

Flight Planning Coordinator

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Who am I?

- Born and raised in Tripoli, IA (20 miles north of Waterloo)
- B.S. in Meteorology at Iowa State (2009-2013)
- M.S. in Applied Meteorology at Mississippi State (2015-2016)
- Began at Rockwell Collins in Houston, TX in September 2013 as a Flight Planning Coordinator
 - I started with almost ZERO aviation experience

What is Rockwell Collins?

- Rockwell Collins is a pioneer in the design, production and support of innovative solutions for our customers in aerospace and defense. Our expertise in flight-deck avionics, cabin electronics, mission communications, information management and simulation and training is strengthened by our global service and support network spanning 27 countries. Working together, our global team of nearly 20,000 employees shares a vision to create the most trusted source of communication and aviation electronics solutions.
- Rockwell Collins corporate office is located in Cedar Rapids, Iowa
- Rockwell Collins made the biggest acquisition in their long history with the purchase of Aeronautical Radio, Incorporated (ARINC) in December 2013 for \$1.39 Billion

Rockwell Collins – Houston Office

- Formerly known as Air Routing International
 - Acquired by Rockwell Collins in 2010
- The #1 worldwide provider of international trip support and corporate flight handling
- ~220 employees at the Houston office
- We are a 24/7/365 operation!

Rockwell Collins – Houston Office

- Many different departments make up the office!
- These include:
 - Operations
 - Flight Planning (That's me!)
 - International Weather
 - Domestic Weather
 - Fuel
 - Customer Support Center
 - Database
 - Engineering
 - IT/Help Desk
- All of these departments work together to deliver a final product to the client

What does International Trip Support involve?

1. Flight Plans
2. Flight Following
3. Weather Briefings and Outlooks
4. Fuel Arrangements
5. Hotels for the crew
6. Ground Handling with Transportation
7. Overflight and Landing Permits
8. Slot departure and arrival times
9. APIS report
10. Customs
11. Weight and Balance report
12. Runway Analysis
13. Flight Plan uplink capabilities to the aircraft flight deck

What are the common types of aircrafts that our clients fly?

1. Gulfstream --- G280, G4, G450, G4SP, G5, G550 and G650



The brand new G650 which would cost you \$64.5 million!

What are the common types of aircrafts that our clients fly?

1. Dassault Falcon --- Falcon 50, 900, 2000, and 7X



The Falcon 7X would cost you \$37.9 million!

What are the common types of aircrafts that our clients fly?

- Global 5000 and Global Express
- Challenger 300 and 605
- Citation X
- Hawker
- Airbus – A318, A320 and A340
- Boeing- 737, 747 and 767
- Boeing Business Jet

What does a Flight Planning Coordinator do?

- Build routings for aircraft finding the most optimized, fuel efficient and quickest route by taking advantage of the upper level winds
- Follow the guidelines and mandates of every countries Civil Aviation Authority (CAA)
 - Notice to Airmen (NOTAMs) and mandatory routings
- Avoid overflying countries that are unsafe or will not allow it
 - North Korea, Ukraine, Libya, Syria, Iraq...
- Deliver summary flight plans days to months in advance
 - Gives clients an idea of fuel burn, times, routings
- Maintain every individual aircraft that is flown by our clients in a large database to ensure accurate flight plans
 - Aircraft weights, navigational equipment, survival equipment

Example: NOTAM (ZBAA – Beijing)

- **E5155/14** - RWY18R/36L CLSD. 1700-2245 DLY, 31 OCT 17:00 2014 UNTIL 01 NOV 22:45 2014. CREATED: 29 OCT 11:00 2014
 - Runway 18 Right, 36 Left is closed from 17:00-22:45Z daily starting at 17:00Z on October 31, 2014 and ending at 22:45Z on November 1, 2014

What is a Flight Plan?

- A flight plan includes:
 - An estimated total fuel burn based on wind data (can be both current and historical averages)
 - Gives the crew an idea on how much fuel to put on the aircraft prior to departure
 - The routing that the aircraft will fly
 - The estimated time enroute (ETE) from takeoff to landing
 - The aircraft weight during takeoff and landing
 - And much more that I will not get into!!!

