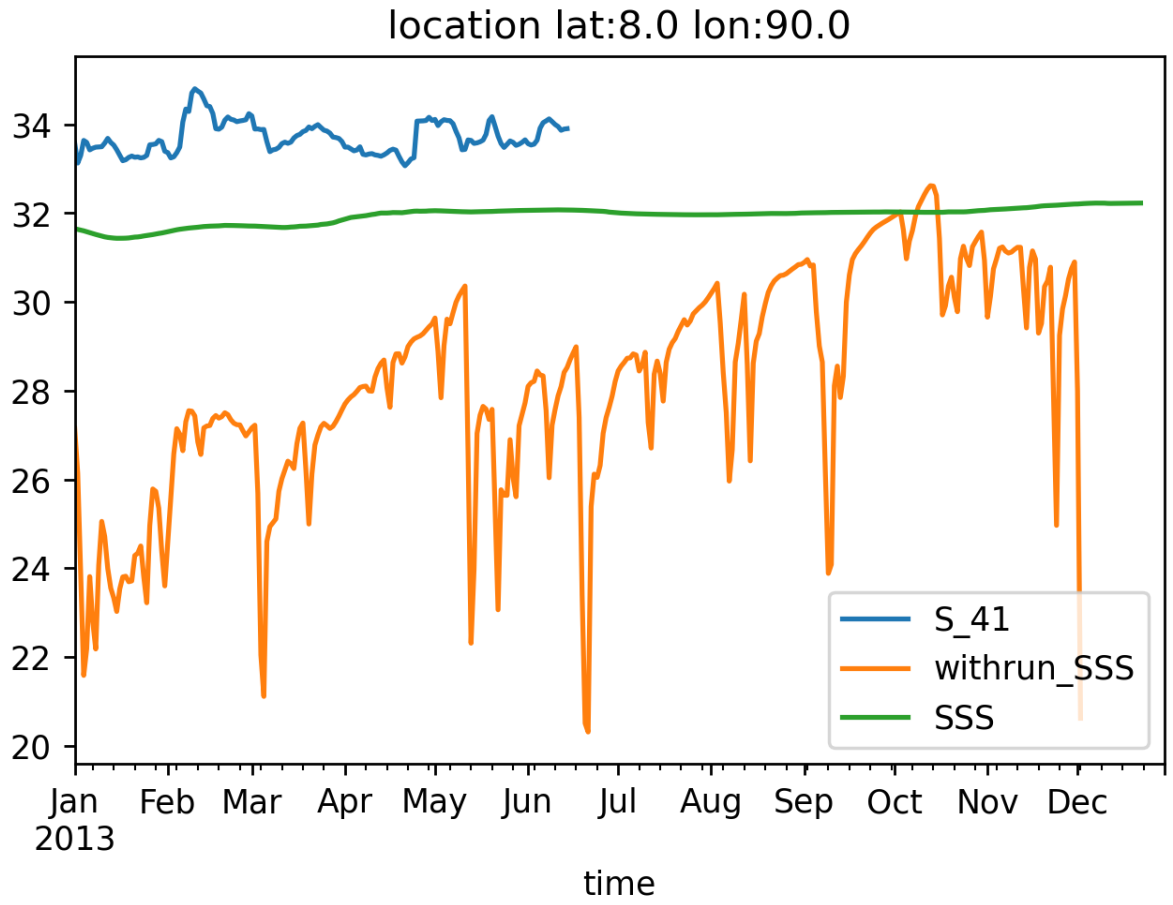
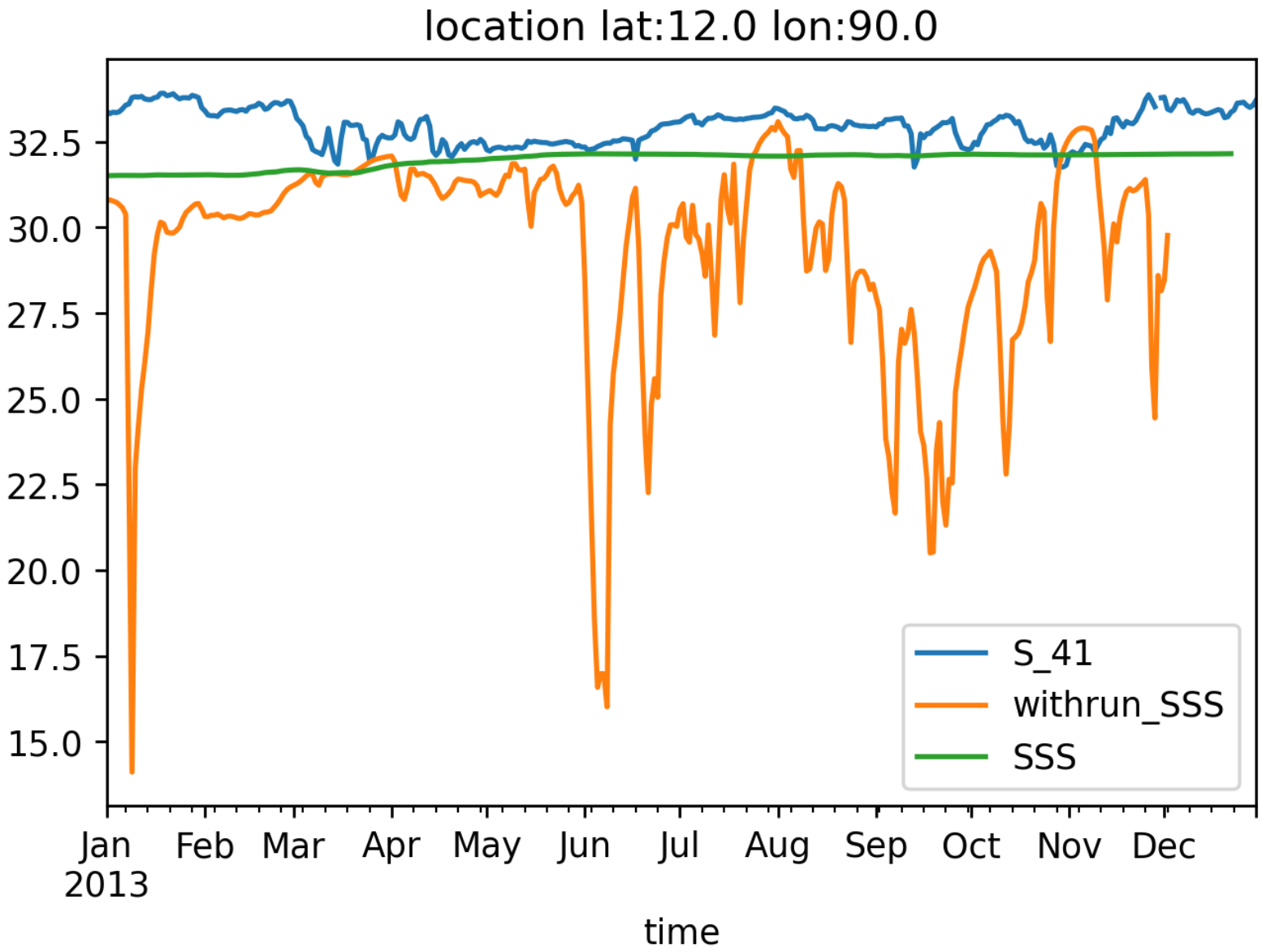
Sea Surface Salinity (SSS)

- *S_41* is the RAMA observational dataset of salinity
- *with_run_SSS* is model output SSS for corresponding point
- *SSS* is model output without runoff and precipitation

