

Flying The Idaho Back Country



JIM HUDSON

T-Craft Safety / Membership Director

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Backcountry Tour

Popular Strips - Resorts

Requirements, Preparation and Training

Rules of Thumb

BC Weather

BC Hazards - Smoke

BC Accident Review

Q & A



What is Backcountry

- Mountain Flying ?



Part Time Pilots, Full Time Mountains

Mountains don't need practice to bite you in the knickers

John Goostry, retired FAA Safety Specialist

*Flying over or in beautiful
but rugged mountainous terrain,*



or in deep canyons.



Mountain flying is very unforgiving -

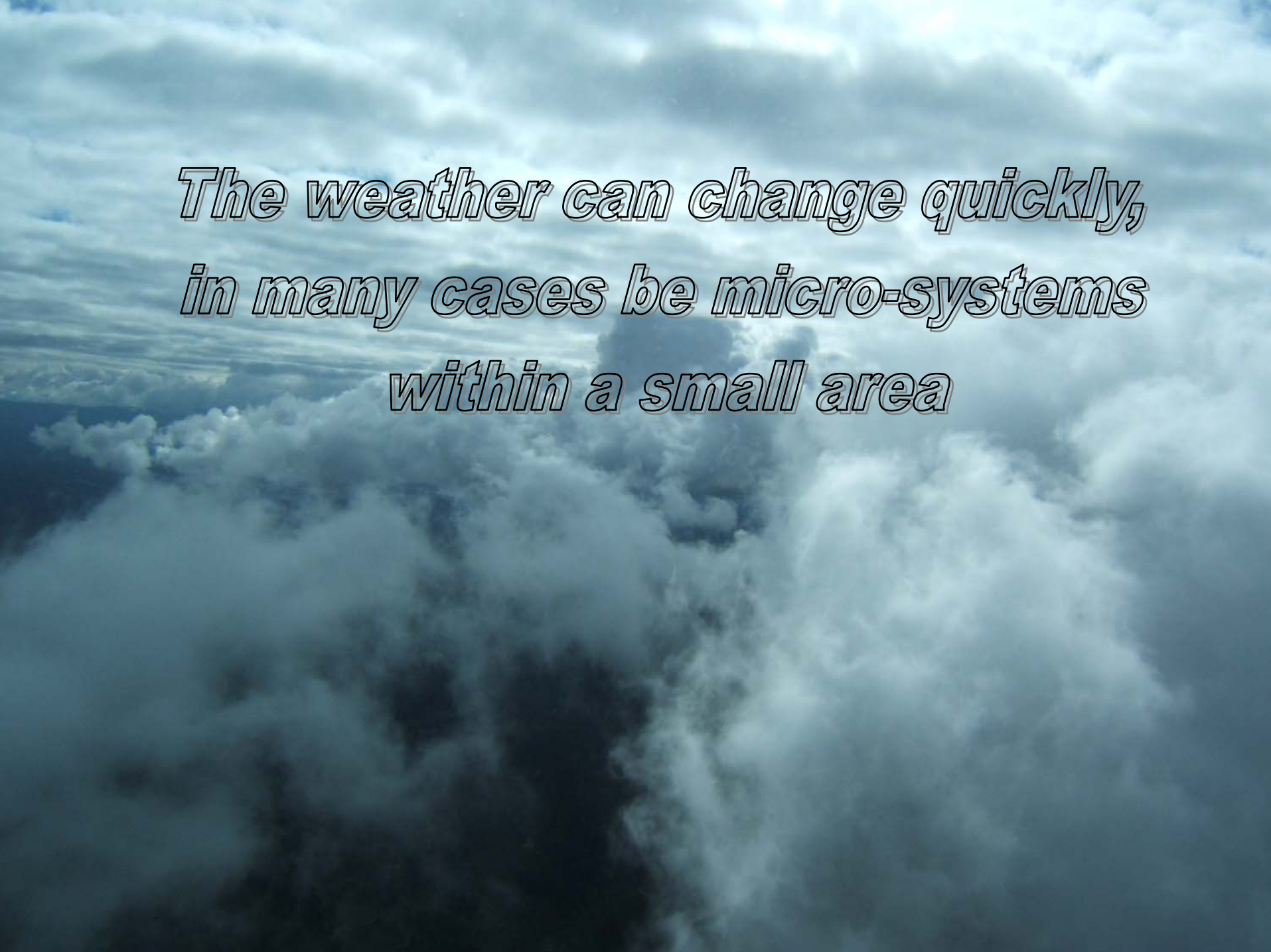
A very narrow margin for error !