SUMMARY FLIGHT PLAN USING CURRENT WINDS 311200Z

ACFT ████████ TYPE GLF6 CRZ M87 ~~~
 NONSTOP COMPUTED FOR KLAX/EGGW ETD 2100/01 SEP 15

	FUEL	TIME	DIST	ARRIVE	TAKEOFF	LAND	AV PLD	OPNLWT
DEST EGGW	028361	09.13	4781	0613Z	089333	060972	002000	054601
ALT EGSS	000371	00.05	0022	0618Z		FOD 004371		
HLD	000000	00.00						
RES	004000	01.37						
REQD	032732	10.55						
XTR	000000	00.00						
TAXI	000400							
TOTL	033132	10.55						

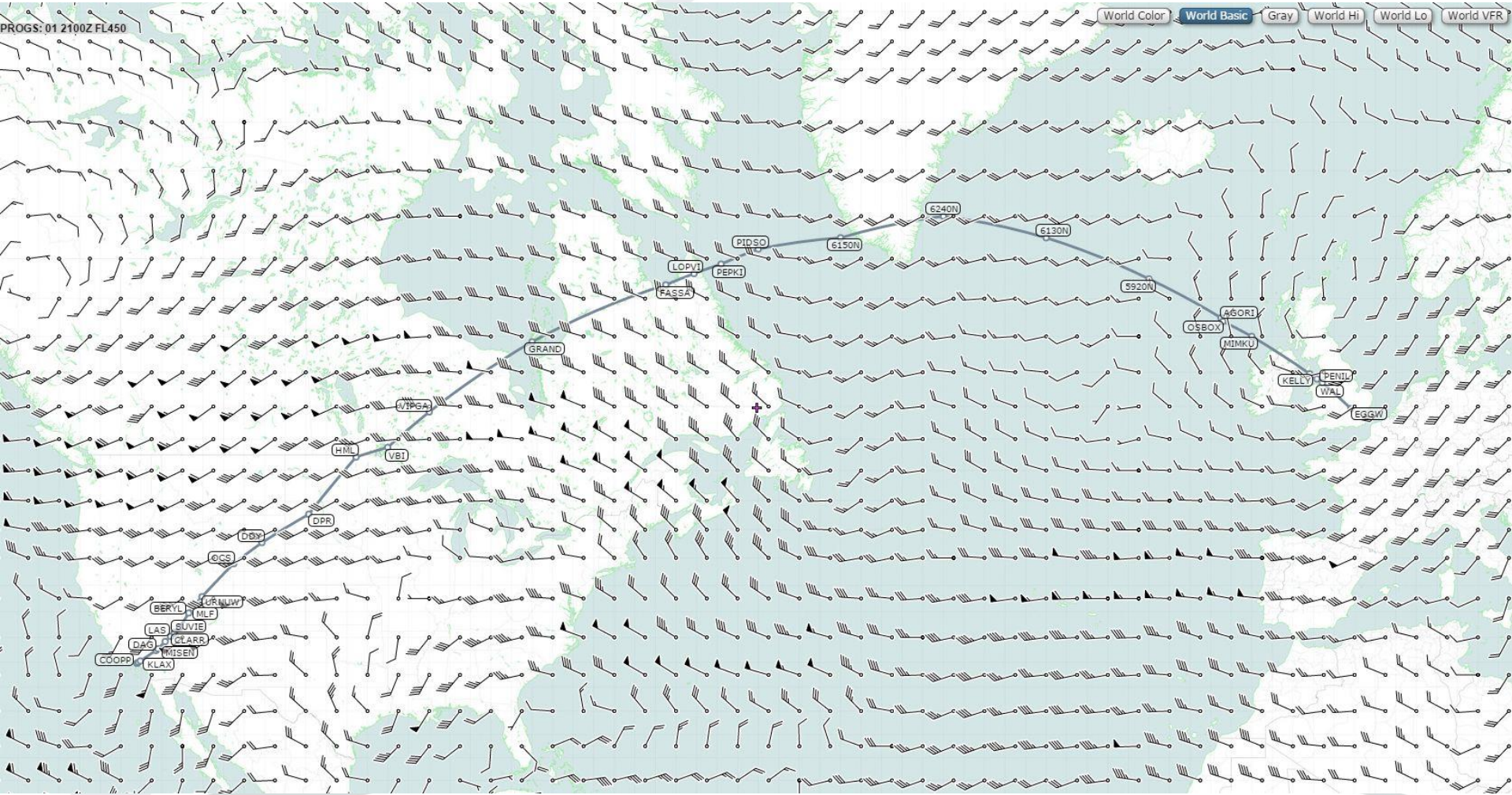
WIND P024 MXSH 04/6240N

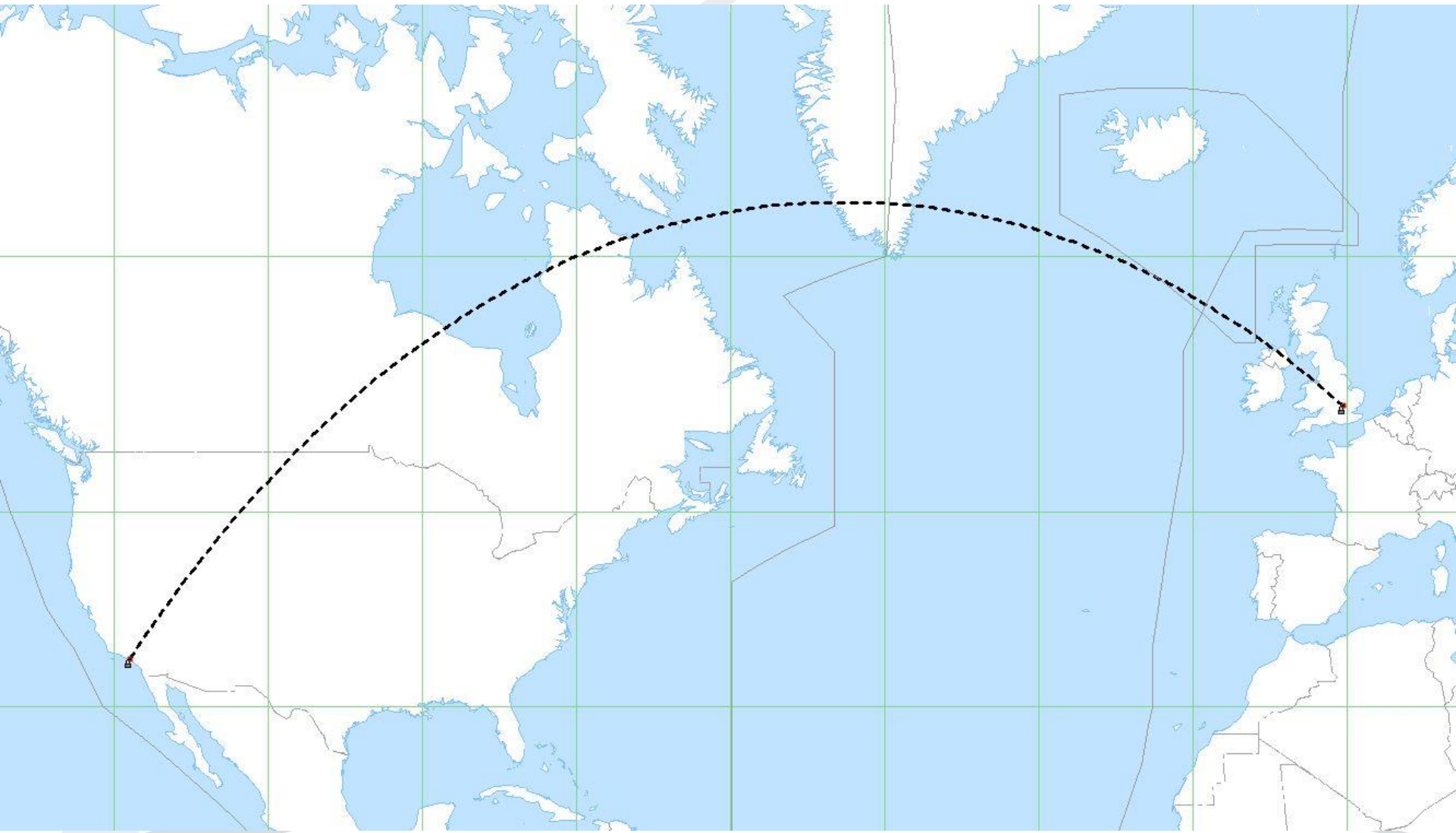
FLT LEVELS KLAX 410 DPR 450 5920N 490

KLAX LOOP7 DAG J9 MLF J107 VBI SCAK FASSA LOPVI PEPKI PIDSO 6150N
 6240N 6130N 5920N AGORI OSBOX MIMKU KELLY UL10 WAL DCT EGGW

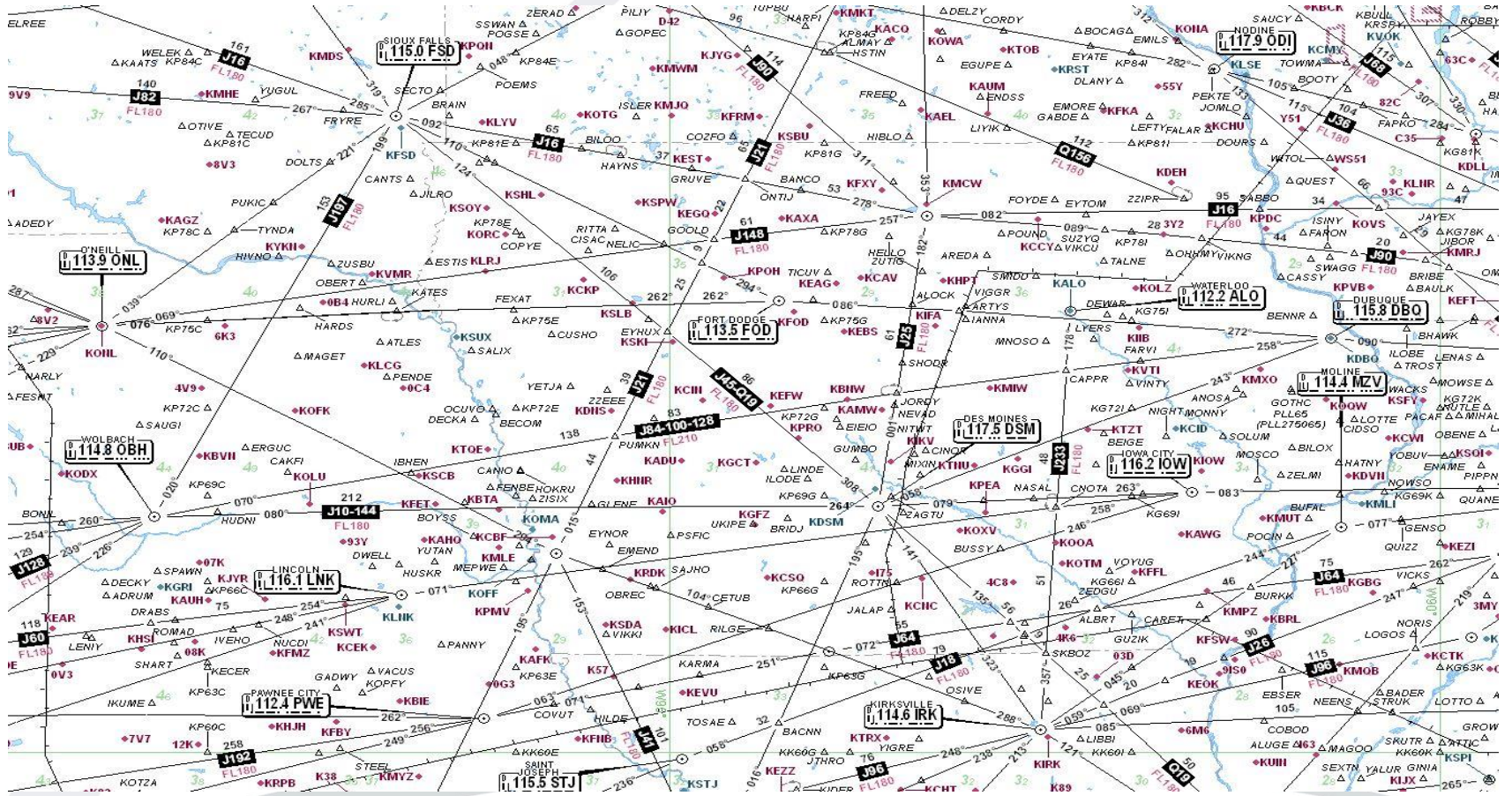
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 -KLAX2100
 -N0495F410 LOOP7 DAG J9 MLF J107 DPR/N0495F450 J107 VBI SCAK
 FASSA DCT LOPVI DCT PEPKI/M087F450 DCT PIDSO DCT 61N050W
 62N040W 61N030W 59N020W/M087F490 DCT AGORI DCT OSBOX DCT
 MIMKU/N0508F490 DCT KELLY UL10 WAL DCT
 -EGGW0913 EGSS
 -PBN/B1C1D1L101S2 NAV/RNVD1E2A1 SUR/260B
 EET/CZWG0236 CZUL0359 LOPVI0501 PIDSO0524 50W0551 40W0625
 30W0658 20W0736 AGORI0806 MIMKU0820 EGTT0841
 SEL/EFMP CODE/A00529
 -E/1054 R/V S/M J/LV D/2 7 1 Y A/WHT BLU)

