

FAA Anchorage ARTCC



Federal Aviation
Administration



Presented to: Cross Polar Working Group / 17

By: Steve Kessler, Traffic Management Officer,
Anchorage ARTCC

Date: June 3-6, 2014



Anchorage ARTCC (ZAN) Overview

- **ZAN Overview**
- **ZAN Sector “64”**
- **ZAN ATOP and ADS-B**
- **ZAN ATM Response to SALET G819 and BARIP B722**
- **Space Launch Activities**
- **UAS Operations**
- **Large Scale Military Exercises**
- **ZAN Traffic Count**

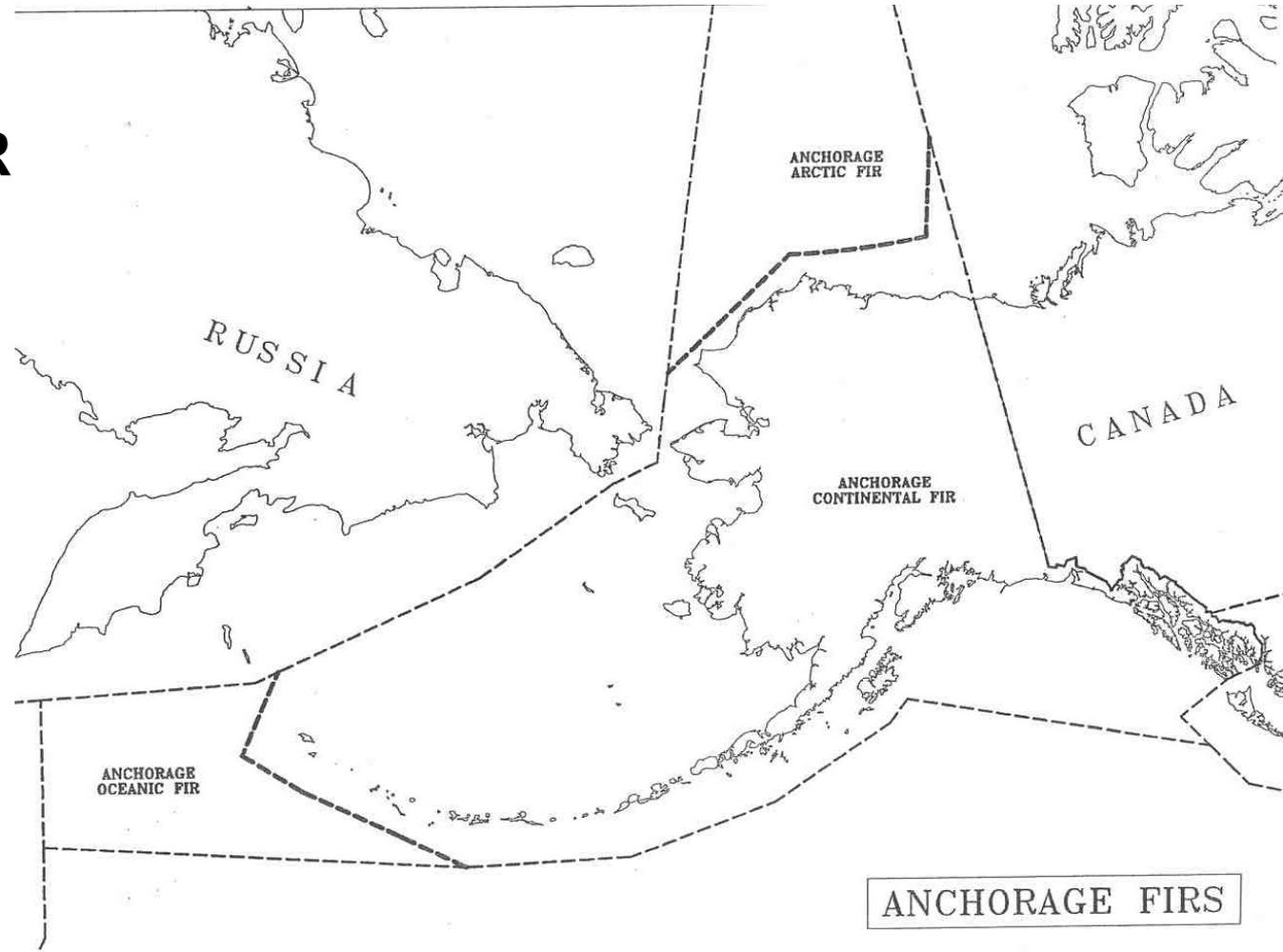
Air Traffic Facility Personnel

- **157 Employees total**
- **79 Controller Work Force**
- **20 Developmentals**
- **6 Academy Students**
- **16 Front Line Managers (include STMC)**
- **3 Operations Managers**
- **3 Support Managers**
- **9 Support Staff**
- **4 Traffic Management Coordinators**
- **10 Flight Data Unit**
- **4 CWSU Weather Unit**



Three Flight Information Regions (FIR)

- Anchorage Continental FIR
- Anchorage Arctic FIR
- Anchorage Oceanic FIR



Federal Aviation
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Anchorage Air Route Traffic Control Center Flight Information Regions

- **Oceanic** **229,067 Miles² (593,280.8 Km²)**
- **Continental** **1,647,105 Miles² (4,265,982 Km²)**
- **Arctic** **551,971 Miles² (1,429,598 Km²)**
- **Total** **2,427,971 Miles² (6,288,416 Km²)**



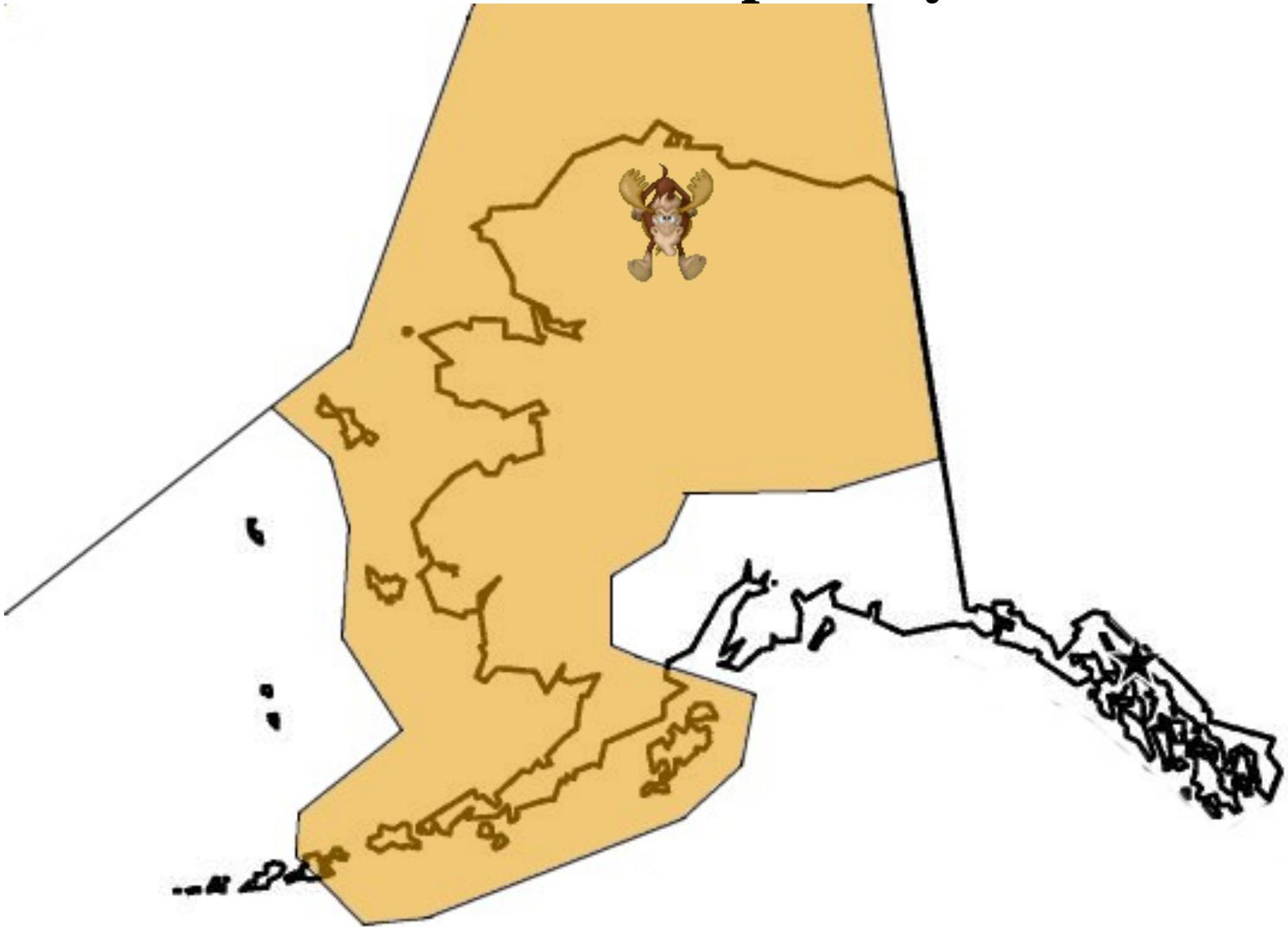
Anchorage Air Route Traffic Control Center