An aerial photograph of a mountain range. A prominent ridge runs diagonally from the upper left towards the lower right. A narrow, elongated strip of land along this ridge is highlighted in yellow. The surrounding areas are covered in dense green forest. In the background, more mountain ranges are visible under a blue sky with some clouds.

*The more challenging strips are typically
narrow, short, and at high elevation*

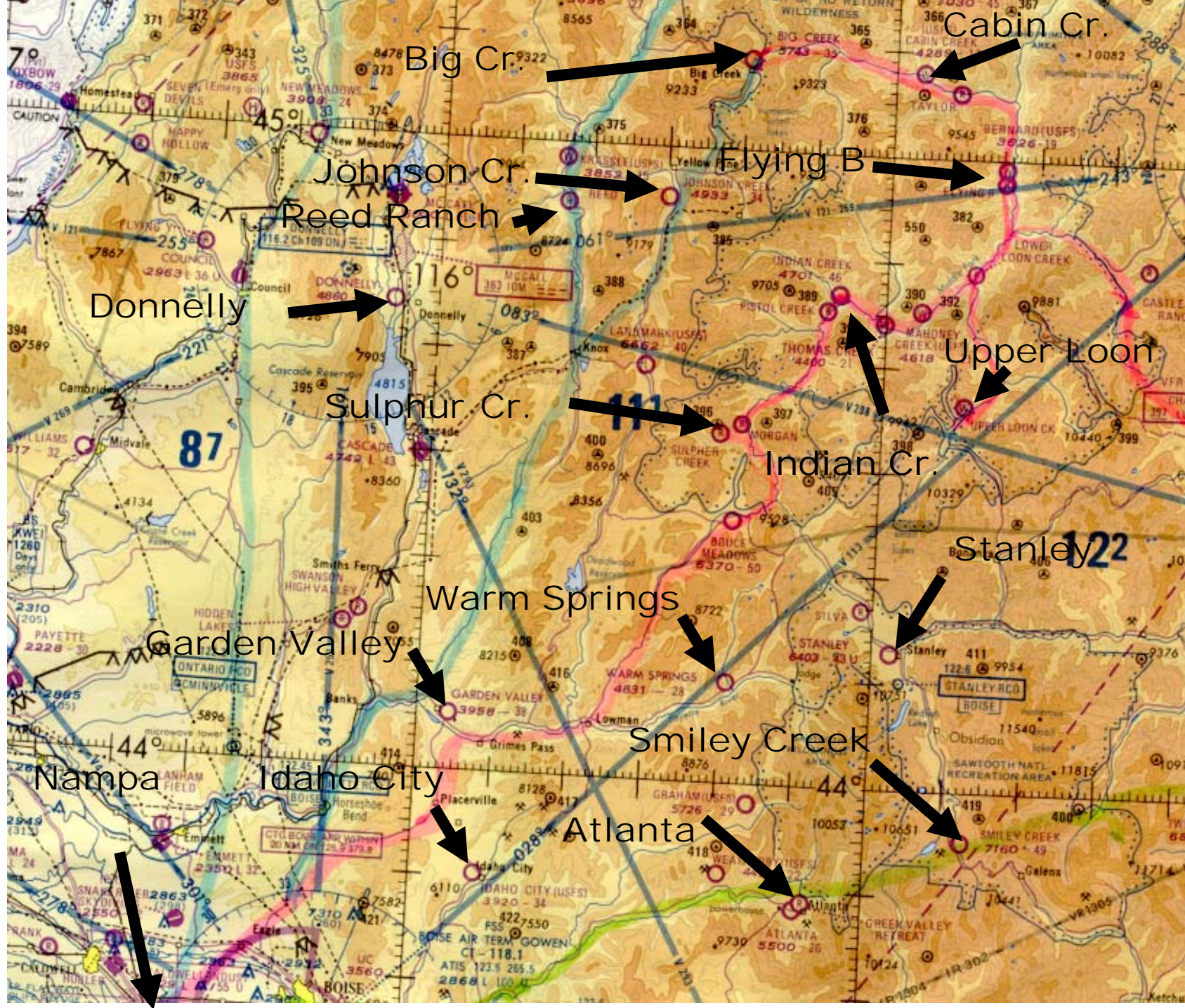
**Upper Loon Cr
5500' elevation
2500' length**

