

Celestial Tools: Set and Drift Form

Basic Set and Drift Data:

The most basic function assumes you have a current DR position and a Current Fix. Your Set and Drift is the direction from DR to Fix location and the Drift amount is the distance between the two.

Enter only the current DR (assumed) location (latitude and longitude) and the current Fix location (latitude and longitude) and click "Calculate Set & Drift" button:

The screenshot shows the 'SetDrift' application window. The title bar reads 'SetDrift'. The main window has a title 'Calculate Set and Drift'. Below this is a section 'Current and Previous Location Inputs'. It contains two rows of input fields: 'DR L' (40), 'DR Lo' (105), 'Fix L' (39), and 'Fix Lo' (104). Each field has a degree symbol and a direction dropdown (N or W). There are also fields for '0.0' and '0.0' with degree symbols. A checkbox 'I have a Prior Fix Lat/Long for CMG/SMG' is present. To the right of the input fields are buttons: 'Exit' (red), 'Calculate Set & Drift' (yellow), 'Print Screen' (blue), a question mark icon, 'Clear All Input Fields' (yellow), and 'Plot Set & Drift Data on CLS Form' (blue). Below the input fields is a 'Run Time' section with 'Total Run Time: 0 Hr 0 Min' and a checkbox 'I have Prior and Current Fix Dates/Times to use instead of total run time'. At the bottom, a large text area displays the results: 'DR Loc to Fix Loc (Set & Drift):', 'Set 171.59° True => 172° True', and 'Drift Distance 26.3 nm'.

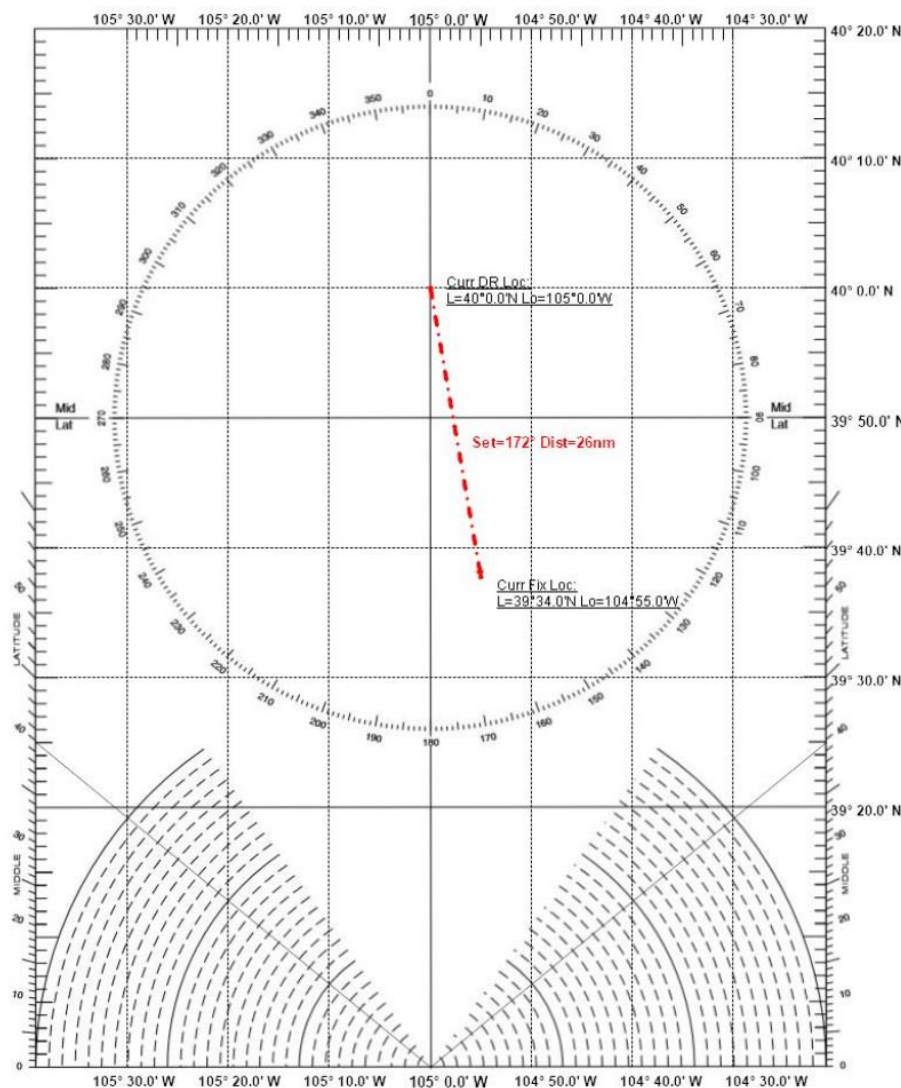
Current and Previous Location Inputs			
DR L	40	° 0.0	' N
DR Lo	105	° 0.0	' W
Fix L	39	° 34.0	' N
Fix Lo	104	° 55.0	' W