Airspace and Sector Structure

Three Areas of Specialization

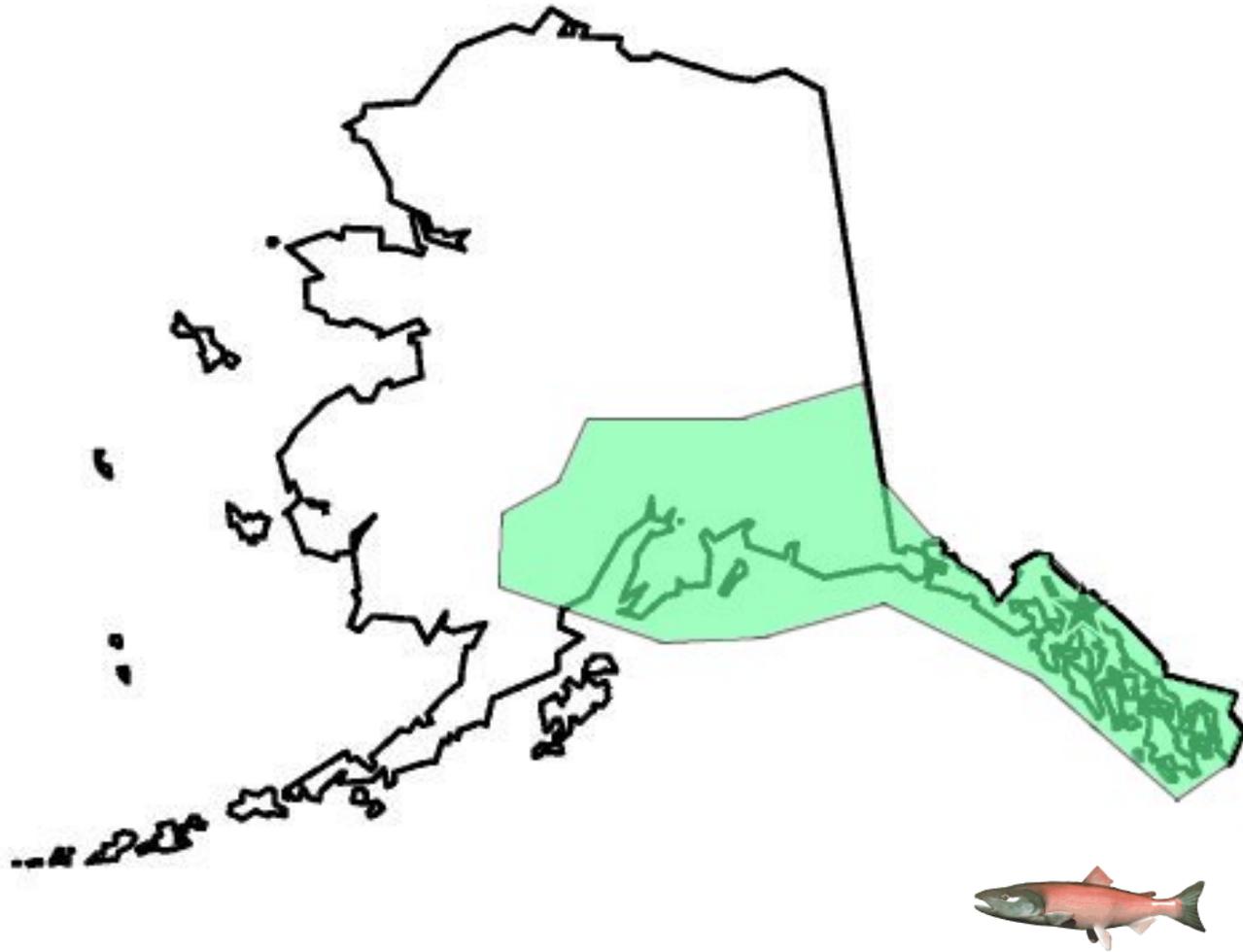
- * North*
- * South*
- * High*

North Specialty



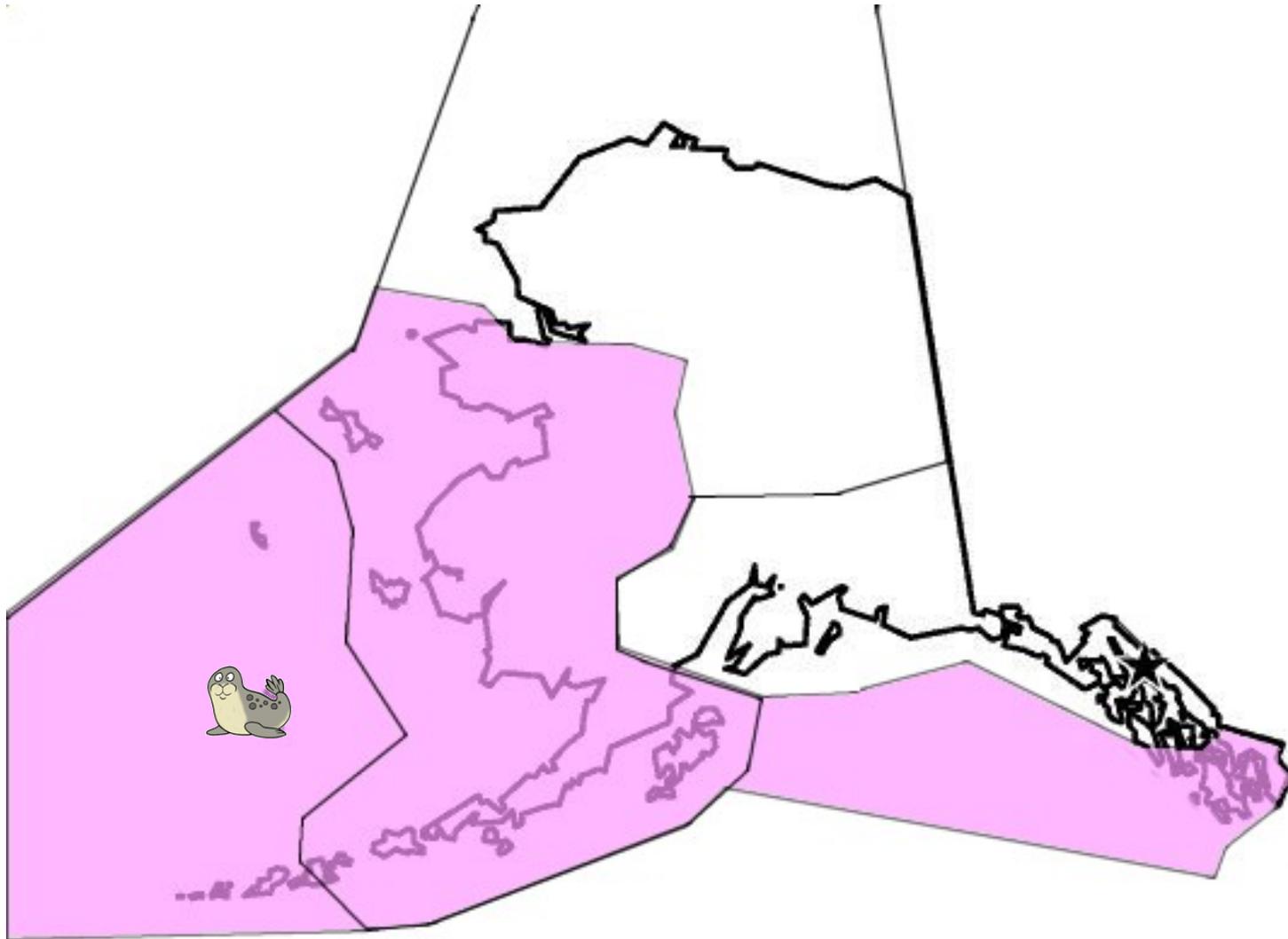
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South Specialty



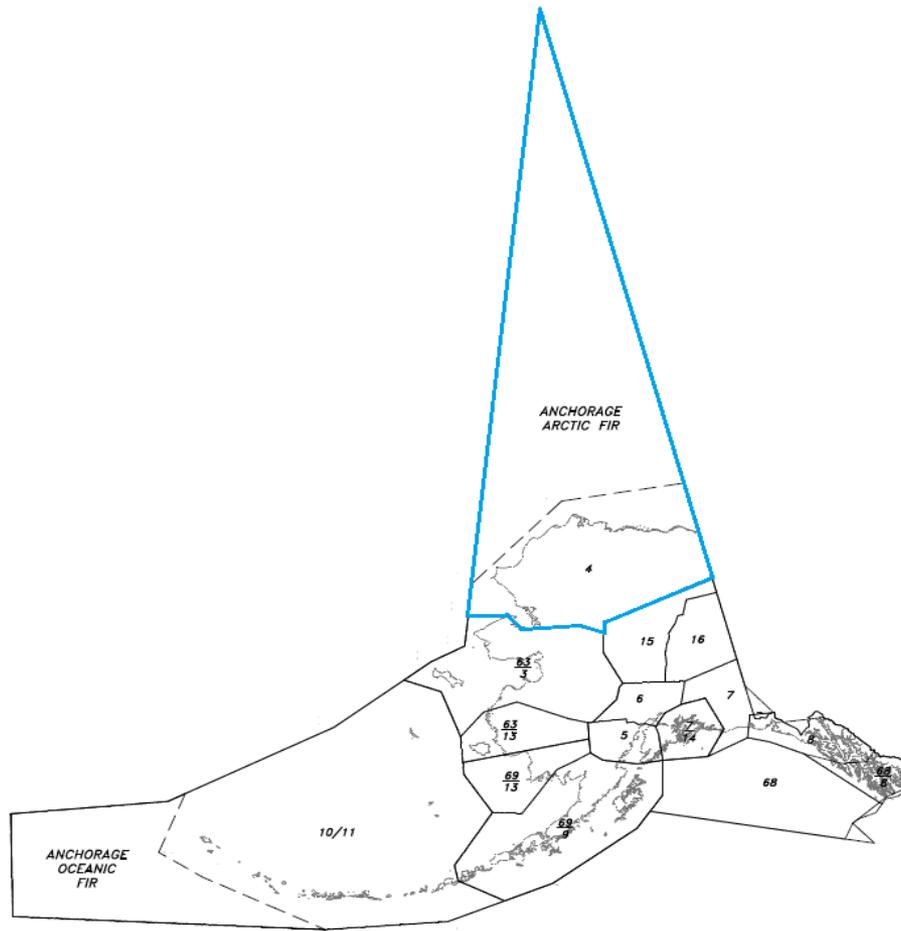
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High Specialty



