

Bird Migration in the USA - Synthetic Analysis Tables

Four synthetic datasets are provided for quantitative analysis practice (e.g., trend modeling, feature engineering, exploratory visualization). Each dataset represents a distinct U.S. flyway/season scenario and contains 36 observations and 5 numeric variables.

Columns: day_of_year (1-366), mean_latitude_degN, mean_longitude_degE (negative = degrees West), mean_altitude_m, mean_speed_kmh.

Data note: Values are plausible but synthetic (not sourced from real telemetry).

Table 1. Atlantic Flyway - Spring migration track (synthetic)

Representative nocturnal songbird movement metrics across the U.S. East Coast corridor.

day_of_year	mean_latitude_degN	mean_longitude_degE	mean_altitude_m	mean_speed_kmh
65.00	28.08	-81.03	283.51	35.29
67.00	28.25	-80.92	429.56	42.19
69.00	29.22	-80.63	506.63	38.43
71.00	29.78	-79.98	869.05	25.16
73.00	29.57	-79.67	739.21	51.12
75.00	30.25	-79.44	940.52	52.40
77.00	31.12	-79.45	866.48	31.05
79.00	31.52	-78.94	590.50	41.84
81.00	32.11	-78.69	1021.00	26.79
83.00	32.42	-78.37	367.63	43.53
85.00	33.36	-77.92	270.77	35.42
87.00	33.85	-77.80	282.87	46.85
89.00	34.19	-77.40	891.65	46.59
91.00	34.97	-77.27	667.26	47.60
93.00	35.32	-76.93	367.87	29.99
95.00	35.50	-76.56	741.82	51.15
97.00	36.32	-76.79	377.37	30.83
99.00	36.50	-76.22	907.03	26.89
101.00	37.48	-75.97	690.06	41.17
103.00	37.76	-75.73	545.36	36.12
105.00	38.24	-75.35	482.32	49.70
107.00	38.63	-74.63	802.49	49.65
109.00	39.62	-74.93	550.12	36.20
111.00	39.79	-74.19	246.35	53.70
113.00	40.24	-74.56	337.06	34.50
115.00	40.77	-73.94	1155.23	37.99
117.00	41.50	-73.53	1064.46	32.62
119.00	41.98	-73.14	869.24	52.07
121.00	42.50	-72.82	475.28	28.48
123.00	43.02	-72.52	1194.32	25.29
125.00	43.96	-72.52	1038.65	37.65
127.00	43.84	-72.26	1004.31	55.87
129.00	44.33	-71.64	661.79	50.16
131.00	44.77	-71.62	442.56	47.49
133.00	45.64	-71.60	232.43	51.14
135.00	46.28	-71.28	1110.63	51.41

Table 2. Mississippi Flyway - Spring migration track (synthetic)

Representative waterfowl movement metrics along the central Mississippi basin corridor.

day_of_year	mean_latitude_degN	mean_longitude_degE	mean_altitude_m	mean_speed_kmh
70.00	29.00	-92.51	1548.15	73.03
72.00	29.65	-92.18	538.33	47.02
74.00	30.07	-92.45	1945.68	57.37
76.00	30.49	-92.23	2125.04	59.98
78.00	31.17	-92.07	1958.52	74.28
80.00	31.61	-91.98	1377.95	52.17
82.00	32.44	-92.21	578.39	69.00
84.00	33.34	-91.78	605.58	65.32
86.00	33.45	-91.36	2077.83	67.92
88.00	33.99	-91.99	1300.52	64.71
90.00	34.84	-91.29	698.46	74.61
92.00	35.37	-91.37	1990.69	54.30
94.00	35.88	-91.46	1524.08	55.29
96.00	36.20	-90.70	1348.73	52.23
98.00	36.99	-90.91	1008.19	47.68
100.00	37.75	-91.30	966.94	51.22
102.00	37.81	-90.88	690.54	73.11
104.00	38.60	-90.66	392.99	71.14
106.00	38.81	-90.75	1843.49	49.37
108.00	39.53	-90.43	1236.94	64.22
110.00	39.97	-90.52	1240.98	58.83
112.00	40.94	-90.23	955.24	64.66
114.00	41.25	-89.94	1679.32	63.28
116.00	42.21	-90.37	392.28	55.23
118.00	42.75	-90.05	1014.62	74.43
120.00	43.24	-90.12	270.07	60.02
122.00	43.23	-89.87	604.70	66.10
124.00	44.29	-90.10	2219.76	65.84
126.00	44.99	-89.84	1545.99	49.14
128.00	45.60	-89.65	1098.01	44.83
130.00	45.76	-89.28	1285.99	58.33
132.00	46.59	-89.11	1902.75	66.70
134.00	47.04	-89.63	1016.62	69.44
136.00	47.65	-89.40	1390.61	67.91
138.00	48.69	-88.94	1596.08	46.42
140.00	48.80	-89.50	930.07	69.87