 PRIMARY ALTERNATE: EGSS - LONDON STANSTED
 BURN: 371 ETE:00.05 DIST: 22 FL:070 IAS:221
 MSA: 2400 FT TRACK: 088 AVG WIND COMP: 9 TWC
 EGGW DCT EGSS





Jeppesen Chart



Where is the meteorology in aviation?

- METARs and TAFs
- SIGMETs – Significant Weather Information
- AIRMETs – Airmen’s Meteorological Information
- High-level Significant Weather (SIGWX) charts
- Hurricane and Typhoon avoidance
- Volcanic eruptions – Ash is extremely damaging to aircraft!
- Thunderstorms
- Icing
- Turbulence and Wind Shear
- Winter Storms
- Fog

Flight Category Definitions

Category	Ceiling		Visibility
Low Instrument Flight Rules LIFR* (magenta sky symbol)	below 500 feet AGL	and/or	less than 1 mile
Instrument Flight Rules IFR (red sky symbol)	500 to below 1,000 feet AGL	and/or	1 mile to less than 3 miles
Marginal Visual Flight Rules MVFR (blue sky symbol)	1,000 to 3,000 feet AGL	and/or	3 to 5 miles
Visual Flight Rules VFR† (green sky symbol)	greater than 3,000 feet AGL	and	greater than 5 miles
<p>*By definition, IFR is ceiling less than 1,000 feet AGL and/or visibility less than 3 miles while LIFR is a sub-category of IFR.</p> <p>†By definition, VFR is ceiling greater than or equal to 3,000 feet AGL and visibility greater than or equal to 5 miles while MVFR is a sub-category of VFR.</p>			