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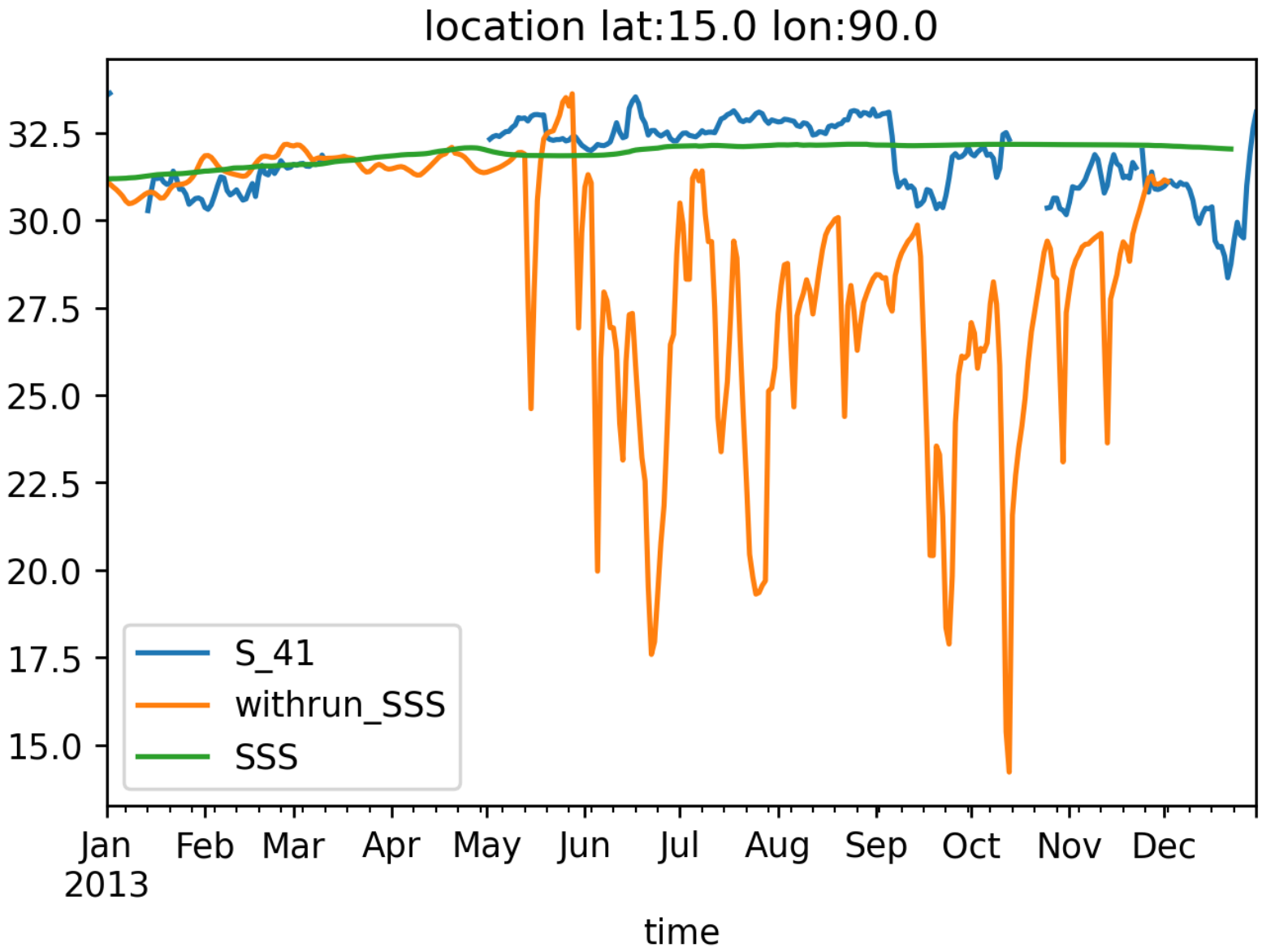
32.5
30.0
27.5
25.0
22.5
20.0
17.5
15.0
Jan
2013
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
time
S_41
withrun_SSS