Table 3. Central Flyway - Fall migration track (synthetic)

Representative raptor movement metrics from the Northern Plains toward the Southern U.S.

day_of_year	mean_latitude_degN	mean_longitude_degE	mean_altitude_m	mean_speed_kmh
245.00	48.02	-104.39	2374.43	57.67
247.00	47.37	-103.59	1790.14	79.69
249.00	46.98	-103.41	1474.30	69.47
251.00	46.63	-103.20	2007.57	77.19
253.00	45.50	-103.30	2542.68	81.02
255.00	45.85	-102.63	817.48	64.13
257.00	44.80	-102.99	592.47	87.89
259.00	44.25	-102.30	1607.44	74.43
261.00	43.62	-102.33	1245.83	86.33
263.00	43.60	-101.78	2604.31	71.87
265.00	43.03	-102.10	1063.35	85.64
267.00	42.65	-101.63	2817.27	72.72
269.00	42.05	-101.39	1724.19	84.89
271.00	41.38	-101.48	2687.75	69.23
273.00	40.88	-101.20	1684.54	56.27
275.00	40.52	-101.10	2315.32	78.31
277.00	39.55	-100.68	2816.34	59.92
279.00	39.25	-100.43	868.87	88.06
281.00	38.84	-100.47	1165.12	73.81
283.00	38.12	-100.11	1740.76	67.20
285.00	37.89	-100.15	1467.45	81.46
287.00	37.11	-99.93	2526.27	86.86
289.00	36.85	-100.08	2746.25	66.52
291.00	36.21	-99.69	1848.04	80.03
293.00	35.77	-99.37	904.33	70.26
295.00	34.76	-98.97	1444.97	61.15
297.00	34.41	-98.42	1267.76	62.53
299.00	34.45	-98.53	2184.50	85.06
301.00	33.64	-98.38	1264.98	72.21
303.00	33.07	-98.11	501.88	69.38
305.00	32.81	-98.35	1885.36	65.33
307.00	32.24	-97.79	1274.51	66.79
309.00	31.53	-97.82	1721.04	65.66
311.00	30.87	-97.54	1452.98	80.78
313.00	31.00	-96.69	2406.53	78.12
315.00	30.17	-96.54	1265.98	76.78

Table 4. Pacific Flyway - Fall migration track (synthetic)

Representative shorebird movement metrics along the U.S. West Coast corridor.

day_of_year	mean_latitude_degN	mean_longitude_degE	mean_altitude_m	mean_speed_kmh
235.00	48.75	-123.29	819.66	40.56
237.00	48.42	-122.87	1026.92	49.54
239.00	48.35	-122.88	1199.64	40.71
241.00	47.59	-123.02	630.96	49.57
243.00	47.29	-122.58	508.06	57.71
245.00	46.72	-122.89	80.00	47.00
247.00	45.93	-122.03	1131.92	60.86
249.00	45.74	-122.24	255.44	67.43
251.00	45.04	-122.18	750.57	53.59
253.00	44.55	-121.99	499.36	48.03
255.00	44.17	-121.66	1290.85	68.27
257.00	43.28	-121.56	1463.73	69.22
259.00	43.47	-120.70	531.46	45.07
261.00	42.52	-121.27	1346.13	65.90
263.00	42.45	-120.89	606.52	48.91
265.00	41.75	-120.71	1247.63	44.03
267.00	41.61	-120.52	1206.40	43.35
269.00	40.58	-120.33	1030.61	61.47
271.00	40.18	-120.28	423.38	43.21
273.00	39.86	-120.12	303.44	60.90
275.00	38.73	-120.00	778.17	46.06
277.00	39.01	-119.97	299.34	51.59
279.00	38.70	-119.36	1299.91	43.80
281.00	38.11	-118.98	410.15	60.59
283.00	37.53	-119.18	112.77	55.72
285.00	36.82	-119.00	955.18	53.88
287.00	36.69	-118.75	692.17	65.11
289.00	36.15	-118.60	1305.14	54.30
291.00	35.50	-118.66	355.98	57.94
293.00	34.92	-117.77	655.45	64.82
295.00	34.34	-117.82	1038.59	61.60
297.00	33.64	-117.92	1394.96	69.39
299.00	33.76	-117.48	451.13	56.81
301.00	32.43	-117.48	1077.93	47.41
303.00	32.39	-117.24	314.33	57.13
305.00	32.04	-116.91	1109.24	47.50