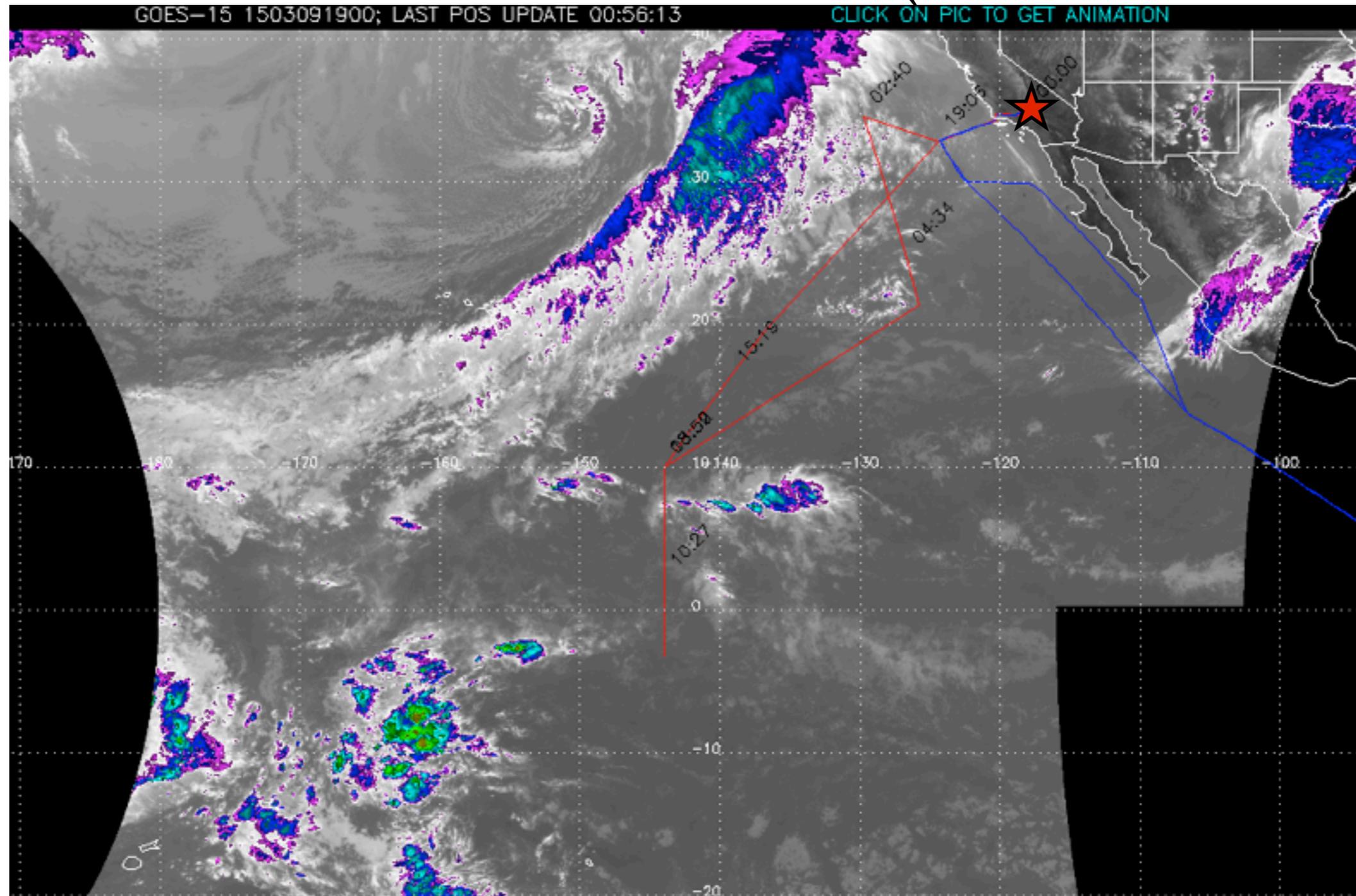


current condition:

satellite IR imagery on 2015-03-09, ~19GMT
(03-09 Mon, ~12PM)



- upper-level trough approaches from central Pacific, increasing cloudiness over EAFB on Tue through Wed
- ridge rebuilds later this week into early next week

metbrief: 2015-03-09

(science flight #2: 2015-03-10 Tue)

