

Docket No. SA-540

Exhibit No. 14 K

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

FAA 2017 Alaskan Aviator's Safety Handbook

(68 Pages)

Attachment 10

to the Human Performance Specialist's Factual Report

ANC17MA001

FAA 2017 Alaskan Aviator's Safety Handbook



FEDERAL AVIATION
ADMINISTRATION

ALASKAN AVIATOR'S SAFETY HANDBOOK

2017
Third Edition



For Latest Information
Consult NOTAMs & Chart Supplement Alaska



Pilot Guide to Airport Signs

Airport signs - Actions or Purpose

4-22

TWY/RWY HOLDING POSTION: hold short of intersecting runway



RUNWAY BOUNDARY: Exit boundary from rwy protected areas

25-7

RWY/RWY HOLD POSTION: Hold short of intersecting runway



ILS CRITICAL AREA BOUNDARY: Exit boundary of ILS critical area

8-APCH

RWY APCH HOLD POSITION: Hold short of protected area when instructed by ATC



RUNWAY EXIT: Defines direction & designation of exit twy from rwy

ILS

ILS HOLD POSITION: Hold short of ILS critical area when instructed by ATC



TWY DIRECTION: defines direction & designation of intersection taxiway(s)



NO ENTRY: Identifies paved areas where aircraft entry is prohibited



OUTBOUND DESTINATION: Defines directions to take-off runway



TAXIWAY LOCATION: Identifies taxiway on which aircraft is located



INBOUND DESTINATION: Indicates direction of destination, i.e. terminal or military area



RUNWAY LOCATION: Identifies runway on which aircraft is located



TAXIWAY ENDING MARKER: Indicates that twy does not continue beyond this point



RUNWAY DISTANCE REMAINING: Identifies runway length remaining



DIRECTION SIGN ARRAY: Identifies location in conjunction with multiple intersecting taxiways

ATCT Light Gun Signals

Color and Type of Signal	Aircraft on the Ground	Aircraft in Flight	Movement of vehicles, equipment, and personnel
STEADY GREEN	Cleared for Takeoff	Cleared to Land	Cleared to cross proceed or go
FLASHING GREEN	Cleared to Taxi	Return for Landing (to be followed by steady green at the proper time)	Not applicable
STEADY RED	STOP	Give Way to Other Landing Aircraft and Continue Circling	STOP
FLASHING RED	Taxi Clear of the Runway in Use	Airport unsafe, do not land	Clear the taxiway/runway
FLASHING WHITE	Return to Starting Point on Airport	Not Applicable	Return starting point on airport
ALTERNATING RED/GREEN	Exercise Extreme Caution	Exercise Extreme Caution	Exercise extreme caution

Elevated
Guard Lights
Hold Short



In-Pavement
Guard Lights
Hold Short

**Alaskan Region
Aviator's Safety Handbook
A REFERENCE MANUAL**

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TOP CAUSES OF ACCIDENTS IN ALASKA:

1. Failure to land on the correct spot
2. Inadequate compensation for wind
3. Loss of direction control

Every Flight Review is an opportunity to reduce accidents!

**Accident/Incident reporting for FAA/NTSB
Regional Operations Center (ROC)
907-271-5936 (24 hours)**

Useful Links:

www.faa.gov

www.faa.gov/airports/runway_safety

avcams.faa.gov

www.faa.gov/go/flyalaska

www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/divisions/alaskan_region/flyalaska

www.faa.gov/about/office_org/headquarters_offices/ato/service_units/air_traffic_services/artcc/anchorage/

www.faa.gov/about/office_org/headquarters_offices/ato/service_units/air_traffic_services/flight_plan_filing/

www.faa.gov/go/alaskafss/

www.faa.gov/uas/



U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Regional Administrator
Alaskan Region

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April 24, 2017

Greetings Alaskan Aviators, whether visiting or resident!

Whether it's prepping for a checkride, perfecting an instrument approach, going out for a proficiency flight, or visiting our part of the National Airspace System (NAS) for the first time, good pilots are consistently learning and fine-tuning their craft with safety as their number one objective. Throughout our great state, Federal Aviation Administration (FAA) Alaskan Region employees provide pilots with up-to-date services often not found elsewhere in the country. I'll briefly describe just a few of these services below.

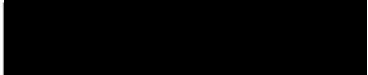
Alaskan Region Flight Services has three regional and 14 local Flight Service Stations that provide Pilot Weather Briefings by FAA specialists with in-depth knowledge of widely varied terrain and local weather patterns. Over-the-counter briefings, Airport Advisory Services and direct access to in-flight weather updates all create a unique relationship with FAA specialists. One additional feature the Flight Service Stations provide is the Enhanced Special Reporting Service (ESRS) which offers expedited Search and Rescue services to pilots who use satellite tracking devices. Also, our nationally recognized Pilot Weather report collection and dissemination capabilities are enhanced by a close partnership with the Aviation Weather Camera Office. Please use them.

The Aviation Weather Camera Office is the nation's first and only network of aviation oriented cameras, providing pilots with the ability to "look before they fly". The Weather Camera Program manages 230 camera sites and publishes on its website <http://avcamsplus.faa.gov>, images from more than a thousand cameras throughout the state. The website is acknowledged as the "most popular aviation website" in the State of Alaska, with over 200 million hits per year. Weather Cameras reduce weather-related aviation accidents and improve efficiency in Alaska by providing camera imagery, METARS, TAFs, PIREPS, and other aviation data sets to enhance pilot flight planning and to improve pilots' "go, no/go" decision making capabilities. Please use them.

The FAA Safety Team (FAASTeam) promotes aviation safety in Alaska by promoting educational and safety awareness with the aviation community. We hope that you will always choose safety first as you experience the beauty of Alaska from the air. The most deadly contributor to mishaps in Alaska is changing weather and the failure to make a decision to turn around until it is too late. A second contributor is loss of control during landing, so always accomplish a thorough landing site assessment to determine the winds, suitability of landing surface, and whether your aircraft and flying ability are suitable for a safe operation. We hope that you will contact the FAASTeam at 907-271-5514, if you have any questions or need any resources to fly safely in Alaska. Please use them.

All the best to each of you and please do not let desire to make it happen outweigh a good decision making process. Remember the saying, "There are old pilots, and there are bold pilots, but there are no old, bold pilots."

Sincerely,


Kerry B. Long
Regional Administrator
Alaskan Region



National Transportation Safety Board

There have been many times in my career as an NTSB investigator that I wished I could reach out and literally grab one of my fellow airmen by the lapels and shake them, shake them back from the dead, give them another chance at life. Of course that's impossible, but the frustration is palpable when you see life wasted time and time again, often over lapses of basic airmanship and judgment. Winding up in a zippered bag is not the way to close your flight plan.

So, after 26 years of accident investigation and thousands of accidents, what stands out as shakable offenses? You probably know them, but I'll tell you again. I warn you, you may not like the implications or some of the direct language, but if only one of you reads and heeds, and it saves a life, then it's worth whatever offense someone may take. Forewarned, read on, if you will...

In no particular order of consequence, as they'll all kill you:

Returning to the airport after a loss of engine power. Below 600 feet or so, don't even think about it. Go straight ahead, or select an area roughly between 10 and 2 o'clock. Given enough altitude, you MAY be able to make a turn to 3 or 9 o'clock using something less than a slam-it-to-the-stops steep turn - maybe. Every takeoff should be accompanied by actively thinking where you'll abort, and where you'll go in case of a power loss. Turning around is NOT usually an option. You'll lose time, altitude and airspeed deciding what to do, and a steep, low altitude turn without power is probably going to end in a stall/spin and a lawn dart into something a lot harder than air; with you taking up space in a yellow bag. Go online, and search for "The Impossible Turn." Its good reading, has pictures, and may save your butt.

Pushing weather. Bad weather causes accidents, right? Nope, it's the decision to fly in such weather, or the decisions made when in the weather, that results in accidents. The NTSB rarely finds weather as the principal cause of accidents; rather it's usually a contributor to the chain of events leading to the accident. The good thing about weather is that it changes; don't get antsy and think you have to be somewhere at a certain time. I can recall so many serious accidents where waiting a few minutes or a couple of hours and the flight would have ended with a cold beer instead of a cold shiny metal slab. As an investigator going to the site in a helicopter, it's often blue and beautiful - you can see all the obstacles, look down and see that burned smudge that was an airplane, and wonder how it got where it was. I'll share with you a sight I saw years ago but won't forget - as we approached the landing zone close to a wreck that was in a blind canyon off the pass,

I saw an arm sticking out of the wreckage, seeming to point to the west, towards the correct drainage and safety. If the pilot had waited an hour or so, or elected to turn around when he saw the lowering clouds, he wouldn't have needed posthumous directions from a passenger.

Overloading. Want to be a test pilot? Overload your aircraft. Aft center of gravity loadings are particularly challenging, with handling thrills assured, particularly during takeoff and approach. Flying safely requires discipline and a belief in the aircraft handbook. Years ago in Alaska, 18 people; 16 of them passengers, didn't make it home for Thanksgiving because of a significant overload coupled with an aft CG. And I assure you, the tally increases every year. Read the book, plot the points, and stay inside the lines.

406 ELTs. Come on, what are you thinking? That it won't happen to you? My job exists because it DOES happen to people like you. We've already had several missing aircraft since the plug was pulled on the 121.5 analog satellite receivers. Yes, occasionally someone, a high flyer or a FSS facility, or a tower may be within range of the 121.5 signal, but usually not. 406s are digital, send a signal immediately on impact or manual activation, and tell rescuers where you are within a few yards. A pilot got his Cub stuck on a glacier earlier this year, turned his 406 on and had a rescue helicopter over him in 25 minutes. Ditto on a couple of other accidents last year. By contrast, there are at least two missing airplanes out there this year that have 121.5s that may never be found. And here's one argument I hear: "I don't care about rescue; if I crash it's my problem." Hardly. A crash or missing aircraft generates massive searches and cost, not to mention putting many others at risk during the search. By not having a 406 ELT, you are being very selfish and uncaring of others. Think about it like this: If you or one of your passengers is lying in a wreck in the wild with some non-disposable body part broken, wouldn't that \$1,500-3,000 that a 406 cost look like chump change for an almost assured rescue?

Moose Turn Stalls. You know these. You're fixated on a moose, bear, what have you, and roll into a steep, tight turn over the object. As you continue the turn, it steepens ever so slightly, and you unconsciously add top rudder to keep it from getting too steep. Your airspeed decays, there may be a slight buffet, and in a heartbeat, probably one of your last, you've flipped over the top and are now pointed straight down with the stick sucked into your lap (a natural reaction that close to the ground) with an unwelcome embrace from Mother Earth a second or two away. That kind of stuff makes my phone ring a couple of times every year; I'd love for it to stop.

Okay, I could go on, but I've run out of space. Thanks for listening, and may I be privileged to shake your hand someday, and not your lapels!

Jim La Belle

(Retired) Chief, Alaska NTSB

AVIATION CAMERAS

Aviation Cameras provide current images (a new image approximately every 10minutes) of sky conditions to enhance pilot situational awareness. Each camera site provides images/views from up to four different cameras that augment other aviation weather information. To save both fuel and lives, use the camera images for preflight as well as during flight (enroute updates are available by radio from Alaska Flight Services). Existing camera locations are now depicted on sectional charts as they are updated. Airports that are served by an aviation camera have “WX CAM” noted under ‘weather data sources’ in the Alaska Supplement. And, a complete list of camera locations is available in Section D of the Supplement (beginning approximately on page 411). Current images are available on our FAA website (<http://avcams.faa.gov>.)

Web Site Features:

- ☐ Free, no user name or password required
- ☐ Use current camera images as a means to “look out the window” at sky conditions along your route of flight before you fly
- ☐ Easily find cameras of interest by using our Interactive Site Location Map
- ☐ Familiarize yourself with the camera angles and the area by using the provided Sectional and Topo maps
- ☐ Now you can bookmark your favorite camera sites
- ☐ Use the loop feature to view weather patterns (up to 6 hours of historical data)
- ☐ Compare sky conditions to METAR data
- ☐ Use annotated (distance and elevation markers) Clear Day images to help distinguish current sky conditions:

Example:



Current Image



Clear Day Image

The Alaska Aviation Camera web site can be accessed on the Internet at
<http://avcams.faa.gov>

Alaska Flight Service Stations

Safety Is Our Profession

CONTACT

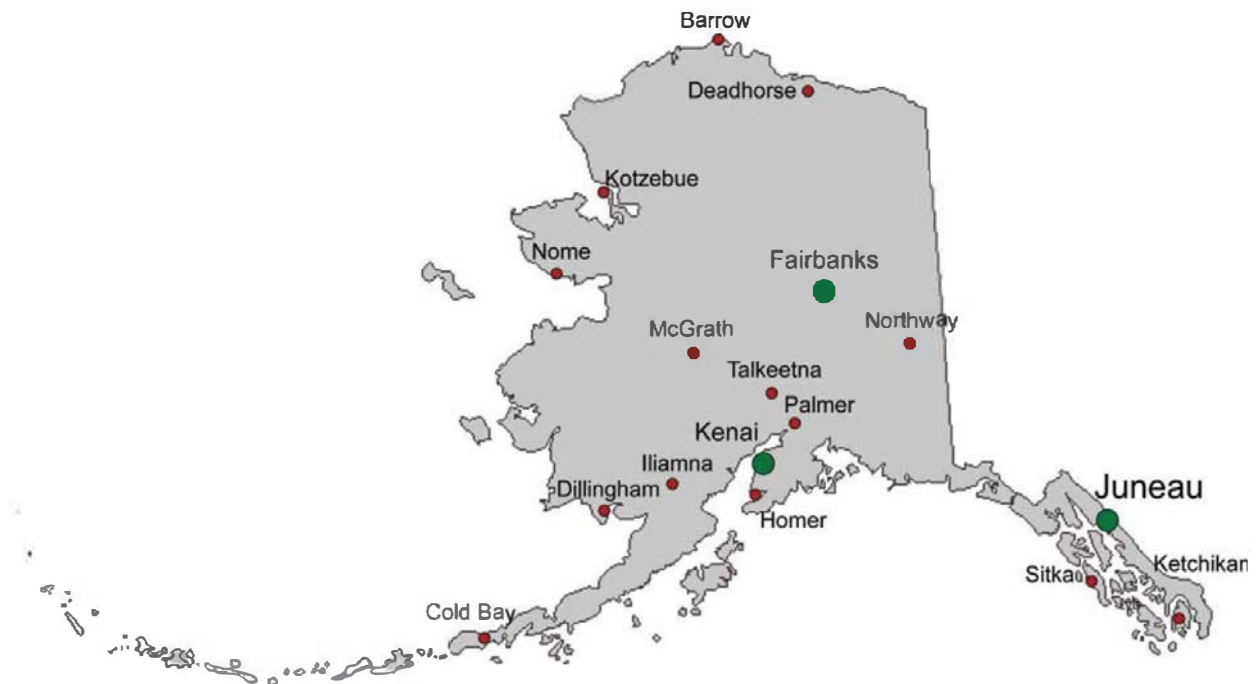
ALASKA FLIGHT SERVICES

TO HELP WITH GO/NO GO DECISIONS

THE MAJORITY OF PILOTS

INVOLVED IN AIRCRAFT ACCIDENTS IN ALASKA

DID NOT USE OUR FLIGHT SERVICES BEFORE THAT FLIGHT



● 3 Full-time (24) Flight Service Stations

● 14 Part-Time Flight Service Stations

GET WEATHER UPDATES ENROUTE

MAKE POSITION REPORTS AND PROVIDE PILOT REPORTS

PILOTS: Your Life, Your Family and Your Passengers' Lives

DEPEND ON YOU MAKING THE RIGHT DECISIONS

Visit us online for more information about flying to and within Alaska
<http://www.alaska.faa.gov/go/alaskafss>
CALL 1-800-WX BRIEF
1-800-992-7433 (ALASKA ONLY)
FREE SAFETY SERVICES
ANY TIME - ANY WHERE

Or call direct to any of our Flight Service Stations (FSS):



Fairbanks FSS (24x7)	866 – 248–6516
Barrow FSS	907 – 852–2511
Deadhorse FSS	907 – 659–2401
Kotzebue FSS	907 – 442–3310
Nome FSS	907 – 443–2291
Northway FSS (Seasonal)	907 – 778–2219
Juneau FSS (24x7)	866 – 297–2236
Ketchikan FSS	907 – 225–9481
Sitka FSS	907 – 966–2221
Kenai FSS (24x7)	866 – 864–1737
or	907 – 283–7211
Cold Bay FSS	907 – 532–2454
Dillingham FSS	907 – 842–5275
Homer FSS	907 – 235–8588
Iliamna FSS (Seasonal)	907 – 571–1240
McGrath FSS (Seasonal)	907 – 524–3611
Palmer FSS	907 – 745–2495
Talkeetna FSS	907 – 733–2277

NOTE: Use the toll free 866 number for the 24x7 Alaskan FSS
you wish to contact regardless of your location.

Alaska Flight Service Stations help ensure safety of flight. At our 17 FAA operated stations dedicated Air Traffic Control Specialists (ATCS) provide the information and services necessary to help you complete your flight safely.

Pilot Weather Briefings: Call us for the most current weather and aeronautical information. When conditions and flight rules warrant, our certified ATCS will use their judgment to advise you on the best course of action to take. Our Specialists' local area knowledge is second to none. We can provide information on trends, weather cameras and how local weather may be affected by terrain and other factors.

**Contact a Flight Service Station and
get a Pilot Weather Briefing for your flight –
This good habit will pay you back -- with added safety for FREE!**

Flight Plans: All of our facilities will accept flight plans filed in person, by phone, fax or in the air. The Alaska Supplement, in the "Procedures" section states, "Flight Plans may be submitted to the nearest Flight Service Station either in person or by telephone. Aircraft radio may be used if no other means are available." During the summer, when there is typically a lot of traffic, if a pilot files a flight plan over the radio it will, more often than not, end up causing a delay for other pilots calling on the radio. So as a courtesy to other pilots, please file over the phone when able.

International Flights: New U.S. Customs Procedures for cross-border operations to and from the United States began on May 18, 2009. The final rule states "Private aircraft pilots or their designees must transmit electronically via the Electronic Advance Passenger Information System, or eAPIS to U.S. Customs and Border Protection (CBP) the following information:

1. Traveler manifest information for each individual traveling aboard the aircraft;
2. Notice of arrival information; and/or
3. Notice of departure information.

This data must be received by CBP no later than 60 minutes prior to departure for private aircraft flights arriving in or departing from the United States. See the eAPIS Tutorial on the U.S. Customs web site at: <http://apps.cbp.gov/eapis-pa/>.

General Aviation pilots must call the Telephone Reporting Centre (TRC) at 1-888-226-7277 at least two hours, but no more than 48 hours, before arriving in Canada, and must land at a designated port of entry. The Canada Border Services Agency has a website that provides information about all requirements to fly into and through Canada. You can access the site at <http://www.cbsa-asfc.gc.ca/noncan-eng.html>.

Part 93 special airspace REQUIRES contact with Ketchikan FSS on 123.6



Ketchikan International Airport Special Air Traffic Rules. Special procedures are in effect below 3,000 feet MSL with the perimeter defined as the Ketchikan Class E surface area regardless of whether the Class E surface area is in effect. When the Ketchikan Flight Service Station is in operation, no person may operate an aircraft within the airspace specified above, or taxi onto the runway at Ketchikan International Airport, unless that person has established two-way radio communications with the Ketchikan FSS on 123.6 for the purpose of receiving traffic advisories and must continue to monitor the advisory frequency at all times while operating within the specified airspace. Also see 14 CFR Part 93-Subpart M and the Alaska Supplement, in the Regulatory Notices section, Ketchikan International Airport.

