Today (Thursday): No fly day.

Friday & Saturday: Not recommended. Moisture and clouds from what’s left of Ingrid & Manuel move over the region and interact with a trough and surface front, likely producing some rain. Clearing begins on Saturday. With onshore flow and precipitation, ozone and PM are expected to remain low through Saturday.

Sunday & beyond: The TCEQ forecast is moderate for ozone Sunday, particularly to the S & SW sides of Houston. Better or even great flying weather likely, including an end to the persistent easterly/southeasterly flow of late. The surface front should move out of the study region, while another ridge builds over the continental US, preventing flow from the Gulf. A northerly flow will bring continental air to Houston.

Even further beyond: Keep an eye on the system near eastern Mexico as there is talk that it may be a big rainmaker (not as a tropical storm) for the northern Gulf Coast at the end of next week – too early to tell though.
Recommendations

• Thursday, Friday, Saturday: **No fly days.** Too many clouds and high chances of precipitation.

• Sunday and beyond: **Possible fly days.** Clearing after cold front passes Friday night/Saturday morning.
Conroe:

Houston Hobby:

Galveston:
Current Conditions

Conroe:
- Mostly Cloudy
- Temperature: 84°F (29°C)
- Humidity: 74%
- Wind Speed: Calm
- Barometer: 29.97 in (1014.4 mb)
- Dewpoint: 75°F (24°C)
- Visibility: 10.00 mi
- Heat Index: 92°F (33°C)
- Last Update on 19 Sep 11:53 am CDT

Houston Hobby:
- Mostly Cloudy
- Temperature: 87°F (31°C)
- Humidity: 67%
- Wind Speed: E 10 mph
- Barometer: 29.94 in (1014.1 mb)
- Dewpoint: 75°F (24°C)
- Visibility: 10.00 mi
- Heat Index: 96°F (33°C)
- Last Update on 19 Sep 11:53 am CDT
Current Conditions

Galveston:

Party Cloudy

88°F
31°C

Humidity: 73%
Wind Speed: E 14 mph
Barometer: 29.94 in (1013.9 mb)
Dewpoint: 78°F (26°C)
Visibility: 10.00 mi
Heat Index: 102°F (39°C)

Last Update on 19 Sep 11:52 am CDT
Today: Easterly flow. Region remains under influence of the upper trough, while surface cold front approaches from the north. Moisture streams in Ingrid and Manuel.

1 PM CDT
500 mb vorticity
10 m winds at 1 PM today
Tomorrow: Circulatory wind pattern at surface. Upper ridge builds in. Moisture streams in Ingrid and Manuel, while region is also impacted by the cold front and moisture influx from the Gulf.

1 PM CDT
500 mb vorticity
10 m winds at 1 PM tomorrow
Conroe
Today: Mostly cloudy
Tomorrow: Mostly cloudy
Houston Hobby
Today: Mostly cloudy
Tomorrow: Mostly cloudy
Galveston
Today: Mostly cloudy
Tomorrow: Mostly cloudy
Saturday: Surface cold front passes through region Friday night/Saturday morning as the upper ridge has built over the continental US. Cloud coverage and precipitation should decrease throughout the day. NE flow.

1 PM CDT
500 mb vorticity
10 m winds at 1 PM Saturday
Sunday: Region remains under influence of the upper ridge, which should also prevent some tropical moisture from reaching our area. Partly cloudy→mainly clear conditions.

1 PM CDT
850 mb RH

500 mb vorticity
Conroe
Saturday: Mostly cloudy
Sunday: Partly cloudy
Houston Hobby
Saturday: Mostly cloudy
Sunday: Partly cloudy
Galveston
Saturday: Mostly cloudy
Sunday: Partly cloudy
-Tomorrow: Low cloud and precipitation.
-Saturday: Low cloud and precipitation.
-Sunday: Some low cloud and precipitation.
-Tomorrow: Low cloud and precipitation.
-Saturday: Low cloud and precipitation.
-Sunday: Some low cloud and precipitation.
Galveston; BUFKIT – NAM (12 UTC 10 September)

- Tomorrow: Low cloud and precipitation.
- Saturday: Low cloud and precipitation.
- Sunday: Some low cloud and precipitation.
Tomorrow: NAM – Clouds at various levels throughout the day

Integrated liquid and frozen hydrometeors (all levels)

10 AM CDT

4 PM CDT

1 PM CDT

7 PM CDT
Tomorrow: GFS – Mostly cloudy throughout the day
Tomorrow: Canadian – Cloudy all day
Tomorrow: GEOS-5 – clouds at all levels through the whole day