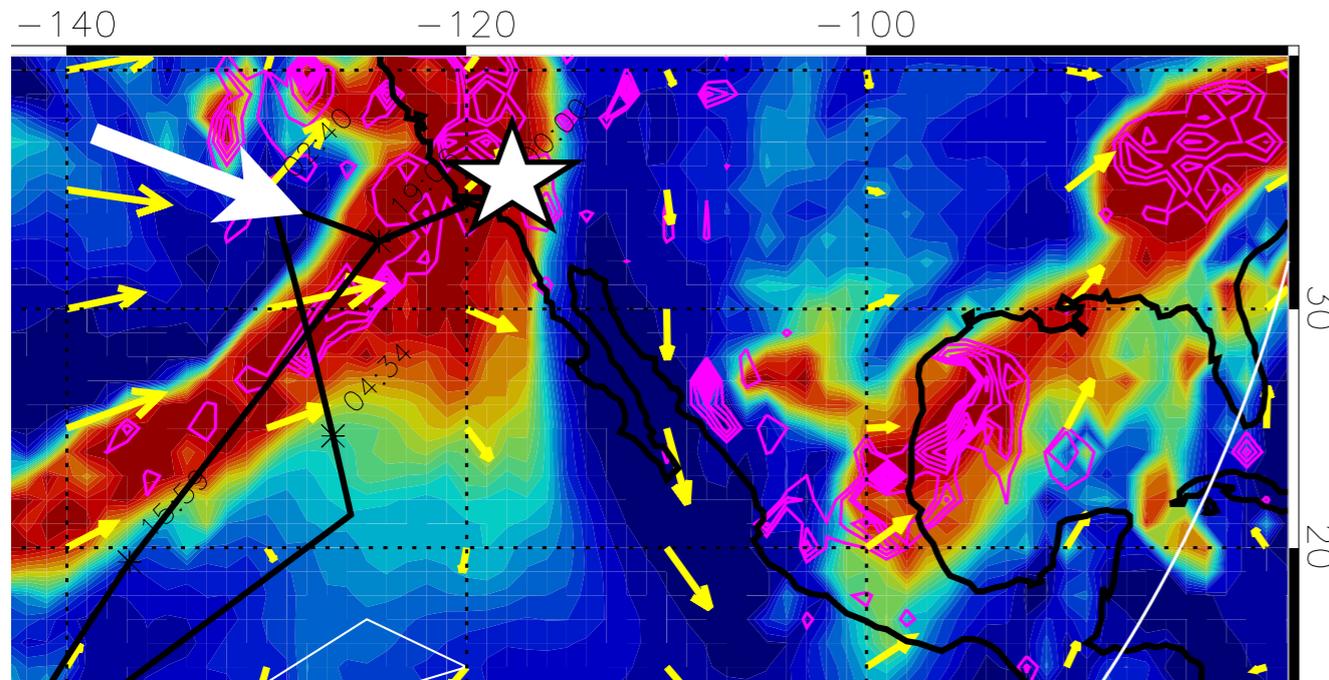
- biggest concern for Tue flight is **icing risk at landing** due to increased moisture in mid to upper atmosphere (peak Wed ~5-11am)

➡ if \leq 12-hr flight, landing looks OK at 8PM, marginal icing risk at 10PM

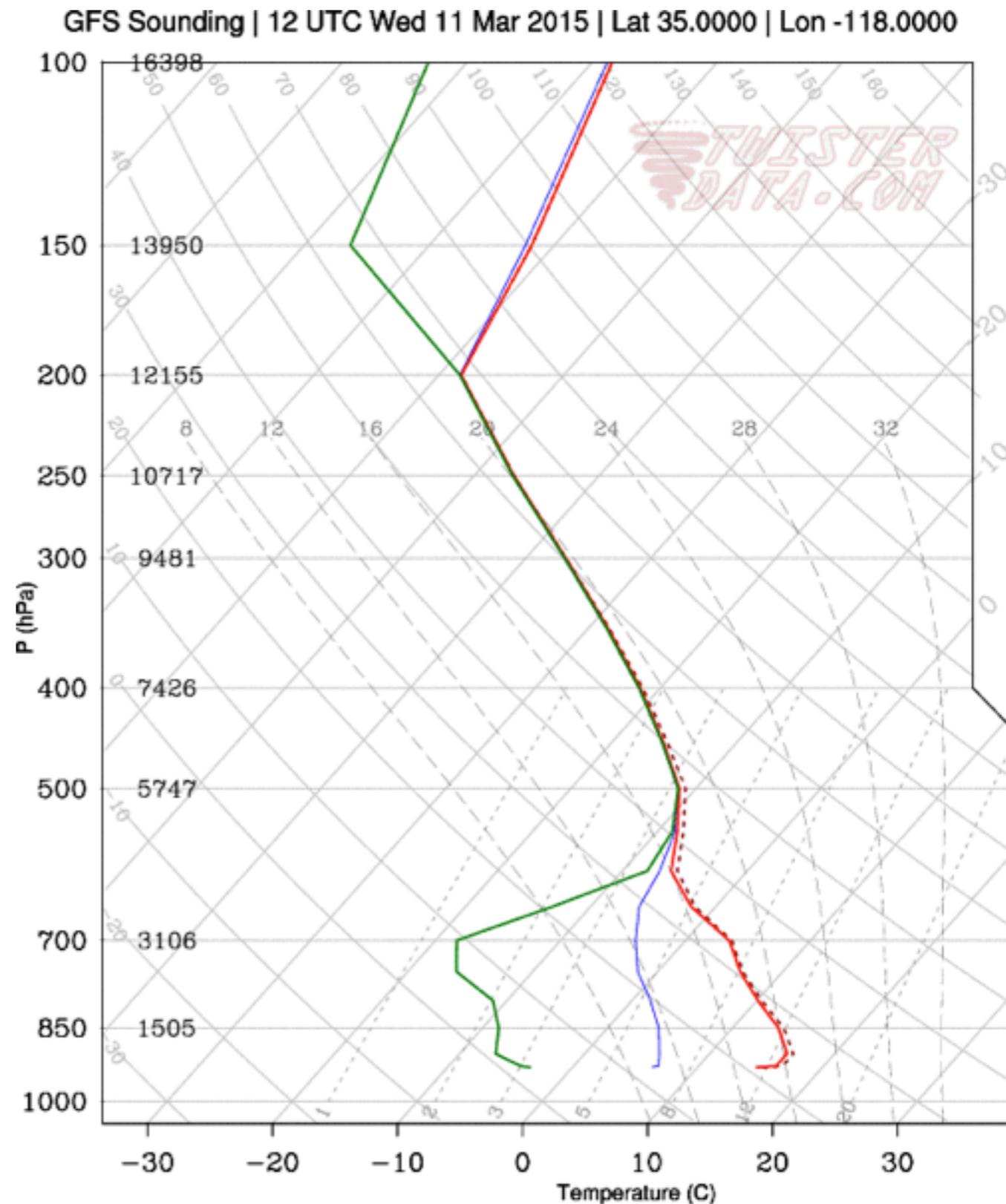
	wind	cld cover (base)	precip	
Tue takeoff 17Z (10AM)	0-5 knot NNE020	FEW, SCT (high)	none	
midflight 03Z (08PM)	some high clouds expected at takeoff and along the SE jog, less along the SW leg down to ~10N; few low clouds; possible convection south of 10N			
landing 14Z (07AM)	5 knot SW235	BKN, OVC (mid and high)	low prob	icing risk
landing 05Z (10PM)	5-10 knot SW250	SCT, BKN (mid and high)	low prob	marginal icing risk