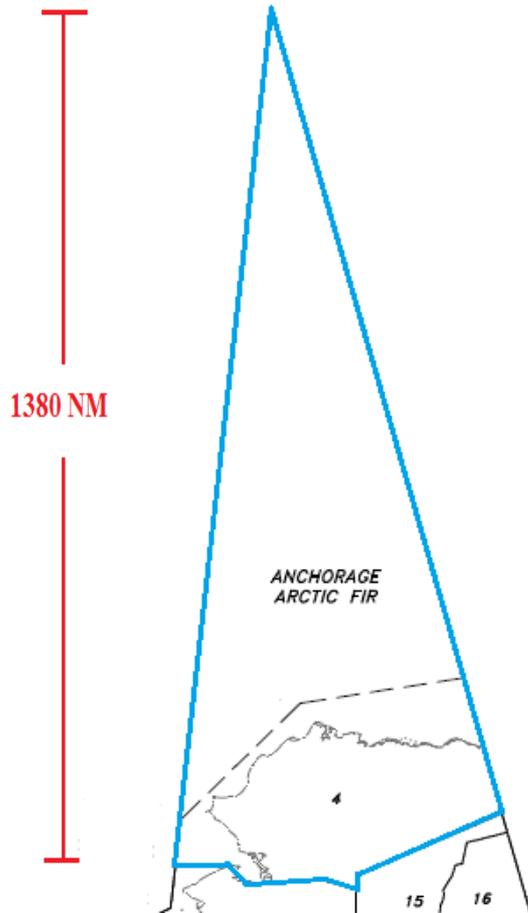
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ZAN Sector “4” to “4 and 64”



Current Airspace

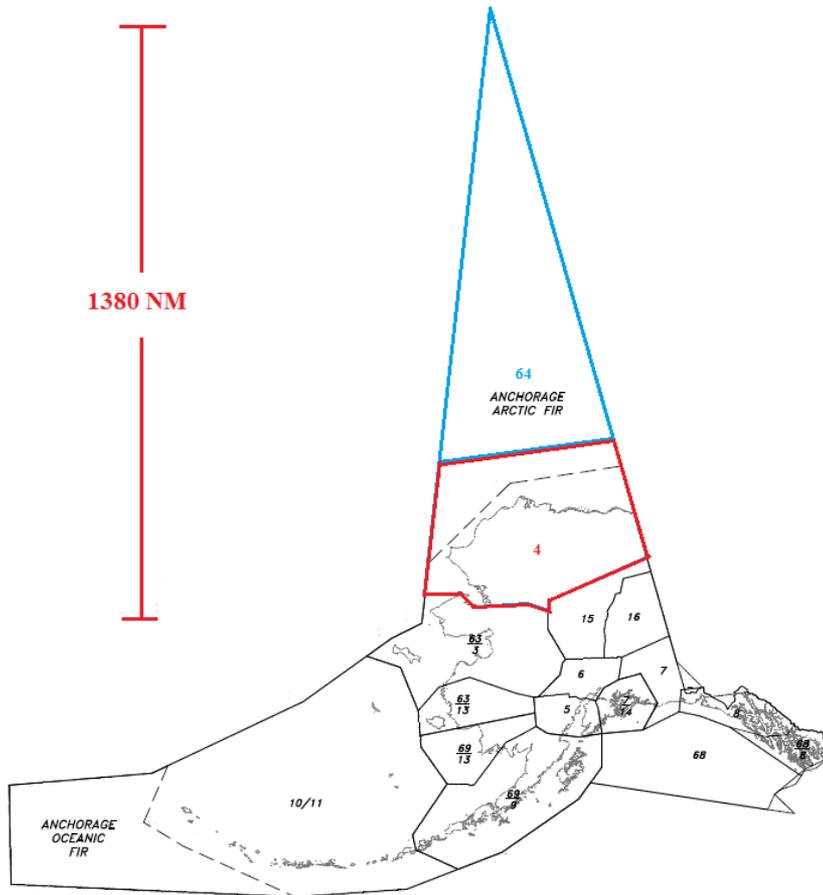
Current - ZAN Sector “4”



- Current Sector 4 utilizes Flight Data Processor 2000 (FDP2K) and Micro En Route Automated Radar Tracking System (MEARTS).
- FDP2K supports Controller / Pilot Data Link (CPDLC) and Air Traffic Services Inter-facility Data Coordination (AIDC).
- MEARTS radar surveillance limited to land based radar sensors.
- FDP2K does not provide conflict detection. MEARTS provides short term, (tactical), conflict “alert.”
- FDP2K does not support FANS Automatic Dependent Surveillance – Contract (ADS-C).
- Unique geometry limits the scale of paper diagrams, i.e. controller charts, thereby limiting the controller’s ability to chart flight paths and determine lateral conflicts and/or flight path de-confliction points.

Result – the need, in the Arctic FIR, for proceduralized airspace.

Future – ZAN Sectors “4” and “64”



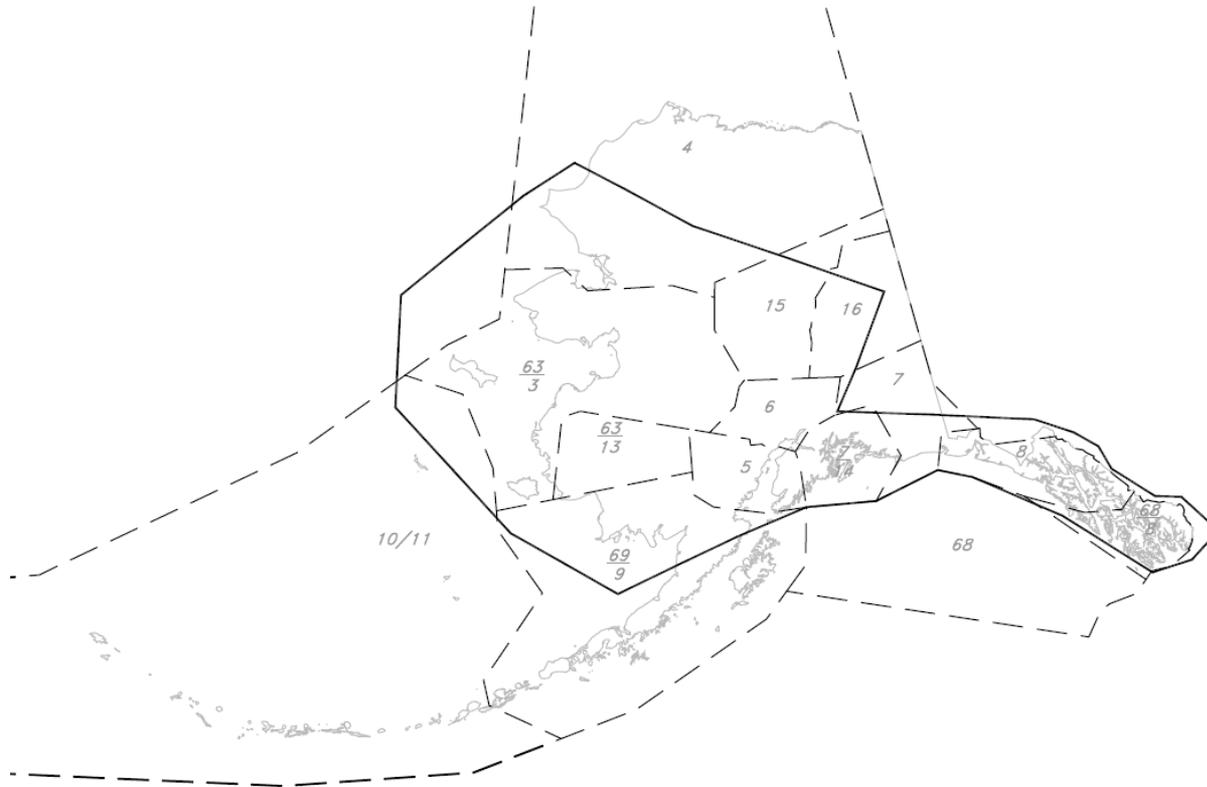
- Sector 4 divided into Sectors 4 and 64.
- Division line tentatively set at 73° N.
- Sector 4 continues with FDP2K and MEARTS
- Sector 64 will utilize Advanced Technologies and Oceanic Procedures Ocean 21 system, (ATOP/OC21).
- ATOP supports CPDLC, AIDC and ADS-C.
- Implementation of Sector 64 requires controller staffing + controller training + modification of systems' adaptation (i.e. database) + system testing (stand alone and inter-facility) + correction of any discovered deficiencies.
- Sum total of above variables yields tentative implementation date 1st Qtr. CY 2015.

ZAN ATOP and ADS-B

- **FAA's goal is to incorporate Automatic Dependent Surveillance – Broadcast (ADS-B) data into all existing surveillance systems, including ATOP.**
- **ZAN is the key site (initial site for deployment) for ATOP ADS-B surveillance.**
- **Implementation goal is 4th Qtr. FY2014.**
- **Implementation goal is based on current ADS-B ground infrastructure, i.e. existing radio stations.**