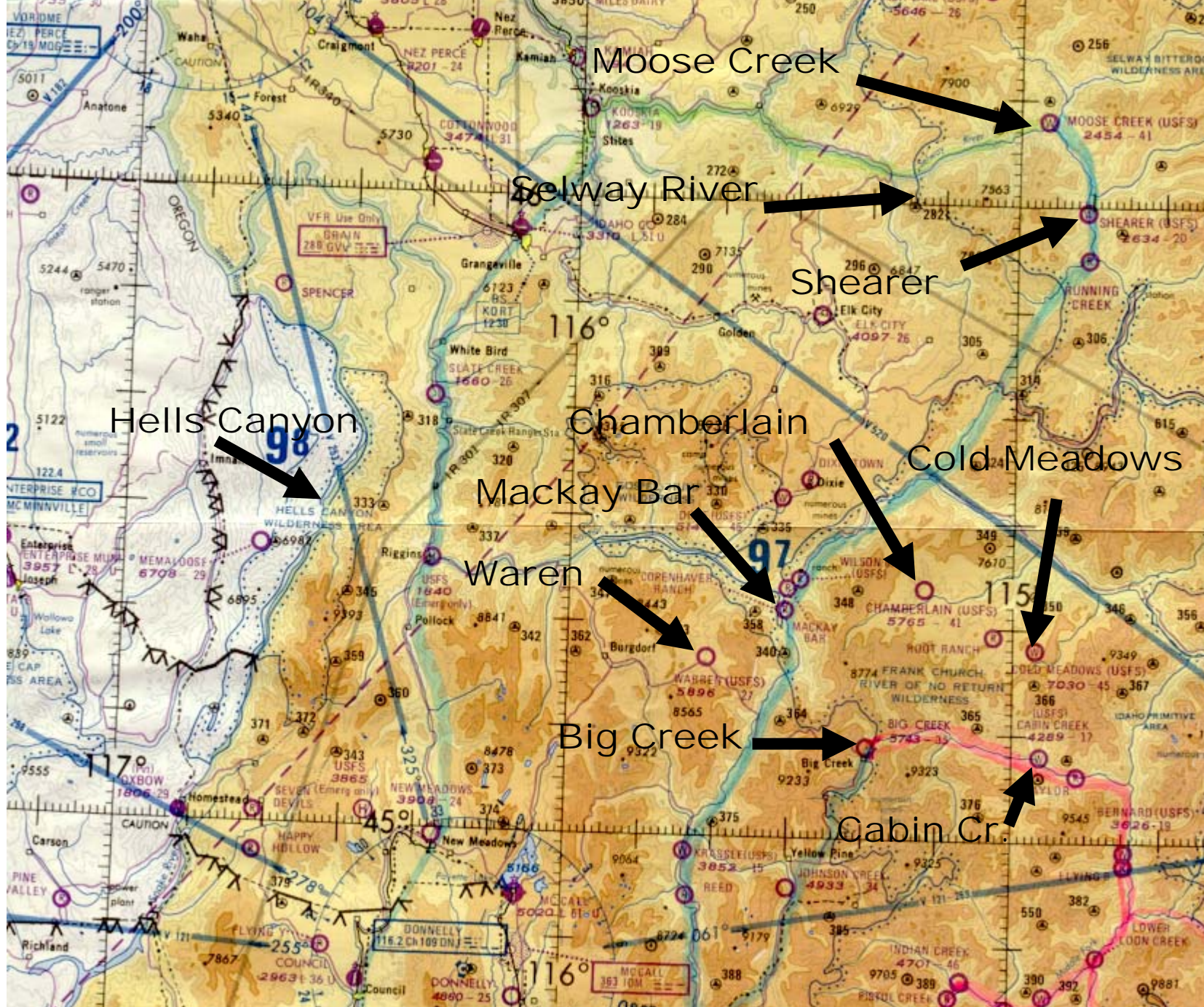


*The weather can change quickly,
in many cases be micro-systems
within a small area*