Master Flight Plan Program: The Master Flight Plan (MFP) program was established for the owners/operators of aircraft in Alaska. A master flight plan is intended to record static information on an aircraft, not on a pilot. Only one MFP, therefore, will be accepted per aircraft from the owner/operator. Master flight plan files are maintained by our parent Flight Service Stations (FAI, JNU or ENA) for aircraft based within their respective areas of responsibility. Aircraft owners/operators may file a MFP at any of our facilities in person, via mail, phone or FAX. A master flight plan on file with any Alaskan Region parent FSS facility will be accepted by all Alaskan FSS facilities. Upon receipt of MFP information, the parent FSS facility enters the information into their master flight plan file. The MFP only becomes effective when the owner/operator is notified of receipt by a FSS Specialist. This can be either verbally upon receipt of the master flight plan, or by fax, email, phone, etc.

Master flight plans must contain the following data:

1. Aircraft Identification.
2. Aircraft type/special equipment.
3. Remarks, if any. (Radios, navigation equip.)
4. Aircraft home base, including tiedown number if available.
5. Owner or operator's name, physical address and phone number.
6. Owner or operator's mailing address.
7. Color of aircraft.
8. Airspeed.
9. Name and phone number of a 24 hour coordination contact.
10. Optional items.
 - a. Maximum fuel capacity.
 - b. Satellite Tracker URL

Aircraft owners/operators are responsible for ensuring the information on file for their aircraft is current. Changes in MFP data should be reported to the appropriate facility immediately. Failure to provide updated information could cause unnecessary delays in search and rescue activities.

When filing a flight plan for an aircraft with a master flight plan on file, provide the following information:

1. Type of flight plan.
2. Type of aircraft.
3. Equipment code if IFR
4. Departure point.
5. Departure time or activation time.
6. Proposed altitude if IFR.
7. Route of flight.
8. Destination.
9. Estimated time en route.
10. Fuel on board.
11. Pilot's last name.
12. Number of people on board

For more information on filing a Master Flight Plan contact your nearest Flight Service Station or go to: www.alaska.faa.gov/go/alaskafss

Alaska Flight Service Enhanced Special Reporting Service (eSRS)



Satellite communication devices are now available that provide tracking or emergency alert features for pilots. The FAA Alaska Flight Service has developed a program that allows pilots to augment and enhance the benefits of the standard VFR or IFR Flight Plan. Pilots with aircraft equipped with Spidertracks™, Delorme/Garmin inReach® or SPOT Messenger® tracking devices may set up their devices and allow Flight Service to receive an alert from an aircraft in distress. The idea is to launch SAR at the earliest possible moment when it is believed that an aircraft is in distress. When an alert is generated, the position of the aircraft is transmitted to Flight Service and search and rescue is started immediately rather than waiting for the flight plan to expire. The eSRS program is intended to supplement a standard flight plan and is only available for flights within Alaska. Contact your local FSS or visit the Alaska FSS website (www.faa.gov/go/alaskafss) for more information.

Automatic Flight Information Service (AFIS): AFIS is the continuous broadcast of recorded non-control information and is only available at airports in Alaska where we provide local airport advisory service. Its purpose is to improve FSS Specialists' efficiency by reducing frequency congestion on the local airport advisory frequency. The AFIS broadcast automates the repetitive transmission of essential but routine information (weather, favored runway, braking action, airport NOTAMs, other applicable information). This information is continuously broadcast over a discrete VHF frequency – usually the ASOS frequency. Use of the AFIS is not mandatory, but pilots who choose to utilize two-way radio communications with the FSS are urged to listen to the AFIS, as it relieves congestion on the local airport advisory frequency. AFIS is updated upon receipt of any official hourly and special weather, worsening braking action reports and changes in other pertinent data. When a pilot acknowledges receipt of the AFIS broadcast, FSS ATCS' may omit those items contained in the broadcast if they are current. When rapidly changing conditions exist, the latest ceiling, visibility, altimeter, wind or other conditions may be omitted from the AFIS and will be issued by the FSS Specialist on the appropriate radio frequency.

EXAMPLE - “Kotzebue information ALPHA. One six five five zulu. Wind, two one zero at five; visibility two, fog; ceiling one hundred overcast; temperature minus one two, dew point minus one four; altimeter three one zero five. Altimeter in excess of three one zero zero, high pressure altimeter setting procedures are in effect. Favored runway two six. Weather in Kotzebue surface area is below V-F-R minima – an ATC clearance is required. Contact Kotzebue Radio on 123.6 for traffic advisories and advise intentions. Notice to Airmen, Hotham NDB out of service. Advise on initial contact you have ALPHA.”

The absence of a sky condition or ceiling and/or visibility on an Alaska FSS AFIS indicates a sky condition or ceiling of 5,000 feet or above and visibility of 5 miles or more. A remark may be made on the broadcast, “The weather is better than 5000 and 5.”

You should notify FSS on initial contact that you have received the AFIS broadcast by repeating the phonetic alphabet letter appended to the broadcast.

EXAMPLE - “Information ALPHA received.”

While it is a good operating practice to make use of the Alaska FSS AFIS broadcast where it is available, some pilots use the phrase “have numbers” in their communications with FSS. Use of this phrase means that the pilot has ONLY received wind, runway and altimeter information. It does not indicate receipt of the AFIS and should not be used for this purpose.

Pilot Reports (PIREP): Call Flight Service and share information in real time on the weather conditions you encounter in flight. We receive and disseminate over 30,000+ PIREPs annually! PIREPs also help keep area forecasts updated.

The following four items are mandatory on all PIREPs:

The following four items are mandatory on all PIREPs:

1. **Location:** example – 20 SE of Kenai or ENA135020
2. **Time:** In UTC if known
3. **Altitude:** example - 4,500
4. **Aircraft type:** example – PA-18 or Super Cub

Pilot Reports - Include this information when able

Sky Cover (SCT/BKN/OVC – Bases and Tops): example – 1 thousand broken, tops 3 thousand

Flight Visibility and Weather Obscuring Visibility: example – 3 statute miles in snow showers

Temperature (Celsius) : example - -2 degrees Celsius

Wind Direction and Speed: example – Wind SW at 10

Turbulence (Light/Moderate/Severe/Extreme): example – Light to moderate below 3,500

Icing (Trace/Light/Moderate/Severe) and Type (Mixed/Rime/Clear):
example – Light to moderate mixed below 3,500

Remarks: example – Intermittent snow showers. For a river ice report: Include river name

Your fellow pilots will appreciate your contribution.

Notices to Airmen (NOTAMs): Alaska Flight Service Stations disseminate aeronautical information, sometimes derived from pilot reported conditions, on items such as recent runway snow accumulations or newly rutted runways. This current information is available to all pilots through Flight Service.

Inflight Services: We cover the state! Contact us via radio over one of our remote communication outlets (RCO) to make position reports and get weather updates. Avoid mid-air collisions -- participate in local airport advisory service and access the FSS Automatic Flight Information System (AFIS) where available. If you find yourself in an emergency or distress situation, do not hesitate to contact the nearest Flight Service Station for emergency service.

CALL EARLY TO STAY SAFE!

Alaska Flight Service Stations still monitor 121.5 and provide emergency services at all locations. With the discontinuance of satellite monitoring of 121.5 ELTs, and low fleet installation rates for the 406-MHz ELTs to date, Alaska Flight Services remain a tight link in the chain of safety!

FLIGHT SERVICE STATION LOCAL FREQUENCIES

Facility	Local Frequencies	AFIS (If available)
Barrow FSS	122.2 / 123.6	132.15
Cold Bay FSS	122.2 / 123.6	
Deadhorse FSS	122.2 / 123.6	118.4
Dillingham FSS	122.3 / 123.6	125.0
Fairbanks FSS	122.6 / 122.45 / 122.2 / 255.4	
Homer FSS	122.2 / 123.6	135.65
Iliamna FSS	122.2 / 123.6	134.95
Juneau FSS	118.7 / 122.15 / 122.2	
Kenai FSS	121.3 / 122.65	
Ketchikan FSS	122.2 / 123.6	134.45
Kotzebue FSS	120.3 / 122.2 / 123.6	135.45
McGrath FSS	122.2 / 122.65 / 123.6	
Nome FSS	122.2 / 122.45 / 123.6	119.925
Northway FSS	122.2 / 123.6	
Palmer FSS	122.4 / 123.6	
Sitka FSS	122.2 / 123.6	135.9
Talkeetna FSS	122.2 / 123.6	135.2

FSS Automated “Touch Tone” Services: Always remember to wait for the beginning of the greeting announcement before entering access codes.

TOUCH TONE ACCESS

Dial Code

Next Available Briefer	1
Telephone Information Briefing Service (TIBS) menu and instructions	2
Flight Plan/Fast File Recorder Information	3
Additional System Information	8
Special Announcements & Airspace Procedures	11
Recorded Weather Information	12 – 25*
Recorded Security Information	30 – 33

* Recorded weather will vary by facility

Frequently used FSS Frequencies: There are other RCO frequencies too numerous to list here. Always refer to the latest Airport/Facility Directory (Alaska Supplement) and NOTAMs for current information.

**For additional information contact your nearest
Flight Service Station or the
Flight Services Safety Program at (907) 271-5464**

KEY to AERODROME FORECAST (TAF) and AVIATION ROUTINE WEATHER REPORT (METAR)

TAF KPIT 091730Z 091818 15005KT 5SM HZ.FEW020 WS010/31022KT
FM1930 30015G25KT 3SM SHRA OVC015 TEMPO 2022 1/2SM +TSRA
OVC008CB
FM0100 27008KT 5SM SHRA BKN020 OVC040 PROB40 0407 1SM -RA BR
FM1015 18005KT 6SM -SHRA OVC020 BECMG 1315 P6SM NSW SKC

METAR KPIT 091955Z COR 22015G25KT 3/4SM R28L/2600FT TSRA OVC010CB
18/16 A2992 RMK SLP045 T01820159

Forecast	Explanation	Report
TAF	Message type: <u>TAF</u> -routine or <u>TAF AMD</u> -amended forecast, <u>METAR</u> -hourly, <u>SPECI</u> -special or <u>TESTM</u> -non-commissioned ASOS report	METAR
KPIT	ICAO location indicator	KPIT
091730Z	Issuance time: ALL times in UTC " <u>Z</u> ", 2-digit date, 4-digit time	091955Z
091818	Valid period: 2-digit date, 2-digit beginning, 2-digit ending times In U.S. METAR : <u>COR</u> rected ob; or <u>AUTO</u> mated ob for automated report with no human intervention; omitted when observer logs on	COR
15005KT	Wind: 3 digit true-north direction, nearest 10 degrees (or <u>VaRiA</u> ble); next 2-3 digits for speed and unit, <u>KT</u> (KMH or MPS); as needed, <u>Gust</u> and maximum speed; 00000KT for calm; for METAR , if direction varies 60 degrees or more, <u>Variability</u> appended, e.g. 180 <u>V</u> 260	22015G25KT
5SM	Prevailing visibility: in U.S., <u>Statute Miles</u> & fractions; above 6 miles in TAF <u>Plus6SM</u> . (Or, 4-digit minimum visibility in meters and as required, lowest value with direction)	3/4SM
HZ	Runway Visual Range: <u>R</u> ; 2-digit runway designator <u>Left</u> , <u>Center</u> , or <u>Right</u> as needed; <u>"/</u> "; <u>Minus</u> or <u>Plus</u> in U.S., 4-digit value, <u>Feet</u> in U.S., (usually meters elsewhere); 4-digit value <u>Variability</u> 4-digit value (and tendency <u>Down</u> , <u>Up</u> or <u>No</u> change)	R28L/2600FT
FEW020	Significant present, forecast and recent weather: see table (on back) Cloud amount, height and type: <u>SKy Clear</u> 0/8, <u>FEW</u> >0/8-2/8, <u>SCaTtered</u> 3/8-4/8, <u>BroKeN</u> 5/8-7/8, <u>OVerCast</u> 8/8; 3-digit height in hundreds of ft; <u>Towering CU</u> mulus or <u>CumulonimBu</u> s in METAR ; in TAF , only <u>CB</u> . <u>Vertical Vi</u> sibility for obscured sky and height "VV004". More than 1 layer may be reported or forecast. In automated METAR reports only, <u>CLeaR</u> for "clear below 12,000 feet" Temperature: degrees Celsius; first 2 digits, temperature <u>"/</u> last 2 digits, dew-point temperature; <u>Minus</u> for below zero, e.g., M06 Altimeter setting: indicator and 4 digits; in U.S., <u>A</u> -inches and hundredths; (<u>Q</u> -hectoPascals, e.g., Q1013)	TSRA OVC010CB 18/16 A2992

KEY to AERODROME FORECAST (TAF) and AVIATION ROUTINE WEATHER REPORT (METAR)

Forecast	Explanation	Report
WS010/31022KT	In U.S. TAF , non-convective low-level ($\leq 2,000$ ft) <u>Wind Shear</u> ; 3-digit height (hundreds of ft); <u>"/";</u> 3-digit wind direction and 2-3 digit wind speed above the indicated height, and unit, <u>KT</u>	RMK SLP045 T01820159
FM1930	In METAR , <u>ReMark</u> indicator & remarks. For example: <u>Sea-Level</u> Pressure in hectoPascals & tenths, as shown: 1004.5 hPa; <u>Temp/</u> dew-point in tenths °C, as shown: temp. 18.2°C, dew-point 15.9°C	
TEMPO 2022	<u>FroM</u> and 2-digit hour and 2-digit minute beginning time: indicates significant change. Each FM starts on new line, indented 5 spaces.	
PROB40 0407	<u>TEMPO</u> rary: changes expected for < 1 hour and in total, < half of 2-digit hour beginning and 2-digit hour ending time period	
BECMG 1315	<u>PROB</u> ability and 2-digit percent (30 or 40): probable condition during 2-digit hour beginning and 2-digit hour ending time period	
	<u>BEC</u> oMinG: change expected during 2-digit hour beginning and 2-digit hour ending time period	

Table of Significant Present, Forecast and Recent Weather - Grouped in categories and used in the order listed below; or as needed in TAF, No Significant Weather.

QUALIFIER

Intensity or Proximity

- Light "no sign" Moderate + Heavy

VC Vicinity: but not at aerodrome; in U.S. **METAR**, between 5 and 10SM of the point(s) of observation; in U.S. **TAF**, 5 to 10SM from center of runway complex (elsewhere within 8000m)

Descriptor

MI Shallow	BC Patches	PR Partial	TS Thunderstorm
BL Blowing	SH Showers	DR Drifting	FZ Freezing

WEATHER PHENOMENA

Precipitation

DZ Drizzle	RA Rain	SN Snow	SG Snow grains
IC Ice crystals	PL Ice pellets	GR Hail	GS Small hail/snow pellets
UP Unknown precipitation in automated observations			

Obscuration

BR Mist ($\geq 5/8$ SM)	FG Fog ($< 5/8$ SM)	FU Smoke	VA Volcanic ash
SA Sand	HZ Haze	PY Spray	DU Widespread dust

Other

SQ Squall	SS Sandstorm	DS Duststorm	PO Well developed dust/sand whirls
FC Funnel cloud	+FC tornado/waterspout		

- Explanations in parentheses "()" indicate different worldwide practices.
- Ceiling is not specified; defined as the lowest broken or overcast layer, or the vertical visibility.
- NWS **TAFs** exclude turbulence, icing & temperature forecasts; NWS **METARs** exclude trend fcsts
- Although not used in US, Ceiling And Visibility OK replaces visibility, weather and clouds if: visibility ≥ 10 km; no cloud below 5000 ft (1500 m) or below the highest minimum sector altitude, whichever is greater and no CB; and no precipitation, TS, DS, SS, MIFG, DRDU, DRSA or DRSN.

UNITED STATES DEPARTMENT OF COMMERCE

NOAA/PA 96052

National Oceanic and Atmospheric Administration—National Weather Service

ATIS Phone Numbers

Name	3-Ltr ID	Station	Type	Agency	Phone
Anchorage	ANC	ATIS	ASOS	FAA	248-2033
Bethel	BET	ATIS	ASOS	NWS	543-5475
Fairbanks	FAI	ATIS	ASOS	FAA	474-8036
Juneau	JNU	ATIS	ASOS	FAA	789-1243
Kenai	ENA	ATIS	ASOS	FAA	283-6513
King Salmon	AKN	ATIS	ASOS	NWS	246-7506
Kodiak	ADQ	ATIS	ASOS	NWS	487-2442
Lake Hood	LHD	ATIS	ASOS	FAA	245-1618
Merrill Field	MRI	ATIS	ASOS	FAA	272-0542

Standardized Aircraft Lighting						
	Rotating beacon	Navigation/Position lights	Strobe light*	Taxi lights	Logo lights	Landing lights
 = Turn on						
Engine(s) running						
Taxiing						
Crossing a runway						
Entering departure runway for line up and wait						
Takeoff						

* Strobe lights should not be illuminated if it will have an adverse effect on others.

Runway Crossings - How to do it!



Holding Position

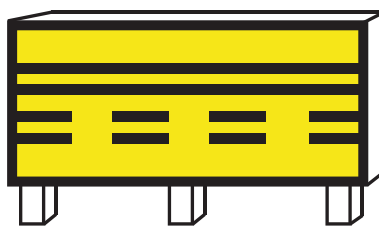
OK, so now you're at the hold short line of the assigned runway - what's next?



Check left and right for traffic and straight ahead to ensure a clear path.

Wait for a break in ATC transmissions, then request clearance to cross.

Example: "Merrill Tower, N3450B request clearance to cross Runway 25 at Foxtrot"... N3450B, Merrill Tower, cleared to cross Runway 25 at Foxtrot."



Runway Safety Area Boundary Sign

When cleared to cross by ATC - advance aircraft power and quickly cross the runway and ensure the entire aircraft is beyond the runway safety area boundary sign on the opposite side of the runway before reporting to ATC that you are clear of the runway.

NOTE: Over 20% of all runway incursions are due to pilots crossing runways without an ATC clearance!

Wrong Runway Departures – It can happen to you!

Things you can do to help prevent it:

- Have a current airport diagram out during taxi operations
- Trace your taxi route on the airport diagram and recheck it
- If uncertain about your taxi route, request progressive taxi instructions from ground control
- Check your runway entrance for correct signage and markings
- Set your runway heading bug for the correct departure runway and read back all takeoff clearances verbatim
- Taxi heads up and eyes outside the cockpit and complete all applicable check lists prior to commencing taxi operations
- Finally: If it doesn't look right, sound right or feel right, it probably isn't right
STOP AND ASK FOR CLARIFICATION!



Wreckage from a wrong runway departure accident at Blue Grass Airport near Lexington, Kentucky on August 27, 2006

Ramp to the Runway and Return

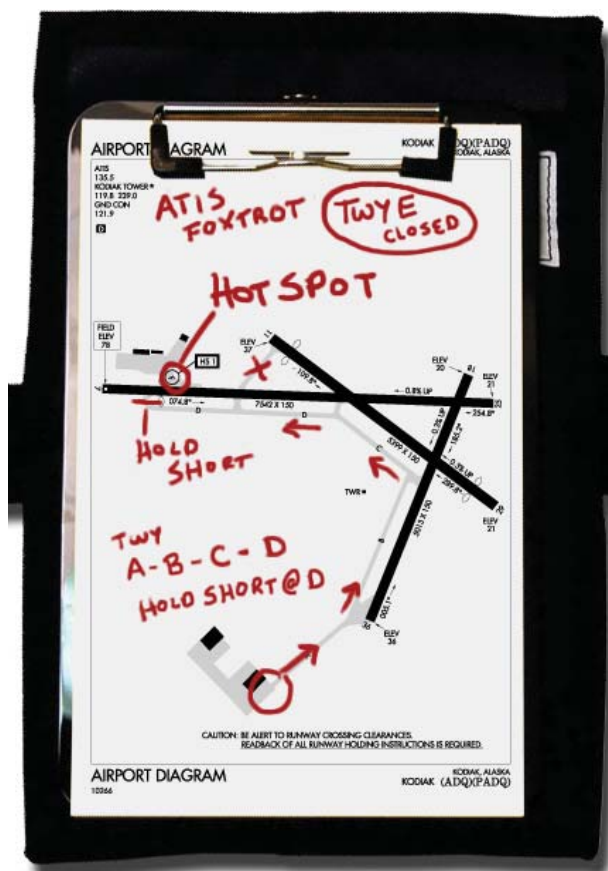
Safe Surface Movement

From the Ramp:

Parked on the ramp it all looks easy, aircraft startup, taxi and takeoff. Yet most pilot deviations occur between the movement area boundary and a successful takeoff. Why is that, and how can we work to reduce the risk in every flight?