Tue flight landing condition (GFS):

500 mb RH and soundings on 2015-03-11, 12GMT (03-11 Wed, 05AM)



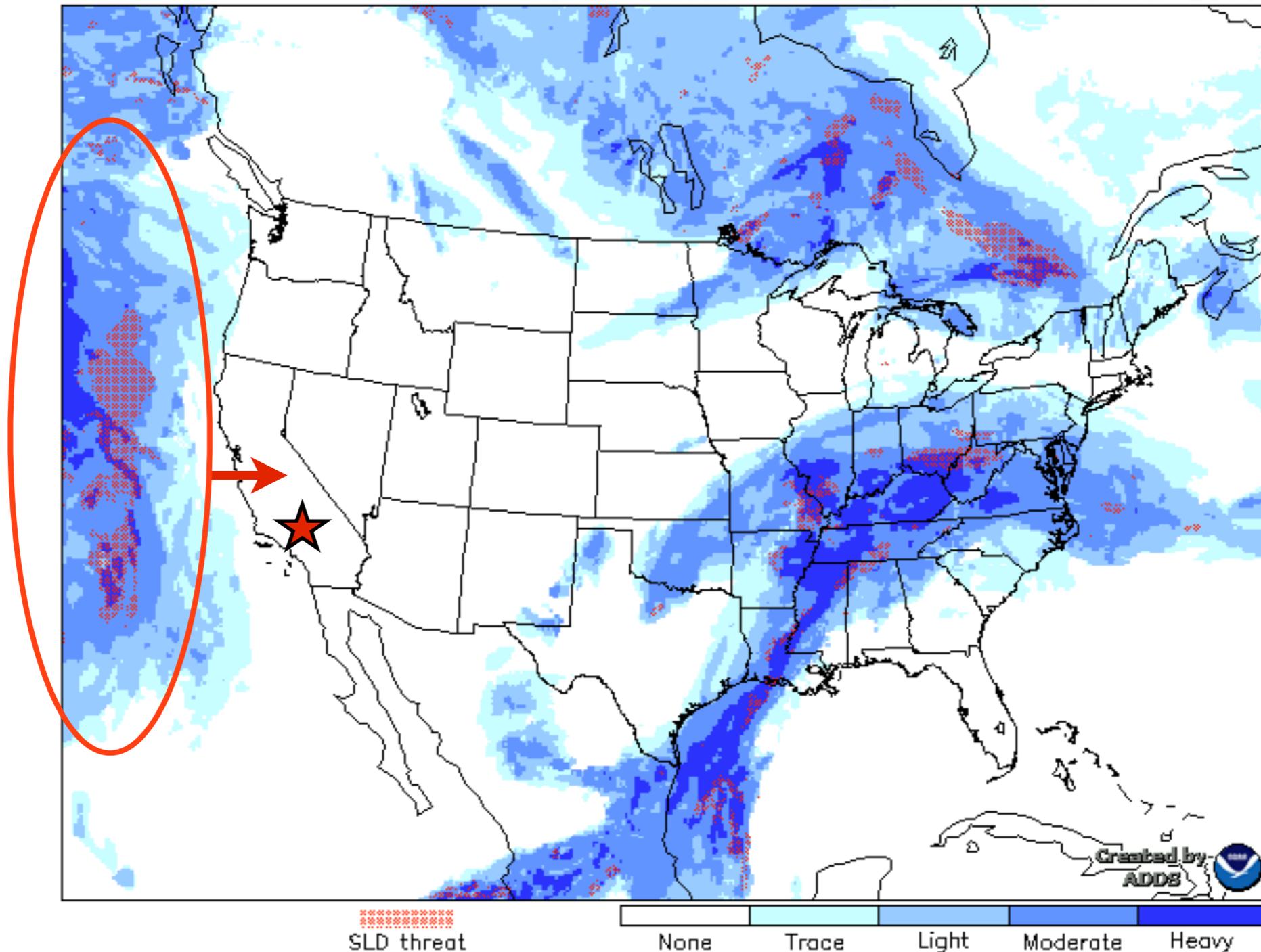
- a band of high mid-level moisture air approaches EAFB from the east
- lots of mid-level moisture (top: color shading) combined with upward motion (top: magenta contours), cold Ts and saturated air (right: sounding) pose **icing risk**
 - ➔ Lenny's estimate of icing probability: **20-30%**
- icing probability peaks between 5am and 11am Wed, decreases by 5pm



Tue flight –5 hrs before takeoff condition (NWS Aviation):
Icing on 2015-03-10, 12GMT
(03-10 Tue, 05AM)

Maximum icing severity (1000 ft. MSL to FL300)