*Lets take a tour of some
of the more popular strips*







T-Craft BC Policy

Classification of Air Strips

Galen Hanselman's Fly Idaho Relative Hazard Index RHI

Level I Airports* RHI 1-9	Level II Airports* RHI 10-19	Level III Airports* RHI 20-28
3 Priest Lake (67S) 4 Smith's Prairie (2U0) 4 Murphy Hot Springs (3U0) 5 Cavanaugh Bay (66S) 5 Magic Reservoir (U93) 6 Elk River** 6 Midway (U37) 6 Bear Trap (1U0) 6 Fairfield (U86) 7 Laidlaw Corrals (U99) 7 Grasmere (U91) 7 Cox's Well (U48) 7 Big Southern Butte (U46) 7 Stanley (2U7) 7 Garden Valley (U88) 7 Idaho City (U98) 7 Smiley Creek (U87) 7 Antelope Valley (U92) 8 Hollow Top (0U7) 8 Copper Basin (OU2) 9 Warm Springs (0U1) 9 Henry's Lake (U53) 9 Bruce Meadows (U63)	10 Slate Creek (1S7) 10 Memaloose (25U) 10 Landmark (0U0) 11 Twin Bridges (U61) 12 Chamberlain (U79) 12 Magee (S77) 12 Pine (1U9) 13 Elk City (S90) 13 Flying B 13 Greene Valley Ranch 14 Big Creek (U60) 14 Johnson Creek (3U2) 15 Lord Flat 15 Sulphur Creek 15 Indian Creek (S81) 17 Warren (3U1) 18 Orogrande 18 Cayuse Creek 19 Mackay Bar 19 Dixie USFS (ID05) 19 Atlanta (55H)	20 Weatherby (52U) 20 Graham (U45) 20 Cold Meadows (U81) 21 Deadwood 22 Bernard (U54) 22 Krassel (24K) 22 Upper Loon Creek (U72) 23 Rogersburg 24 Moose Creek (1U1) 24 Thomas Creek (2U8) 26 Dixie Town 26 Fish Lake (S92) 27 Dug Bar 27 Pittsburg 27 Wilson Bar 28 Shearer (2U5) 28 Big Bar 28 Mahoney Creek (0U3) 28 Cabin Creek (I08)

Garden Valley

An aerial photograph of a valley in Idaho. A light-colored, unpaved road winds through a lush green valley filled with dense evergreen forests. The valley is flanked by steep, forested hillsides. In the background, a range of mountains is visible under a clear blue sky with a few wispy clouds. The overall scene is a scenic view of a mountainous region.

Level 1

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GV Fly-in / Breakfast



Warm Springs

Level 1

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Smiley Creek

An aerial photograph of a valley. In the foreground, there are large green fields with some dirt paths. In the middle ground, there is a small town or village with several buildings and a dense forest of evergreen trees. In the background, there are large, rugged mountains with patches of snow on their peaks and slopes. The sky is blue with scattered white clouds.

Level 1

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Short Final Smiley Cr.



Pete Glick at Smiley Cr



Redfish Lake - Mt Heybern



Stanley



Jared Martens



Sulphur Creek

Level 2

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Doug Becker - Jim Hudson





Indian Creek

An aerial photograph of a valley with a winding river or creek. A dirt road runs parallel to the water on the right side. The landscape is covered in dense evergreen forests, with some cleared areas and patches of bare ground visible on the hillsides. In the background, more forested hills and a clear blue sky are visible.

Level 2

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Flying B Ranch

A wide-angle landscape photograph showing a river meandering through a valley. The river is dark blue and flows from the upper right towards the lower left. The valley floor is a mix of green grass and dry, yellowish-brown earth. The surrounding hills are steep and arid, with visible erosion patterns and some sparse vegetation. In the distance, more rugged mountain peaks are visible under a clear blue sky.

Level 2





Big Creek

Level 2



Big Creek Lodge before the 2008 Fire



Johnson Creek

An aerial photograph of a large, rectangular, green grassy field, identified as Level 2, situated in a valley. The field is flanked by dense evergreen forests on both sides. A long, narrow path or stream runs along the right edge of the field, bordered by a line of white objects, possibly tents or equipment. The background shows a steep, forested mountain slope under a cloudy sky. The text "Johnson Creek" is overlaid at the top in a large, bold, black-outlined font.