☐ I have a Prior Fix Lat/Long for CMG/SMG

Run Time
Total Run Time: 0 Hr 0 Min ☐ I have Prior and Current Fix Dates/Times to use instead of total run time

DR Loc to Fix Loc (Set & Drift):
Set 171.59° True => 172° True
Drift Distance 26.3 nm

If any of the distances is less than 60nm, the blue Plot button will appear. If you click it using this example data you will see:



Mid Lat: 39° 50.0' N

Mid Long: 105° 00.0' W

Last Mouse Click As Lat/Long:

Current Mouse Loc As Lat/Long:

Print Screen

Save as JPG

Exit

Plotted Sight Data:
Type= SDSetDrift Sight #001
Name= Sailings Set Drift
Squadron= Sailings Set Drift
Date/Time= 03/06/2025 12:03
DR Loc: L=40° 0.0' N Lb=105° 0.0' W
Fix Loc: L=39° 34.0' N
Lb=104° 55.0' W
Set=171.6°, Drift Dist= 26.3nm

Calculate Set and Drift from Current DR, Fix, and Previous Fix positions

This function builds on the basic inputs and add a Previous Fix location:

SetDrift

Calculate Set and Drift

Current and Previous Location Inputs

DR L	40	°	0.0	'	N	Fix L	39	°	34.0	'	N
DR Lo	105	°	0.0	'	W	Fix Lo	104	°	55.0	'	W

☒ I have a Prior Fix Lat/Long for CMG/SMG

Prev Fix L	39	°	23.0	'	N
Prev Fix Lo	104	°	25.0	'	W

Run Time

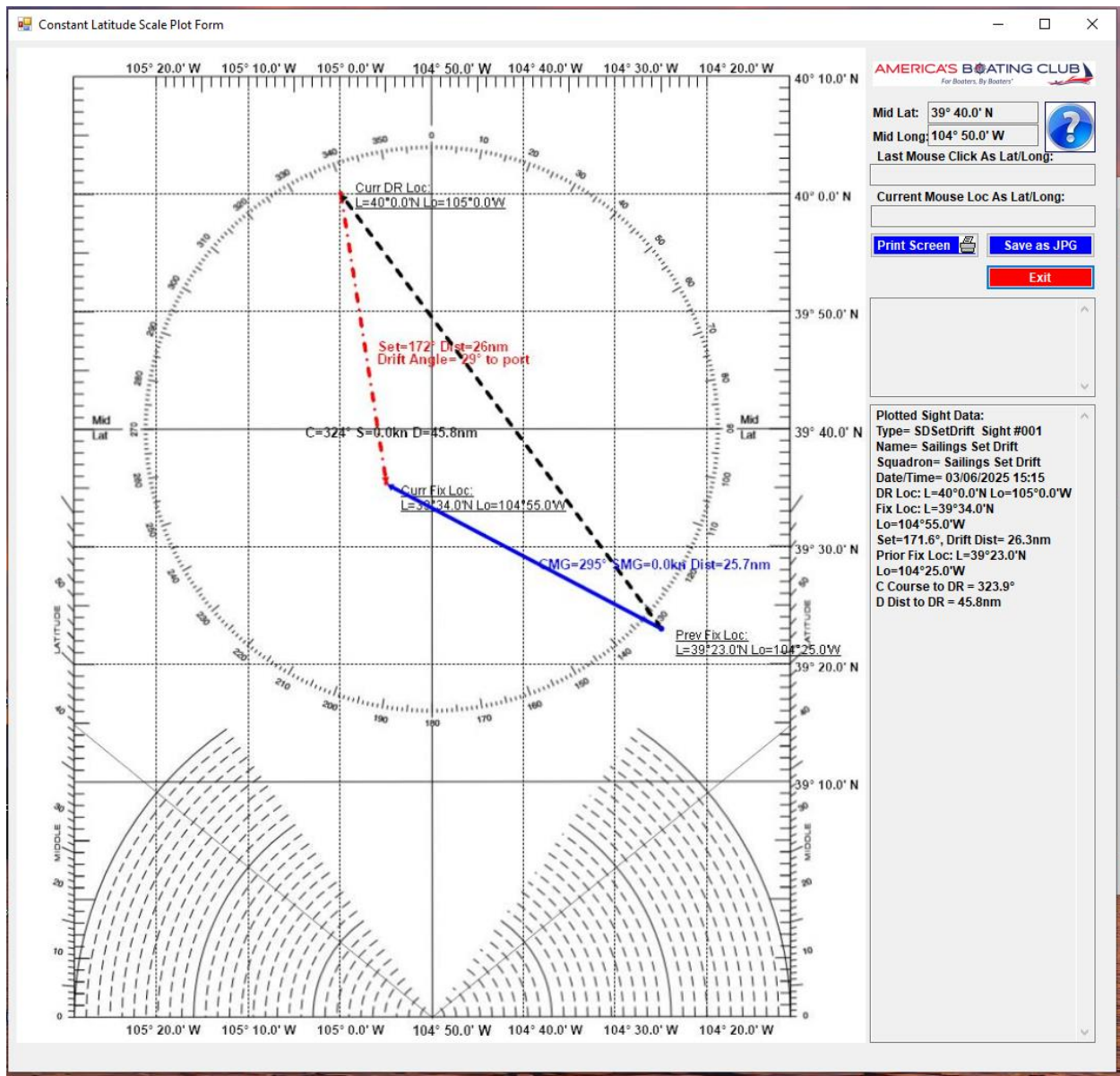
Total Run Time: 0 Hr 0 Min ☐ I have Prior and Current Fix Dates/Times to use instead of total run time