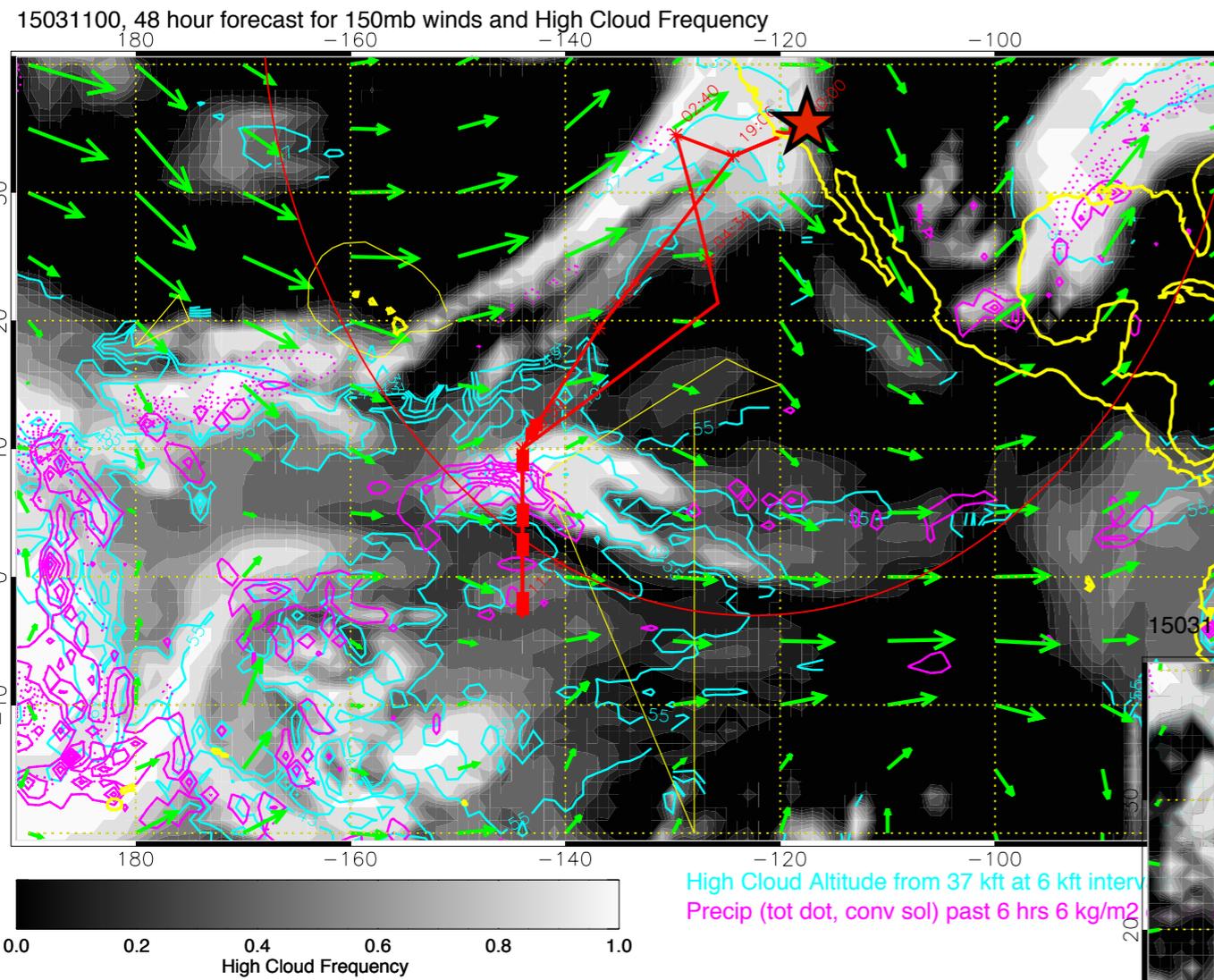
18 hr forecast valid 1200 UTC Tue 10 Mar 2015



* Latest available forecast (as of 03-09, 12PM)

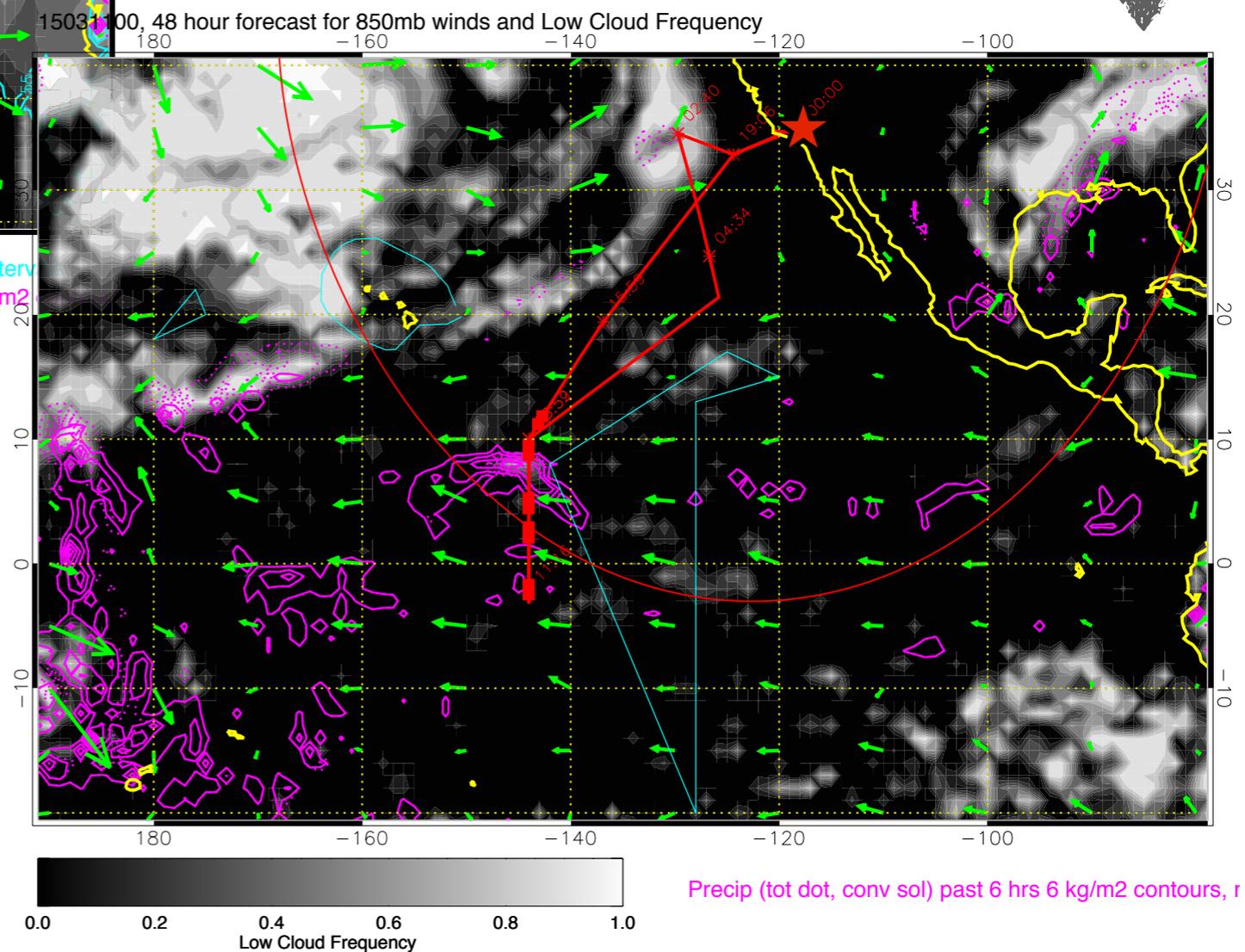
Tue midflight condition (GFS):