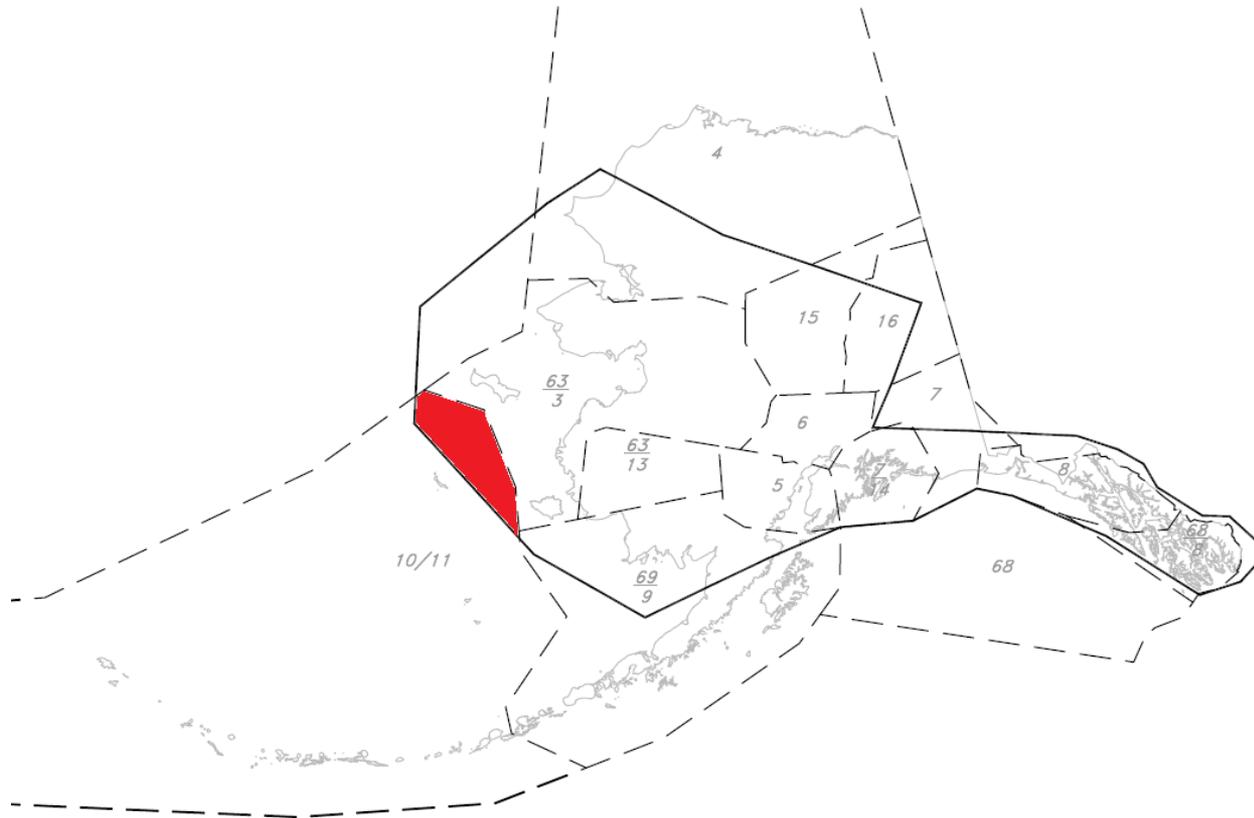
ZAN ATOP and ADS-B

Current Alaska ADS-B Surveillance Area



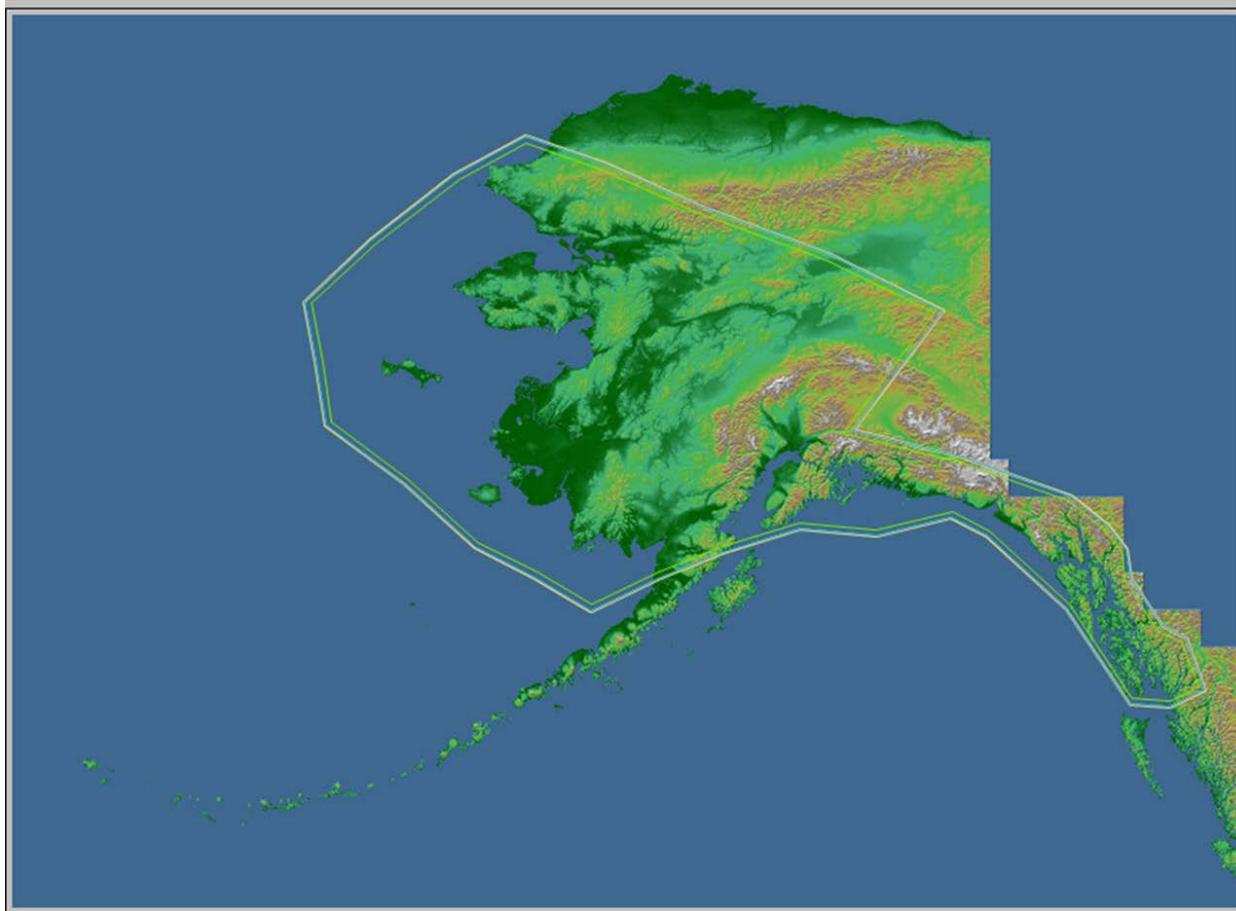
ZAN ATOP and ADS-B

ADS-B Surveillance Area within ATOP



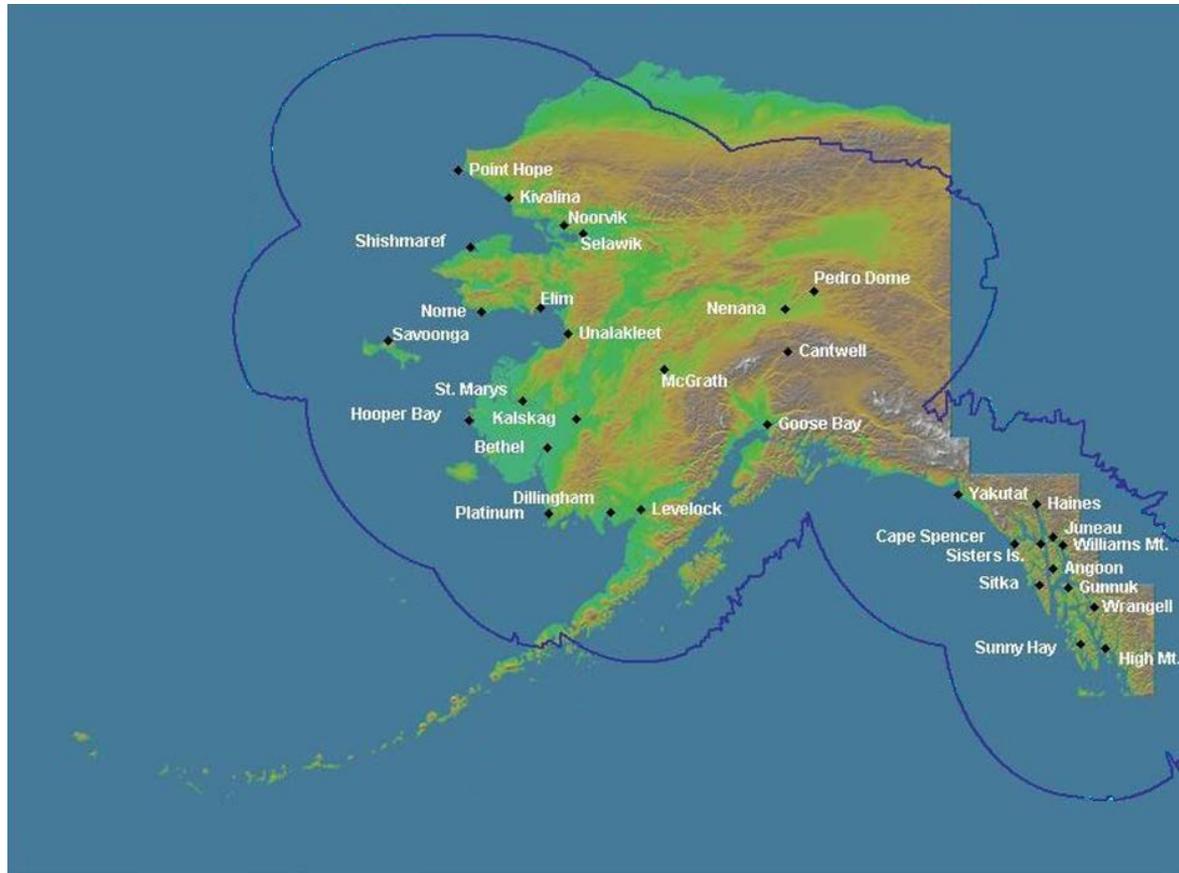
ZAN ATOP and ADS-B

Current Alaska ADS-B Surveillance Area



ZAN ATOP and ADS-B

- Planned installation of additional ADS-B ground interrogators will increase ADS-B coverage over the Alaska Peninsula.