Buttons: Exit, Calculate Set & Drift, Print Screen, Clear All Input Fields, Plot Set & Drift Data on CLS Form

Results:

DR Loc to Fix Loc (Set & Drift):	
Set	171.59° True => 172° True
Drift Distance	26.3 nm
Drift Angle	29° to port
Prior Fix to Current Fix (CMG/SMG):	
Distance	25.7 nm
CMG	295.41° True => 295° True
Prior Fix to DR (Intended Track):	
Distance	45.8 nm
Course	323.95° True => 324° True

Plotted these inputs looks like this:



Calculate Set and Drift from Current DR, Fix, and Previous Fix positions and Elapsed Run Time:

Now add in an elapsed run time of 3 hr 24 min, and your output will look like this:

SetDrift

Calculate Set and Drift

Current and Previous Location Inputs

DR L	40	°	0.0	'	N	Fix L	39	°	34.0	'	N
DR Lo	105	°	0.0	'	W	Fix Lo	104	°	55.0	'	W

☒ I have a Prior Fix Lat/Long for CMG/SMG

Prev Fix L	39	°	23.0	'	N
Prev Fix Lo	104	°	25.0	'	W

Run Time

Total Run Time: 3 Hr 24 Min ☐ I have Prior and Current Fix Dates/Times to use instead of total run time

Buttons: Exit, Calculate Set & Drift, Print Screen, Clear All Input Fields, Plot Set & Drift Data on CLS Form

DR Loc to Fix Loc (Set & Drift):

Set	171.59° True => 172° True
Drift Distance	26.3 nm
Drift	7.7 kn
Drift Angle	29° to port
Run Time	3 hr 24 min