high & low clouds on 2015-03-11, 00GMT (03-10 Tue, 05PM)



← high clouds
(150 mb wind)

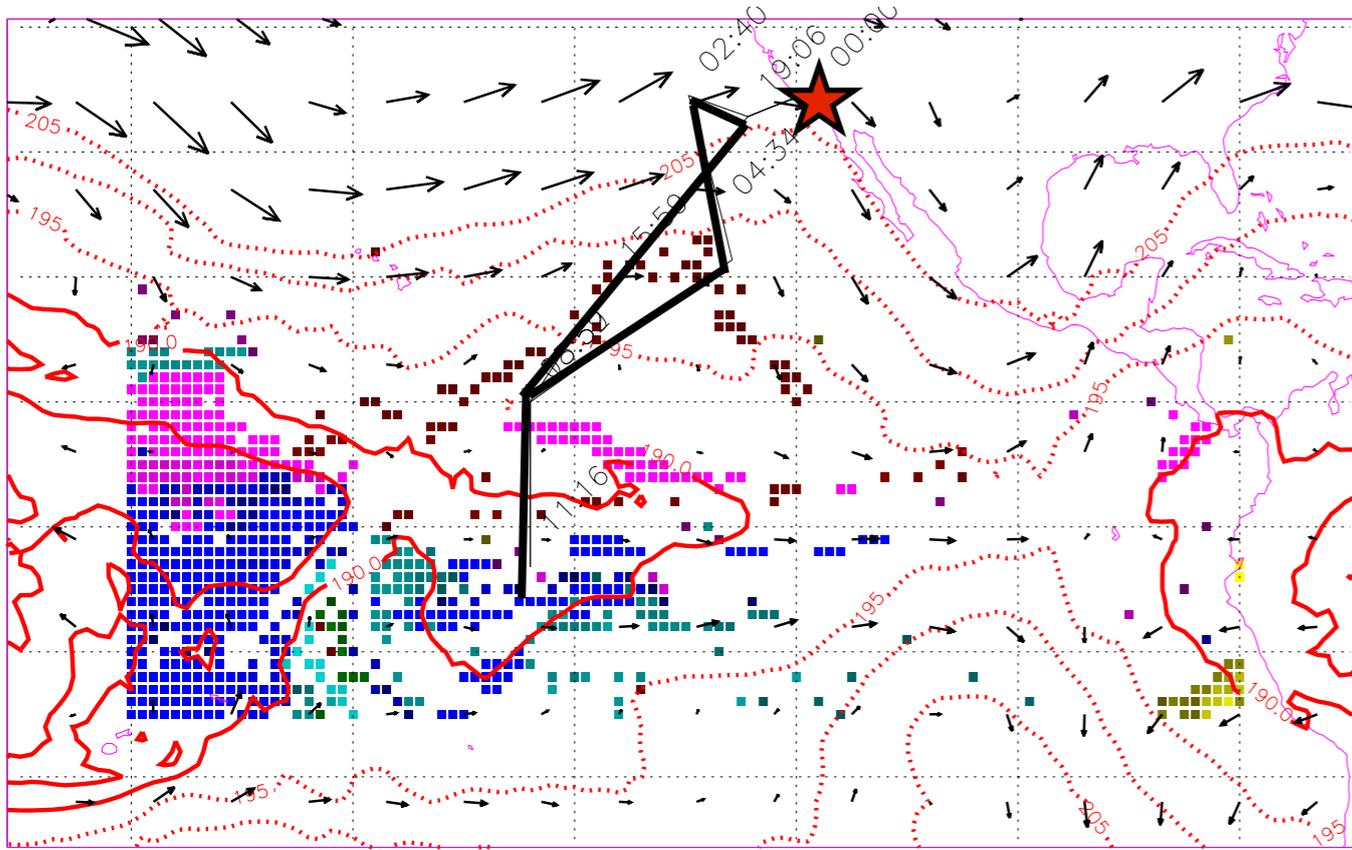
low clouds
(850 mb wind)



- lots of high clouds at and to the west of EAFB; cloud-free along SW flight track -- similar in NAM model
- very few low clouds, except at NW-most point
- some convection (magenta contours) along the southbound leg, south of ~10N

Tue midflight condition (L. Pfister):

convective influence at 47 and 53 kft on 2015-03-11, 06GMT
(03-10 Tue, 11PM)

