Whale Path Visualization

This script animates the logged movement of a single whale.

Load the data

```
load cleanWhaleData whales
```

Select a single whale from the dataset.

```
id = "2006CA-Bmu-23039";
rowsToKeep = whales.ID==id;
whale = whales(rowsToKeep,:)
```

whale = 121×8 table

...

	ID	timestamp	longitude	latitude	sensorQuality
1	2006CA-Bmu-23039	2006-10-09 12:18:46.000	-116.8480	31.6250	1
2	2006CA-Bmu-23039	2006-10-09 12:51:52.000	-116.8490	31.6400	A
3	2006CA-Bmu-23039	2006-10-09 23:43:23.000	-116.8760	31.6060	0
4	2006CA-Bmu-23039	2006-10-10 12:40:23.000	-116.7490	31.5640	B
5	2006CA-Bmu-23039	2006-10-18 23:39:15.000	-113.2700	25.2800	A
6	2006CA-Bmu-23039	2006-10-20 23:13:58.000	-112.7150	24.0070	A
7	2006CA-Bmu-23039	2006-10-22 12:41:25.000	-112.9490	23.4000	0
8	2006CA-Bmu-23039	2006-10-23 12:18:13.000	-112.6550	23.2770	A
9	2006CA-Bmu-23039	2006-10-23 12:20:33.000	-112.6510	23.2790	2
10	2006CA-Bmu-23039	2006-10-24 23:08:12.000	-112.7550	23.7450	B
11	2006CA-Bmu-23039	2006-10-25 02:29:43.000	-112.7680	23.7370	B
12	2006CA-Bmu-23039	2006-10-25 23:55:10.000	-112.8640	23.8730	A
13	2006CA-Bmu-23039	2006-10-26 12:45:31.000	-112.9010	23.5990	A
14	2006CA-Bmu-23039	2006-10-26 23:46:22.000	-112.5140	23.4540	B
15	2006CA-Bmu-23039	2006-10-27 00:01:11.000	-112.5270	23.4700	B

	ID	timestamp	longitude	latitude	sensorQuality
16	2006CA-Bmu-23039	2006-10-27 12:20:11.000	-112.1540	23.5220	A
17	2006CA-Bmu-23039	2006-10-27 23:32:22.000	-112.0300	23.5920	B
18	2006CA-Bmu-23039	2006-10-27 23:32:24.000	-111.8480	23.6520	0
19	2006CA-Bmu-23039	2006-10-28 23:11:58.000	-111.7460	23.0950	B
20	2006CA-Bmu-23039	2006-10-31 12:35:14.000	-110.2430	23.1750	B
21	2006CA-Bmu-23039	2006-10-31 23:42:32.000	-109.6180	22.8520	2
22	2006CA-Bmu-23039	2006-11-01 12:08:29.000	-108.9800	23.2100	1
23	2006CA-Bmu-23039	2006-11-01 23:17:09.000	-108.8540	23.1960	0
24	2006CA-Bmu-23039	2006-11-03 12:34:52.000	-108.1730	23.2320	A
25	2006CA-Bmu-23039	2006-11-03 12:47:07.000	-108.4370	23.4580	B
26	2006CA-Bmu-23039	2006-11-03 23:50:39.000	-108.4430	23.9520	B
27	2006CA-Bmu-23039	2006-11-04 12:35:55.000	-108.7290	24.5850	2
28	2006CA-Bmu-23039	2006-11-04 23:36:04.000	-109.2120	24.9790	0
29	2006CA-Bmu-23039	2006-11-04 23:36:06.000	-109.0670	24.9410	B
30	2006CA-Bmu-23039	2006-11-05 12:07:21.000	-109.4740	25.2220	B
31	2006CA-Bmu-23039	2006-11-05 12:07:23.000	-109.4510	25.2270	B
32	2006CA-Bmu-23039	2006-11-05 23:22:28.000	-109.4860	25.2910	A
33	2006CA-Bmu-23039	2006-11-05 23:25:41.000	-109.5000	25.2810	B
34	2006CA-Bmu-23039	2006-11-07 23:06:20.000	-110.2840	25.7400	B
35	2006CA-Bmu-23039	2006-11-08 12:36:13.000	-110.5770	26.0860	B
36	2006CA-Bmu-23039	2006-11-08 23:52:58.000	-110.9130	26.3430	B