10am 1pm 4pm 7pm

HIGH

MID

LOW
Saturday: NAM – High and low clouds throughout the day

Integrated liquid and frozen hydrometeors (all levels)

51-hour forecast valid 1500 UTC Sat 21 Sep 2013

10 AM CDT

Integrated liquid and frozen hydrometeors (all levels)

54-hour forecast valid 1800 UTC Sat 21 Sep 2013

1 PM CDT

Integrated liquid and frozen hydrometeors (all levels)

57-hour forecast valid 2100 UTC Sat 21 Sep 2013

4 PM CDT

Integrated liquid and frozen hydrometeors (all levels)

48-hour forecast valid 0000 UTC Sun 22 Sep 2013

7 PM CDT
Saturday: GFS – Mostly cloudy
Saturday: GEOS-5 – clouds remain in place at all levels

10am

1pm

4pm

7pm

HIGH

MID

LOW
Sunday: NAM – Region clear of clouds

Integrated liquid and frozen hydrometeors (all levels)

75-hour forecast valid 1500 UTC Sun 22 Sep 2011

10 AM CDT

Integrated liquid and frozen hydrometeors (all levels)

84-hour forecast valid 0000 UTC Mon 23 Sep 2011

4 PM CDT

Integrated liquid and frozen hydrometeors (all levels)

7-hour forecast valid 1000 UTC Sun 22 Sep 2011

1 PM CDT

Integrated liquid and frozen hydrometeors (all levels)

8-hour forecast valid 1800 UTC Sun 22 Sep 2011

7 PM CDT
Sunday: GEOS-5 – reduced cloud cover, particularly at upper levels

10am

1pm

4pm

7pm

HIGH

MID

LOW
SHOWERS AND THUNDERSTORMS IN ASSOCIATION WITH AN AREA OF LOW PRESSURE LOCATED OVER THE SOUTHWESTERN GULF OF MEXICO HAVE DIMINISHED SOME TODAY. THE AIR FORCE RESERVE HURRICANE HUNTER AIRCRAFT THAT WAS SCHEDULED TO INVESTIGATE THE LOW THIS AFTERNOON WAS CANCELLED. HOWEVER...CONDITIONS STILL APPEAR SOMEWHAT CONducIVE FOR THE FORMATION OF A TROPICAL DEPRESSION DURING THE NEXT DAY OR TWO WHILE THE SYSTEM MOVES TOWARD THE WEST-NORTHWEST TO NORTHWESTWARD AT 5 TO 10 MPH. THIS SYSTEM HAS A HIGH CHANCE...60 PERCENT...OF BECOMING A TROPICAL CYCLONE DURING THE NEXT 48 HOURS...AND A HIGH CHANCE...60 PERCENT...OF BECOMING A TROPICAL CYCLONE DURING THE NEXT 5 DAYS. THIS DISTURBANCE COULD SPREAD LOCALLY HEAVY RAINS OVER PORTIONS OF EASTERN AND SOUTHERN MEXICO DURING THE NEXT FEW DAYS.
TCEQ AQ Forecast:

**TODAY-SATURDAY:** Code Green – Good 🌻

**SUNDAY:** Code Yellow – Moderate (Ozone) 😞

“Decreasing winds and increasing background levels should allow ozone to reach "Moderate" levels on the south and southwest side of the Houston metro area, with highest concentrations in the afternoon and early evening.”

Later take-off on Sunday?
Hourly Ozone (airnowtech.org)
September 18th (Yesterday)

Did we miss out on some great ozone? Not really.
Hourly Ozone (airnowtech.org)**

September 2nd – 18th **EVERY 7th HOUR PLOTTED!!!!!

Marine air

Houston Aldine C8/O3 - 44201/1 Hr/2
Houston Westhollow C410/O3 - 44201/1 Hr/1
Manvel Croix Park C84/O3 - 44201/1 Hr/1
Conroe Relocated C78/O3 - 44201/1 Hr/1
West Houston C554/O3 - 44201/1 Hr/1
Galveston Airport C1034/O3 - 44201/1 Hr/1
Coastal Center C697/O3 - 44201/1 Hr/1
West Liberty C699/O3 - 44201/1 Hr/1
Clinton C403/O3 - 44201/1 Hr/3
Northwest Harris Co. C26/C110/C154/O3 - 44201/1 Hr/2
Houston Deer Park C35/O3 - 44201/1 Hr/1
Seabrook Friendship Park C45/O3 - 44201/1 Hr/1
Texas City C620/O3 - 44201/1 Hr/1
La Porte Sylvan Beach C556/O3 - 44201/1 Hr/1
Sugarland C696/O3 - 44201/1 Hr/1
Jones Forest C698/O3 - 44201/1 Hr/1
Channelview C15/O3 - 44201/1 Hr/3
Houston Texas Avenue C411/O3 - 44201/1 Hr/1 (Method: 047)
Houston Network of Environmental Towers (H-NET) collect chemistry and meteorological measurements for air quality model applications in Houston Galveston Area. This web site provides real-time update of collected data, as well as historical data.