1. Study the airport diagram when you start your flight planning.

- Have the diagram available as you listen to the ATIS and out on your knee board before you release brakes to taxi.
- Know where you are starting on the airport, and also know where you are going.
- Identify complex intersections that you may taxi through.
- Review identified Hot Spots that may require a higher level of attention during travel across the airfield to your assigned destination.



Write helpful information directly on the airport diagram

2. Review NOTAMs before getting into the airplane, and copy down the ATIS

Make special note of taxiway closures, runway closures or any relevant airfield specific risks, particularly during airport construction projects, and be aware of shortened runways. Be extremely vigilant when operating on the surface during low visibility conditions.

Ramp to the Runway and Return

Safe Surface Movement

3. Listen closely to your taxi instructions

Ensure you have identified the correct departure runway in use, and the taxi route you have been assigned to get there as well as any restrictions associated with your destination.

Remember: You must completely read back all “**Hold Short**” instructions and include your call sign in the read-back.



4. Practice a Sterile Cockpit

Prior to taxi, brief passengers to minimize conversation and questions while operating on the surface and during climb out. Practice a “heads up, eyes out and scanning” mode while taxiing, looking for destination and location or holding position signs.

5. Final Review and Confirmation

Set the heading bug to the assigned runway heading and use the airport diagram to review the taxi route prior to brake release.

**PART OF A SAFE FLIGHT
IS A SAFE TAXI**

**PLAN AHEAD AND
REDUCE STRESS**



Always checking your heading could help prevent you from taking off on the wrong runway



Ramp to the Runway and Return

Safe Surface Movement

To the Runway:

Use the many resources available to keep your aircraft on its assigned taxi route. Once taxiing, you should have a clear understanding of destination, route and restrictions, such as holding short of a runway. One of the highest risk areas is when taxiing near a runway. Runway safety areas are defined by the holding position markings (Hold Short Lines) and runway holding position signs. These aids help in keeping the clearance that you are issued.



Holding Position Marking



Runway Holding Position Sign

How can we reduce risk on our way to taking off?

1. Refer to the airport diagram on your knee board to maintain your understanding of where you are on the airport, and use extra caution when directed to taxi onto a runway, especially at night and during reduced visibility conditions
2. Never cross a hold line without explicit ATC instructions. Controllers are required to issue explicit instructions to cross or hold short of each runway, including inactive and closed runways that intersect a taxi route.
3. Always scan the runway and its ends before entering, even if you have been cleared to proceed. One last look for a landing light can save you an embarrassing call to the tower, or prevent a runway collision.
4. Do not enter a runway unless you have been instructed to cross that specific runway, cleared to takeoff from that runway or instructed to line up and wait on that specific runway.
5. Cross check the clearance you hear with the runway designation signs in front of you.

**BE CERTAIN OF YOUR LOCATION AND CLEARANCE
BEFORE CROSSING ANY HOLDING POSITION LINE**

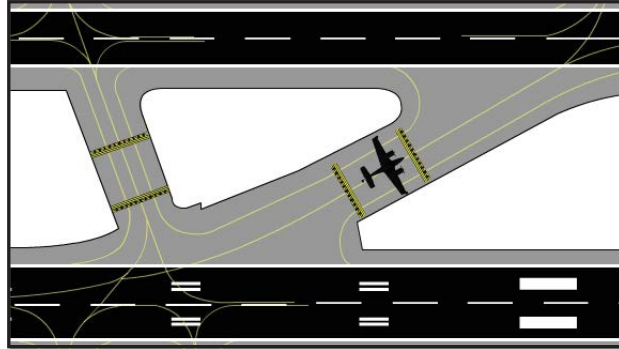
Ramp to the Runway and Return

Safe Surface Movement

The Return:

Many times we think the toughest part of flying is the approach, and then maneuvering, as we line up and then land on a runway. But don't give up yet, we're not finished until the airplane is chocked on the ramp.

1. Use highest caution after landing on a runway where the exit taxiways intersect another runway. Do not exit onto another runway without ATC authorization to enter that runway.

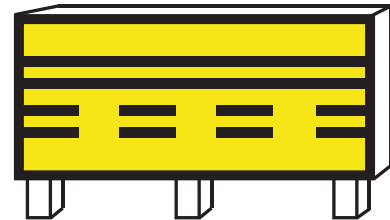


2. Do not accept last minute turnoff instructions from the tower unless you clearly understand the instructions and are certain that you can safely comply. Make sure that you communicate to the tower "Unable" if you cannot comply with an instruction.

On exiting your landing runway, never enter another runway without ATC clearance

3. Do not initiate non-essential communications or actions after landing:

- Exit the runway.
- Taxi past the "boundary sign" and beyond the runway safety area.
- Contact "Ground" as instructed for your taxi instructions to parking.



When exiting always move completely past the Runway Boundary Sign

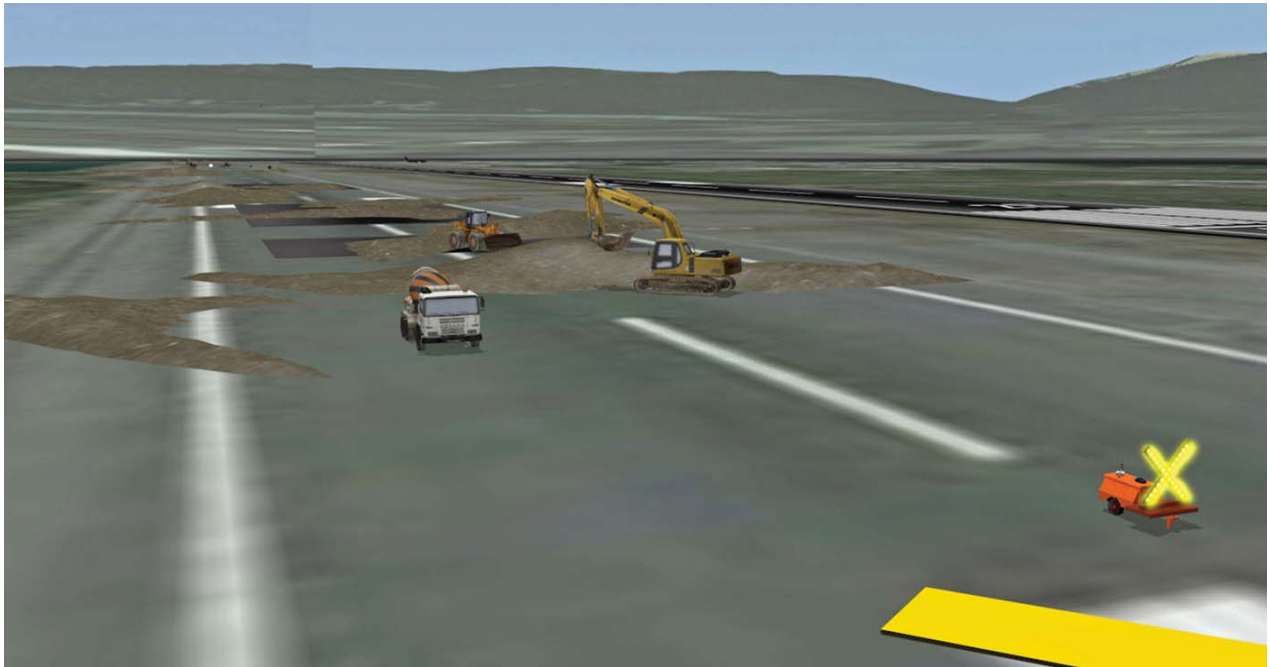
You can prevent serious surface risk by:

-
- | | |
|--|--|
| - Taking the time to plan your surface movement | - Watching for airfield signs that tell you: |
| - Understand the airport taxiway system and the routing assigned | Where to go (Destination Signs) |
| - Listen to your clearance closely from ATC | Where you are (Location Signs) |
| - Write down your clearance with the routing | Where to Hold |
| | (Runway Identification Signs) |
-

**IF YOU ARE EVER UNSURE, CONFUSED OR LOST
DON'T HESITATE TO ASK ATC FOR ASSISTANCE**

Proposed Airport Construction Projects Calendar Year 2017

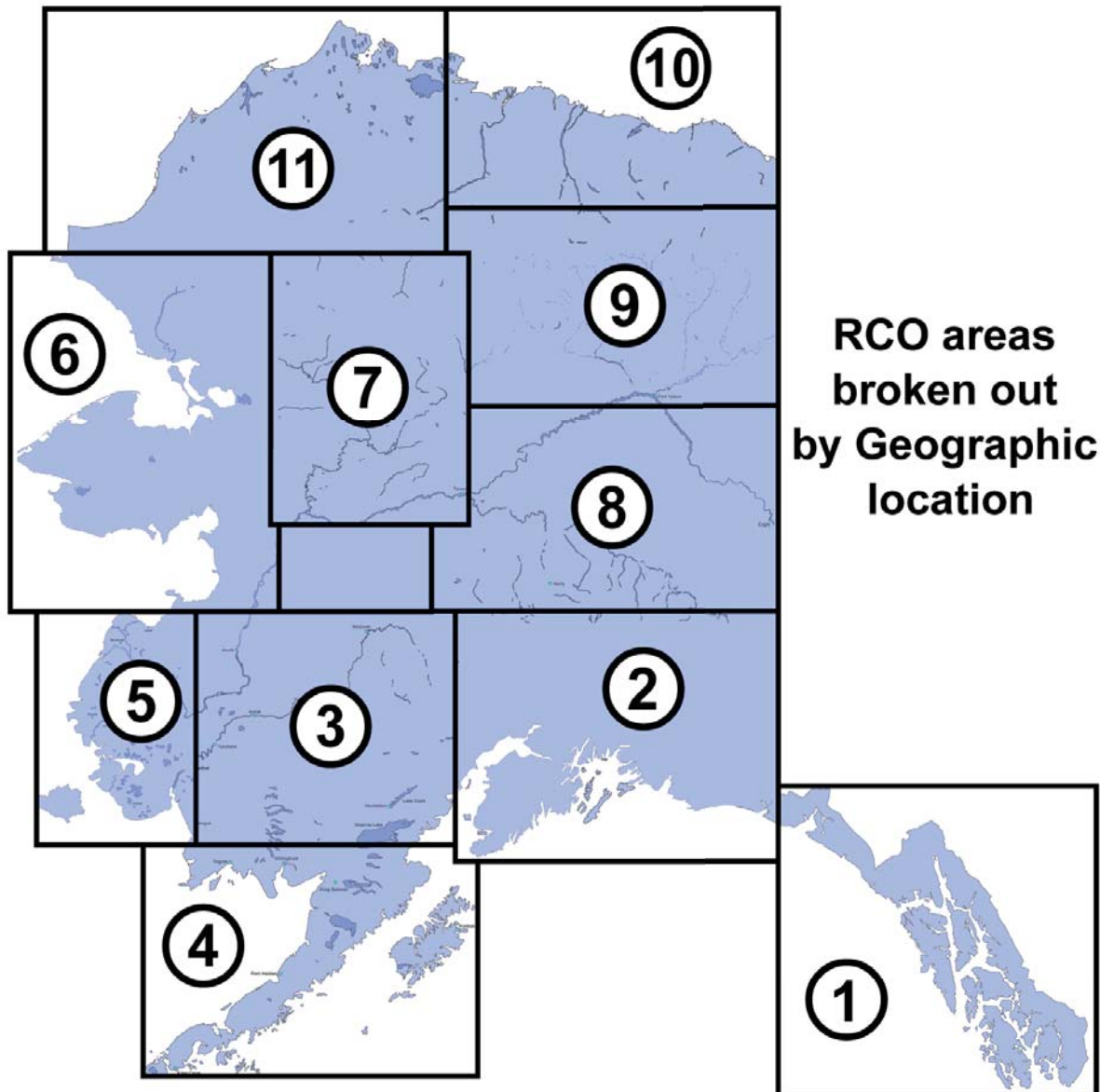
Alaska summers are a busy time of year for airport construction throughout the state. Construction may involve runway closures, half width runways, reduced runway lengths and taxiway closures. Airfield maintenance and navigational aid repairs may also limit runway or taxiway use at an airport. The best source of real time information for ongoing airport construction and maintenance is by checking airport NOTAMs before you fly.



Alaska

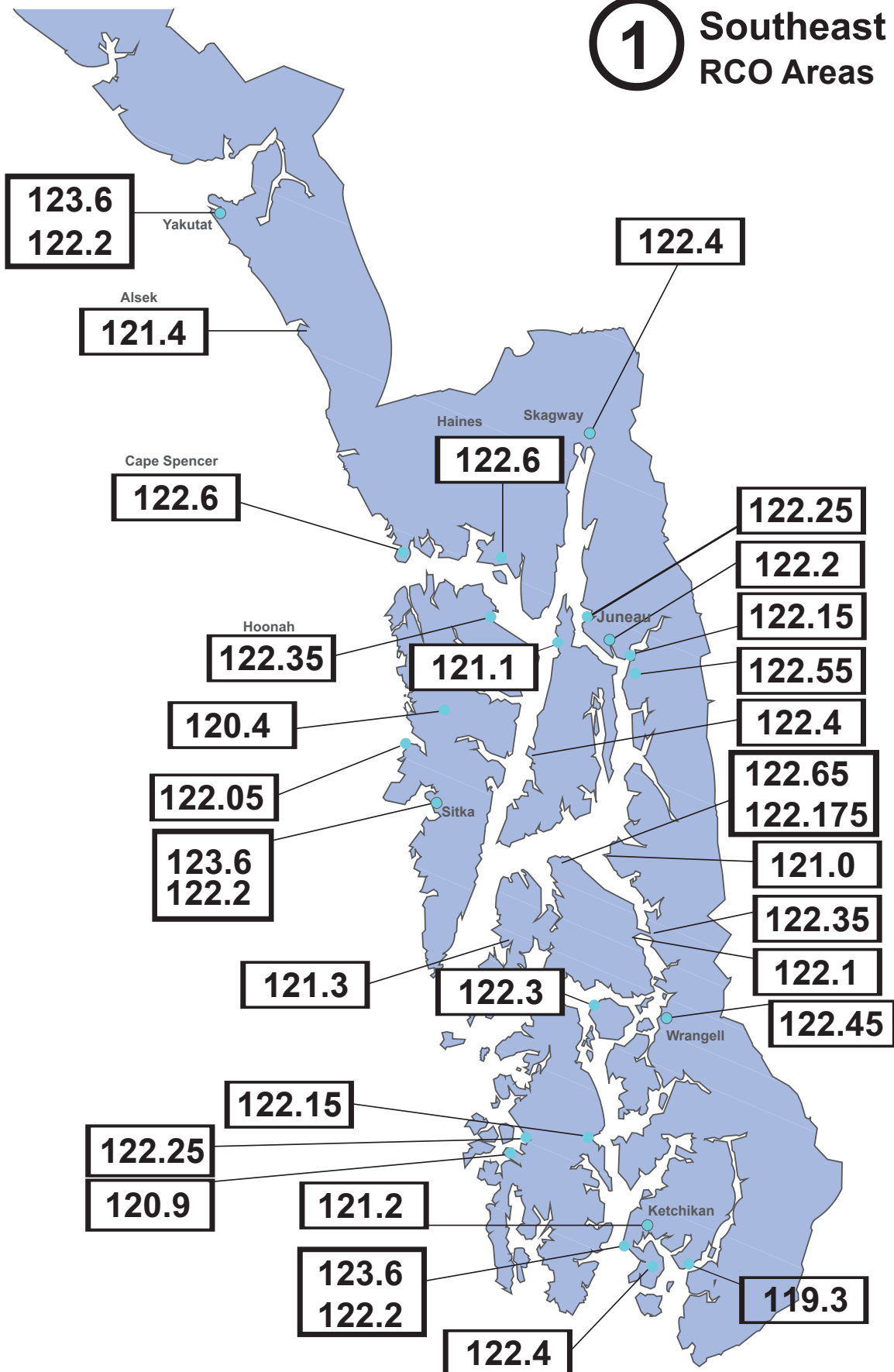
Remote Communication Outlets (RCO)

RCO: An unmanned communications facility remotely controlled and monitored by air traffic personnel at the nearest FSS.

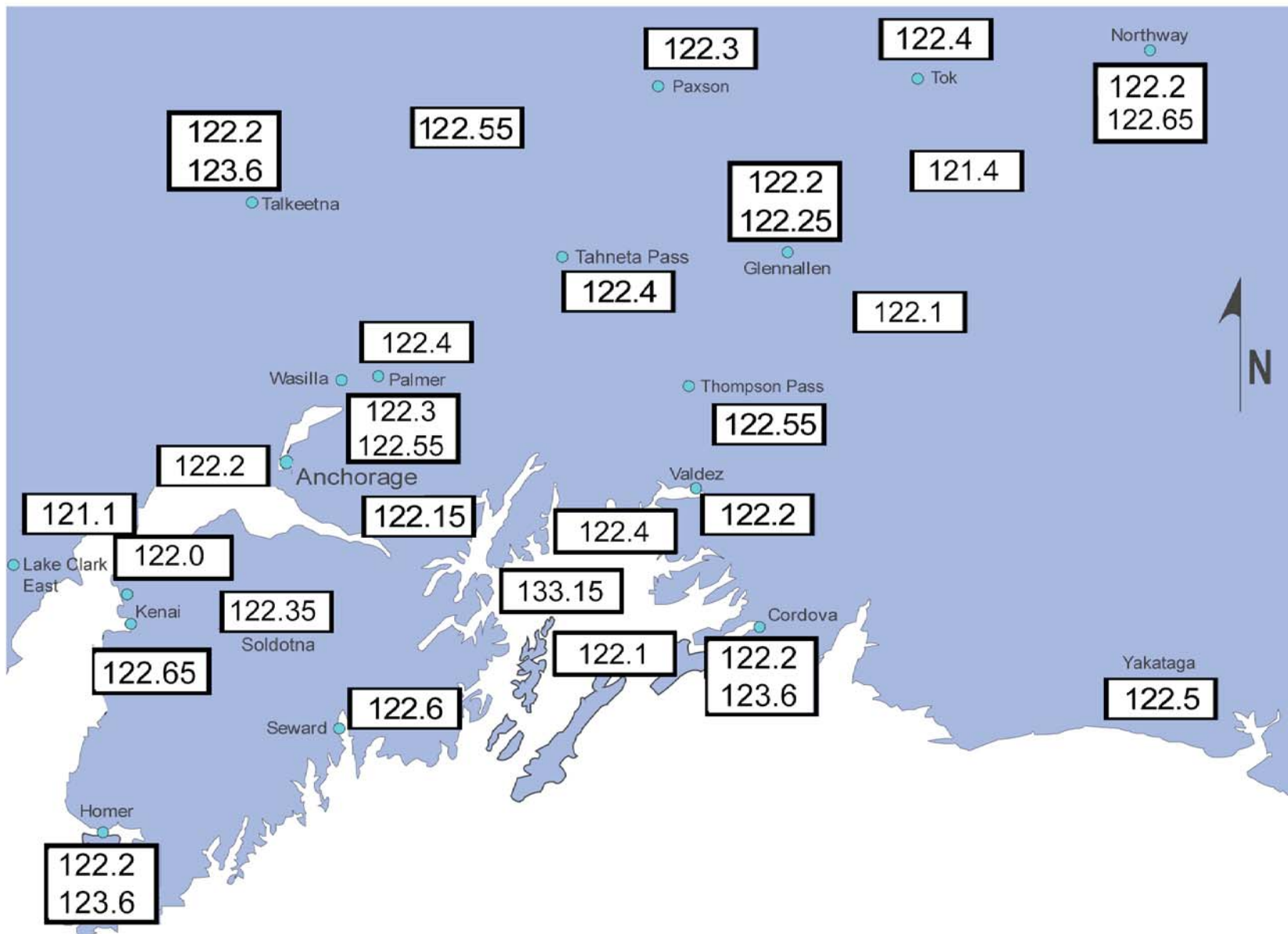


Note: This listing does not include every RCO frequency within the state and is intended for information purposes only.

