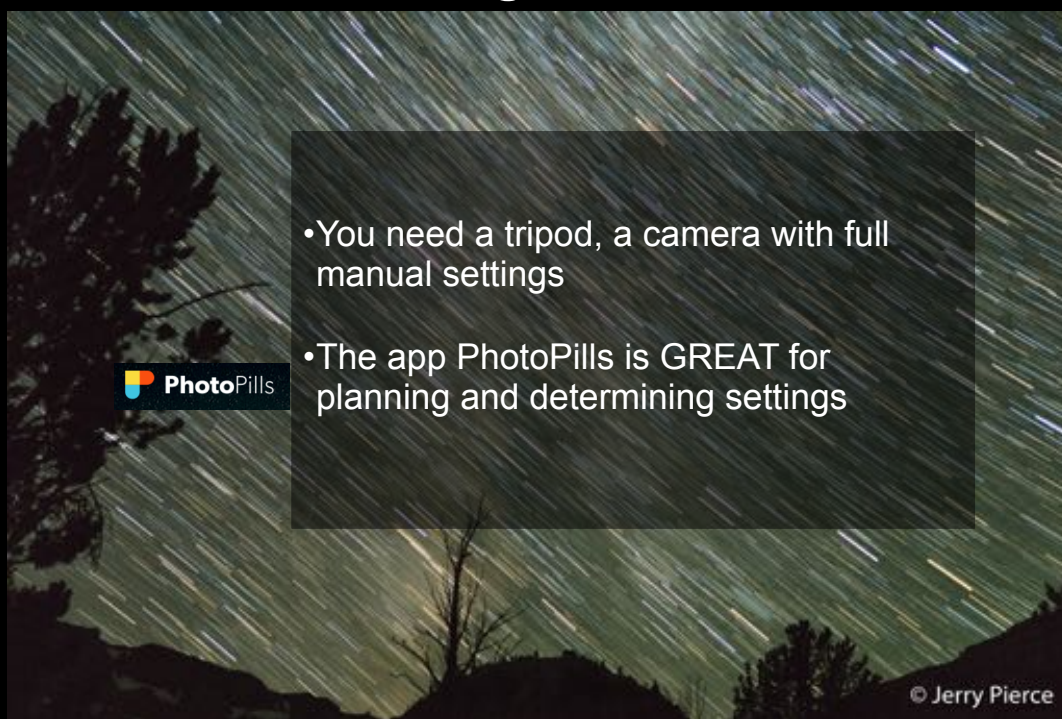
Fix it in Post - Photoshop yourself in...





Precipice Lake on the High Sierra Route

Night Shots



- You need a tripod, a camera with full manual settings
- The app PhotoPills is GREAT for planning and determining settings



15 seconds f/3.5 18mm ISO 8000 8:40pm



20 x 30 seconds (Total 15 minutes) f/4 24mm ISO 1000 10 pm

© Jerry Pierce

● At Desk and at remote site - Boise

- Access to EVERY photo and social media feed

● Laptop

- Access to current photos and best of

● Phone/Tablet

- Lightroom best-of-pictures
- Personal Website

Access To Photos



1TB internal SSD,
1TB external SSD



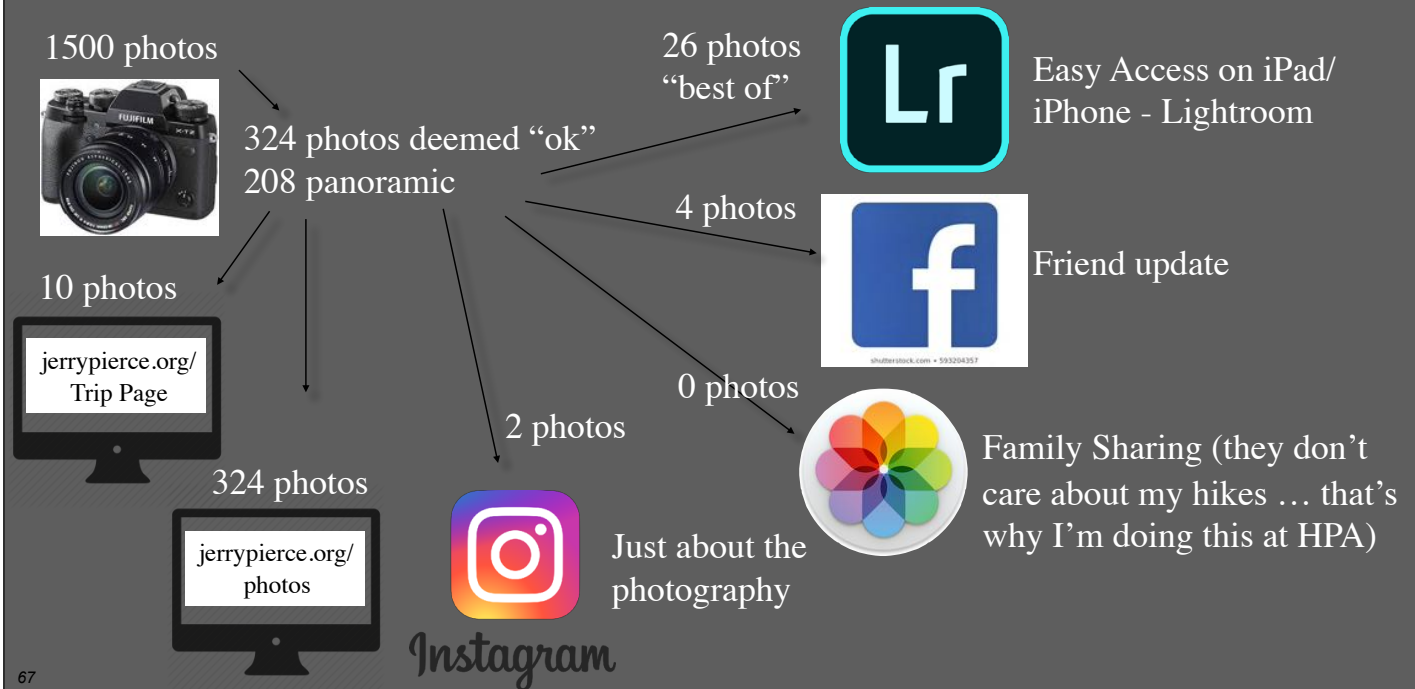
[jerrypierce.org/
photos](http://jerrypierce.org/photos)