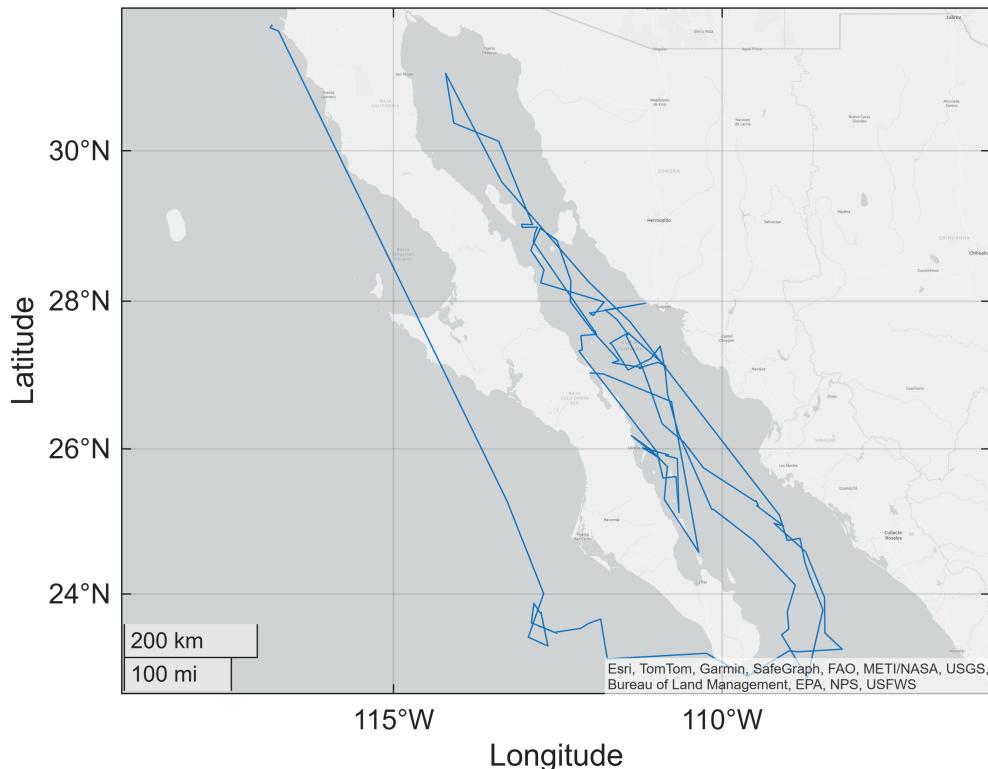|	ID	timestamp	longitude	latitude	sensorQuality
37	2006CA-Bmu-23039	2006-11-09 12:15:53.000	-111.0680	26.7470	1
38	2006CA-Bmu-23039	2006-11-09 23:11:08.000	-111.2090	27.0990	0
39	2006CA-Bmu-23039	2006-11-12 12:28:05.000	-111.4580	27.5320	0
40	2006CA-Bmu-23039	2006-11-12 12:48:10.000	-111.4320	27.5530	0
41	2006CA-Bmu-23039	2006-11-12 23:45:22.000	-111.6020	27.7560	0
42	2006CA-Bmu-23039	2006-11-13 12:00:27.000	-111.7710	27.8760	0
43	2006CA-Bmu-23039	2006-11-13 12:19:51.000	-111.7880	27.8800	B
44	2006CA-Bmu-23039	2006-11-13 12:20:06.000	-111.1640	27.9720	A
45	2006CA-Bmu-23039	2006-11-13 23:34:26.000	-112.0160	27.8410	1
46	2006CA-Bmu-23039	2006-11-13 23:34:48.000	-111.9620	27.8070	A
47	2006CA-Bmu-23039	2006-11-14 12:09:27.000	-111.7950	27.9890	0
48	2006CA-Bmu-23039	2006-11-15 23:06:59.000	-112.7610	28.2470	B
49	2006CA-Bmu-23039	2006-11-16 02:07:29.000	-112.7090	28.4180	B
50	2006CA-Bmu-23039	2006-11-16 12:47:27.000	-112.9110	28.6850	0
51	2006CA-Bmu-23039	2006-11-16 22:59:13.000	-112.7670	28.9740	1
52	2006CA-Bmu-23039	2006-11-17 23:44:17.000	-112.5140	28.8130	B
53	2006CA-Bmu-23039	2006-11-19 12:44:56.000	-112.3010	28.2720	B
54	2006CA-Bmu-23039	2006-11-20 00:01:00.000	-112.3090	27.9940	B
55	2006CA-Bmu-23039	2006-11-20 12:25:23.000	-111.9780	27.6060	B
56	2006CA-Bmu-23039	2006-11-20 12:34:03.000	-111.9260	27.5970	B
57	2006CA-Bmu-23039	2006-11-20 12:54:11.000	-111.9580	27.5840	A