1 Southeast RCO Areas

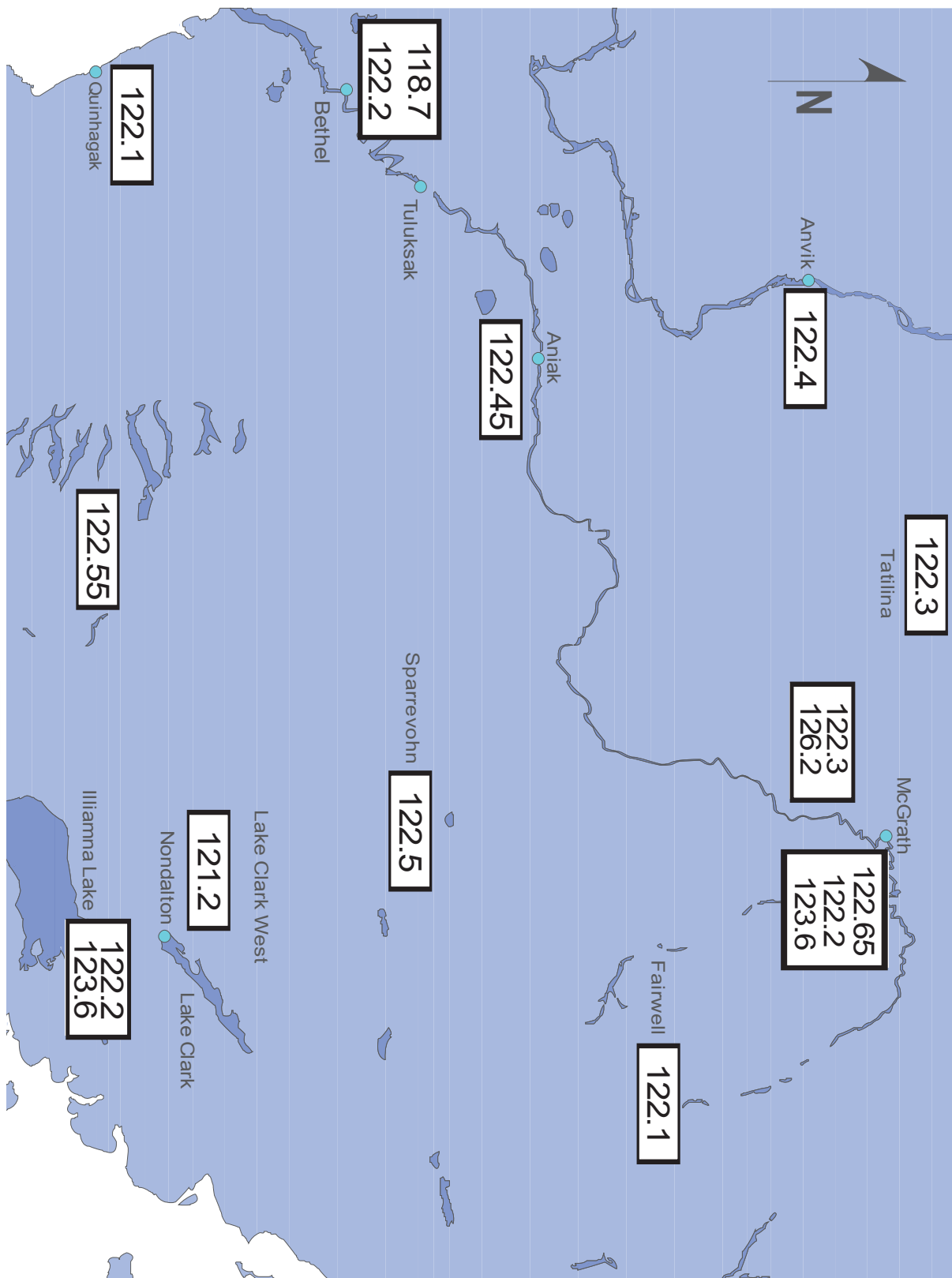


*Not for Navigational Purposes



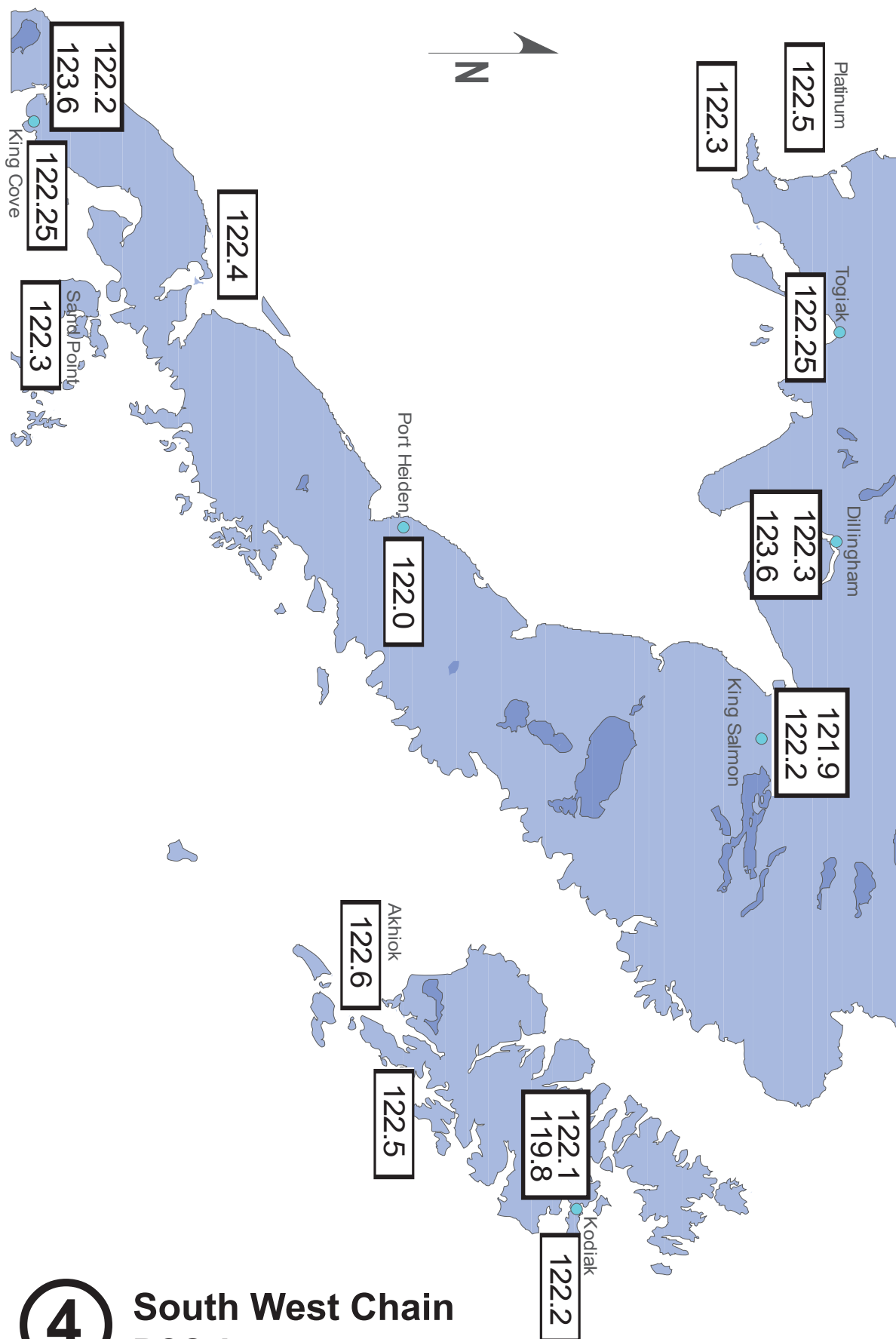
2 South Central RCO Areas

*Not for Navigational Purposes



3 South West Interior RCO Areas

*Not for Navigational Purposes

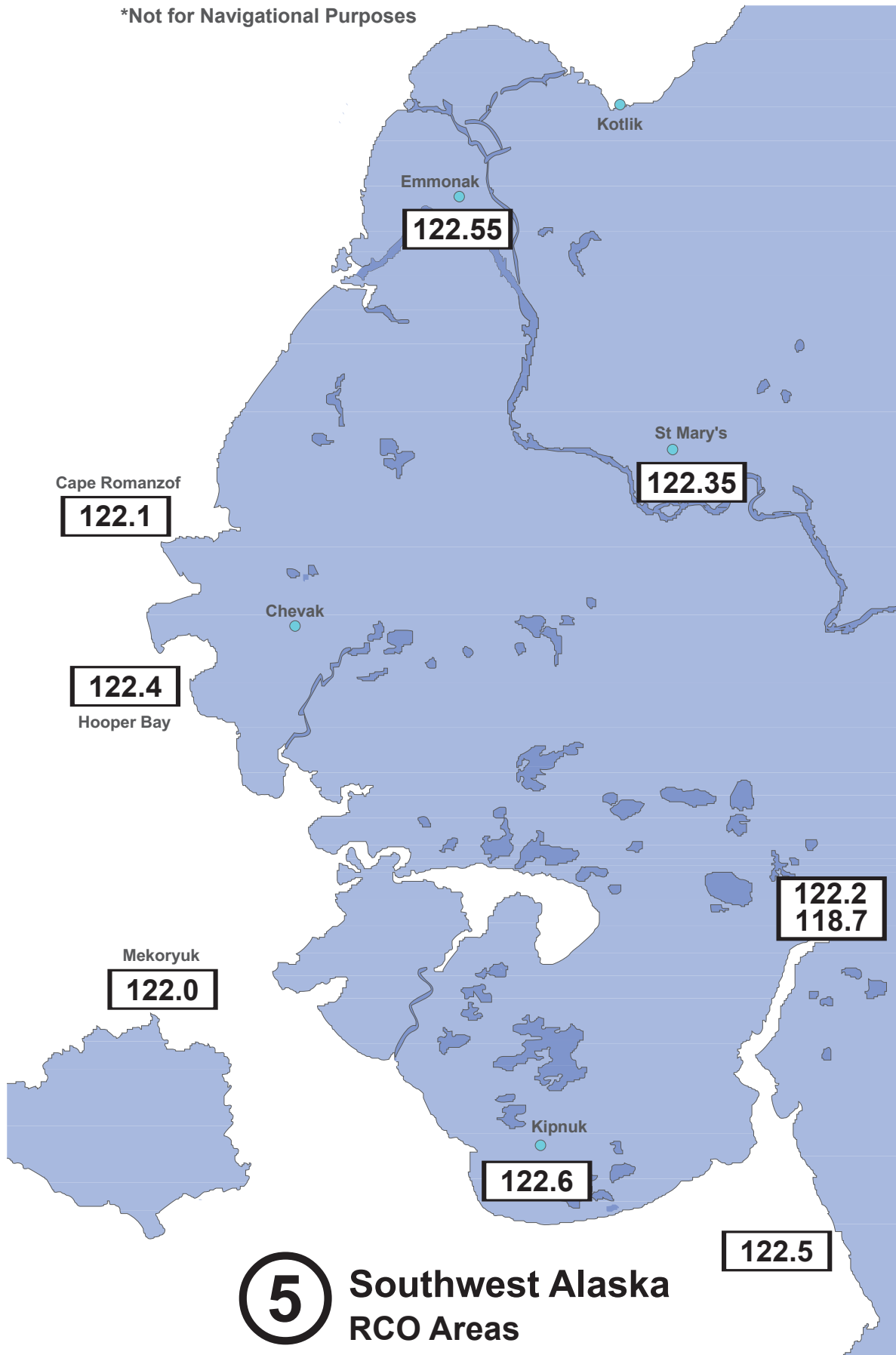


4

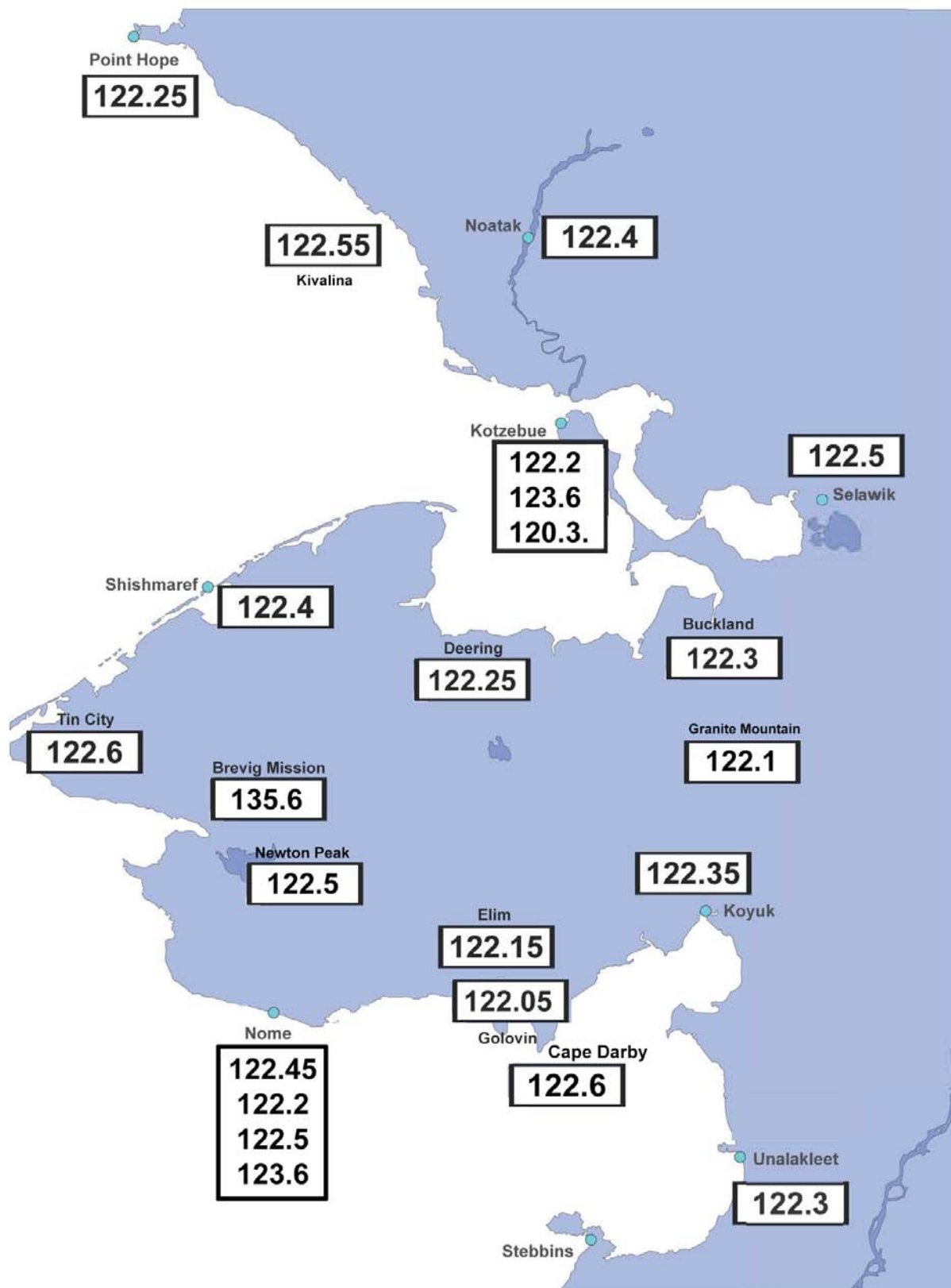
South West Chain RCO Areas

*Not for Navigational Purposes

*Not for Navigational Purposes

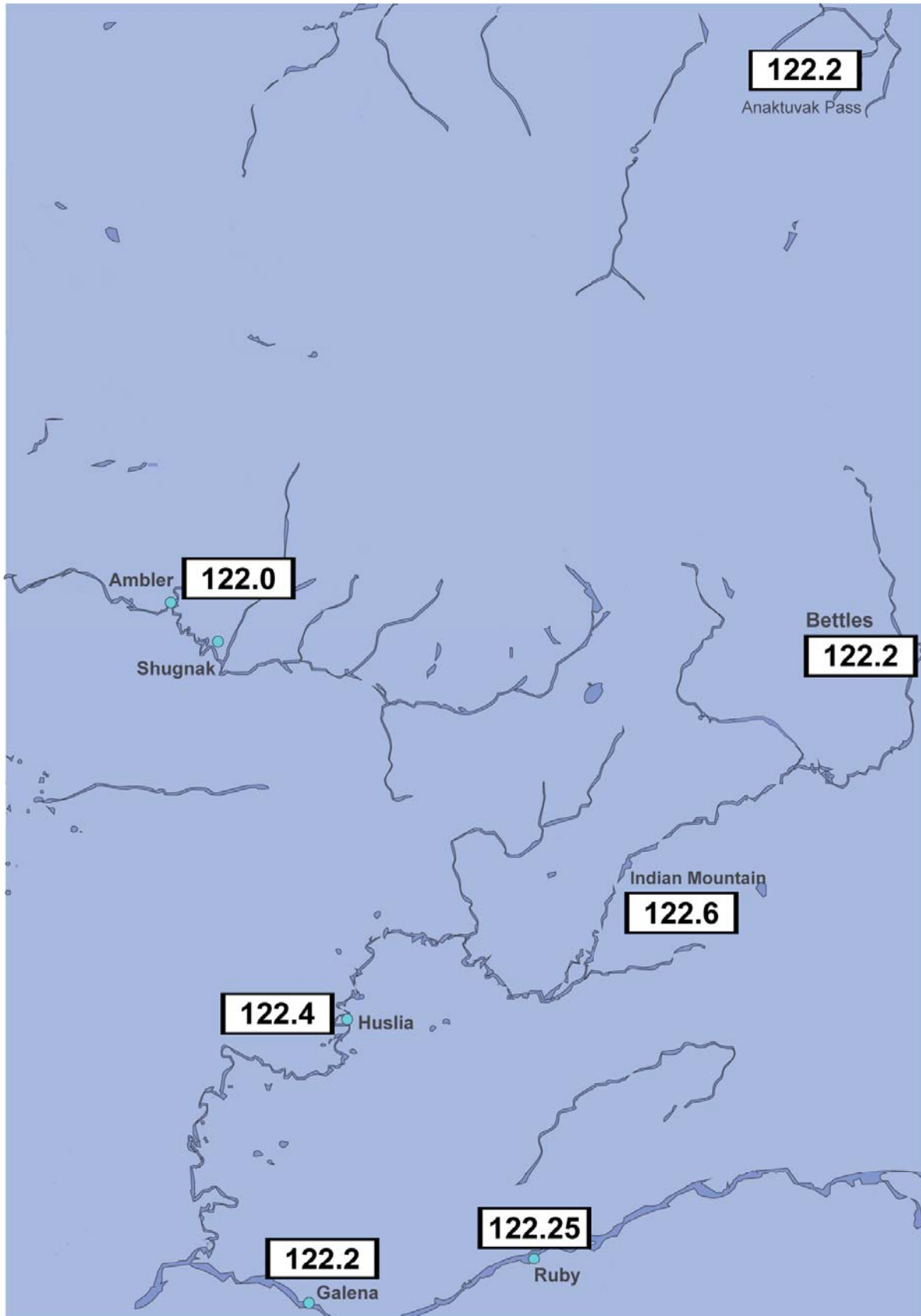


**5 Southwest Alaska
RCO Areas**



6 West Central Coast RCO Areas

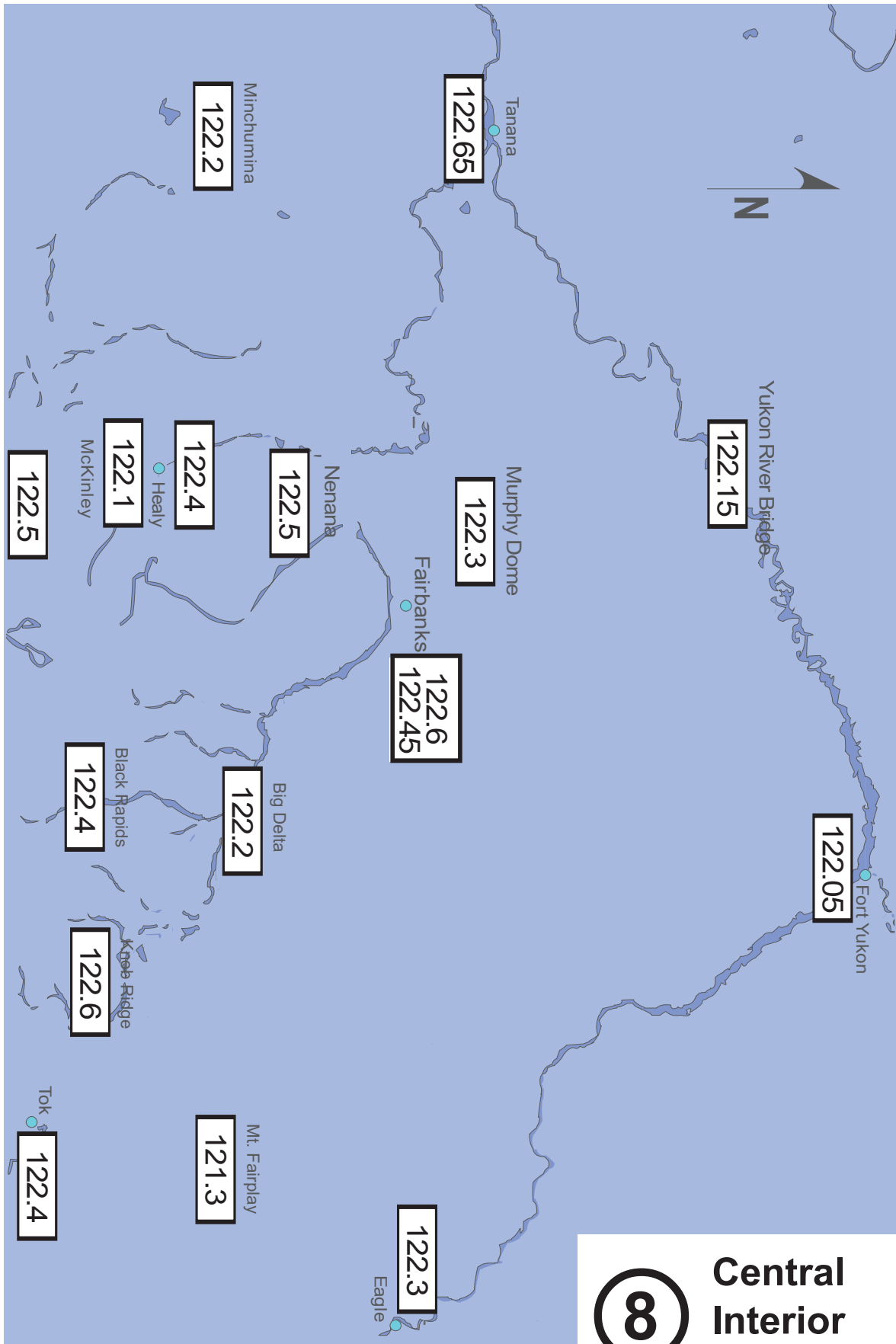
*Not for Navigational Purposes



* Not for Navigational Purposes



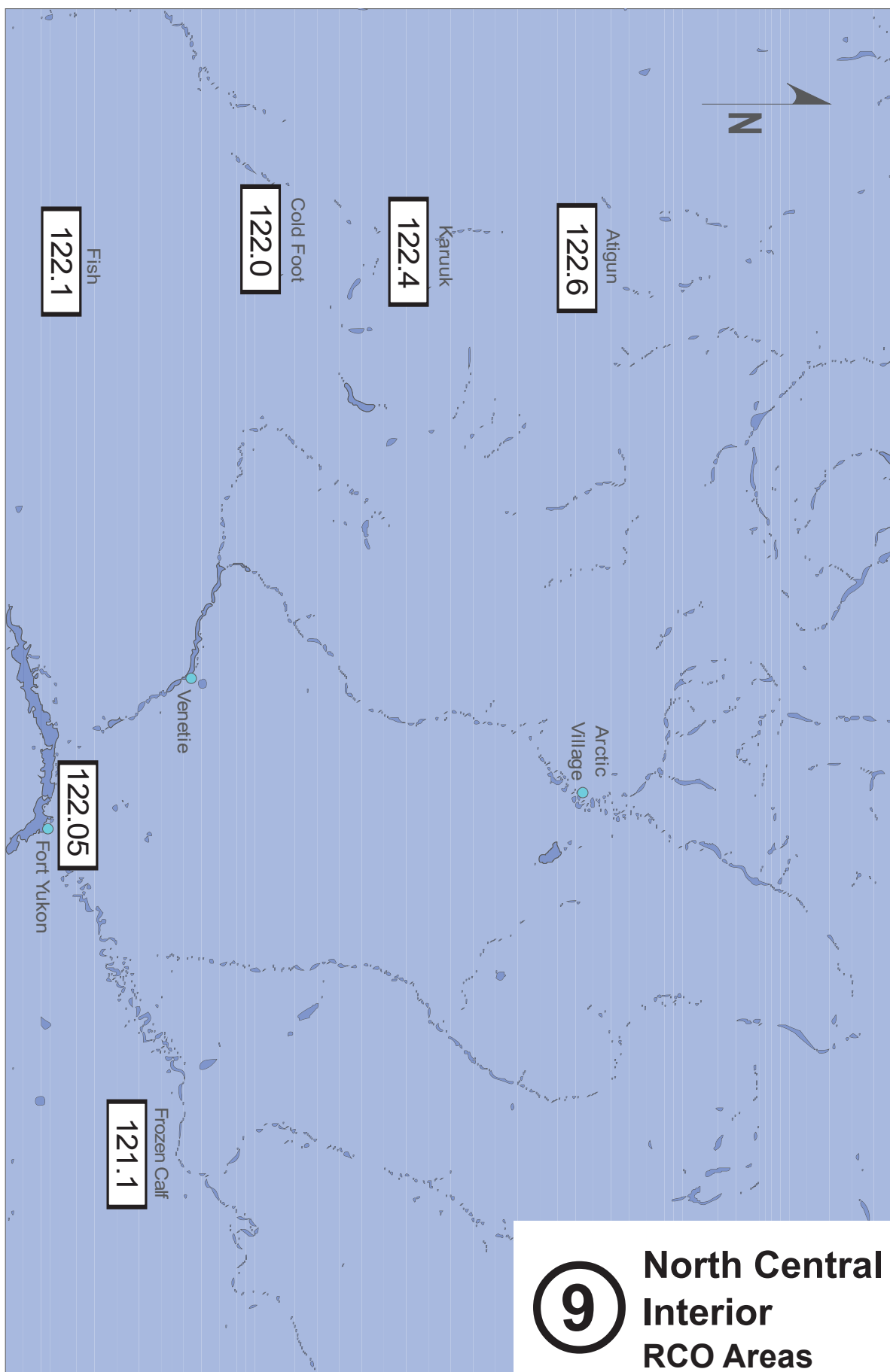
**Western Central Interior
RCO Areas**



8

Central
Interior
RCO Areas

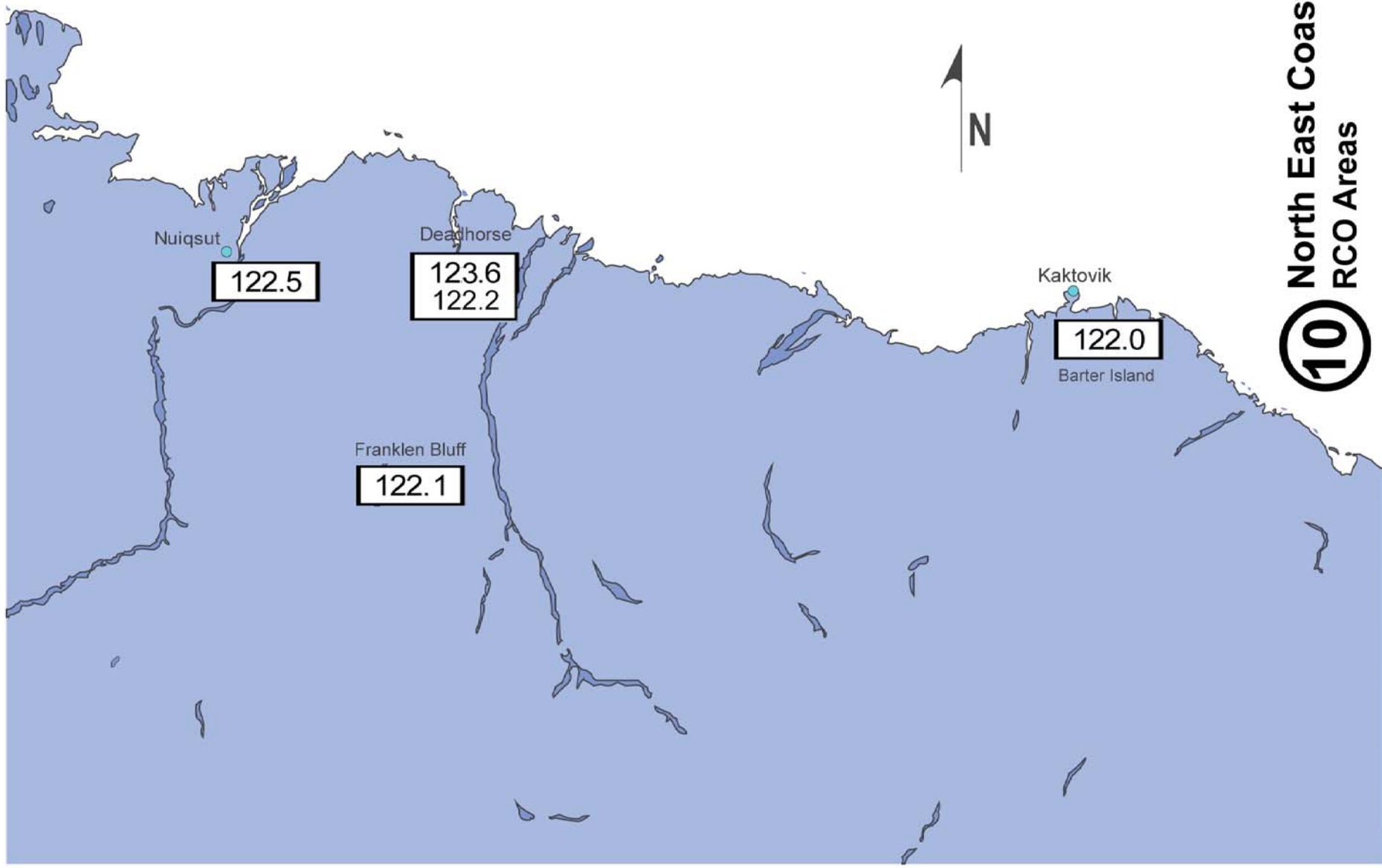
*Not for Navigational Purposes



9

North Central Interior RCO Areas

*Not for Navigational Purposes



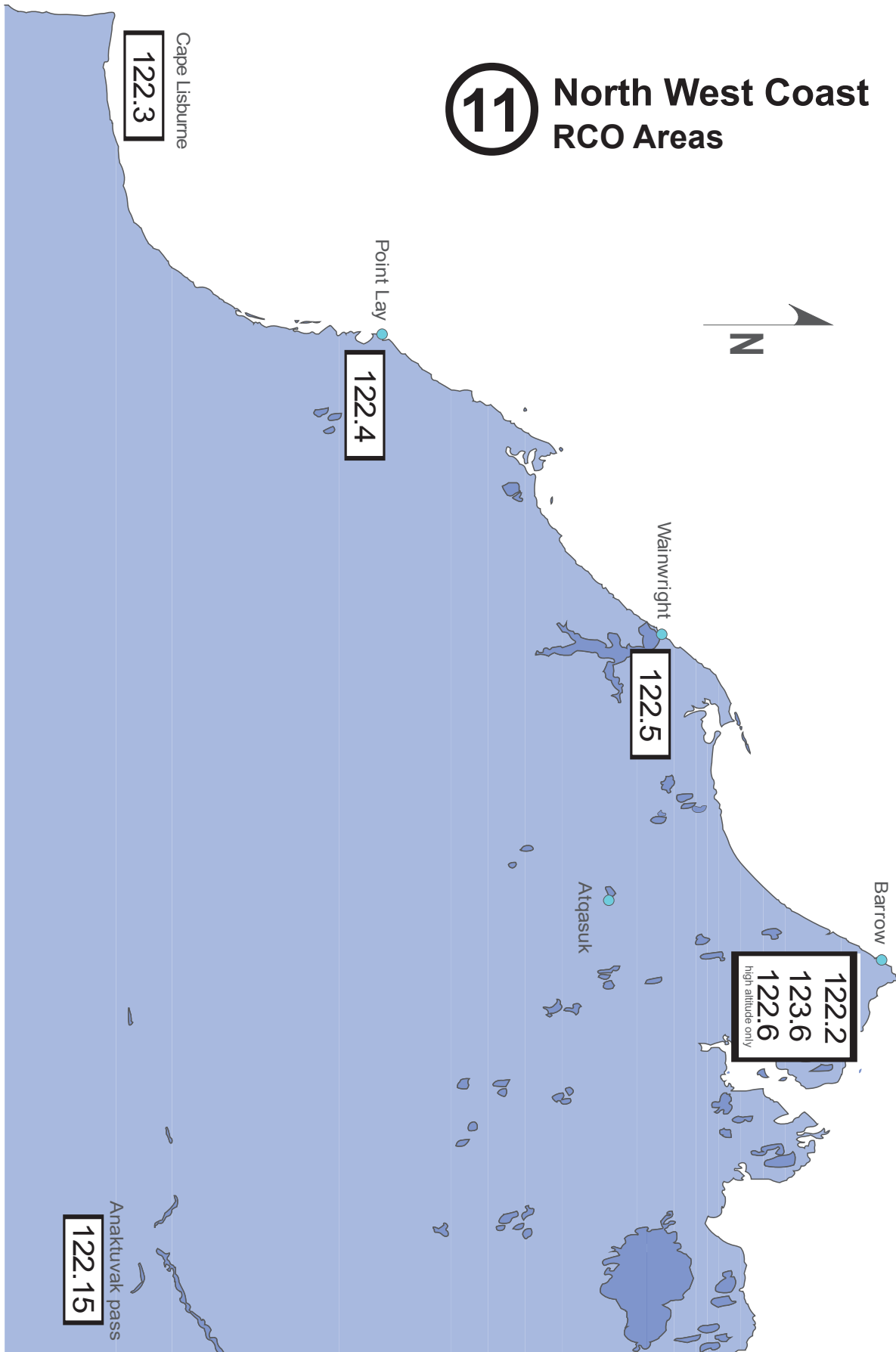
North East Coast RCO Areas

10

* Not for Navigational Purposes