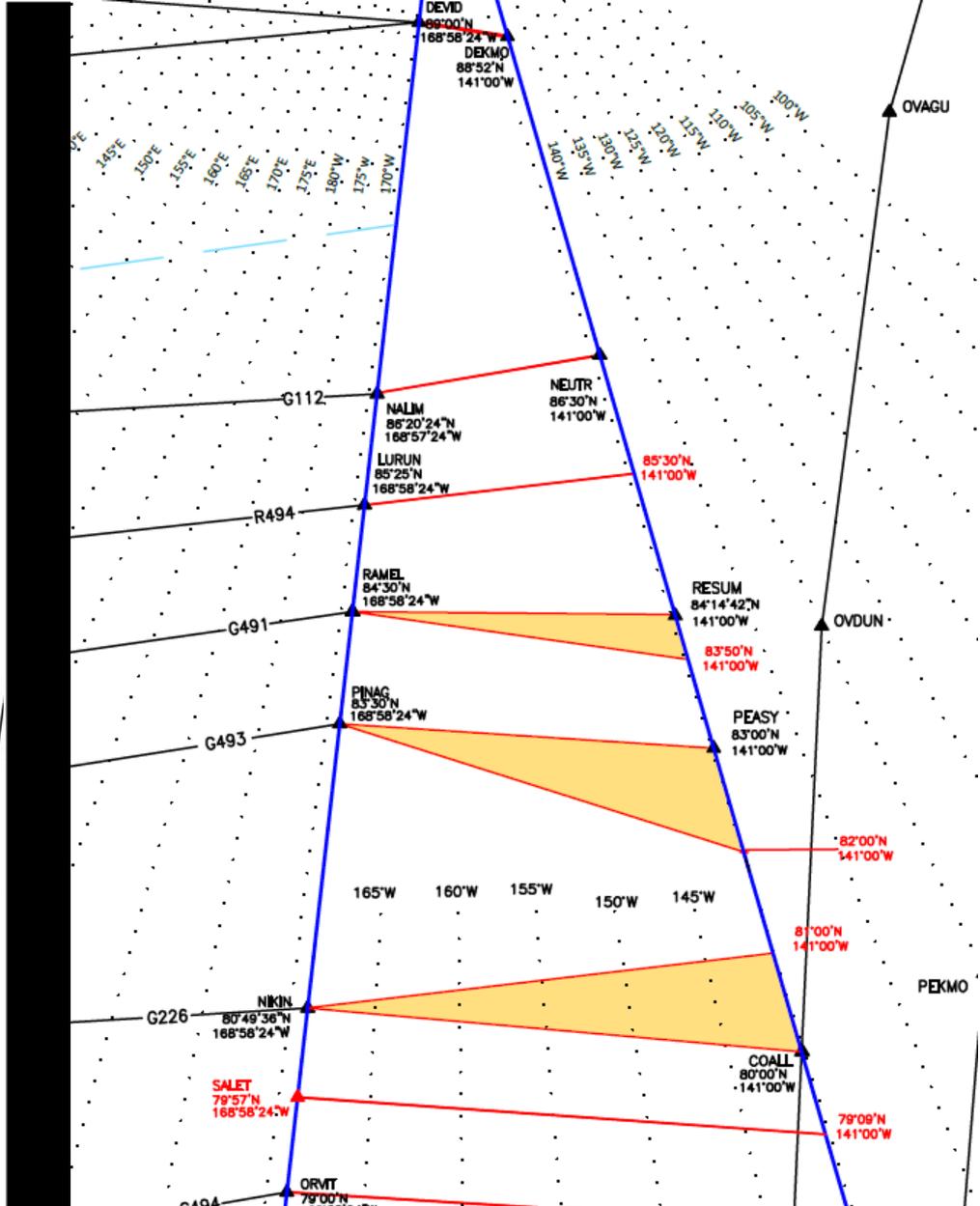
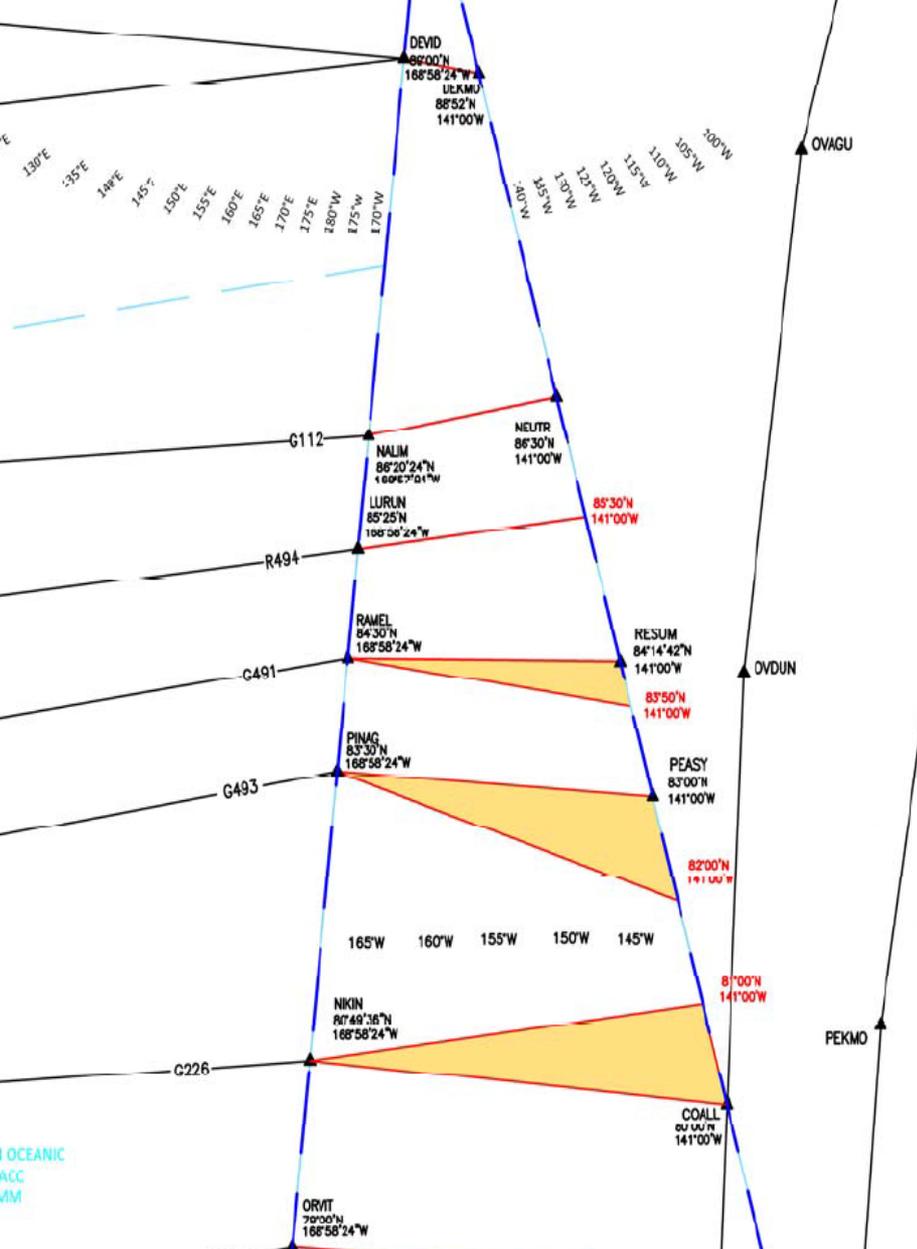
ZAN ATM Response to SALET and BARIP

