

## THE VOLCANOS OF ECUADOR

Get out your oxygen bottles and dump any excess weight. We're going to do some high flying on a scenic tour of the volcanoes of Ecuador. Ecuador is said to have more volcanoes for its size than any other country in the world. I don't know if this is totally true, but this charter will take you up close and personal to some very dramatic landscape, particularly if you have good add-on mesh scenery, so good visibility is an absolute must. Elevations given for the most of the volcanoes was obtained from a Smithsonian Institution website on global volcanism with the remainder taken from various other websites.

We begin in Quito, capital of Ecuador, situated at 9,229 ft. Our first flight will take us on a trip to the north to the 400 year old city of Ibarra. Recommended minimum cruising altitude for the entire charter is 15,500 ft. Take the time to depart from the flight description to do a "360" around the volcanic peaks included in the flight. Happy flying!

Here are some of the volcanoes you will see along the way:

### **Leg 1 - Quito to Ibarra**

- Fix 2 - Fuye Fuye (14,071 ft) with its collapsed cauldrea facing west is on your right. Immediately to the north are Mojanda Lakes. Mojanda is one of the largest volcanoes in the north of Ecuador. The lakes are situated in the cauldrea of the volcano with the peak at an elevation of 13,986 ft.
- Fix 3 - Cuicocha Lake is a cauldrea at 10,649 ft. that was formed during a major explosive eruption about 3,100 years ago. Just to the north is the sharp-peaked volcano, Cotacachi at 18,768 ft.
- Fix 6 - Nice view of the coastal region of Ecuador dead ahead.
- Fix 6 to fix 7 - Volcano Chiles (14,192 ft) on your left.
- Approaching fix 8 - Volcano Cayambe (18,996 ft.) is the snow covered peak straight ahead. We'll have a better look at Cayambe during leg 2.
- Approaching airport - Volcano Imbabura (15,121); Imbabura is another volcano with two peaks, Taita (father) Imbabura the main summit with Huarmi (son) Imbabura on the SW flank. The last known eruption is dated approximately 5.550 BC.

### **Leg 2 - Ibarra to Macas**

- Fix 3 - Cayambe (18,996 ft) last known eruption 1786
- Fix 4 - Reventador (11,686 ft.) last known eruption 2006. Situated on the boarder between the Andes and the Amazon basin rainforest, Reventador it striking in appearance as a collapsed cauldrea with a younger cone rising from the cauldrea, similar to Mt. St. Helens.
- Fix 5 - Sumaco (13,090 ft) a conical volcano which last erupted in 1933.
- Fix 6 - Antisana - (18,874 ft.) Last eruption 1802.
- Fix 7 - Cotopaxi (19,393 ft.) Most recent eruption in 1940.

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### Leg 2 continued...

- Fix 8 - Tungurahua (16,479 ft) Most recent eruption in August of 2006, displaying many of the local residence who are still not allowed to return to their homes as of November 2000.
- Approaching Fix 9 - Altar (17,453) on the left. Similar to Mt. Saint Helens, Altar was once a much higher peak that lost much of its mass during an unknown event. Local Indian legend says that this happened after 7 days of activity in the early 1400's, but scientists believe the event occurred earlier than that. The shape of the resulting cauldere reminded the Spanish explorers of a church altar, hence the name given to it.
- Fix 10 - Sangay - (17,159 ft.) Last eruption 2006

### Leg 3 - Macas to Quito

- Fix 3 - Chimborazo (20,700 ft) and Carihuairazo (16,463) just to the northeast. Technically, Chimborazo is the highest mountain on earth (yes, higher than Everest). The reason is that the equatorial bulge placed the summit of this volcano farthest from the center of the earth. Edward Whymper, a famous mountaineer and, I believe, first to climb the Matterhorn, came to Ecuador in the 1880's to climb this volcano along with several others.
- Fix 4 + 13 minutes - Yanaurcu (14,983 ft) is off your left wing.
- Fix 5 - The twin peaks of Llinza (17,262 & 16,813 ft)
- Fix 5 + 3 minutes - Corazon (15,715 ft)
- Fix 5 + 7 minutes - Atacaro (14,642 ft) on your immediate right
- Approaching Fix 6 - Splitting the peaks of Guagua Pichincha (15,695 ft) & Rucu Pichincha (15,176 ft)

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### Leg 1 - Quito to Ibarra.

