**June 29, 2016 – Marena Mesonet Station**

UTC = local time + 5 hrs

Flights conducted 50m Marena Mesonet Station

Front

Back

Windsonde 741

Windsonde 739

Windsonde 742

Windsonde 738

All Windsondes located under the rotors and shielded by small PVC pipes (not in contact). See pictures below.

Flight 1 (Iris+)

Battery Number: 8

Windsondes: 741, 742, 738 & 739

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 10:47:37 UTC

Left 1m hover: 10:48:01 UTC

Reached 100m: 10:48:49 UTC

Reached 200m: 10:49:39 UTC

Reached 300m: 10:50:18 UTC

Started decent: 10:50:25 UTC

Landed: 10:54:43 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 2 (Iris+)

Battery Number: 9

Windsondes: 741, 742, 738 & 739

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 10:59:38 UTC

Left 1m hover: 10:59:52 UTC

Reached 100m: 11:00:50 UTC

Reached 200m: 11:01:46 UTC

Reached 300m: 11:02:38 UTC

Landed: 11:07:19 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 3 (Iris+)

Battery Number: 1

Windsondes: 741, 742, 738 & 739

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 11:19:15 UTC

Left 1m hover: 11:19:28 UTC

Reached 100m: 11:20:29 UTC

Reached 200m: 11:21:23 UTC

Reached 300m: 11:22:22 UTC

Started decent: 11:22:30 UTC

Landed: 11:27:00 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

We changed the windsond batteries after this flight a

Flight 4 (Iris+)

Battery Number: 2

Windsondes: 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 11:43:04 UTC

Left 1m hover: 11:43:14 UTC

Reached 100m: 11:44:16 UTC

Reached 200m: 11:46:06 UTC

Reached 300m: -------- UTC

Started decent: 11:47:46 UTC

Landed: 11:50:12 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

We were unable to reach 300m due to the copter not going up above 250m. We suspect that there were high winds that caused the Iris+ to not be able to climb more.

Flight 5 (Iris+)

Battery Number: 3

Windsondes: 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 11:58:48 UTC

Left 1m hover: 11:59:04 UTC

Reached 100m: 12:00:00 UTC

Reached 200m: 12:00:52 UTC

Reached 300m: 12:02:14 UTC

Started decent: 12:02:27 UTC

Landed: 12:07:07 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 6 (Iris+)

Battery Number: 4

Windsondes: 738, 739

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 12:18:40 UTC

Left 1m hover: 12:18:55 UTC

Reached 100m: 12:19:56 UTC

Reached 200m: 12:21:00 UTC

Reached 300m: 12:22:51 UTC

Started decent: 12:32:02 UTC

Landed: 12:27:26 UTC

End Battery: 10.97 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Swapped out sensor 741 & 742 for 733 and 737

Flight 7 (Iris+)

Battery Number: 5

Windsondes: 733, 737, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 12:41:41 UTC

Left 1m hover: 12:42:00 UTC

Reached 100m: 12:43:05 UTC

Reached 200m: 12:44:08 UTC

Reached 300m: 12:46:04 UTC

Started decent: 12:46:19 UTC

Landed: 12:50:55 UTC

End Battery: 10.97 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 8 (Iris+)

Battery Number: 6

Windsondes: 733, 737, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 12:56:27 UTC

Left 1m hover: 12:56:44 UTC

Reached 100m: 12:58:15 UTC

Reached 200m: 12:59:31 UTC

Reached 300m: -------- UTC

Started decent: -------- UTC

Landed: 13:05:28 UTC

End Battery: 10.97 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

We were unable to reach 300m, we reached 280m and were unable to go further due to high winds.

Flight 9 (Iris+)

Battery Number: 7

Windsondes: 733, 737, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 13:15:40 UTC

Left 1m hover: 13:16:00 UTC

Reached 100m: 13:16:50 UTC

Reached 200m: 13:17:33 UTC

Reached 300m: 13:18:25 UTC

Started decent: 13:18:35 UTC

Landed: 13:23:04 UTC

End Battery: 10.97 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 10 (Iris+)

Battery Number: 8

Windsondes: 733, 737, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 14:03:50 UTC

Left 1m hover: 14:04:06 UTC

Reached 100m: 14:05:14 UTC

Reached 200m: 14:05:58 UTC

Reached 300m: 14:06:49 UTC

Started decent: 14:06:56 UTC

Landed: 14:11:26 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 11 (Iris+)

Battery Number: 9

Windsondes: 733, 737, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 14:20:15 UTC

Left 1m hover: 14:20:34 UTC

Reached 100m: 14:21:35 UTC

Reached 200m: 14:22:23 UTC

Reached 300m: 14:23:13 UTC

Started decent: 14:23:17 UTC

Landed: 14:27:42 UTC

End Battery: 11.3 V

Remarks: The flight plan was to fly to 300m. We will take off and hover at 1m to aspirate the sensors and stabilize readings. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s. We landed by activating the RTL once the copter had stabilized at 10m.