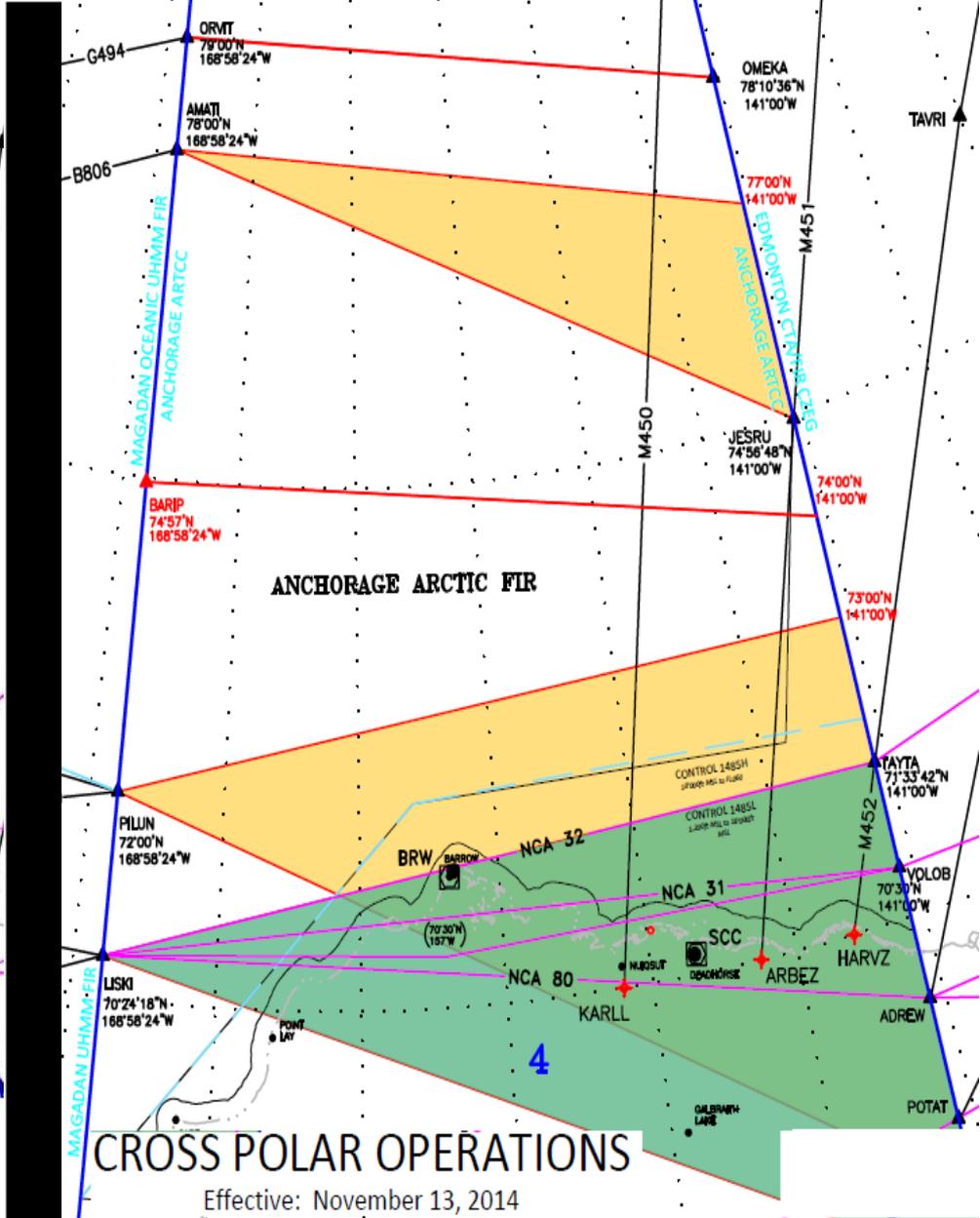
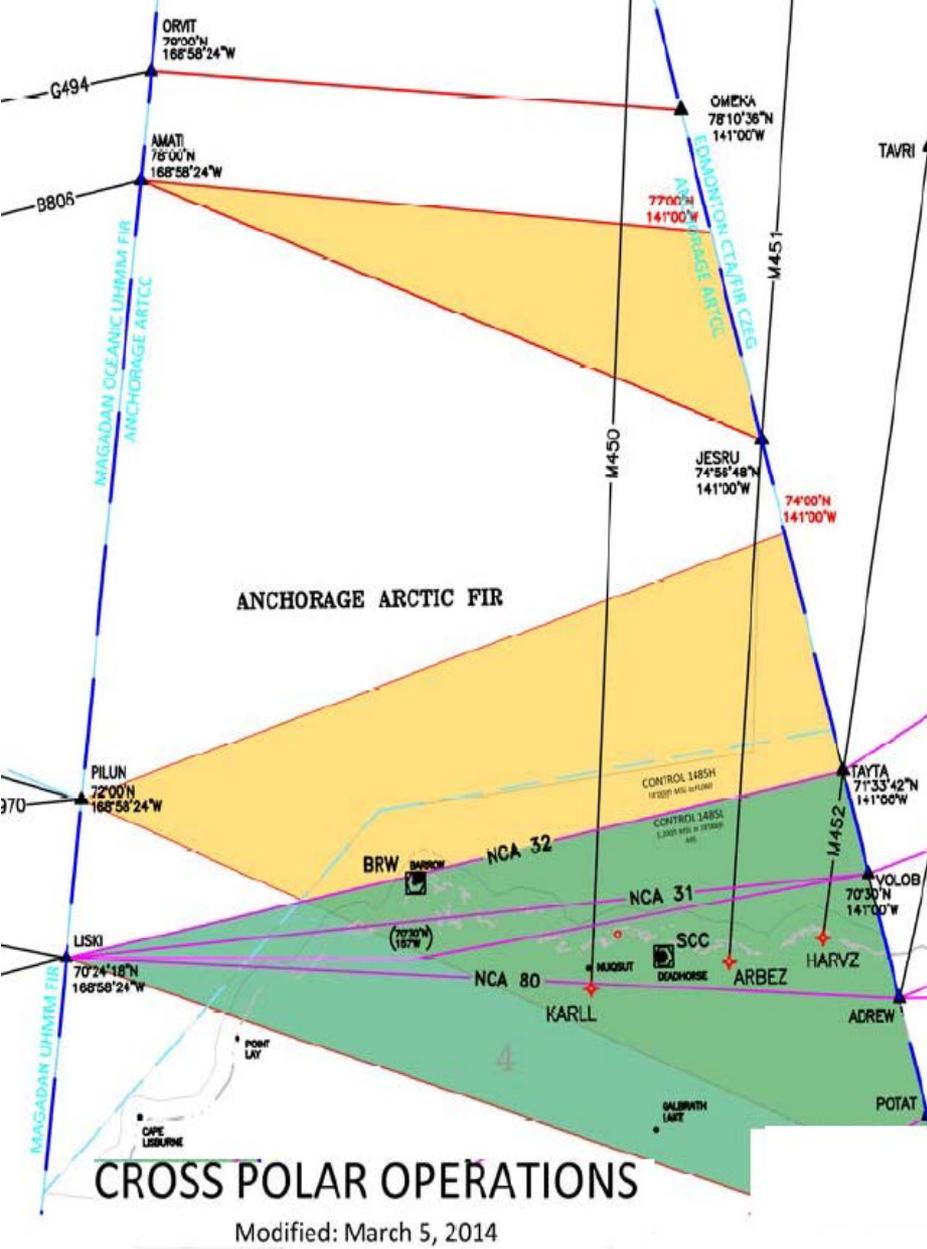
- **Russia's State ATM has announced the implementation, effective November 2014, of new Cross Polar routes; G819 and B722.**
- **These new routes will begin on the Anchorage / Magadan FIR boundary at:**
 - SALET (N79° 57' W168° 58.24') and
 - BARIP (N74° 57' W168° 58.24').
- **Due to the necessity for proceduralized airspace, ZAN will implement corresponding fixes along 141° W at:**
 - SHOUP (N79° 09' W141°) and
 - BIITE (N74° W141°).

ZAN ATM Response to SALET and BARIP

- **ZAN will modify existing NOTAM PAZA A0158/13 (reference the Anchorage Arctic FIR) to require aircraft flight planned over SALET, east or westbound, to also file over SHOUP and aircraft over BARIP, east or westbound, to also file over BIITE.**
- **The existing restriction for PILUN will also be modified to require aircraft overflying PILUN, east or westbound, to cross 141° W over or south of 72 30°N.**
- **These restrictions ensure RNP-10 lateral separation with aircraft filed via adjoining Cross Polar routes.**







Space Launch Activities



Courtesy www.akaerospace.com



Military Exercises



June 3-6, 2014

Cross Polar Working Group / 17

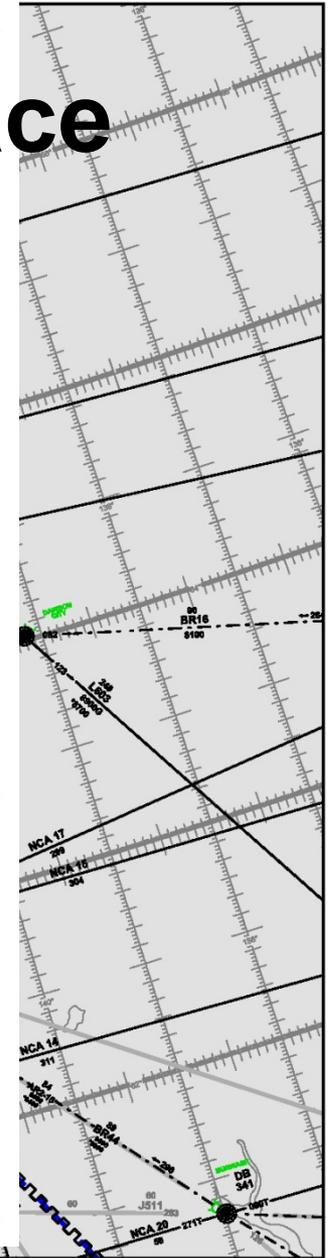
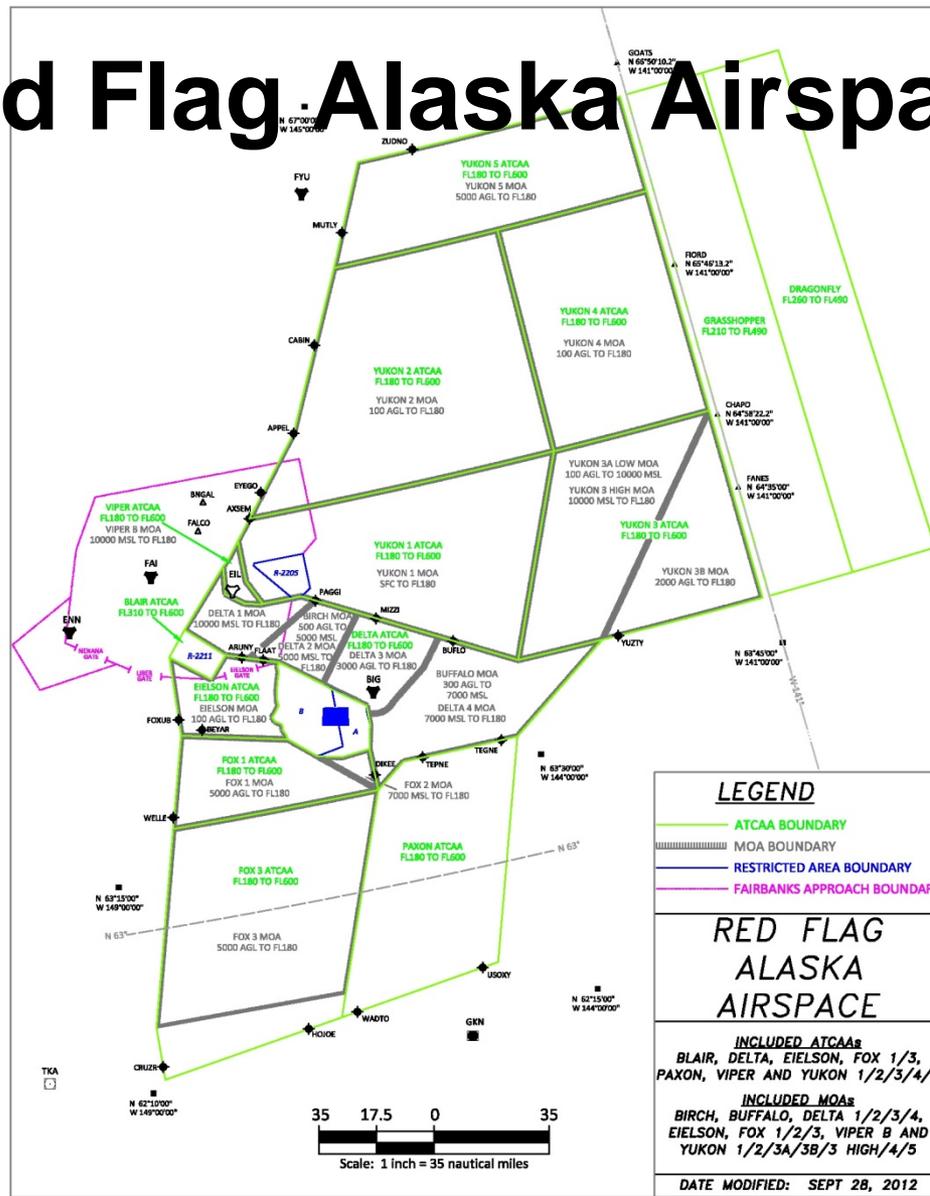
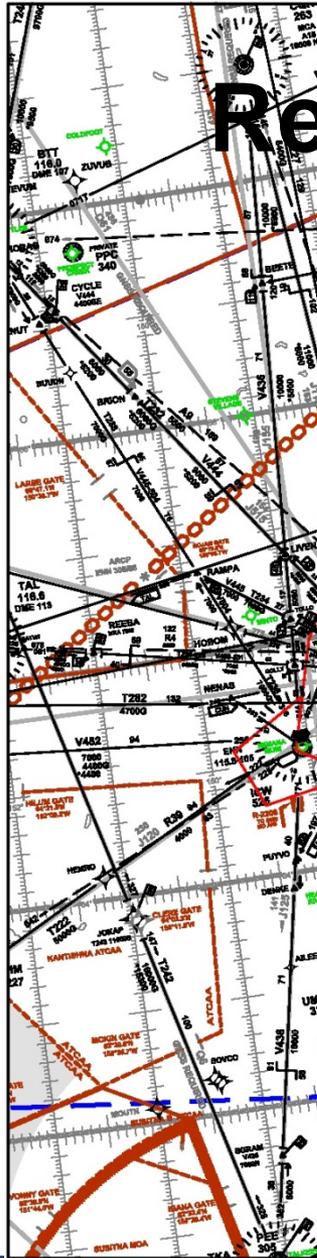