Level 2



Chamberlin Basin



Level 2

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Mackay Bar

Level 2





Moose Creek

Level 2 long rw
Level 3 short rw

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Cabin Creek

The air strip



Level 3

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Upper Loon Creek

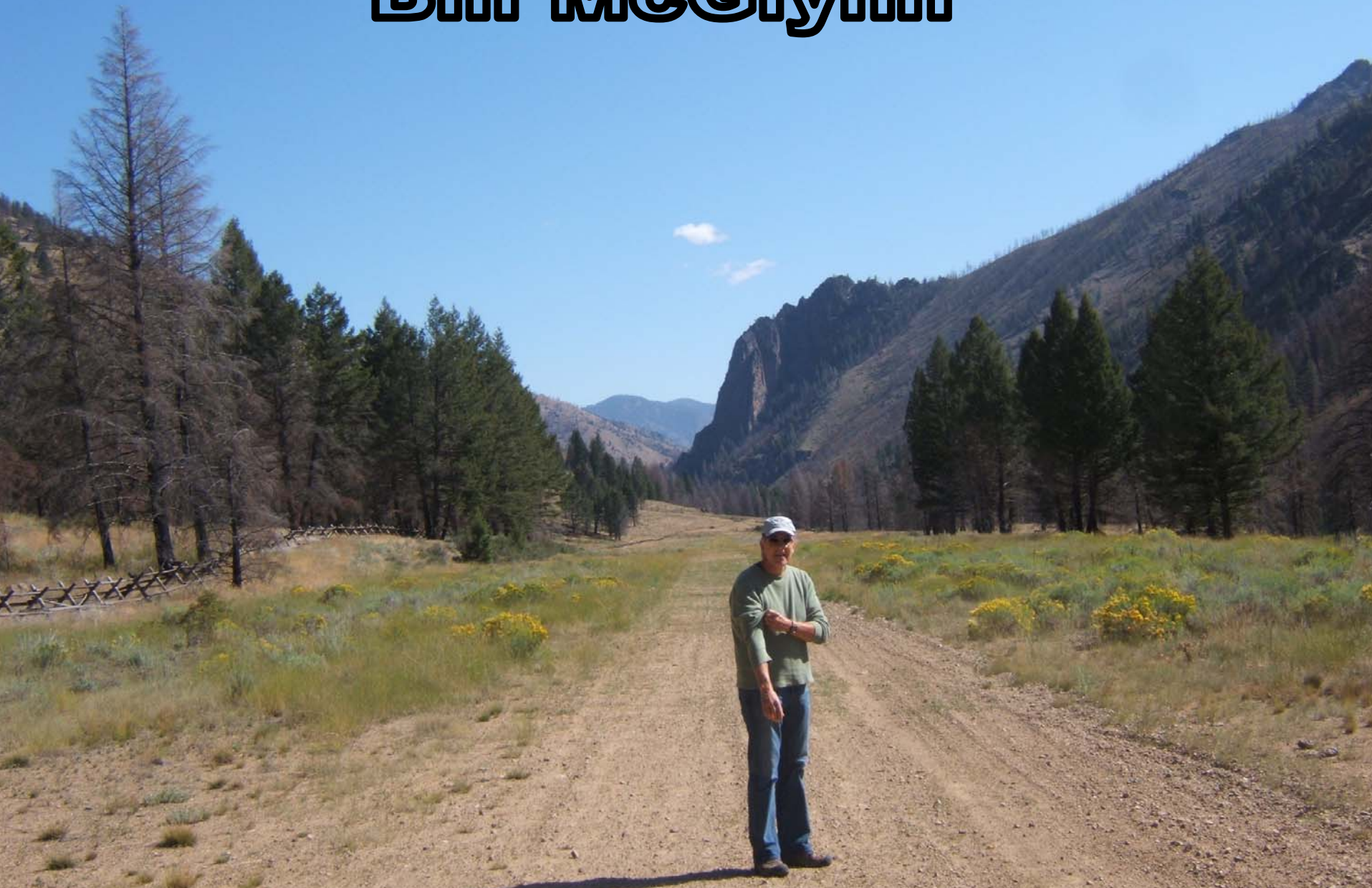
The air strip



Level 3

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Bill McGlynn



Aviation in itself is not inherently dangerous. But to an even greater degree than the sea, it is terribly unforgiving of any carelessness, incapacity or neglect.



Getting Started

T-Craft BC Pilot Requirements

Generally accepted requirements: FAA / AOPA/ Mtn. Flying Clinics. At least 150 – 250 hrs of PIC with 50-100 hrs in M&M, 10 Hrs M&M within 90 days.

T-Craft BC Policy Brief

To start, each level requires minimum of 5 hrs of within 60 days in Make & Model. Your check-out with BC CFI can be included in this time.

Level 1 150 Hrs total, 50 PIC make and model

Level 2 250 Hrs total 75 PIC make and model

Level 3 325 Hrs total 125 PIC make and model

Also an annual refresher ground class and min of 1 hr mtn flying practice in M&M within 30 days prior to heading into the BC.



THE BASICS

- KNOW THYSELF
- KNOW THE AIRCRAFT
- KNOW THE ENVIRONMENT

IT REQUIRES

JUDGEMENT – KNOWLEDGE – SKILL

**Get instruction from approved backcountry
CFIs or take one of the BC clinics.**



KNOW THYSELF

YOUR ATTITUDE!! – Knowledge and Skill don't make up for BAD Judgment.

"Truly superior pilots are those who use their superior judgment to avoid those situations where they might have to use their superior skills."

GOOD JUDGEMENT COMES FROM EXPERIENCE, EXPERIENCE USUALLY COMES BAD JUDGEMENT (PREFERABLY SOMEONE ELSE'S)

NEVER BECOME COMPLACENT – OR OVER CONFIDENT

Remember: Part Time Pilots - Full Time Mountains.