METAR - Meteorological Aerodrome Report

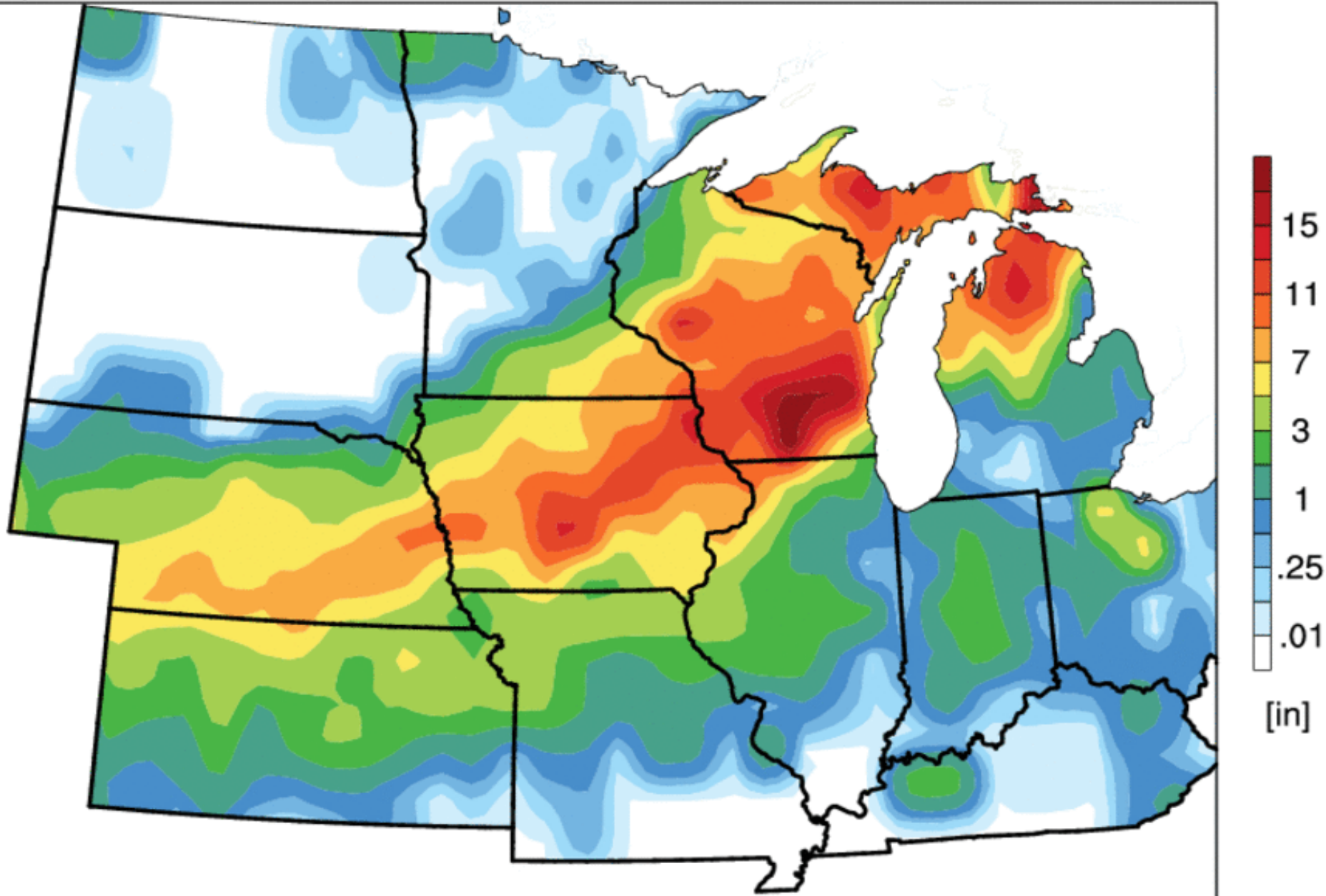
- KAMW 200402Z AUTO 03016G24KT 1/4SM +SN FG OVC003 00/00 A2975 RMK AO2 LTG DSNT W
- KAMW? -4 letter station identifier, AMES
- 200402Z? -20th day of the month at 04:02Z
- Auto? –Fully automated report
- 03016G24KT? – The wind is from 030 degrees (NNE) at 16 knots gusting at 24 knots
- 1/4SM? – Visibility is one quarter of a statute mile
- +SN? – Heavy snow

KAMW 200402Z AUTO 03016G24KT 1/4SM +SN FG OVC003 00/00 A2975 RMK AO2 LTG DSNT W

- FG? – Fog
- OVC003? – Overcast cloud layer at 300 feet
- 00/00? – Temperature is 0 degrees Celsius and the Dew Point Temperature is 0 degrees Celsius
- A2975? – Altimeter reading is 29.75 inches of mercury
- RMK? – Remark section
- AO2? - Automated station with precipitation discriminator
- LTG DSNT W? – Lightning is to the West