File Organization

Name	Date Modified	Size	Kind
Photographs	Feb 15, 2018 at 7:52 PM	3.9 TB	Folder
• z in process - real one on computer	Today at 7:04 AM	531.92 GB	Folder
Photo Sync 2018.photoslibrary	Jul 14, 2018 at 10:24 AM	590.8 MB	Photos Library
▶ 2019 Pierce Photos	Yesterday at 8:24 AM	528.7 MB	Folder
▶ 2018 Pierce Photos	Jan 2, 2019 at 6:39 AM	228.16 GB	Folder
▶ 0000 Pierce Best Collection	Jan 2, 2019 at 6:41 AM	32.91 GB	Folder
▶ 0000 Best Full Resolution Photos	Dec 14, 2018 at 5:37 PM	31.02 GB	Folder
▶ jp best photos	Aug 30, 2017 at 2:10 PM	455.2 MB	Folder
Lightroom Photo Albums (Archive)	Today at 7:04 AM	3.26 TB	Folder
▶ 2018 South America Selected	Dec 14, 2018 at 4:01 PM	50.77 GB	Folder
▶ 2018 SHR Wandering	Jan 11, 2019 at 4:32 PM	100.12 GB	Folder
▶ 2018 Parks and Reck	Mar 6, 2018 at 12:16 PM	1.76 GB	Folder
▶ 2018 Machu Pichu	Dec 14, 2018 at 3:53 PM	69.17 GB	Folder
▶ 2018 Kennedy Grand Canyon	Dec 14, 2018 at 3:45 PM	140.01 GB	Folder
▶ 2018 John Muir Trail	Dec 14, 2018 at 3:48 PM	92.17 GB	Folder
▶ 2018 Galapagos	Dec 14, 2018 at 4:00 PM	41.7 GB	Folder
▶ 2018 Amazon	Dec 14, 2018 at 3:51 PM	48.6 GB	Folder

Example Photo Event ... Where are they now?



High Sierra Route Wanderings 2018
Pat Scott, Jerry

HOME

We did part of the HSR from North Lake to Lake Italy and did some wandering and "pass bagging" - 6 nights, 7 days. Stayed high (most nights above 11K ft. Cold at night (25-40). Beautiful Area! Cal Topo look at the hike: <https://caltopo.com/CMF/>

[Link to Scott's Photos](#)

[Link to Jerry's Photos](#)

This topographic map illustrates the High Sierra Route Wanderings area, spanning from North Lake to Lake Italy. The route is highlighted in purple, showing a path that traverses several mountain ranges and passes. Key peaks and passes are labeled, including North Lake, Lake Italy, and various mountain peaks. The map also shows the surrounding terrain, including valleys and ridges. A legend on the right side of the map provides information on elevation, distance, and other details. The map is titled "High Sierra Route Wanderings" and includes the text "Pat Scott, Jerry" and "Cal Topo look at the hike: https://caltopo.com/CMF/".

This line graph shows the elevation profile of the High Sierra Route Wanderings. The x-axis represents the route, and the y-axis represents elevation. The graph shows a series of peaks and passes, with the highest peaks reaching over 11,000 feet. The route is labeled with various peaks and passes, including North Lake, Lake Italy, and several mountain peaks. The graph is titled "High Sierra Route Wanderings" and includes the text "Pat Scott, Jerry" and "Cal Topo look at the hike: https://caltopo.com/CMF/".

jerrypierce.org/
Trip Page

jerrypierce.org/
photos





Goals?

- Interesting?
- Learned things you will never use?
- Typical Tech Retreat...





The End
Happy Hiking!!

JerryPierce.org