SET AND ADHERE TO PERSONAL LIMITS

- Winds, Weather Forecasts, Health, D.A., Smoke



KNOW YOUR AIRPLANE & YOUR SKILLS

The three most important things:

Slow Flight, Slow Flight **SLOW FLIGHT!!**

(helps you become one with your aircraft)

**Know your aircraft performance
and your ability to perform**

- Takeoff, climb, cruise, and landing performance
- Airspeed settings in different weight/bal configurations
- Fuel consumption and range
- Weight and balance limits
- And : **Effects of Density altitude**



Graphic illustration of not knowing Self / Aircraft / Limitations

Excerpt from NTSB Report: On June 30, 2012, about 1405 mountain daylight time, a Stinson 108-3, was substantially damaged after impacting terrain during initial climb near the Bruce Meadows Airport (U63), Stanley, Idaho. The certified commercial pilot sustained serious injuries, and the three passengers sustained minor injuries. Visual meteorological conditions prevailed for the local flight.



Not knowing Your Limitations



- From the NTSB report, MYL ASOS report at 19:51 Z was 27 dec C, BP 30.00, wind 160@8. U63 is 6370', DA = 9,050' !!
- Recent comments made on the YouTube video... pilot error was to blame. he should have looked at his weight and balance, operations and limitations of the airplane. I wonder if he had a preflight check prior to the flight. happy no life was lost.
- My lord you guys are lucky to be alive...as commented before, high density altitude is nothing to ignore. there were many many warning signs during takeoff and certainly numerous places to put the plane down before burying it in the trees. this stuff is basic to private pilot training. The book never lies...density altitude never fibs,,even a little. and the results can be devastating...five minutes of proper preflight would have told the pilot this flight was a no go...very sorry

KNOW THE ENVIRONMENT

Study and learn as much as possible in the following areas. An experienced BC pilot can help.

- **Learn the geography and major landmarks**

(peaks and drainage's) of the area in which you are flying. Google Map/Earth can help.

Plan your route through drainages, meadows – DON'T go GPS direct.

- **Be familiar with local mountain & Canyon weather**

- **Know specific details of airstrips you are using**

Approach and departure routes, Unique Hazards, Lighting conditions.

IAA web page www.idahoaviation.com – Idaho Airstrip Network.
www.shortfield.com Airport Explorer. Both have airport directory's with google maps/satellite and topo views, descriptions and in some cases pilot reports, photos, and video's



KNOW THE ENVIRONMENT

EXAMPLE – INDIAN CREEK

- Sectional Chart – Overview
- Idaho State Aeronautics Chart – Smart phone/iPad apps
- Fly Idaho Book
- Shortfield.com – Topo/Goggle Maps / photo's/ video's / comments
- Idaho Aviation Association – Air Strip Network – Pilot reports, photo's
- YouTube – some good/bad and ugly



Preparation and Training




PREPARATION - SKILLS

KNOWLEDGE

- REVIEW – KNOW POH; PERFORMANCE CHARTS, RECCOMENDED SHORT/SOFT FIELD PROCEDURES, V_x , V_y , V_a , Best Glide.
- DO DA, PERFORMANCE CALCULATIONS FOR AIR STRIP YOU WILL BE USING FOR PRACTICE.
- AIR STRIP RESEARCH – AFD / CHARTS / TOPO MAPS / WEB / ASK
- FLIGHT PLANNING – FUEL/WEIGHT TRADE OFF'S/ROUTE
- REVIEW WEATHER, SOURCES OF INFORMATION, WEB CAM'S

SKILL PRACTICE – TUNE UP

- SLOW FLIGHT, LEVEL, TURNS, CLIMBS, DECENTS IN SLOW FLIGHT
 - SHORT/SOFT TAKE-OFF (COMPARE ACTUAL TO POH T/O & R.O.C)
 - SHORT FIELD LANDINGS (HIT TARGET WITHIN 100' - CONSISTANTLY)
 - CANYON 180 TURN (MODIFIED CHANDELL)
 - EMERG PROCEDURE – BEST GLIDE
 - DETIRME AIRSPEED CONFIG, STALL SPEEDS – NEXT SLIDES
- 

KNOW YOUR AIR SPEEDS

At 8000 - 10,000 DA, determine Power (MP/RPM) setting with respective flap settings at Mountain flying air speeds:

Test altitude:_____ / DA_____ Weight_____

	Flaps	Airspeed	Power
Cruse	_____	_____	_____
Slow Cruse Va	_____	_____	_____
Canyon Speed:	_____	_____	_____
Landing - Downwind	_____	_____	_____
Landing - Final	_____	_____	_____
Takeoff Vx	_____	_____	_____
Takeoff Vy	_____	_____	_____

KNOW YOUR AIR SPEEDS - MCA / STALL

At 8000 - 10,000 DA, determine Power (MP/RPM) setting at MCA and stall with flap configurations and typical weight.