From - To	Dep. Rwy: 35	Init. Hdg: 030	Init. Alt: 15,500	Apt. Elev: 9,228	Course (Leg)	Distance (Leg)	ETE (Leg) HH + MM
Quito (SEQU) Ecuador  To  Ibarra (SEIB) Ecuador	<b>Prior to departure:</b> Set flaps at $\frac{1}{4}$ or more and lean out your fuel mix for a high altitude take-off. Tune NAV 1 to QIT VOR (115.30), your bearing point for the first couple of navigation fixes. Once clear of the runway, make a right turn to 030 deg and follow the valley northward. Adjust your rate of climb as necessary to maintain a minimum 100 knot airspeed. Waypoint reached 17 nm from QIT (221R)				030	21.5	00+09
	<b>Enroute:</b> <b>To Fix 3:</b> From waypoint turn left to 330 deg and fly for approximately 5.5 minutes. Waypoint reached 24.6 nm from QIT (190R).....				330	13.3	00+05
	<b>To Fix 4:</b> From waypoint, turn right to 056 deg and retune NAV 1 to IPI VOR (113.60). Waypoint reached 9.5 nm from IPI (236R).....				056	44.8	00+18
	<b>To Fix 5:</b> From waypoint turn left to 352 deg and fly for approximately 4 min. Waypoint is when you reach the small lake.....				352	10.9	00+04
	<b>To Fix 6:</b> From waypoint, turn left to 315 deg and fly for approximately 3 min. Waypoint reached 18.7 nm from IPI VOR (127R).....				315	8.0	00+03
	<b>To Fix 7:</b> From waypoint turn left to 220 deg. Waypoint reached 22.5 nm from IPI VOR (276R). <b>To Fix 8:</b> From waypoint turn left to 181 deg and begin a 700 fpm descent as soon as you cross the mountain ridge in front of you. Tune the ADF to OLM NDB (400.0) and fly direct towards the NDB. Set the OBS to 052 deg. Waypoint reached when needle centers.....				220	11.6	00+05
					181	19.8	00+08
	<b>Approach:</b> <b>To Atahualpa airport:</b> From waypoint turn left to 199 deg. and continue your descent. The airport is 14.8 nm ahead. Contact tower for landing instructions.				199	14.8	00+06
1066-08-01	Land Rwy: As directed	Dim: 6,163 X 66 ft.	Surface: Asphalt	Altitude: 7,100 ft		145nm	00+58