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Military Exercises

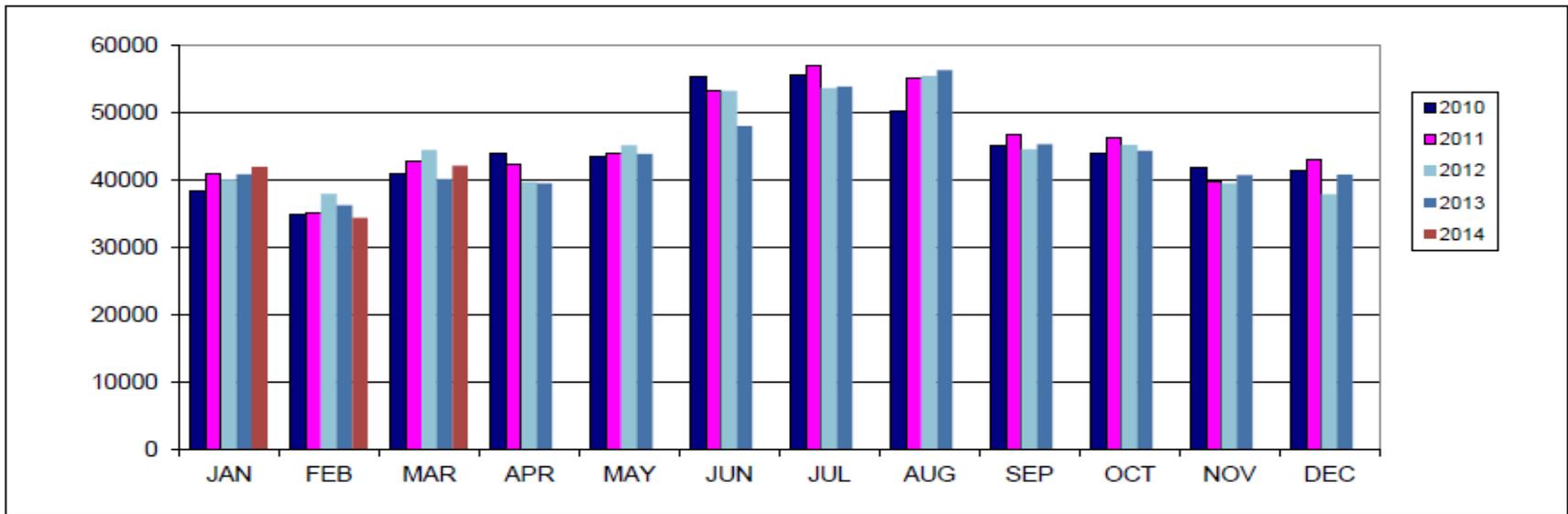
- **Red Flag Exercises:**
 - June 13-27, 2014
 - August 8-22, 2014
 - October 3-17, 2014
 - ALL RED FLAG EXERCISES ARE CONDUCTED MONDAY-FRIDAY

Red Flag Alaska Airspace



ZAN Traffic Count Total Facility

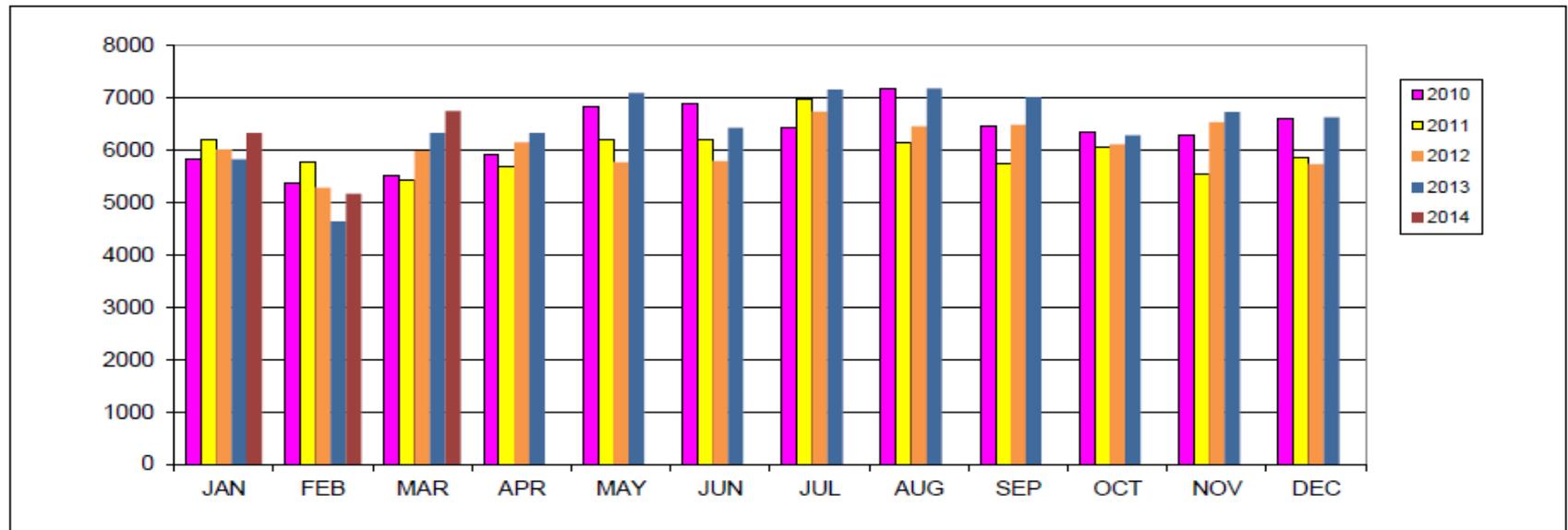
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
JAN	41405	43374	41700	43148	42717	46048	41930	44466	44310	37972	38266	40841	39982	40761	41896
FEB	39261	39678	37730	40907	42718	43678	38336	38979	39557	35092	34911	35074	37909	36213	34342
MAR	44612	46923	40890	41358	46028	49399	45706	44768	44568	36122	40790	42750	44344	40090	42091
APR	40207	44481	44187	41855	46067	47702	46003	48241	47655	37785	43796	42285	39622	39482	
MAY	43191	52088	49579	45500	47920	51771	47517	48098	47961	39798	43565	43866	45085	43815	
JUN	50265	56049	58893	52559	57367	59561	54231	55641	54009	48129	55374	53225	53173	47914	
JUL	59388	67084	65741	58916	66492	62311	57619	60125	55944	50701	55470	56989	53573	53756	
AUG	60506	64659	63693	53579	64694	67390	60477	55778	52898	51310	50135	54995	55355	56217	
SEP	49648	45344	49493	47570	51638	54891	49012	50360	46216	44483	45007	46635	44524	45292	
OCT	50534	46642	50614	48684	52788	51666	48885	49589	45960	45356	43825	46187	45132	44277	
NOV	43242	42161	44632	44540	46006	44410	43945	45404	40016	39013	41858	39616	39457	40642	
DEC	42951	32458	44292	45820	47686	45327	44614	43393	38735	40096	41232	42907	37824	40738	
Total	565210	580941	591444	564436	612121	624154	578275	584842	557829	505857	534229	545370	535980	529197	118329
% Change		3%	2%	-5%	8%	2%	-7%	1%	-5%	-9%	6%	2%	-2%	-1%	



ZAN Traffic Count

Oceanic

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
JAN	5202	5282	4697	5820	5596	6694	5484	5647	6079	5397	5826	6205	6016	5825	6331
FEB	4898	4836	4258	5133	5548	5913	5047	5376	5858	4723	5385	5783	5281	4637	5169
MAR	5465	5651	5086	5382	5783	6433	6440	8051	6871	5320	5525	5437	5986	6334	6752
APR	5356	5538	4993	4967	5843	6773	6513	7401	6755	4842	5912	5684	6150	6330	
MAY	5184	5414	5427	4966	5878	6400	5874	7674	6326	5339	6845	6207	5772	7096	
JUN	5187	5598	5841	5248	6434	6424	6414	7832	5772	4912	6886	6199	5792	6433	
JUL	5731	5566	6064	5669	6726	6931	6580	7881	6452	6173	6445	6984	6738	7166	
AUG	5950	5877	5597	5324	6722	7410	6621	8139	6299	6442	7175	6161	6458	7179	
SEP	5998	4805	5502	5616	6492	6612	6203	8113	6167	5879	6476	5752	6489	7018	
OCT	5824	5118	6497	5716	7044	6436	6450	7469	5743	5890	6353	6072	6116	6291	
NOV	5535	4993	6021	5758	6277	6204	6228	6843	5331	5816	6302	5536	6540	6733	
DEC	5779	3925	5490	5522	5954	6135	5525	5817	5329	6048	6602	5859	5738	6635	
Total	66109	62603	65473	65121	74297	78365	73379	86243	72982	66781	75732	71879	73076	77677	18252
% Change		-5%	5%	-1%	14%	5%	-6%	18%	-15%	-8%	13%	-5%	2%	6%	