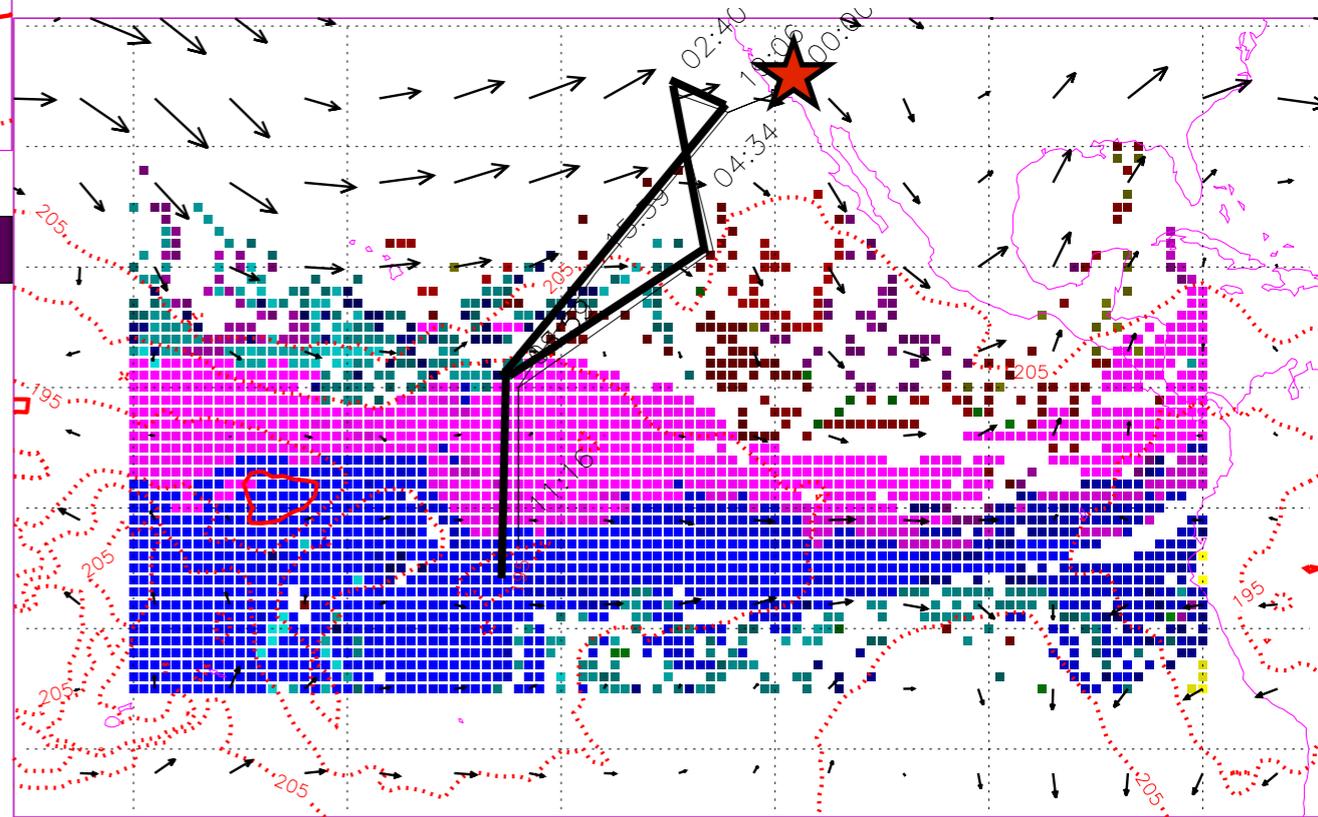


← 53 kft

47 kft



Locations of Convection (darker=older)



Locations of Convection (darker=older)



- North and South Pacific air at southbound leg (south of 10N)
- some old air from Africa at 52 kft north of 10N