Test altitude:_____ / DA_____ Weight_____

<u>Flaps</u>	<u>Vso</u>	<u>MCA</u>	<u>Power</u>
			MP/RPM
<u>0</u>	_____	_____	____/_____
<u>20</u>	_____	_____	____/_____
<u>40</u>	_____	_____	____/_____



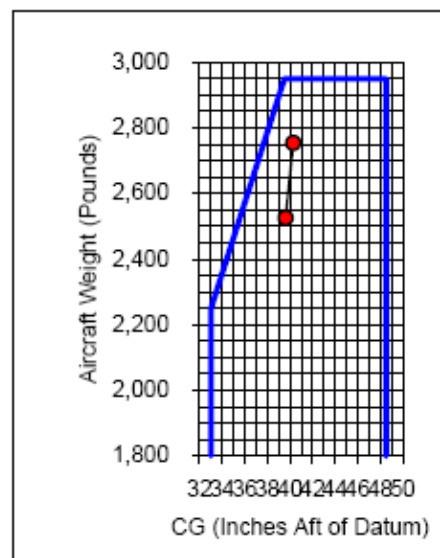
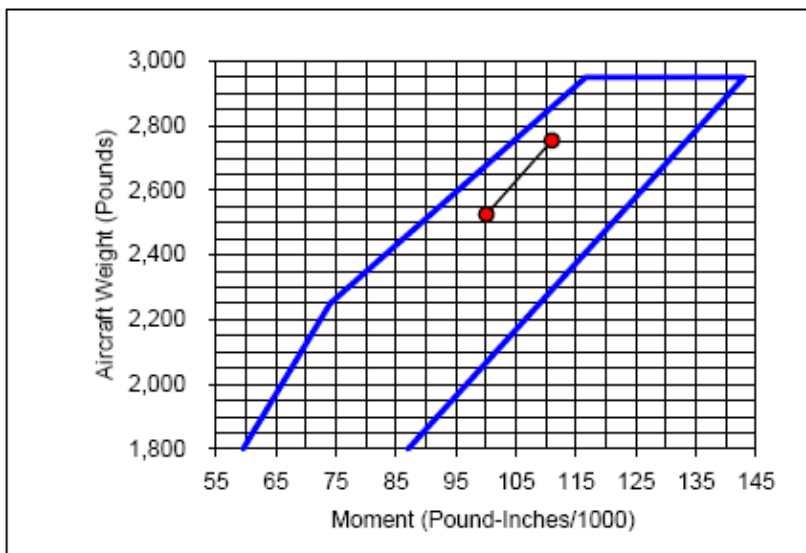
Range @ 74% PWR = 12.7 GPH 5.0 Hrs.
 Fuel Reserve Time 2.0 Hrs.

Take-Off Weight 2754 93% of Gross
 Over/Under weight 196

* Range based on POH Fuel Burn @ 74% power, 8,000' Std Conditions - may be more or less depending on leaning, DA, other factors.

Weight and Balance at Departure				
Loads	Weight (Pounds)		Arm (Inches)	Moment /1000
Empty Aircraft:	1823.3		36.78	67.07
Front Passengers:	220.0	250.0	37.0	17.4
Rear Passengers:			74.0	
Area 1 Baggage 120# Max:	50.0		97.0	4.9
Area 2 Baggage 80# Max:	30.0		115.0	3.5
Departing Fuel :	63.5		47.8	18.2
Grnd Ops (Gal):	1.5			
Totals:	2754.3		40.3	111.0
CG = Total Moment / Total Weight:				40.3

Weight and Balance at Arrival				
Loads	Weight (Pounds)		Arm (Inches)	Moment /100
Empty Aircraft:	1823.3		36.78	67.07
Front Passengers:	470.0		37.0	17.4
Rear Passengers:			74.0	
Baggage (Area 1):	50.0		97.0	4.9
Baggage (Area 2):	30.0		115.0	3.5
Arrival Fuel (Gal)	25.4		47.8	7.0
Totals:	2525.7		39.6	100.0
CG = Total Moment / Total Weight:				39.6



	At Gross Wt	At Take Off Wt	At Land Wt.
Va	111	107	103
V BG	70	68	65
V S0	45	43	42
VS1	48	46	44
Landing @ 1.3 Vso	59	57	54

		At Take Off Weight				
Sea @ GW		Sea	2,500	5,000	7,500	10,000
Vx	57	55	56	57	58	
Vy	78	75	74	73	71	
		At Landing Weight				
Vx	57	53	54	55	56	
Vy	78	72	71	70	68	

John Baglien

McCall Aviation BC Pilot



No self-checkout at back-country strips.