ZAN Traffic Count NOPAC*

	2006	2007	2008	2009	2010	2011	2012	2013	2014
JAN	5122	5103	5047	4769	5188	5336	5354	4668	4167
FEB	4609	5021	4381	4043	4765	4925	4428	3708	4288
MAR	6022	7632	6365	4513	4682	4564	4888	4896	5547
APR	6083	6923	6107	4109	4967	4908	5214	5284	
MAY	5394	7224	5461	4563	6094	5304	4749	5938	
JUN	6088	7440	4947	3958	6050	5225	4853	5489	
JUL	6144	7540	5583	5279	5524	5947	5737	6020	
AUG	6273	7584	5385	5524	6192	4892	5479	5991	
SEP	5772	7462	5322	5147	5514	4711	5316	5761	
OCT	5782	6750	4928	5131	5291	5018	5203	4887	
NOV	5796	6231	4600	5044	5321	4363	5598	5627	
DEC	4933	5204	4662	5354	5710	4678	4588	5145	
Total	68018	80114	62788	57434	65298	59871	61407	63414	14002
% Change		18%	-22%	-9%	14%	-8%	3%	3%	

* “NOPAC” equals “Oceanic” minus “Cross Polar”

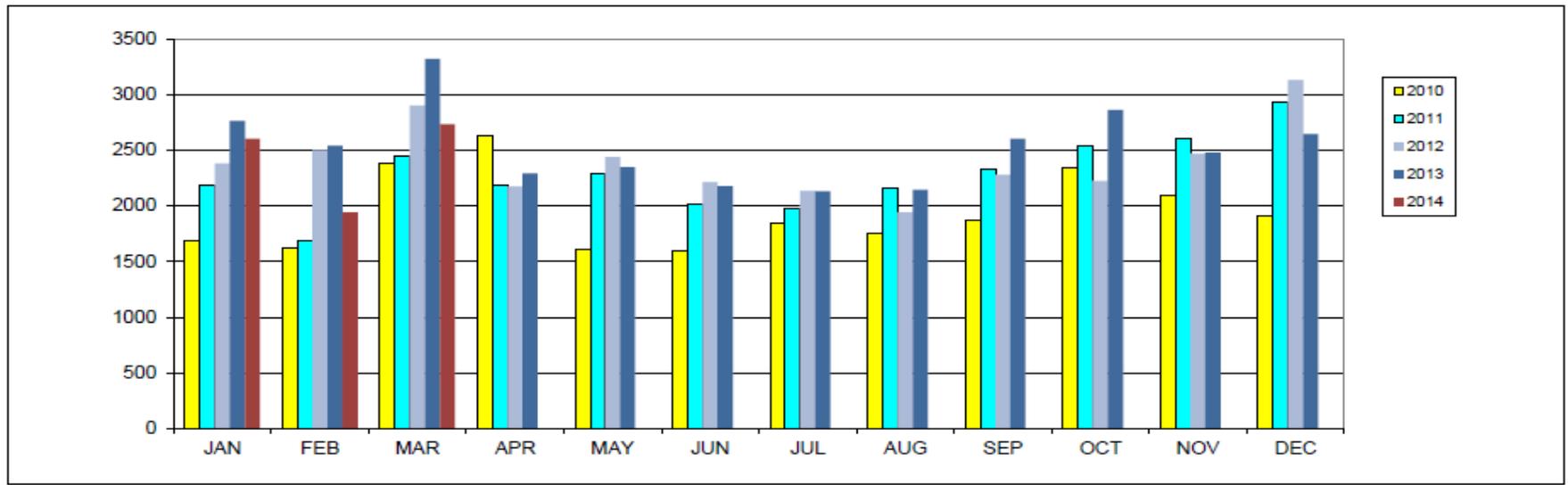


ZAN Traffic Count

Cross Polar and RFE

*Effective May 2008, includes Eastbound count

	2000	2001	2002	2003	2004	2005	2006	2007	2008*	2009	2010	2011	2012	2013	2014
JAN	384	493	457	477	483	750	1119	1818	2234	1760	1686	2188	2383	2768	2605
FEB	366	558	306	356	497	723	1279	1119	1690	1914	1619	1690	2499	2544	1943
MAR	470	464	476	390	574	930	1546	1306	1583	1622	2379	2453	2904	3326	2738
APR	403	544	421	292	633	698	1277	1634	1602	1466	2630	2184	2176	2294	
MAY	336	246	447	218	578	748	1310	1530	2151	1607	1614	2297	2442	2351	
JUN	449	438	400	189	583	799	1057	996	2122	1900	1598	2016	2215	2179	
JUL	352	410	363	220	408	707	1175	924	1819	1696	1841	1983	2136	2134	
AUG	369	427	361	357	535	758	810	1275	2162	1720	1761	2159	1942	2148	
SEP	378	452	441	370	657	1134	1112	1406	1923	2000	1870	2333	2280	2608	
OCT	588	417	518	466	1038	1233	1521	2036	2217	1855	2346	2538	2225	2867	
NOV	593	409	544	521	1029	964	1195	2188	2141	2167	2099	2603	2473	2482	
DEC	617	525	552	670	1163	1055	2056	2525	1851	1836	1908	2939	3134	2647	
Total	5305	5383	5286	4526	8178	10499	15457	18757	23495	21543	23351	27383	28809	30348	7286
% Increase		1%	-2%	-14%	81%	28%	47%	21%	25%	-8%	8%	17%	5%	5%	



ZAN Traffic Count Cross Polar Distribution

2013	DEVID		NALIM		LURUN		RAMEL		PINAG		NIKIN		ORVIT		AMATI		PILUN		LISKI		TOTAL
	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	
JAN	1	14	0	3	0	25	10	185	0	33	7	12	32	255	1	9	48	130	49	231	1045
FEB	1	24	0	0	0	32	10	149	0	14	6	96	37	173	1	5	37	92	35	217	929
MAR	5	25	0	0	2	41	15	154	0	32	8	111	21	307	1	14	28	256	29	389	1438
APR	3	35	0	3	4	37	8	142	3	33	18	109	36	210	1	5	65	97	54	183	1046
MAY	3	12	1	8	7	73	35	139	2	32	28	72	92	202	1	3	109	141	70	134	1164
JUN	7	8	2	0	33	36	47	64	8	17	27	34	181	135	6	0	126	66	58	89	944
JUL	5	28	1	5	13	20	61	100	9	25	24	54	151	193	16	4	121	89	75	152	1146
AUG	4	15	4	9	6	52	37	141	4	42	10	69	114	239	7	12	101	111	72	139	1188
SEP	4	32	0	2	0	29	13	150	3	62	8	116	72	234	9	29	82	91	109	212	1257
OCT	2	25	0	8	1	66	14	120	1	31	13	108	59	280	12	24	73	191	69	307	1404
NOV	0	21	0	6	0	27	0	141	3	23	1	153	21	230	10	13	70	110	59	218	1106
DEC	0	16	0	0	1	71	6	144	3	32	7	104	22	260	9	18	69	138	68	222	1190
TOTAL	35	255	8	44	67	509	256	1629	36	376	157	1038	838	2718	74	136	929	1512	747	2493	13857

2014	DEVID		NALIM		LURUN		RAMEL		PINAG		NIKIN		ORVIT		AMATI		PILUN		LISKI		TOTAL
	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	
JAN	0	31	0	1	0	40	1	117	0	23	6	112	40	171	10	11	81	134	86	218	1082
FEB	0	25	0	1	0	13	6	53	2	28	11	81	58	153	11	8	97	42	87	205	881
MAR	0	26	0	3	2	45	3	107	5	53	4	164	49	158	16	2	118	127	67	256	1205
APR																					0
MAY																					0
JUN																					0
JUL																					0
AUG																					0
SEP																					0
OCT																					0
NOV																					0
DEC																					0
TOTAL	0	82	0	5	2	98	10	277	7	104	21	357	147	482	37	21	296	303	240	679	3168



ZAN Traffic Count

RFE Distribution

2013	FRENK		KUTAL		VALDA		ERNIK		RUSOR		BESAT		BAMOK		KOKES		LUMES		KUNAD		TOTAL
	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	
JAN	73	48	10	151	40	641	3	261	11	7	32	281	6	15	0	20	0	12	0	0	1611
FEB	50	61	3	261	1	542	2	214	24	9	44	303	17	17	1	29	0	35	0	2	1615
MAR	70	73	12	323	7	718	0	280	13	7	61	267	19	3	0	28	0	7	0	0	1888
APR	64	79	22	83	5	436	1	101	39	13	63	214	16	33	0	24	0	52	0	3	1248
MAY	52	54	2	61	8	390	4	119	52	10	121	194	31	14	1	26	0	48	0	6	1193
JUN	25	78	1	46	16	440	6	242	23	7	62	256	19	9	1	20	0	12	0	2	1265
JUL	26	71	5	35	12	408	3	99	39	4	96	134	39	1	0	4	0	10	0	2	988
AUG	31	58	5	53	12	398	8	94	37	4	103	121	20	6	0	5	0	4	0	1	960
SEP	34	103	7	58	11	513	6	152	56	15	174	144	59	3	4	6	0	6	0	0	1351
OCT	45	64	11	142	13	622	8	203	55	10	78	150	43	6	2	5	0	5	0	1	1463
NOV	34	94	7	160	9	547	2	121	36	4	74	150	26	17	0	29	0	65	0	1	1376
DEC	45	71	6	144	6	588	0	182	20	20	30	194	20	28	1	45	0	50	0	6	1456
TOTAL	549	854	91	1517	140	6243	43	2068	405	110	938	2408	315	152	10	241	0	306	0	9	16414

2014	FRENK		KUTAL		VALDA		ERNIK		RUSOR		BESAT		BAMOK		KOKES		LUMES		KUNAD		TOTAL
	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	
JAN	28	70	2	161	14	549	1	300	20	44	17	199	16	15	1	37	0	49	0	0	1523
FEB	24	93	7	77	15	406	2	109	18	15	26	160	14	20	3	31	0	39	0	3	1062
MAR	12	104	10	137	10	601	0	220	16	23	36	241	15	7	0	48	0	50	0	2	1532
APR																					0
MAY																					0
JUN																					0
JUL																					0
AUG																					0
SEP																					0
OCT																					0
NOV																					0
DEC																					0
TOTAL	64	267	19	375	39	1556	3	629	54	82	79	600	45	42	4	116	0	138	0	0	4117



Anchorage ARTCC Contact Information



**Federal Aviation
Administration**

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Questions?