metbrief: 2015-03-09

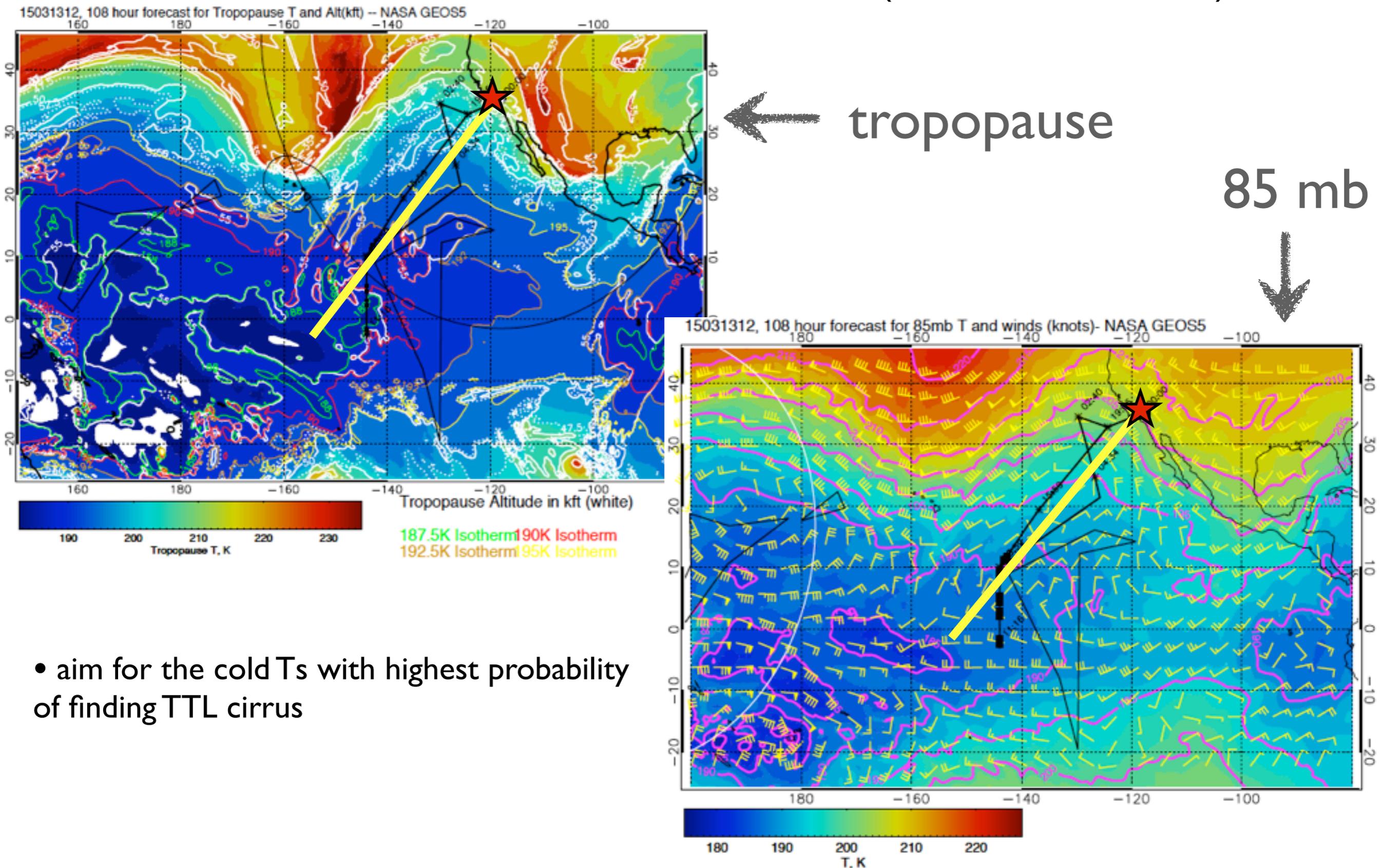
(science flight #3: 2015-03-12 Thu)

- good takeoff and landing conditions
- watch for cold Ts and convection forecast to the south of 10N

	wind	cld cover (base)	precip
Thu takeoff 03Z (08PM)	10 knot NE045	FEW, SCT (high)	none
midflight 13Z (06AM)	some convection to the south of 10N; high clouds to the west of the flight track		
landing 23Z (04PM)	10-15 knot NE045	FEW, SCT (high)	none

Thu midflight condition (GFS):

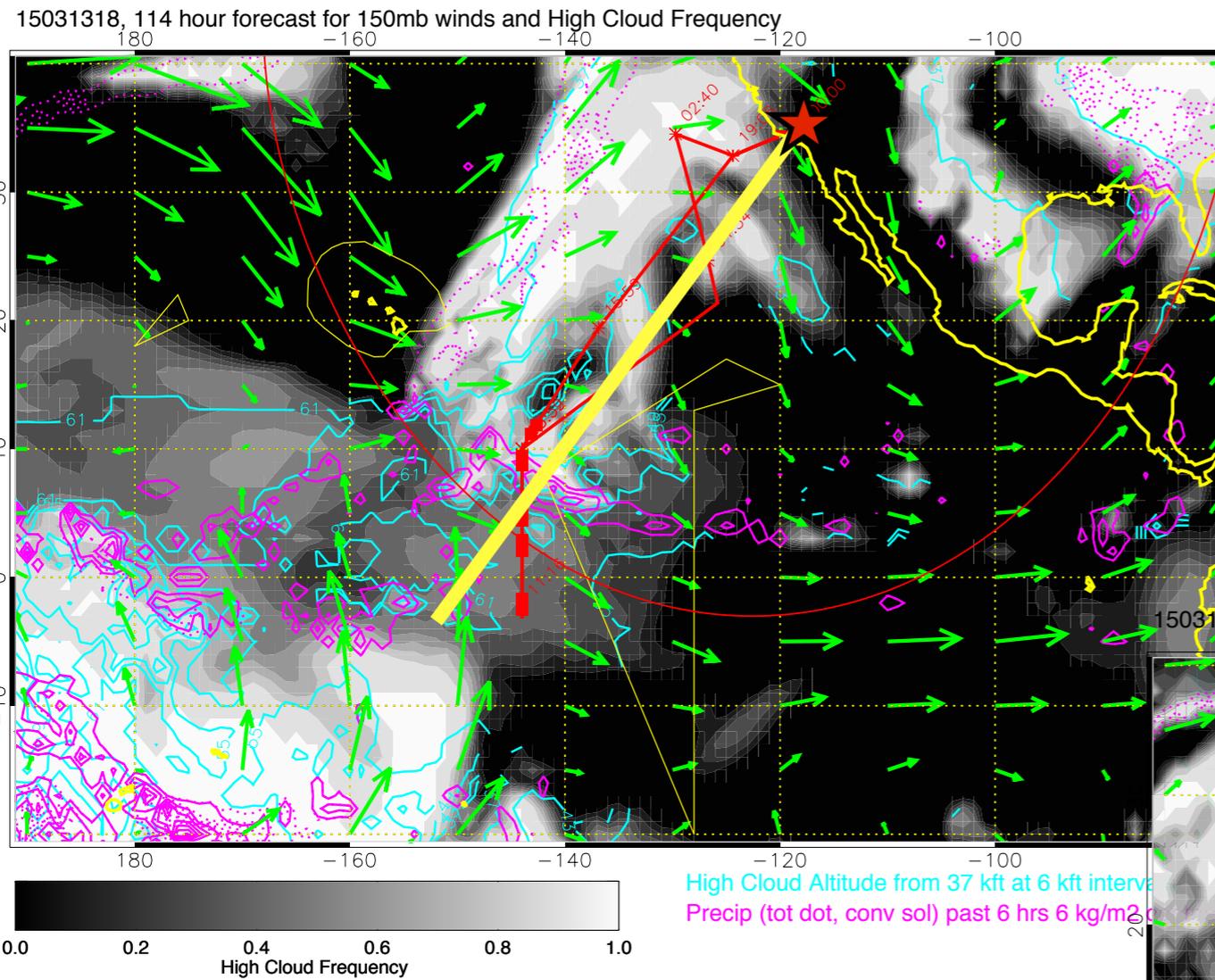
tropopause and 85 mb T on 2015-03-13, 12GMT
(03-13 Fri, 05AM)