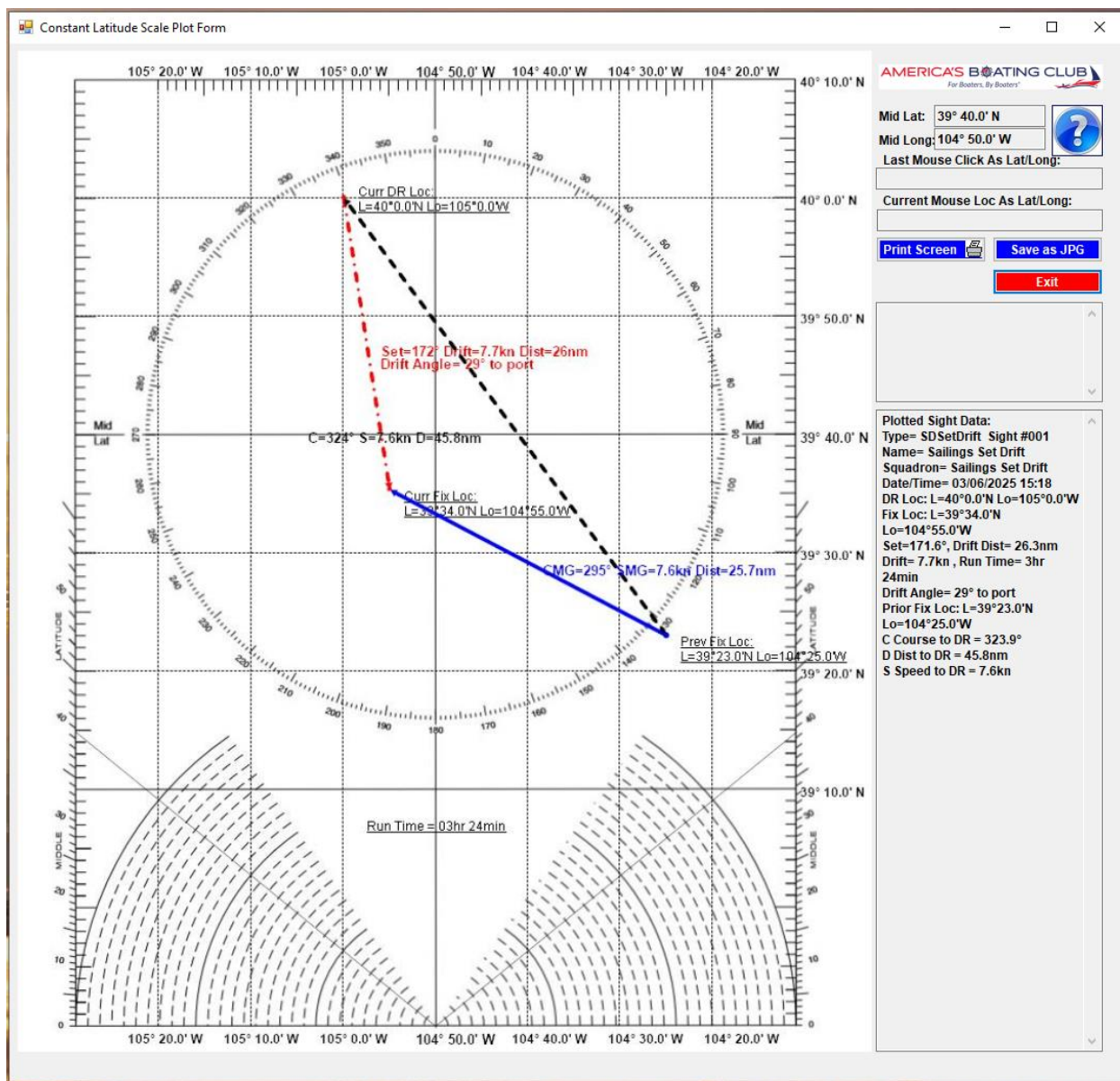
Prior Fix to Current Fix (CMG/SMG):

Distance	25.7 nm
CMG	295.41° True => 295° True
SMG	7.6 kn

Prior Fix to DR (Intended Track):

Distance	45.8 nm
Course	323.95° True => 324° True
Speed	7.6 kn

Plotted these inputs look like this:



Calculate Set and Drift from Current DR, Fix, and Previous Fix positions and Previous & Current Date Times:

Calculate Set and Drift

Current and Previous Location Inputs

DR L	<input type="text" value="40"/>	°	<input type="text" value="0.0"/>	'	N	Fix L	<input type="text" value="39"/>	°	<input type="text" value="34.0"/>	'	N	Current Fix Date/Time:	<input type="text" value="03/06/2025 09:05"/>
DR Lo	<input type="text" value="105"/>	°	<input type="text" value="0.0"/>	'	W	Fix Lo	<input type="text" value="104"/>	°	<input type="text" value="55.0"/>	'	W		<input type="text" value="03/06/2025 09:05"/>

☒ I have a Prior Fix Lat/Long for CMG/SMG

Prev Fix L	<input type="text" value="39"/>	°	<input type="text" value="23.0"/>	'	N	Prior Fix Date/Time:	<input type="text" value="03/06/2025 04:20"/>
Prev Fix Lo	<input type="text" value="104"/>	°	<input type="text" value="25.0"/>	'	W		<input type="text" value="03/06/2025 04:20"/>