Flight 12 (Solo)

Battery Number: 1

Start Battery: 12.4 V

Start Direction: 253° W

Ascent 1 Start: 14:37:36 UTC

Started decent: -------- UTC

Landed: 14:39:54 UTC

Ascent 2 Start: 14:40:04 UTC

Started decent: 14:41:15 UTC

Landed: 14:42:25 UTC

Ascent 3 Start: 14:42:33 UTC

Started decent: 14:43:48 UTC

Landed: 14:44:59 UTC

Ascent 4 Start: 14:45:09 UTC

Started decent: 14:46:19 UTC

Landed: 14:47:40 UTC

Remarks: The flight plan was to fly to 120m and come down 4 times. The assent would be at max throttle and the decent would be done by triggering RTL.

Flight 13 (Solo)

Battery Number: 2

Start Battery: 12.4 V

Start Direction: 253° W

Ascent 1 Start: 15:07:05 UTC

Started decent: 15:08:11 UTC

Landed: 15:09:22 UTC

Ascent 2 Start: 15:09:32 UTC

Started decent: 15:10:41 UTC

Landed: 15:11:53 UTC

Ascent 3 Start: 15:12:01 UTC

Started decent: 15:13:16 UTC

Landed: 15:14:25 UTC

Ascent 4 Start: 15:14:35 UTC

Started decent: 15:15:46 UTC

Landed: 15:16:56 UTC

Remarks: The flight plan was to fly to 120m and come down 4 times. The assent would be at max throttle and the decent would be done by triggering RTL.

Flight 14 (Iris+)

Battery Number: 2

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 16:53:11 UTC

Arrived at centre of circle: 16:54:00 UTC

Left 15m hover: 16:54:21 UTC

Started decent: 16:57:04 UTC

Finished decent: 17:00:50 UTC

Arrived back over landing zone: 17:01:43 UTC

Landed: 17:02:28 UTC

End Battery: 10.9 V

Remarks: The flight plan was to fly to 300m at the centre of the Kentucky loiter circle to test the flight plan. We will take off and hover at 15m to aspirate the sensors and stabilize their readings. Then we would fly over to the centre of their circle and fly to 300m. We would decent in the same spot to 15m where we would trigger the RTL to go back to the landing zone. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s.

Flight 15 (Iris+)

Battery Number: 3

Windsondes: 737, 740, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 17:12:21 UTC

Arrived at centre of circle: 17:13:12 UTC

Left 15m hover: 17:13:25 UTC

Reached 100m: 17:14:05 UTC

Reached 200m: 17:14:54 UTC

Reached 300m: 17:15:36 UTC

Started decent: 17:15:47 UTC

Finished decent: 17:19:22 UTC

Arrived back over landing zone: 17:19:52 UTC

Landed: 17:20:38 UTC

End Battery: 10.9 V

Remarks: The flight plan was to fly to 300m at the centre of the Kentucky loiter circle. We will take off and hover at 15m to aspirate the sensors and stabilize readings. Then we would fly over to the centre of their circle and fly to 300m. We would decent in the same spot and to 15m where we would trigger the RTL to go back to the landing zone. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s.

Flight 16 (Iris+)

Battery Number: 4

Windsondes: 737, 740, 741, 742

Start Battery: 12.4 V

Start Direction: 253° W

Ascent Start: 18:09:25 UTC

Arrived at centre of circle: 18:10:18 UTC

Left 15m hover: 18:10:75 UTC

Reached 100m: 18:11:07 UTC

Reached 200m: 18:11:55 UTC

Reached 300m: 18:12:45 UTC

Started decent: 18:12:50 UTC

Finished decent: 18:18:00 UTC

Arrived back over landing zone: 18:17:13 UTC

Landed: 17:20:38 UTC

End Battery: 10.9 V

Remarks: The flight plan was to fly to 300m at the centre of the Kentucky loiter circle. We will take off and hover at 15m to aspirate the sensors and stabilize readings. Then we would fly over to the centre of their circle and fly to 300m. We would decent in the same spot and to 15m where we would trigger the RTL to go back to the landing zone. The mission to 300m had an assent speed of 2.5m/s and a decent speed of 1.5m/s.