	ID	timestamp	longitude	latitude	sensorQuality
58	2006CA-Bmu-23039	2006-11-20 23:49:37.000	-111.5660	27.2020	0
59	2006CA-Bmu-23039	2006-11-21 12:30:17.000	-111.6720	27.1700	1
60	2006CA-Bmu-23039	2006-11-21 23:18:18.000	-111.2100	27.1050	B
61	2006CA-Bmu-23039	2006-11-21 23:42:06.000	-111.2590	27.0930	1
62	2006CA-Bmu-23039	2006-11-21 23:42:52.000	-111.2490	27.1040	1
63	2006CA-Bmu-23039	2006-11-22 12:07:35.000	-110.9750	27.1770	B
64	2006CA-Bmu-23039	2006-11-22 12:07:50.000	-110.8520	27.1200	A
65	2006CA-Bmu-23039	2006-11-22 23:26:21.000	-111.4320	27.5750	0
66	2006CA-Bmu-23039	2006-11-24 12:27:06.000	-111.7080	27.4320	A
67	2006CA-Bmu-23039	2006-11-24 12:53:16.000	-111.6800	27.4230	B
68	2006CA-Bmu-23039	2006-11-24 23:00:05.000	-111.4320	27.0720	B
69	2006CA-Bmu-23039	2006-11-25 12:32:29.000	-111.0870	27.2260	0
70	2006CA-Bmu-23039	2006-11-28 12:27:55.000	-110.9430	27.3940	B
71	2006CA-Bmu-23039	2006-11-28 23:43:11.000	-110.8660	27.0650	A
72	2006CA-Bmu-23039	2006-11-29 12:32:03.000	-110.8290	26.7370	0
73	2006CA-Bmu-23039	2006-11-29 23:19:30.000	-110.6720	26.2380	B
74	2006CA-Bmu-23039	2006-11-29 23:52:53.000	-110.6390	26.1560	B
75	2006CA-Bmu-23039	2006-11-30 12:17:11.000	-110.1580	25.1720	A
76	2006CA-Bmu-23039	2006-11-30 12:17:13.000	-110.1310	25.1690	1
77	2006CA-Bmu-23039	2006-12-01 12:05:30.000	-109.5180	24.7400	B
78	2006CA-Bmu-23039	2006-12-02 12:00:18.000	-108.8880	24.1250	A

	ID	timestamp	longitude	latitude	sensorQuality
79	2006CA-Bmu-23039	2006-12-02 23:48:05.000	-109.0090	23.7550	B
80	2006CA-Bmu-23039	2006-12-03 02:00:31.000	-108.9870	23.5140	B
81	2006CA-Bmu-23039	2006-12-04 12:20:11.000	-109.0950	23.4320	A
82	2006CA-Bmu-23039	2006-12-06 23:47:31.000	-108.7060	22.8310	B
83	2006CA-Bmu-23039	2006-12-09 23:27:06.000	-108.4670	23.7820	B
84	2006CA-Bmu-23039	2006-12-10 11:59:51.000	-108.6670	24.2440	B
85	2006CA-Bmu-23039	2006-12-10 23:15:41.000	-108.7390	24.4320	A
86	2006CA-Bmu-23039	2006-12-11 12:54:52.000	-108.8170	24.7720	2
87	2006CA-Bmu-23039	2006-12-11 23:05:54.000	-109.0090	24.7420	B
88	2006CA-Bmu-23039	2006-12-12 12:30:24.000	-109.1300	25.0920	B
89	2006CA-Bmu-23039	2006-12-16 23:48:43.000	-111.4040	27.7260	B
90	2006CA-Bmu-23039	2006-12-18 12:07:20.000	-112.0350	28.2640	A
91	2006CA-Bmu-23039	2006-12-20 12:39:16.000	-113.3550	29.5930	A
92	2006CA-Bmu-23039	2006-12-22 23:54:34.000	-114.2060	31.0130	A
93	2006CA-Bmu-23039	2006-12-24 12:44:50.000	-114.0810	30.3640	B
94	2006CA-Bmu-23039	2006-12-24 23:54:31.000	-113.3990	30.1250	B
95	2006CA-Bmu-23039	2006-12-26 12:17:25.000	-112.8840	29.0230	B
96	2006CA-Bmu-23039	2006-12-26 12:39:12.000	-113.0520	29.0270	B
97	2006CA-Bmu-23039	2006-12-26 23:38:37.000	-113.0410	28.9860	0
98	2006CA-Bmu-23039	2006-12-26 23:53:20.000	-112.8090	28.9890	0
99	2006CA-Bmu-23039	2006-12-28 02:07:59.000	-112.8470	28.9140	B

	ID	timestamp	longitude	latitude	sensorQuality
100	2006CA-Bmu-23039	2006-12-28 23:12:10.000	-112.8720	28.7940	2

⋮
⋮

Plot the whale's travels.

```
geoplot(whale.latitude,whale.longitude)
```


Animate Whale's Travels

```
for ai = 1:height(whale)
    geoplot(whale.latitude(ai),whale.longitude(ai), "o")
    hold on
    geoplot(whale.latitude(1:ai), whale.longitude(1:ai), "m")
    hold off
    geolimits([20 35], [-115 -110])
    drawnow
end
```