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### Leg 2 - Ibarra to Macas

From - To	Dep. Rwy: 2	Init. Hdg: 154	Init. Alt: 17,500	Apt. Elev: 7,100	Course (Leg)	Distance (Leg)	ETE (Leg) HH + MM
Ibarra (SEIB) Ecuador  To  Macas (SEMC) Ecuador	<b>Prior to departure:</b> Tune ADF to OLM NDB (400.00) and NAV 1 to QMS VOR (114.80). Once clear of the runway, begin a 700 fpm climb and make a <u>left</u> turn to 154 deg. Adjust rate of climb as necessary to maintain a minimum 100 kt airspeed. Fly direct to the NDB.....				154	13.6	00+06
	<b>Enroute:</b> <b>To Fix 3:</b> From OLM turn left to 131 deg. Waypoint is reached when you are 36.5 nm from QMS (240R).....				131	8.7	00+04
	<b>To Fix 4:</b> From waypoint turn left to 100 deg. Waypoint reached when you are 55 nm from QMS (254R).....				100	21.8	00+09
	<b>To Fix 5:</b> From waypoint, turn right to 180 deg and fly for approximately 14 min. Waypoint reached as you are passing Volcano Sumaco on your right.....				180	34.3	00+14
	<b>To Fix 6:</b> From waypoint, turn right to 290 deg. Waypoint reached when you are 23.9 nm from QMS (290R).....				290	32.5	00+13
	<b>To Fix 7:</b> From waypoint adjust course left to 232 deg. Waypoint reached when you are 24.9 nm from QMS (358R).....				232	27.4	00+11
	<b>To Fix 8:</b> From waypoint turn left to 180 deg. Waypoint reached when volcano Tungurahua is off you port wing.....				180	47.8	00+19
	<b>To Fix 9:</b> From waypoint turn right to 195 deg. Tune NAV 1 to AMV VOR (112.70). Waypoint reached when you are 25 nm from AMV (359R).....				195	15.8	00+06
	<b>To Fix 10:</b> From waypoint turn left to 141 deg. Waypoint reached when you are over a large ridge running to the NW from volcano Sangay and you are 44 nm from AMV (341R).....				141	21.7	00+09
	<b>To Fix 11:</b> From waypoint turn left to 90 deg, begin a 700 fpm descent to 4,300 ft and slow to 100 kts. Turn ADF to MAS NDB (405.0). Waypoint reached in approximately 9 min when the ADF indicates a 200 deg bearing to MAS NDB.....				90	19.3	00+08
	<b>Approach:</b> From waypoint turn to 200 deg and continue descent. Runway is 22 nm dead ahead.				200	22.2	00+10
	1066-08-02	Land Rwy: Runway 19	Dim: 8,155 X 98 ft.	Surface: Asphalt	Altitude: 4,471 ft		265nm

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### Leg 3 - Macas to Quito

From - To	Dep. Rwy: 20	Init. Hdg: 200	Init. Alt: 17,500	Apt. Elev: 4,471	Course (Leg)	Distance (Leg)	ETE (Leg) HH + MM
Macas (SEMC) Ecuador  To  Quito (SEQU) Ecuador	<b>Prior to departure:</b> Prior to departure, tune NAV 1 to PAV VOR (113.10) and the ADF to UIO NDB (350.0). Upon take-off begin a 700 fpm climb. Adjust rate of climb as necessary to maintain a minimum 100 kt. airspeed. Waypoint reached 70.7 nm from PAV (190R).....				200	20.6	00+11
	<b>Enroute:</b> <b>To Fix 2:</b> From waypoint turn right to 285 deg. and retune NAV 1 to GYV VOR (115.90). Waypoint reached 84.9 nm from GYV (286R). Note: turbulence is a real possibility on this leg.....				285	16.7	00+07
	<b>To Fix 3:</b> Turn right to 347 deg. And return NAV 1 to QMS VOR (114.80). Waypoint reached 79.4 nm from QMS (191R).....				347	64.2	00+26
	<b>To Fix 4:</b> From waypoint turn right to 010 deg. Waypoint reached 69.9 nm from QMS (191R).....				010	9.5	00+04
	<b>To Fix 5:</b> From waypoint turn left to 355 deg and retune NAV 1 to QIT VOR (115.30). Waypoint reached 40.5 nm from QMS (201R) in approximately 17 min, when you are opposite a jagged mountain peak.....				355	42.7	00+17
	<b>To Fix 6:</b> From waypoint turn right to 019 deg. And fly for approximately 14 min. Take another look to the left for a view of the coastal region of Ecuador. Waypoint reached 6.0 nm from QIT (213R).....				019	34.6	00+14
	<b>To Fix 7:</b> From waypoint turn right to 100 deg, begin a 700 fpm descent to 10,200 ft. and slow to 100 kts. Waypoint reached when you are over SEQU.....				100	4.9	00+02
	<b>To Fix 8:</b> From waypoint turn right to 160 deg, retune NAV 1 to QMS VOR (114.80) and set OBS to 295 deg. Waypoint reached when needle centers.....				160	7.2	00+03
	<b>Approach:</b> <b>To Mariscal Sucre International Airport:</b> From waypoint turn right to approach UIO NDB on a course of 351 deg. The runway is 2.0 nm past the NDB. Land runway 35 or as directed by the tower.....				351	8.3	00+04
1066-08-03	Land Rwy: 35	Dim: 10,278 X 151	Surface: Asphalt	Altitude: 9,228		209nm	01+28