Currently, five sites have been set up in:

- UH - Main Campus (695)
- Jones State Forest (698)
- West Liberty Airport (699)
- UH - Sugar Land (696)
- UH - Coastal Center (697)

More about this project.
**O₃ (ppbv) – 15 min avg**
September 2nd – 17th

= 50 ppbv

Houston – Network of Environmental Towers (H-NET)
NOAA Experm. CMAQ Model
Surface NO2

FRIDAY
2 pm

NOAA Experm. CMAQ Model
Surface Formaldehyde

FRIDAY

5 pm
CAMx Model
Surface Ozone

Fri September 20
9 am noon 2 pm 5 pm

Fri September 20 09:00 CST
Fri September 20 12:00 CST
Fri September 20 14:00 CST
Fri September 20 17:00 CST

Ozone
Best Case

Min(93.44) = 16.6, Max(42.37) = 53.3
Fri September 20 09:00 CST

Min(105.75) = 20.6, Max(55.2) = 60.1
Fri September 20 12:00 CST

Min(78.18) = 22.0, Max(50.21) = 66.8
Fri September 20 14:00 CST

Min(108.68) = 1.5, Max(48.17) = 67.5
Fri September 20 17:00 CST
CAMx Model
1.2 km Ozone

9 am
Ozone
Best Case: CAMx Layer 14
Fri September 20 09:00 CST
Min(77,33) = 23.8, Max(20,108) = 62.5
Fri September 20 12:00 CST
Min(94,9) = 24.6, Max(19,102) = 64.1

noon
Ozone
Best Case: CAMx Layer 14
Fri September 20 12:00 CST
Min(77,33) = 23.8, Max(20,108) = 62.5
Fri September 20 12:00 CST
Min(94,9) = 24.6, Max(19,102) = 64.1

2 pm
Ozone
Best Case: CAMx Layer 14
Fri September 20 14:00 CST
Min(94,12) = 24.3, Max(49,22) = 64.0
Fri September 20 17:00 CST
Min(90,17) = 24.0, Max(48,18) = 68.1

5 pm
Ozone
Best Case: CAMx Layer 14
Fri September 20 17:00 CST
Min(90,17) = 24.0, Max(48,18) = 68.1
Fri September 20 17:00 CST
Min(90,17) = 24.0, Max(48,18) = 68.1
NO₂
Best Case: CAMx Layer 14

Min(42,28) = 0.0, Max(100,74) = 2.3

Fri September 20 09:00 CST  9 am
CAMx Model Formaldehyde
1.2 km (Layer 14)

2 pm

Fri September 20 14:00 CST

FRIDAY

5 pm

Fri September 20 17:00 CST
Hourly PM$_{2.5}$ (airnowtech.org)**

September 2$^{nd}$ – 18$^{th}$

**EVERY 7$^{th}$ HOUR PLOTTED!!!!!

Marine air
DRAGON: September 19th (Thursday) at Level 1.5
Mississippi Valley agricultural fires

Keep an eye on the aerosols as plumes have been flirting with our area over the last few weeks.
GEOS-5: 850 mb Organic Carbon (ug/kg)

850 hPa Organic Carbon [μg/kg]

Valid: Mon 06z 2013-09-23 (τ= 96)

Midnight Monday
NOAA Experimental CMAQ AOT

2 pm
Entire Grid Undefined

(dev) aot 32H VALID 14Z 20 SEP2013 [dimensionless]

5 pm
Entire Grid Undefined

(dev) aot 40H VALID 22Z 20 SEP2013 [dimensionless]
PBL Height
Texas 12km

Min(126,108) = 19.6, Max(146,83) = 1235.7

Fri September 20 10:00 CST
PBL Height
Texas 12km

Min(103,76) = 24.2, Max(46,43) = 1886.8

Fri September 20 12:00 CST