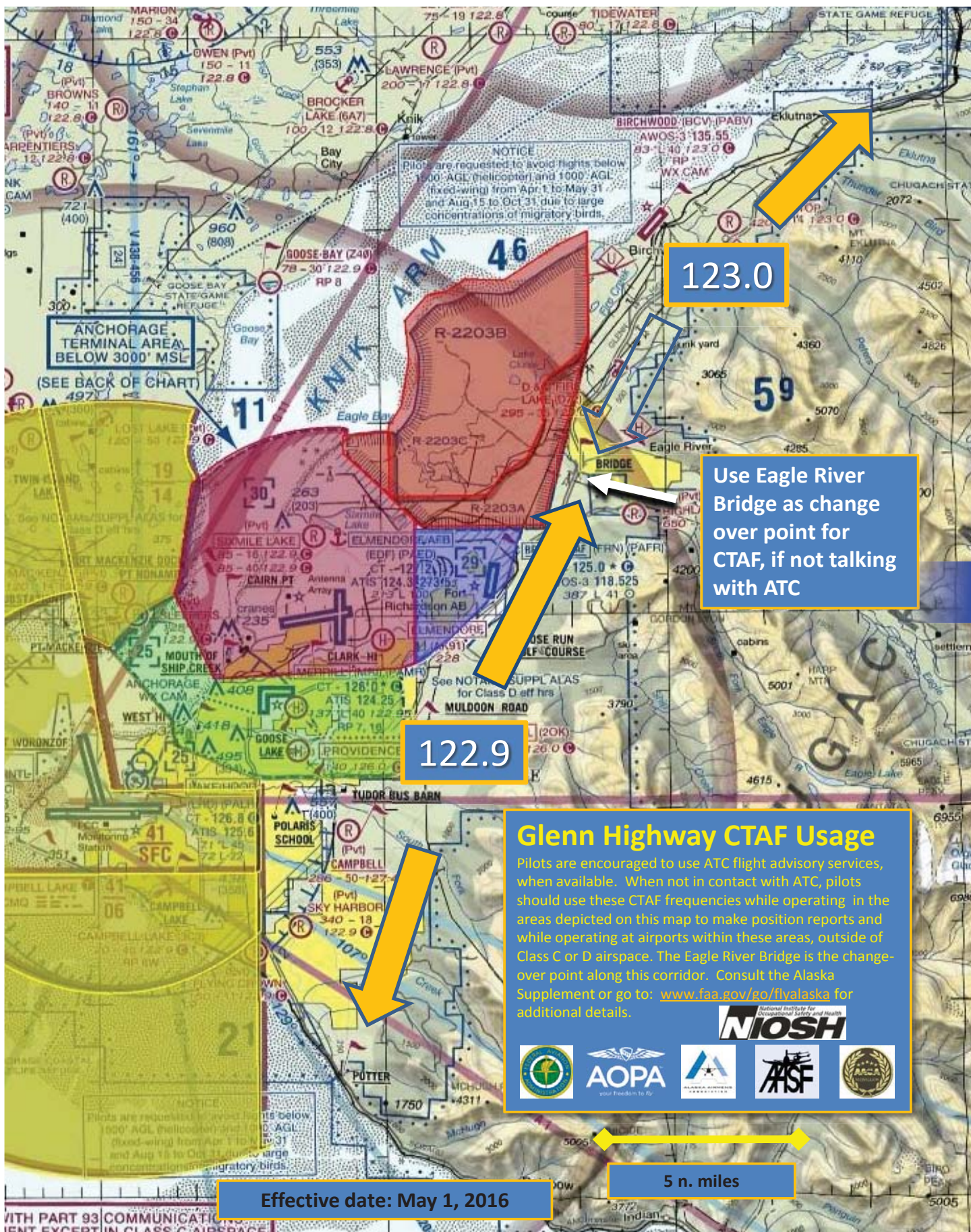
11

North West Coast RCO Areas

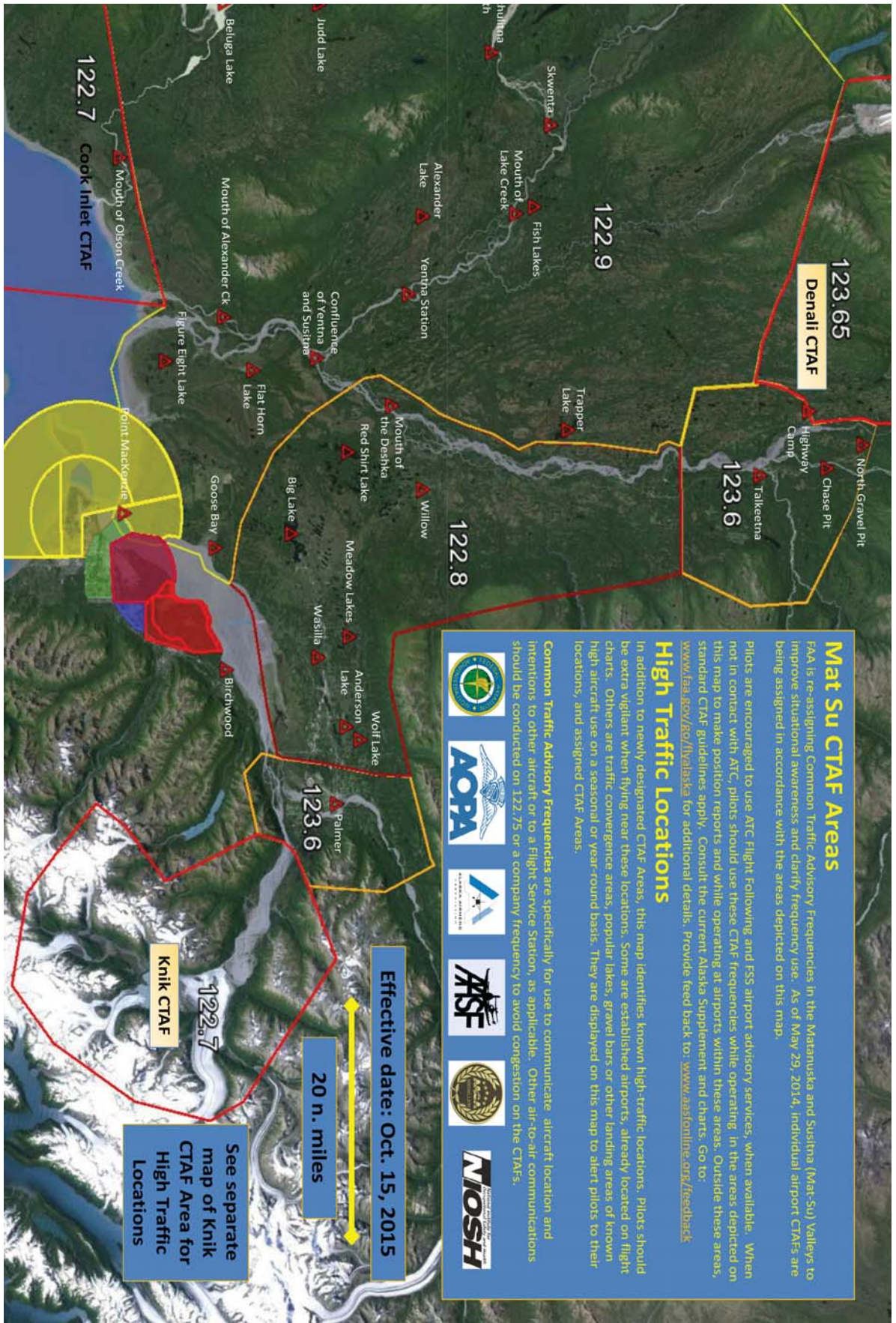


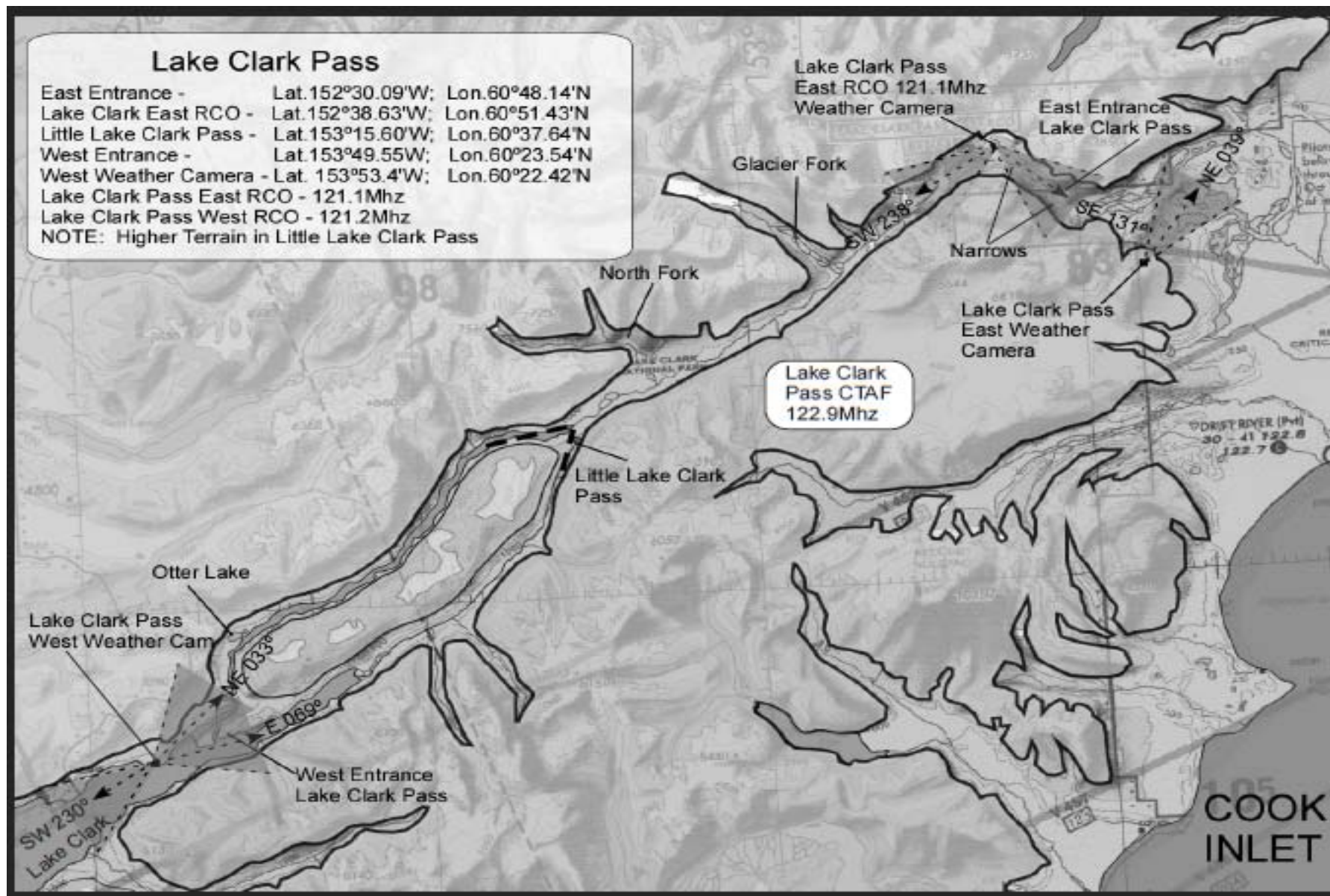
*Not for Navigational Purposes

Glenn Highway VFR Corridor

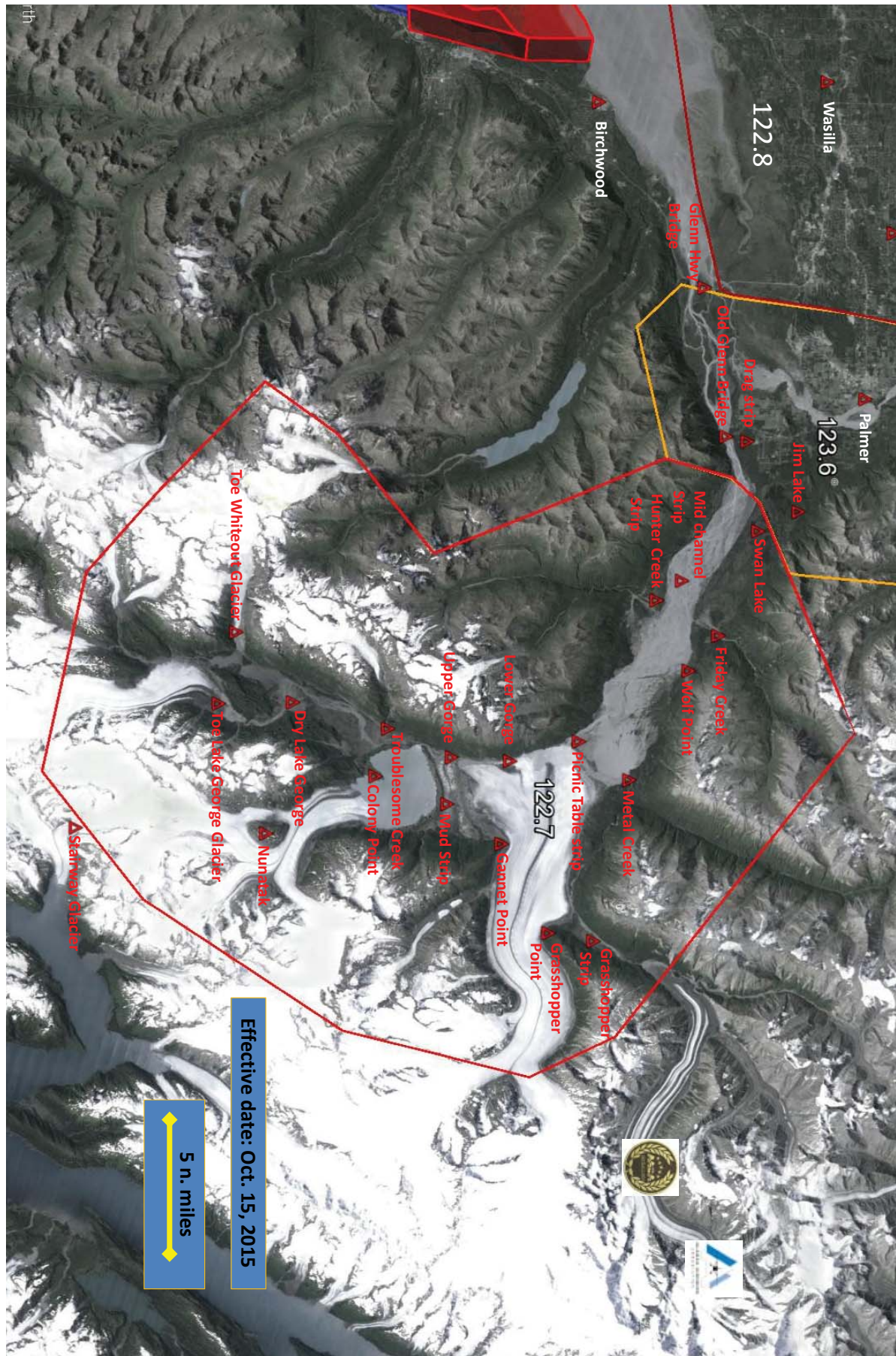


CTAF MatSu Valley

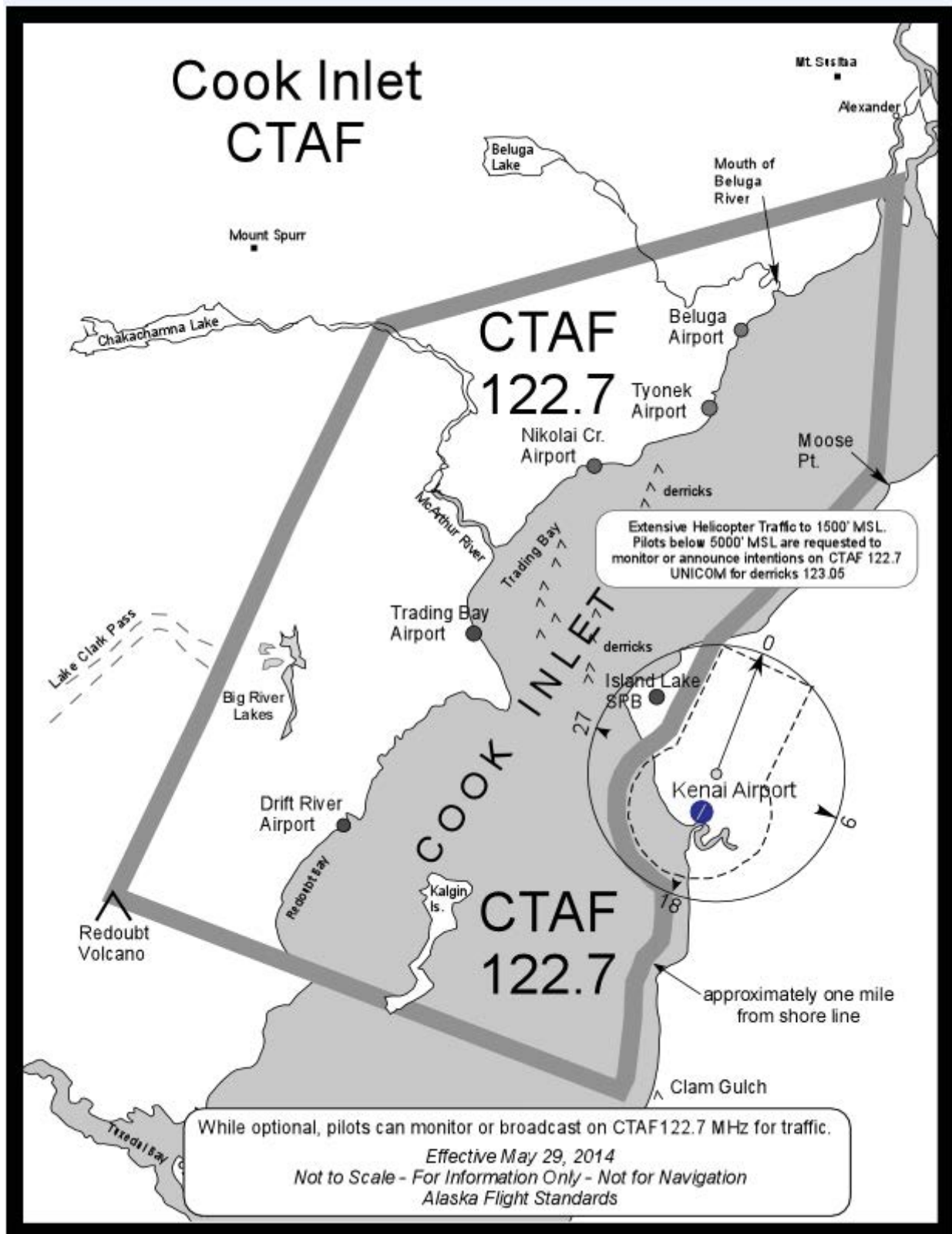




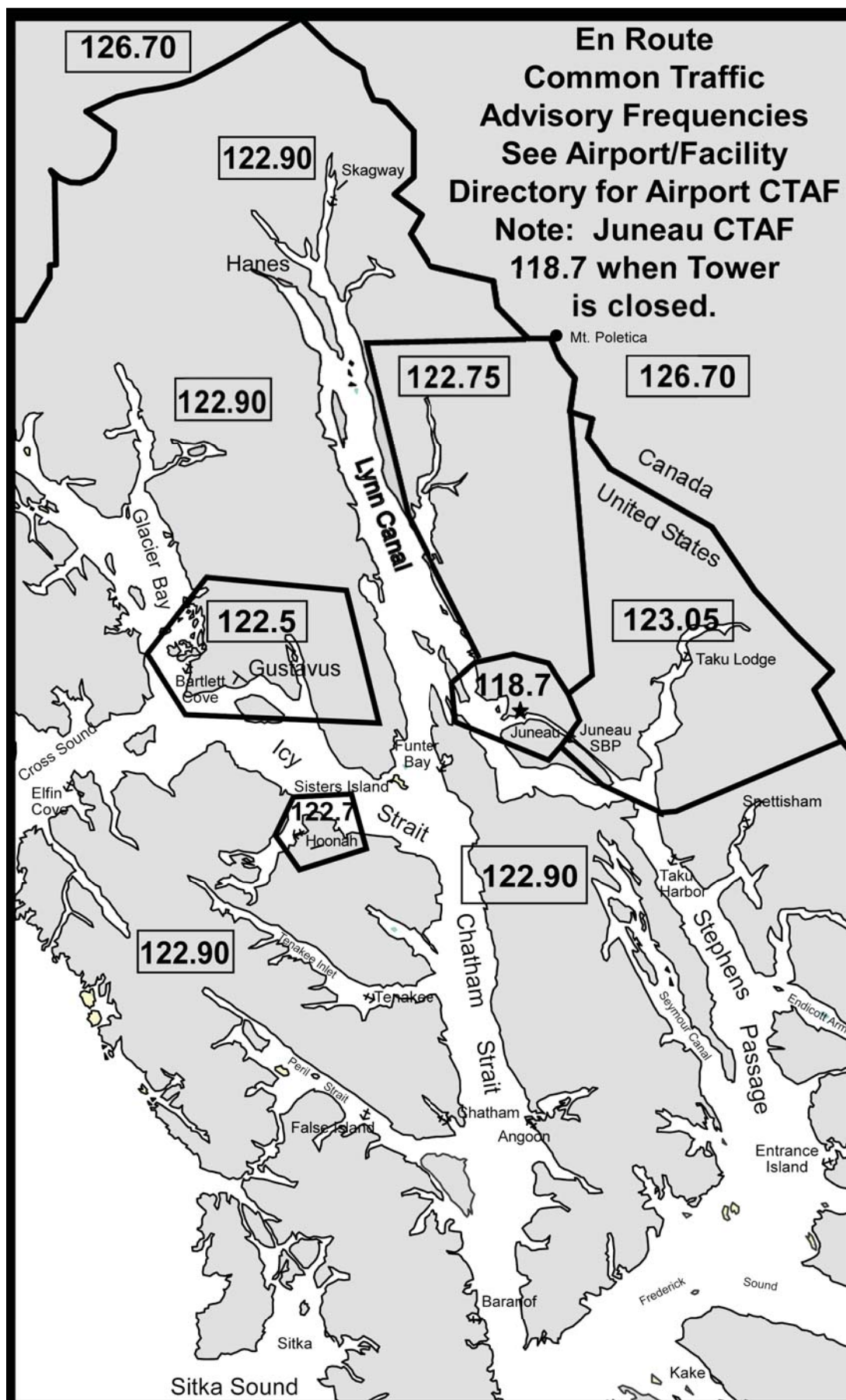
Knik Glacier, Lake George, Eklutna Area



CTAF Cook Inlet



CTAF Southeast Alaska



Denali National Park And Preserve

Version 2, 2009; this map supersedes Version 1, 1999

AVIATION INFORMATION



Alaska Region

DENALI STATE PARK

Denali State Park (DSP) borders the national park on its southeast corner between the Dutch Hills to the west and to the Susitna River on the east. The George Parks Highway (Highway 3) runs through the middle of the park. There are some state requirements for aviators with regards to operations within the state park.

Landings of fixed-wing aircraft in DSP are permitted west of the Parks Highway and on Blair and Ermine Lakes. Landings are not permitted on Byers Lake and on Kesugi and Curry Ridges, which are all east of the highway. Practice landings are not permitted.

Helicopter landings are restricted to five specific sites west of the highway.

For detailed information on these sites for planning purposes, please phone (907) 745-3975.

Accident Reporting:

The National Transportation Safety Board (NTSB) is the Federal Agency charged with investigating all civil and certain public accidents. If you are involved in an aviation accident or reportable incident, you may fulfill the immediate reporting criteria by calling the NTSB Field Office in Anchorage. This office is responsible for investigating all aviation accidents in Alaska. Their daytime phone number is: (907) 271-5001. After normal duty hours, please call (907) 271-5936 and ask to speak with the NTSB investigator on duty. Should questions arise as to what constitutes an accident or incident, or if you have any questions about the NTSB, please give them a call.