- ☐ Prior experience or ride along minimum.
- ☐ More difficult strips require demonstrated proficiency with check-pilot.
- ☐ McCall Air maintains record of specific strips pilots are approved for.



Stable, power on, full flap approaches.

- ❑ Physical landmarks provide glide-path checks.
(e.g. Cabin Creek, U. Loon)
- ❑ Stable approach allows early recognition of and correction for departures from norm.
- ❑ 15" MP (turbo 206) 12" MP C182 allows a smoother, more rapid power response to deal with unexpected downdrafts.



Landings

- ❑ All landings are spot landings, but if it is not necessary to hit the end of the strip, then don't try – it makes passengers nervous and reduces your margin of safety.
- ❑ Shoot for white 1/3 markers. (e.g. Big Creek, Indian Creek)



Temper takeoff calculations with local knowledge and conservative judgment.

- ☐ Takeoff into wind may produce rapid initial climb out, but leave you climbing into downdrafts.
- ☐ Downwind will degrade takeoff and climb out performance, but may allow you to climb into updrafts as you cross canyon.



RULES OF THUMB

- Do not fly in the Mountains with winds aloft in excess of 30 Knots - less with less experience.
- Plan to arrive / depart by 10 AM or late evening when winds are calm and temperature is cooler.
- Always have an out
 - Be able to turn to lowering terrain.
 - Be able to turn 180 in Canyons.
- 50% Runway Rule - if not at 70% rotate IAS at 50% of runway length - ABORT.
- Approach ridges at 45° angle before crossing.
- In Canyons - always keep river under your arm pit.
- Land Up River – Take Off Down River
- **WIND AND HEAT ARE NOT YOUR FRIENDS**



SUMMARY

- Mountain/ Canyon flying is fun and exciting.
- Mountain / Canyon is different type of flying.
- Mountain / Canyon takes lots of work and effort.
- Get instruction from experienced backcountry pilots or take one of the clinics.
- Stay Current - Complacency Kills. Overconfidence Kills. Stupidity Kills
- Know your limits – Set you own personal limits
- Land Upstream – Take off Downstream
- Always have a Out
- Be Safe - Have Fun – And, Don't do anything Stupid



RESOURCES

- Lori MacNichol, McCall Mountain Flying, LLC: 208-634-1344
www.mountaincanyonflying.com
 - River of No Return - Mountain Flying Clinic, Challis: 208-879-5900
 - Idaho Aviation Association: www.idahoaviation.com
 - Dick Williams – Mountain Flying Video (in club library)
 - Galen Hanselman, Fly Idaho Guide Book 1-800-574-9702
 - Sparky Imeson, Mountain Flying Bible and Flight Operations, 1-480-855-7444
or www.mountainflying.com
 - Idaho Division of Aeronautics: Frank Lester - Safety/Education Coordinator,
334-8780, <http://www2.state.id.us/itd/aero/aerohome.htm>
 - www.shortfield.com – Great website with airstrip views, pilot reports
 - Back Country Gear – www.cubgerastore.com
 - Back Country Forum – www.backcountrypilot.org
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TFR-s NOTE: Flight service Briefer has the most current info – websites may not be up to date.

NIFC – TFR's: <http://airspace.nifc.gov/mapping/nifc/index.cfm> (Can print section of Sectional with TFR)

FAA – TFR: http://tfr.faa.gov/tfr_map_ims/html/index.html

Web Cam's:

ID State: Map with web cam links:

<http://511.idaho.gov/default.asp?display=cams&area=&textOnly=>

Johnson Cr: <http://www.ruralnetwork.net/%7Eyellowpinecm/>

Flying B: <http://www.flyingresorttranches.com/>

Stanley: <http://www.sawtoothcamera.com/>

McCall: <http://www.mccall.id.us/government/departments/airport/airport.html>

Idaho Web Cams: <http://www.northwestwebcams.com/idaho-web-cams.shtm> - Also Oregon/Wash/Mont

Smiley Cr.: http://birice.vaisala.com/photos/03778B5F_06013F28_cam1.jpg

Bogus Basin: <http://www.bogusbasin.org/web-cameras/index.aspx> (good view of Mtn's North of BOI)

Brundage Mtn: <http://www.brundage.com/the-mountain/live-web-cams/>

Teton Mtn-Driggs: <http://www.tetoncam.com/>



Questions ?