- aim for the cold Ts with highest probability of finding TTL cirrus

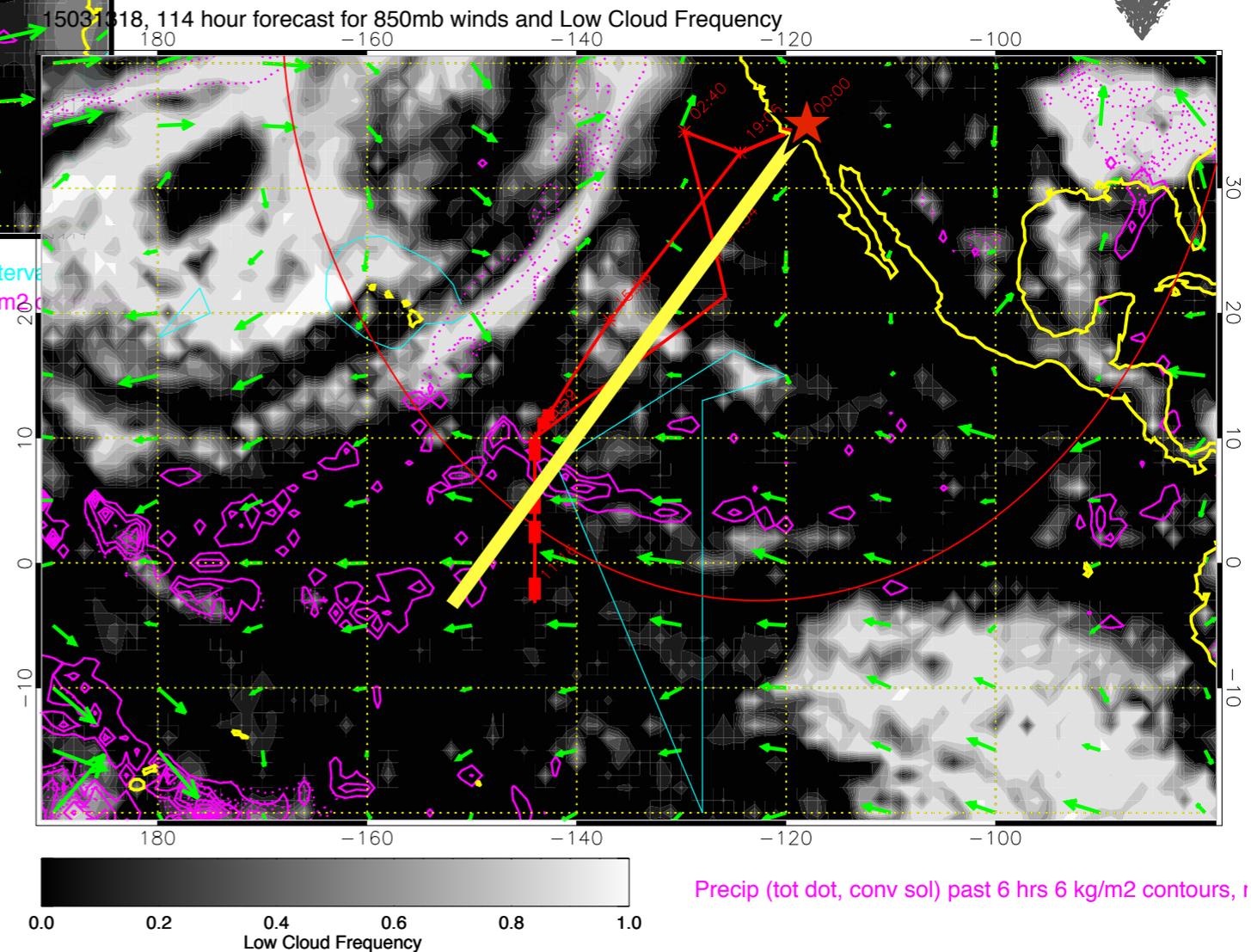
Thu midflight condition (GFS):

high & low clouds on 2015-03-13, 18GMT (03-13 Fri, 11AM)



← high clouds
(150 mb wind)

low clouds
(850 mb wind)



- high clouds expected to the west of the flight track (moving NE)
- only a few low clouds along the track

2015-03-09 metbrief summary

- Upper-level trough is approaching from the central Pacific, increasing cloudiness (mid to upper-levels) over EAFB on Tue-Wed. Ridge develops later this week into early next week (i.e., back to warm and dry weather).
- science flight #2: Tue flight (10AM takeoff)
 - good takeoff conditions
 - slight chance of precip at landing, but not of concern (precip mostly to the north of EAFB)
 - increased moisture in mid to upper atmosphere poses **icing risk at landing** (peak at Wed ~5-11am)
 - ▶ if 12-hr flight: looks OK at 8PM, marginal icing risk at 11PM
 - clouds (especially high clouds) along the early portion of the flight track, but should be **relatively cloud-free 21-02Z (2-7 PM)**
- science flight #3: Thu flight (8PM takeoff)
 - good takeoff and landing conditions
 - cold Ts, cirrus clouds, tropical air, possible convection expected near the SW far point