Further revisions, in addition to other aviation information pertaining to Denali National Park & Preserve, may be found at:

www.nps.gov/dena/planyourvisit/avmapguidelines.html

Denali Park Operators

Atkins Guide and Flying Service	768-2143
Barry Stanley	495-5899
Denali Air	683-2261
Denali Flying Service	317-9520
Fly Denali	683-2899
ERA Helicopters	550-8600
Hudson Air Service	733-2321
Kantishna Air Taxi	683-1223
K-2 Aviation	733-2291
Rust's Flying Service	243-1595
Talkeetna Aero Services	733-2899
Talkeetna Air Taxi	733-2218

For further information, please contact:

Alaskan Region FAA Safety Team (FAAST) (866)-357-4704

www.faa.gov/go/flyalaska

or

National Park Service P.O. Box 9

Denali National Park, AK, 99755 (907) 683-2294



DENALI NATIONAL PARK AVIATION INFORMATION

General Guidelines

The map shows Denali National Park and Preserve and Denali State Park. It is not intended for navigation, but delineates commonly used reporting points for the numerous aircraft flying in the area. The red • reporting points indicate areas of heavier traffic. The black reporting points are commonly used VFR reporting points. The mountain is divided into three geographic areas; north, south and above 15,000 feet. The dividing line begins at the terminus of the Eldridge Glacier, along the east side of the main branch of the glacier. At Mt. Eldridge the line will circle northeast to Mt. Mather. From there the line will proceed westward, connecting Mt. Deception and Mt. Silverthrone and along the spine up to the summit of Mt. McKinley and westward to the summits of Mt. Foraker and Mt. Russell. There are two “Mountain Traffic Advisory Frequencies” (MTAF) used on the mountain. The south side traffic should monitor and report on 123.65 and the north side on 122.725. When making a position report, give your location, altitude, destination, and or direction of flight. For example: “Mountain Traffic, Cessna 1234, Ruth Icefall, 8000 feet, up glacier for the Amphitheater.” Aircraft above 15,000 ft msl should monitor and report on 122.775.

ALL AIRCRAFT SHOULD FLY WITH THEIR LIGHTS ON.

Climb early, stay high, especially over areas where landings and departures take place. Be sure your aircraft has the performance capability to operate in a high altitude mountainous environment. Stay to the right in the valleys and canyons. If the weather begins to deteriorate, leave the mountain area immediately.

REMEMBER, MT. MCKINLEY MAKES ITS OWN WEATHER.

Tour aircraft may have their radios turned down to talk to their passengers and therefore miss a report. ALWAYS assume that another aircraft may be in your area and might have missed your call.

BE ALERT!

Be sure you report your correct altitude in order to maximize separation, and minimize the potential for a mid-air. Obtain a current altimeter setting from the nearest facility. Be sure to brush up on your mountain flying techniques before flying Denali. There are many excellent books and pamphlets available. Consider reviewing your skills with a flight instructor. The National Park Service at Denali National Park and Preserve performs numerous rescues in the Alaska Range and on Mt. McKinley. Rescues are often performed using high altitude rotary, fixed wing and military aircraft. Please stay well away from rescue sites. Listen and obey airspace closures around rescue operations.

SOUTHSIDE AIR ROUTES

Southeast Fork Kahiltna (ka-hilt-na) Glacier: This can be a very high volume route during May and June. Aircraft are leaving Talkeetna and flying the most direct route to “base camp” on the Kahiltna Glacier. Watch for “One Shot Gap”: minimum altitudes 8500 ft MSL, listen, stay right, watch diligently for opposite direction traffic, listen for reports of downdrafts and turbulence. Don’t get caught with no way out.

Southeast Fork Kahiltna (the long way): Local pilots will be using this route when the direct route is weathered in. Listen for PIREPs on the CTAF frequency and follow reporting point procedures. If you are new to the area, and this route is being used, it is recommended you leave the mountain area as the weather can change very quickly.

Around the Mountain/Kantishna (kan-tish-na): This route requires good VFR weather and an aircraft that can climb to 12,000 ft MSL. Ask for PIREPs, climb early and stay high until you have crossed back to your original side. You should not cross north to south or south to north unless you can verify good weather on the other side. Position reports should include “around the mountain clockwise”. Change frequency to 122.9 when approaching Kantishna.



Ruth Glacier/Mountain House: This is the most popular scenic flight route. Ski equipped aircraft land and takeoff from the ski strip at the “Mountain House” in the Don Sheldon Amphitheater. Stay to the right in the “Great Gorge.” Listen for aircraft entering from “Moose’s Tooth” (east of the gorge), and “747 Pass” (west of the gorge). Mountain House over flights should remain at or above 7000 feet MSL to avoid conflict with landing traffic. The traffic flow is west to east through “747 Pass”.

Pika (pie-ka) Glacier: This is the heart of “Little Switzerland” bordered by the Kahiltna Glacier to the west, the Kanikula (Kan-i-ku-la) Glacier to the east and the Dutch Hills to the south. This area is very popular with rock climbing enthusiasts. Aircraft may enter and depart via the Kahiltna Glacier or Dutch Hills.

DON’T FORGET: LIGHTS ON, STAY 2000’ AGL ABOVE LANDING AREAS, ANNOUNCE YOUR INTENTIONS / POSITION AND MONITOR THE MTAf.

NORTH SIDE PARK AREA ROUTES

Crossing the Alaska Range between Healy and Cantwell along the parks highway, pilots should maintain vigilance. The 20 mile long mountain pass is defined by Healy canyon in the north and Windy Pass in the south. Traffic should, if able, fly the right side of the pass; announcing location, altitude and direction. Remember, not all aircraft have radios, see and avoid! Air traffic along this corridor can be extremely heavy. Also realize that flying this route will put you within close proximity to traffic patterns. At the peak flying season in July there have been as many as 200 crossings a day within a several mile radius of the McKinley National Park airstrip (PAIN or INR).

There are at least five commercial flight businesses operating out of Healy (HRR), McKinley National Park (PAIN or INR), riverside heliport (across from PAIN), Denali private (AK06), and Cantwell (PATW) during the summer months. In general, Healy traffic will depart Healy River Airport; fly south through Healy canyon, and follow the spine and trench of the Alaska Range to Mt. McKinley, returning to Healy along the same route.

Rotorcraft flying off the riverside heliport can be expected to depart southeast bound at 300 AGL or below to avoid traffic at McKinley National Park airstrip. Approximately 5 miles south, the helicopters turn back SW and climb. If doing a park tour, the helicopters will generally head SW along the Alaska Range, reversing the route somewhere between Scott's Peak and Mt. McKinley. Typically, if departing to the east, the rotorcraft will fly direct from the heliport.

Fixed wing and rotorcraft operate out of McKinley National Park airstrip (PAIN or INR), year round. When departing north, commercial aircraft will typically depart and climb through Healy Canyon, then turn west over Otto Lake into Dry Creek. Southbound departures will either depart the area in a downwind departure, or continue SW to the spine and toward Mt. McKinley. From there the traffic often goes to Kantishna direct.

Many Agency aircraft operate out of the McKinley National Park strip as well. These aircraft usually fly direct to their mission objectives and typically depart mid field after climbing above the airstrip. Often if agency aircraft are departing to the North they will also climb through Healy canyon and depart via Dry Creek. Denali Private (AK06) is centered between Healy and Windy passes, east of the Nenana River, and in close proximity to the Triple Lakes reporting point. Special attention should be given to this area as aircraft are in either the landing or departing phases of flight. These flights are typically comprised of multiple twin-engine aircraft. Typical flight routes track southwest along the north or south side of the spine along the Alaska Range. When landing, these flights typically descend rapidly from 6000 ft to 3000 ft AGL down the Riley and Denali Creek drainages, continuing across the Triple Lakes area.

KANTISHNA AREA

Kantishna Airstrip

Aircraft should monitor and use 122.9 when within 5 statute miles of Kantishna Airport (5Z5). The airstrip is typically described as “East” (10 uphill) and “West” (28 downhill) respectively. Typically, traffic will takeoff to the west, either departing the area in a left hand downwind to the east or continuing for a NE departure north of the Kantishna hills. Arriving traffic from north or south of the Kantishna Hills typically lands to the east (10 uphill).

Stampede Airstrip

Aircraft should monitor and use 122.9 when within 5 statute miles of Stampede Airport (Z90). Please refer to the Alaska Supplement for further information.

Denali Park Airports

Cantwell (PATW)

Airport Elevation	2190ft
Runway Length	2080ft x 30ft Dirt and gravel
Runways	04-22
RWY 04, slope 2% uphill north, dogleg approach due to mountainous terrain	
Left Hand Traffic	RWY 22
Communications	CTAF 122.9/RCO 122.5 (Kenai AFSS)

Healy River (HRR)

Airport Elevation	1275ft
Runway Length	2910ft x 60ft Asphalt
15-33 Condition not monitored. Recommend visual inspection prior to use	
Communications	CTAF 122.9, RCO 122.4 (Fairbanks AFSS)

Kantishna (5Z5)

Airport Elevation	1578ft
Runway Length	1887ft x 45ft Dirt and gravel.
Right-Hand Traffic	RWY 28
Left-Hand Traffic	RWY10, slopes downhill 1.3% towards the west, dogleg at NW end
Communications	CTAF 122.9
Remarks	Unattended, brush and trees on both sides rising abruptly

Denali Park Airports continued

McKinley National Park (PAIN, INR)

Airport Elevation	1720ft
Runway Length	3000ft Dirt and gravel.
Right-Hand Traffic	34
Left-Hand Traffic	16
Communications	122.9, RCO 122.1 (Fairbanks AFSS), AWOS 135.75
Remarks	Unattended, approaches wind shear activity, pedestrian traffic on RWY

Denali PVT (AK06)

Airport Elevation	2050ft
Runway Length	4000ft x 150ft Gravel
Runways	12-30
Communications	CTAF 122.9
Remarks	Unattended Private strip

Summit (PAST)

Airport Elevation	2409ft
Runway Length	3814ft Dirt and gravel
Runways	03-21
Communications	CTAF 122.9
Remarks	Unattended, Radio communication unreliable within 15miles, Soft-wet

Talkeetna (PATK)

Airport Elevation	365ft
Runway Length	3500ft Asphalt
Right-hand Traffic	18
Left-hand Traffic	36
Runways	18-36
CTAF 123.6, RC0122.2, unicom123.0, ANC CTR, 125.55, TWEB 116.2, ASOS 135.20	
Remarks	RWY not monitored. Most arrivals from North and Northwest will report “highway camp” or “Chase gravel pits” between 1500 ft and traffic avoid these Corridors

**Please check current airport information in the Alaska Supplement and by
NOTAM/PIREP**

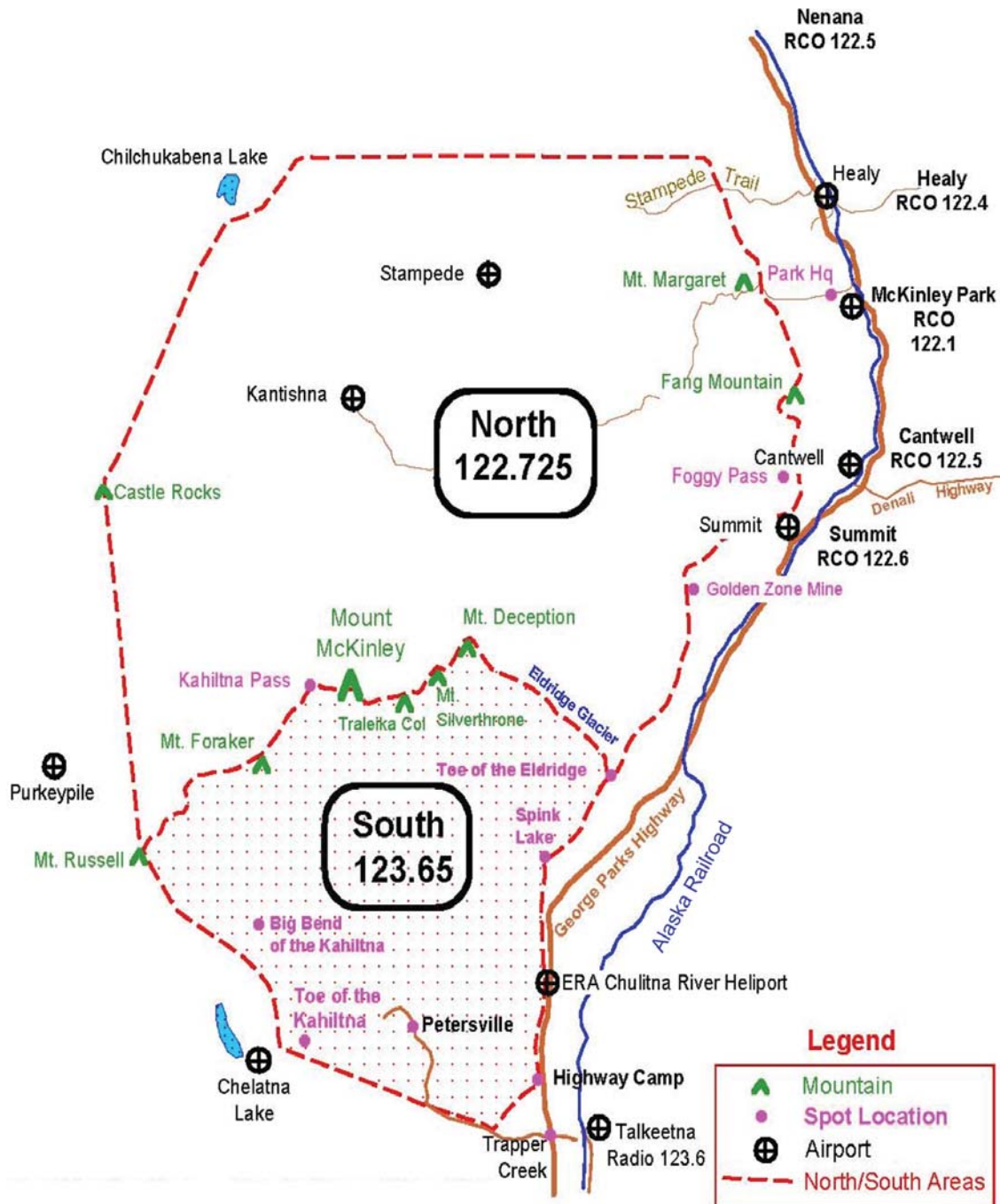
Denali Flight Advisory Common Traffic Advisory Frequencies

North Denali 122.725

South Denali 123.65

Airports: 122.9

Aircraft flying above 15,000 msl: 122.775 MTAf



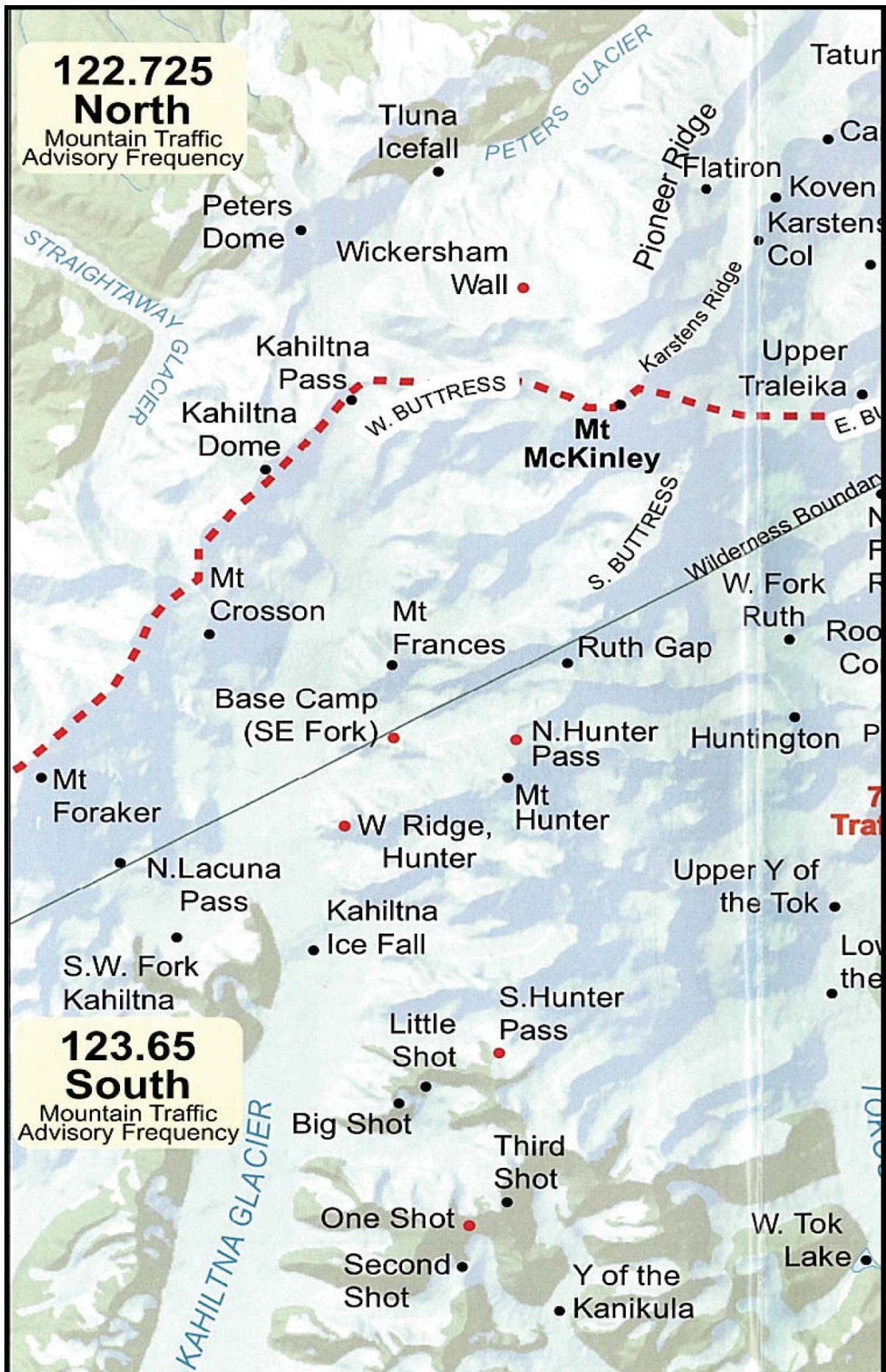
Not for navigational purposes

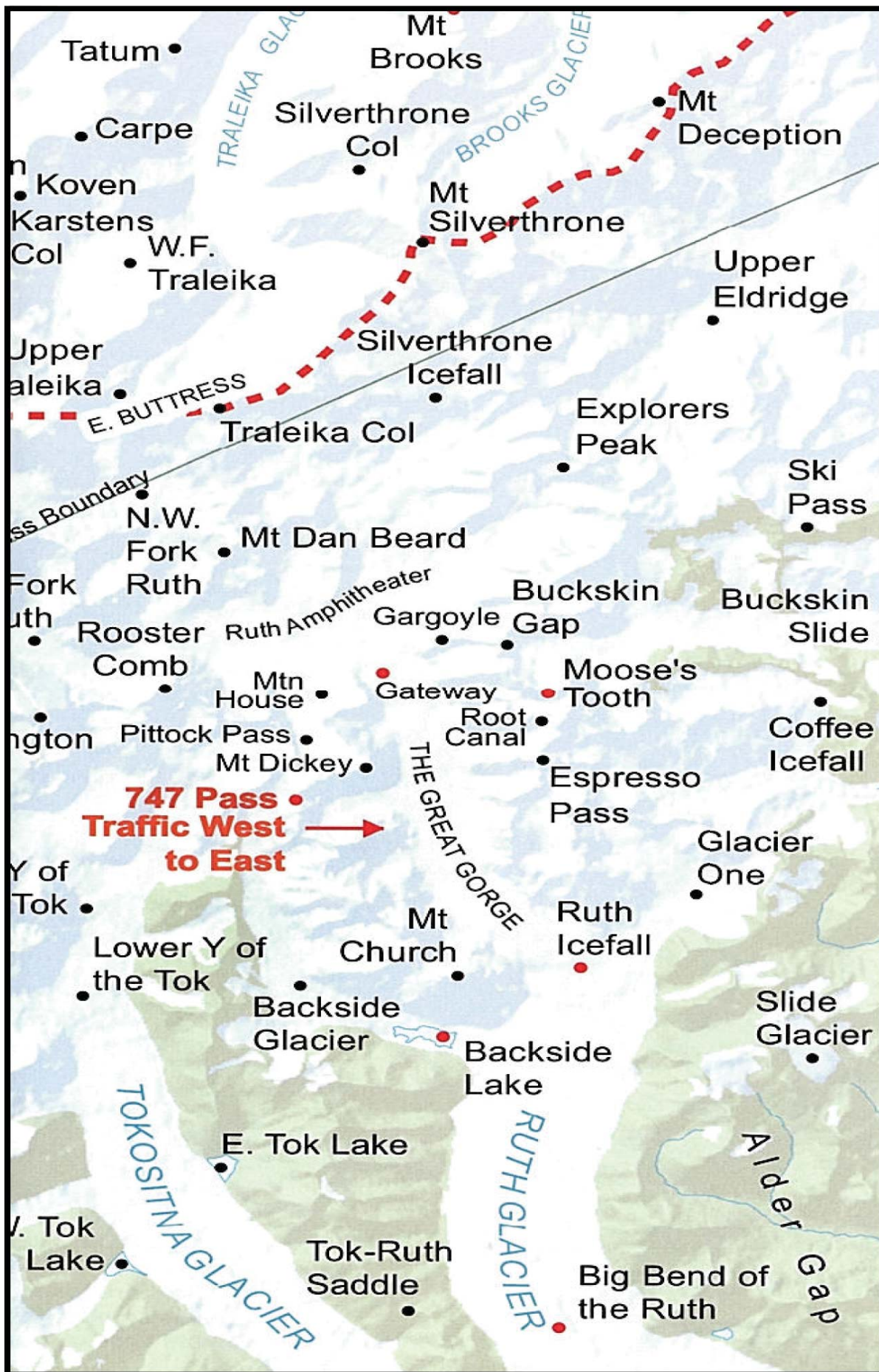
HEAVILY USED REPORTING POINTS (RED DOTS)