Run Time

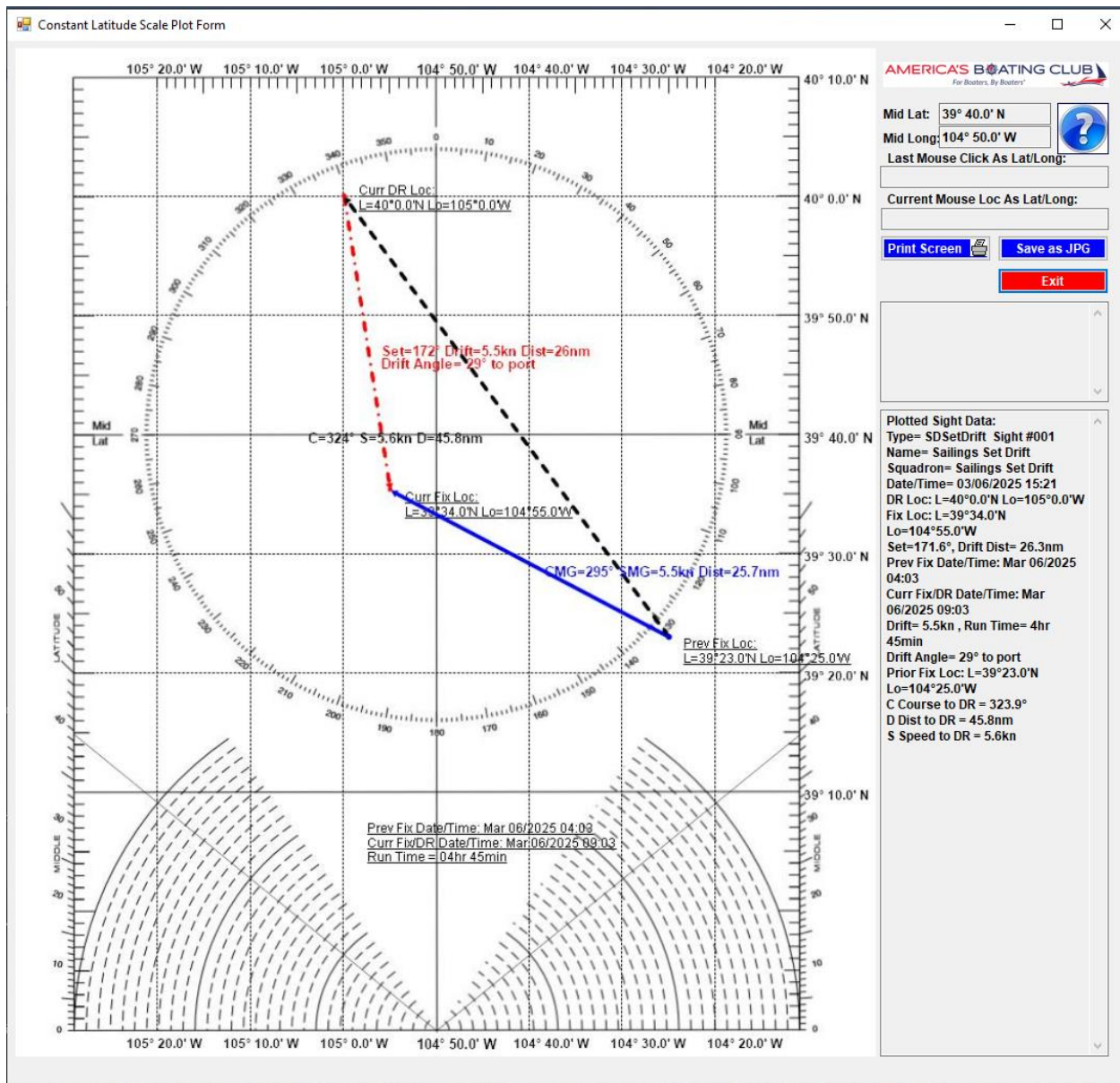
Total Run Time: Hr Min ☒ I have Prior and Current Fix Dates/Times to use instead of total run time

Curr Fix/DR Date/Time:	Mar 06/2025 09:05
Prev Fix/DR Date/Time:	Mar 06/2025 04:20
Run Time	4 Hr 45 Min
DR Loc to Fix Loc (Set & Drift):	
Set	171.59° True => 172° True
Drift Distance	26.3 nm
Drift	5.5 kn
Drift Angle	29° to port
Run Time	4 hr 45 min
Prior Fix to Current Fix (CMG/SMG):	
Distance	25.7 nm
CMG	295.41° True => 295° True
SMG	5.5 kn
Prior Fix to DR (Intended Track):	
Distance	45.8 nm
Course	323.95° True => 324° True
Speed	5.6 kn

Exit
Calculate Set & Drift
Print Screen

Clear All Input Fields
Plot Set & Drift Data on CLS Form

Plotted:



Those are the basic functions of the Set and Drift form.