19-20 December 2012 - IEM Snowfall Total Analysis

Map Valid: Snowfall totals up until 8 AM 21 Dec 2012



TAF – Terminal Aerodrome Forecast

- These are forecasts issued by the National Weather Service used by the aviation community
- TAFs are encoded much like METARs
- They give critical weather information for pilots at nearly every airport in the country and even worldwide
- These are typically 24 or 30 hour forecasts and are issued four times per day at 00, 06, 12 and 18 Zulu

MSP TAF issued sometime last year (2014)

- KMSF 092045Z 0921/1024 32009KT P6SM OVC080
FM100200 01006KT P6SM OVC060
FM101100 04009KT 2SM -SN OVC025
FM101200 07012KT 1/2SM SN VV006
FM101500 07013KT 1/4SM +SN VV002
FM101800 07014G22KT 1/2SM SNPL BKN009 OVC020



Useful Aviation Weather Websites

- www.skyvector.com
- www.aviationweather.gov
- www.flightaware.com

Wilkins Weather Technologies (WWT)

- This company was acquired by Rockwell Collins at the same time Air Routing International was in 2010
- WWT provides offshore marine based forecasts for mainly oil and gas companies worldwide
 - These forecasts are mainly for the oil rigs out in the oceans
- These forecasts typically include:
 - Wind, Wave and Swell heights
 - Lightning/thunderstorm chances
 - Hurricane/Typhoon forecasts
- Wilkins has **FOUR** Iowa State alumnus working for them

Rockwell Collins Benefits

- Health, dental and vision insurance
- Wellness program (Health Savings Account)
- Start with 15 days of paid vacation per year
- 401(k) – RC will match half of your personal contributions up to 8%
 - If you put in 8% of your paycheck into the 401(k) then RC will add 4% to that for a total of 12%
 - Fully vested after 3 years of employment
- Incentive Pay Plan (IPP)
- 100% tuition reimbursement – RC will reimburse 100% of tuition up to \$15,000 per year for graduate level programs

My advice to you while at ISU

1. Become heavily involved in AMS
 - Both ISU Chapter and National Chapter
2. Join and participate in the Central Iowa NWA
 - Opportunity to network with many professionals in the area
3. Make connections
4. Become friends with upperclassmen (Don't burn bridges)
 - Who knows? They may get you a job!
5. Participate in WxChallenge
6. Become a better programmer
7. Learn your worldwide geography
8. Do something that will set you apart from the average student
9. Take an environmental science or/and air pollution class
 - Many current jobs out there in these types of fields!
10. AND Most Importantly
 - ENJOY THE REST OF YOUR TIME AT ISU!



My advice to you when you start applying for jobs

1. Don't be picky!
2. Be open to living anywhere in the country
 - Only a handful of meteorology jobs in Iowa
3. Send out as many job applications as possible

Careers in Aviation with a Meteorological Background

- Private aviation like Rockwell Collins in Houston and ArincDirect in Annapolis, Maryland
 - Providing Trip Support as a Meteorologist, Flight Planner or dispatcher
 - Pay varies heavily in the private sector (starting \$30,000-\$50,000 (just a ballpark number))
- Commercial Airlines
 - Flight Dispatcher
 - Requires a FAA dispatch license. Must be at least 23 years old to obtain one. Cost is around \$4,000-6,000 depending on the school. Usually each program is around six months and typically can be done online expect for a 2-4 week on-site class.
 - Again, pay varies. Expect upper \$20K to \$30K for a regional airline. Major airline (Delta, United, American, etc.) starts around \$55,000-\$65,000.
 - Meteorologist (Delta, Southwest, among others)
 - Pay is probably similar to the dispatcher pay at a major airline



Careers in Aviation with a Meteorological Background

- Government (NOAA)
 - Aviation Weather Center (This is the SPC of aviation)
 - Located in Kansas City

Questions???

- <https://www.youtube.com/watch?v=6FE9fidGVpQ>