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Pilots - Consult Alaska Supplement for current updates

LOCATION	LONGITUDE	LATITUDE
747 Pass	W150° 45.786'	N62° 56.203'
Anderson Pass	W150° 14.412'	N63° 17.173'
Backside Lake	W150° 41.380'	N62° 51.544'
Base Camp (SE Fork)	W151° 9.820'	N62° 57.846'
Bend of the Muldrow	W150° 21.259'	N63° 17.564'
Bend of the Peters	W150° 57.980'	N63° 12.013'
Big Bend of the Kahiltna	W151° 23.587'	N62° 40.301'
Big Bend of the Ruth	W150° 38.148'	N62° 45.867'
Cathedral Mtn.	W149° 35.759'	N63° 34.362'
Double Mtn.	W149° 28.460'	N63° 36.421'
Easy Pass	W149° 43.882'	N63° 22.163'
Foggy Pass	W149° 13.351'	N63° 24.880'
Gateway	W150° 42.652'	N62° 58.605'
Gunsight Pass	W150° 51.501'	N63° 12.020'
Lower Toklat	W150° 6.895'	N63° 38.313'
Moose's Tooth	W150° 37.208'	N62° 58.085'
Mt Brooks	W150° 38.910'	N63° 11.303'
Mt Margaret	W149° 17.545'	N63° 45.318'
Myrtle Pass	W150° 35.247'	N63° 33.002'
N. Hunter Pass	W151° 5.096'	N62° 57.721'
One Shot	W151° 7.77 7'	N62° 48.373'
Peters Gap	W150° 47.553'	N62° 31.412'
Polychrome Glaciers	W149° 50.989'	N63° 26.451'
Polychrome Rest Area	W149° 51.659'	N63° 32.317'
Refuge Valley	W149° 22.041'	N63° 29.273'
Round Top	W149° 41.419'	N63° 31.643'
Ruth Ice Fall	W150° 36.686'	N62° 52.770'
S. Hunter Pass	W151° 6.318'	N62° 51.686'
Safari Lake	W150° 34.187'	N62° 27.653'
Scott Peak	W150° 8.296'	N63° 21.154'
Swan Lake	W150° 24.192'	N62° 31.622'
Toe of the Kahiltna	W151° 11.970'	N62° 28.885'
Toe of the Kanikula	W150° 55.300'	N62° 42.253'
Toe of the Muldrow	W150° 32.638'	N63° 23.988'
Toe of the Peters	W151° 0.321'	N63° 14.909'
Toe of the Ruth	W150° 25.137'	N62° 40.136'
Toe of the Tokositna Glacier	W150° 47.445'	N62° 40.340'
Triple Crown	W151° 7.947'	N62° 45.233'
Upper Riley	W149° 11.789'	N63° 31.688'
W. Ridge, Hunter	W151° 11.856'	N62° 56.180'
Wickersham Wall	W151° 3.955'	N63° 6.467'





TECHNIQUES FOR OFF AIRPORT OPERATIONS

Note: This document suggests techniques and procedures to improve the safety of off-airport operations. It assumes that pilots have received training on those techniques and procedures and is not meant to replace instruction from a qualified and experienced flight instructor.

Go lightly: when operating off-airport. Operating at gross weight reduces aircraft performance, increases the probability of aircraft damage and may, in extreme cases, lead to structural failure. More trips with lighter loads are safer than fewer trips loaded to the maximum.

General Considerations: Off-airport operations can be extremely rewarding; transporting people and gear to locations that would be difficult or impossible to reach in any other way. Operating off-airport requires high performance from pilot and aircraft and acquiring the knowledge and experience to conduct these operations safely takes time. Learning and practicing off-airport techniques under the supervision of an experienced flight instructor will not only make you safer, but also save you time and expense. Once you've acquired off airport skills you must use them continuously or you'll lose them. Regular practice is essential to staying at the top of your game.

Go lightly when operating off-airport: Operating at grossweight reduces aircraft performance, increases the probability of aircraft damage and may, in extreme cases, lead to structural failure. More trips with lighter loads are safer than fewer trips loaded to the maximum.

When evaluating a new landing site, or practicing before conducting seasonal operations, fly without passengers or cargo. Stow your survival gear as far aft as possible to avoid a forward center of gravity, while respecting the weight and balance limitations for your aircraft. Always file a flight plan detailing the specific locations you intend to explore. Make at least 3 recon passes at different levels before attempting a landing and don't land unless you're sure you have enough room to take off.

High Level: Circle the area from different directions to determine the best possible landing site in the vicinity. Check the wind direction and speed using pools of water, drift of the plane, branches, grass, dust, etc. Observe the landing approach and departure zone for obstructions such as trees or high terrain.

Intermediate Level: Make a pass in both directions along either side of the runway to check for obstructions and runway length. Check for rock size. Note the location of the touchdown area and roll-out area. Associate landmarks with your landing area, to have a good sight picture to be used on final approach. Early morning or late afternoon sun casts shadows that yield the best conditions for determining rock size and, landing conditions. Similar to ski flying with an overcast sky condition, landing areas are very difficult to evaluate without shadows.

Low Level: Make a pass to check for cuts in gravel, rocks, dips, bumps, etc., that can't be seen from directly above. It is important to be at an angle to the runway, not above it. Certain light conditions can make a bad site seem good. Check and double check any area not used before, or locations that have had high water since the last landing.

Make another pass and roll one tire for a few feet to get a feel for the landing surface.

Effective Runway and Crosswind Component Charts:

To determine the useful runway length, fly the length of your selected runway at one of the ground speeds on the chart below. Read runway length under time in seconds. In planning your required take off distance, consider a 50% safety margin; i.e., if performance for the situation requires a take off distance of 600 feet to clear obstacles, add 300 feet for a safety margin ($600 \times 1.5 = 900$ feet).

Approximate Runway Length					
Ground Speed	Time in Seconds				
mph (kts)	10	20	30	40	50
50 (43)	730 ft	1460 ft	2200 ft	2930 ft	3660 ft
60 (52)	880 ft	1760 ft	2640 ft	3520 ft	4400 ft
70 (61)	1020 ft	2050 ft	3080 ft	4100 ft	5130 ft
80 (70)	1170 ft	2340 ft	3520 ft	4690 ft	5860 ft
90 (78)	1320 ft	2640 ft	3960 ft	5280 ft	6600 ft
100 (87)	1460 ft	2930 ft	4400 ft	5860 ft	7330 ft

My Crosswind Component is...							
		Aircraft Indicated Air Speed (kts or mph)					
		50	60	70	80	90	100
Crab Angle Relative to Landing Strip Centerline (deg)	5	4	5	6	7	8	9
	10	9	10	12	14	16	17
	15	13	16	18	21	23	26
	20	17	21	24	27	31	34
	25	21	25	30	34	38	42
	30	25	30	35	40	45	50
	35	29	34	40	46	52	57
My Maximum Demonstrated Crosswind Component is: _____							
This reference table will estimate your cross wind component if you know your indicated air speed and your crab angle relative to the landing strip centerline. You must hold a steady crab angle over the centerline.							

Preparing the Site After Landing: Check the length by stepping off the usable area. Remove any obstructions, branches, or large rocks from the runway and turn areas. Fill in holes and level high spots if possible. Mark the obstructions that are not movable with natural materials of dissimilar color. Mark thresholds with branches or marks on the ground.

Unloading and Loading: Unload the plane after stopping on roll-out. Do not taxi a loaded plane in loose gravel. Load the plane at the takeoff point. Do not load and then taxi into position.

Before Take-Off: Calculate takeoff and climb performance. This is not a time for guessing. You have to know what your performance will be before you commit to taking off. Be sure to calculate density altitude - remember: Hot - High - Humid, Density Altitude Affects Aircraft and Engine Performance;

For normally aspirated engines with Fixed Pitch Props— increase the sea level standard day takeoff distances by 15% for every 1000 feet of density altitude up to 8000 feet.

You probably won't have the means to weigh your moose meat in the bush and that may lead to wishing for more takeoff performance. Fortunately increased performance is easy to come by—just reduce the takeoff weight. **Making more trips with lighter loads is safer than flying at max gross weight.** More trips means more fuel though so be sure to have enough gas for the mission plus reserve.

Establish and mark a go/no go decision point for takeoff. One way to do this is to clearly mark the halfway point of your available takeoff area. Calculate 70% of your lift off speed i.e. $50 \text{ mph} \times .70 = 35 \text{ mph}$. Check your airspeed as you approach the decision point and if you're less than 70% of lift off speed—abort. Reduce your load, lengthen your runway, or wait for more favorable takeoff conditions.

For obstructed departures divide your takeoff area into thirds and mark the end of the first third. You now must have 70% of lift off speed at this point in order to clear a 50 foot obstacle at the end of the takeoff area.

Take-Off: Use the short or soft field techniques as listed in the aircraft flight manual. Climb straight ahead when possible using the best angle of climb until all obstacles are cleared, then continue as normal.

For additional information: <http://www.faa.gov/go/flyalaska>



406 ELT Information

The New 406 MHz ELT

ARTEX 406 ELT



ACK 406/121.5 MHz ELT



On February 1, 2009, the satellite monitoring of 121.5 MHz ELTs ceased operation for good. The good news is that the new 406 MHz ELT has taken its place. The new 406 ELT is more powerful, more accurate and less prone to the false signals that have plagued Search and Rescue over the years.

What makes the 406 ELT a good investment? In the past, a rescue could not be initiated before several passes of the orbiting satellite. The 406 ELT quickly gives a more precise location and identification of the owner.

WHAT IS YOUR LIFE WORTH?

Whether or not you choose to equip your aircraft with a 406 ELT, make sure to file a flight plan for every flight. Once in the air, stay on your filed route or amend your routing by radio.

Be Aware: 121.5 MHz ELTs are no longer monitored by satellite!

406 ELT Information

That means it may take days or weeks for an accident site to be located. Your chances of survival after a serious airplane crash greatly diminish over time. We urge all Alaskan pilots to consider equipping their aircraft with a 406 MHz ELT. They're more accurate and more reliable than the old 121.5 units and it's comforting to know that in an emergency, you can be located in a matter of hours. Whether or not you choose to equip your aircraft with a 406 ELT, make sure to file a flight plan for every flight. Once in the air, stay on your filed route or amend your routing by radio.

Consider leaving an aeronautical chart at home (or with a friend) with your proposed route, destination and contact information marked on it.

Frequently Asked Questions

•**Can I install the new 406 ELT myself using the existing mount and antenna?** Probably not! The mounting points may have to be strengthened and the antenna replaced.

•**Am I required by current regulations to upgrade to the 406 ELT?** The regulations state that (with few exceptions) you must have an ELT mounted in your aircraft. Currently, there are no requirements to upgrade to the 406 ELT. It just makes good sense!

•**Are all 406 ELTs enabled with GPS reporting?** No, you'll have to check with your supplier before purchasing. Some 406 ELTs can use your existing panel mounted GPS to broadcast a more accurate location to Search and Rescue. Installation for these ELTs are generally more complex. Currently, no aircraft 406 ELTs on the market have internal GPS capabilities.

•**Do I need to upgrade to the 406 ELT to fly through Canada?** There are no official requirements at this time, but expect one to become law in the near future. (Ref: www.tc.gc.ca)

•**How many 406 ELT brands are on the market and how much should I expect to pay?** Currently, there are three or four brands on the market with prices ranging from \$800 to \$2000, plus installation.

406 ELT Information

- **Do all 406 ELTs also broadcast on both 121.5 and 243 MHz?** Yes, all the current aircraft models do, but you should verify that with your supplier before you purchase.

- **What rescue attempt can I expect if I only have the 121.5 ELT installed?**

Several things have to happen: Your rescuers must first know you're missing and they must also know your intended route and destination. If you're lucky, a passing airplane just may be monitoring 121.5 and hear your distress signal. Even then, the search area could be quite large.

- **I carry a satellite phone with me when I fly. Do I still need to upgrade to the new 406 ELT?** Satellite phones and PLBs (Personal Locator Beacon) are great tools and many pilots carry them into the bush, but satellite phones and PLBs won't automatically broadcast a distress message after an accident.

- **How long does the 406 battery last?** The battery replacement schedule is between 5 – 6 years. You should test the 406 ELT regularly according to the manufacturer's procedure and schedule to ensure a fully functional unit.

- **What are the improvements that make the 406 ELT a more reliable instrument?** Improvements include a unit that is more resistant to water, fire and impact. 406 ELT's are also more energy efficient, allowing greater transmitting times and thereby increasing the likelihood of rescue.

VERY IMPORTANT: Remember, you must correctly register your new 406 ELT to greatly improve your odds for a fast and accurate rescue!

Be sure to remove the battery and properly dispose of your old 121.5 ELT when upgrading to the new 406 ELT!

If you have an extra radio in your aircraft, monitor 121.5 when flying. You may save a life!



Alaska Seaplane Operations Information

The Q-R reader code below, will take you to the Alaska Seaplane Operations Guide booklet. The booklet is meant to promote safety by offering a review of selected seaplane topics. Some of the topics are intended for review at the beginning of the season to help us get back in the seaplane mindset after a period of winter inactivity. Other topics were selected because the accident record suggests that attention to these areas might prevent future mishaps.

The topics covered include:

- 1. Launching and Taxi**
- 2. Takeoff Performance**
 - Drag
 - Wind
 - C.G.
 - One Float Takeoff
 - Weight
 - Water Surface
 - Temperature/Density Altitude
 - Technique/Proficiency
- 3. Weight and Balance**
- 4. Landing**
- 5. Glassy Water**
 - Landing
 - Takeoff
- 6. Porpoising**
- 7. Amphibious Seaplanes**
- 8. Practice**
- 9. Safety**

Flying seaplanes is something that we should take seriously, but we should also enjoy it. We have some of the world's best seaplane flying in Alaska, and the more we develop our skills, the better we are able to take advantage of it. A healthy enthusiasm for seaplane flying promotes safety by keeping us engaged with what we're doing and driving us to get better at it. Work hard at it, but also have fun with it. Best wishes with your seaplane flying, and have a good season!



Emergency Rations & Equipment

Alaska Statute 02.35.110

Alaska Statute 02.35.110 Emergency Rations & Equipment requires that an airman may not make a flight inside the state with an aircraft unless emergency equipment is carried as follows:

The minimum equipment during the summer months is:

Have Need

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Food for each occupant for one week |
| ☐ | ☐ | One axe or hatchet |
| ☐ | ☐ | One first aid kit |
| ☐ | ☐ | An assortment of fishing tackle; hooks, flies and sinkers etc. |
| ☐ | ☐ | One knife |
| ☐ | ☐ | Fire starter |
| ☐ | ☐ | One mosquito head net for each occupant |
| ☐ | ☐ | |

IN ADDITION TO THE ABOVE, the following must be carried as minimum equipment from October 15th to April 1st of each year:

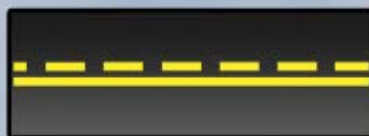
- | | | |
|--------------------------|--------------------------|---|
| ☐ | ☐ | One pair of snowshoes |
| ☐ | ☐ | One sleeping bag |
| ☐ | ☐ | One wool blanket for each occupant over four years of age |



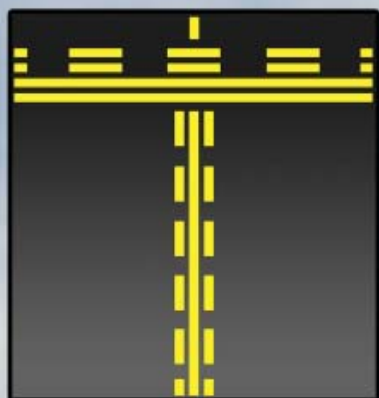
Pilot's Guide to Airport Markings



HOLDING POSITION:
Hold short of intersecting rwy;
also a land-and-hold marking



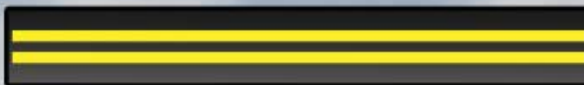
MOVEMENT AREA BOUNDARY:
Defines boundary of movement
area and non-movement area



**HOLDING POSITION WITH
ENHANCED TAXIWAY
CENTERLINE:** Alerts of an
approaching runway



**TAXIWAY/TAXIWAY HOLDING
POSITION:** Hold short of intersecting
taxiway when directed by ATC



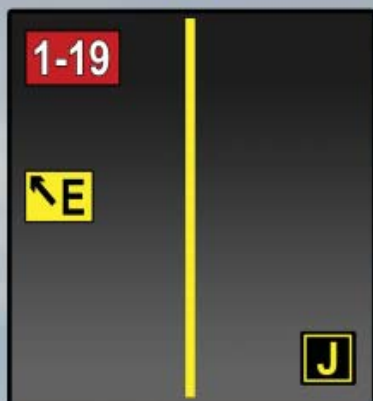
SOLID TAXIWAY EDGE: Defines edge
of usable, full-strength taxiway
pavement; adjoining pavement
NOT usable



ILS CRITICAL AREA: Hold short
when instructed by ATC



DASHED TAXIWAY EDGE: Defines
edge of taxiway where adjoining
pavement or apron IS available
for taxi



**SURFACE PAINTED HOLDING
POSITION:** Designates runway ahead in
conjunction with yellow holding position marking

**SURFACE PAINTED TAXIWAY
DIRECTION:** Direction &
designation of intersecting twy

**SURFACE PAINTED TAXIWAY
LOCATION:** Identifies twy
on which aircraft is located

My Short Field Performance

Aircraft _____ Gross Weight _____ Test Weight _____

Airfield _____ Elevation _____ Density Altitude _____

Wind Direction _____ Wind Speed _____ X Wind Component _____

Indicated Approach Speed _____ Flap Setting _____

Landing Distance _____

Takeoff Flap Setting _____ Rotation Speed _____

Rotation Speed x .70 _____ Vx _____ Vy _____

Distance to Rotation _____ Distance to 50 feet AGL _____

Airport
Ident:

Field
Elev.

PA/ DENS
ALT

ATIS (FREQ: INFO:)

TEMP:

WIND:

ALT:

ASSIGNED
RWY:

TAXI ROUTE:

HOLD SHORT OF RWY: CROSS RWY:

HOLD SHORT OF RWY: CROSS RWY:

CONTACT FREQ/NOTES