SSS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32.5
30.0
27.5
25.0
22.5
20.0
17.5
15.0
S_41
withrun_SSS
SSS
Jan
2013
Feb
Mar
Apr
May
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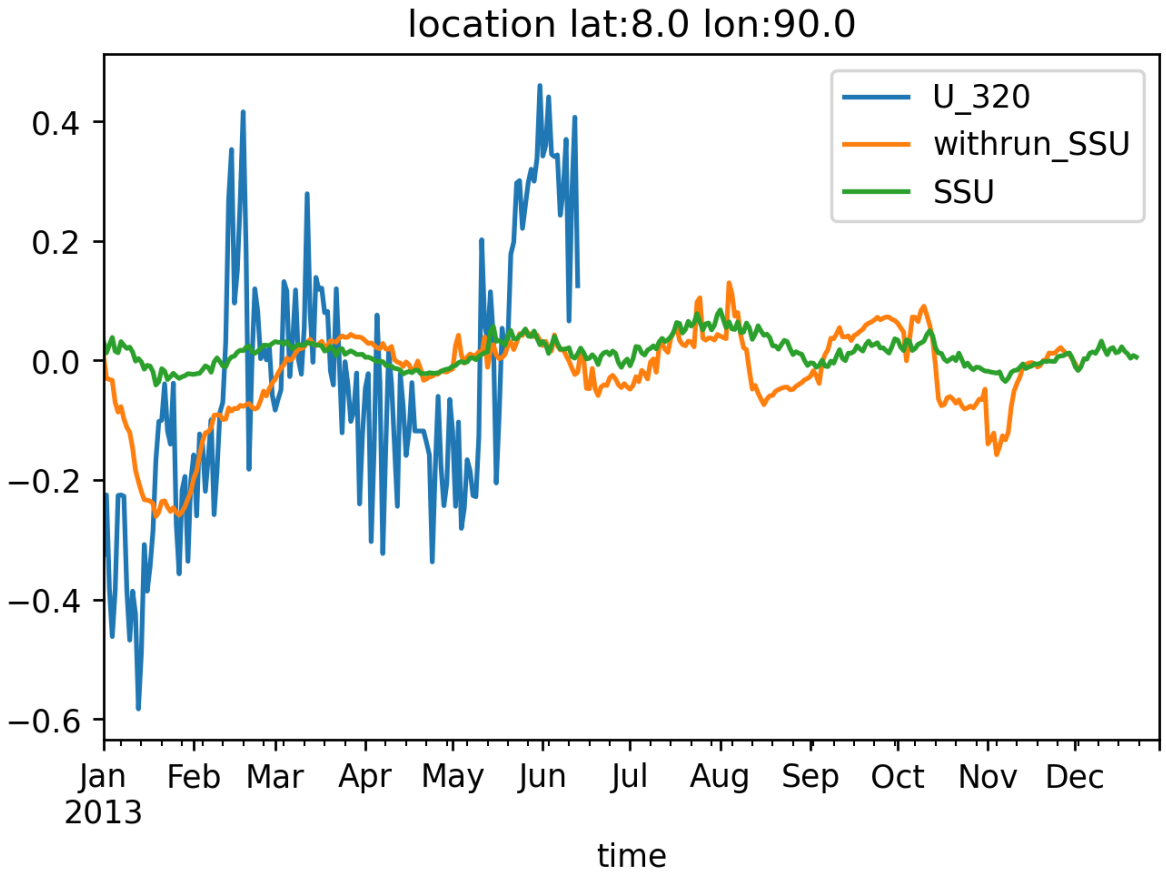
Jul
Aug
Sep
Oct
Nov
Dec
time

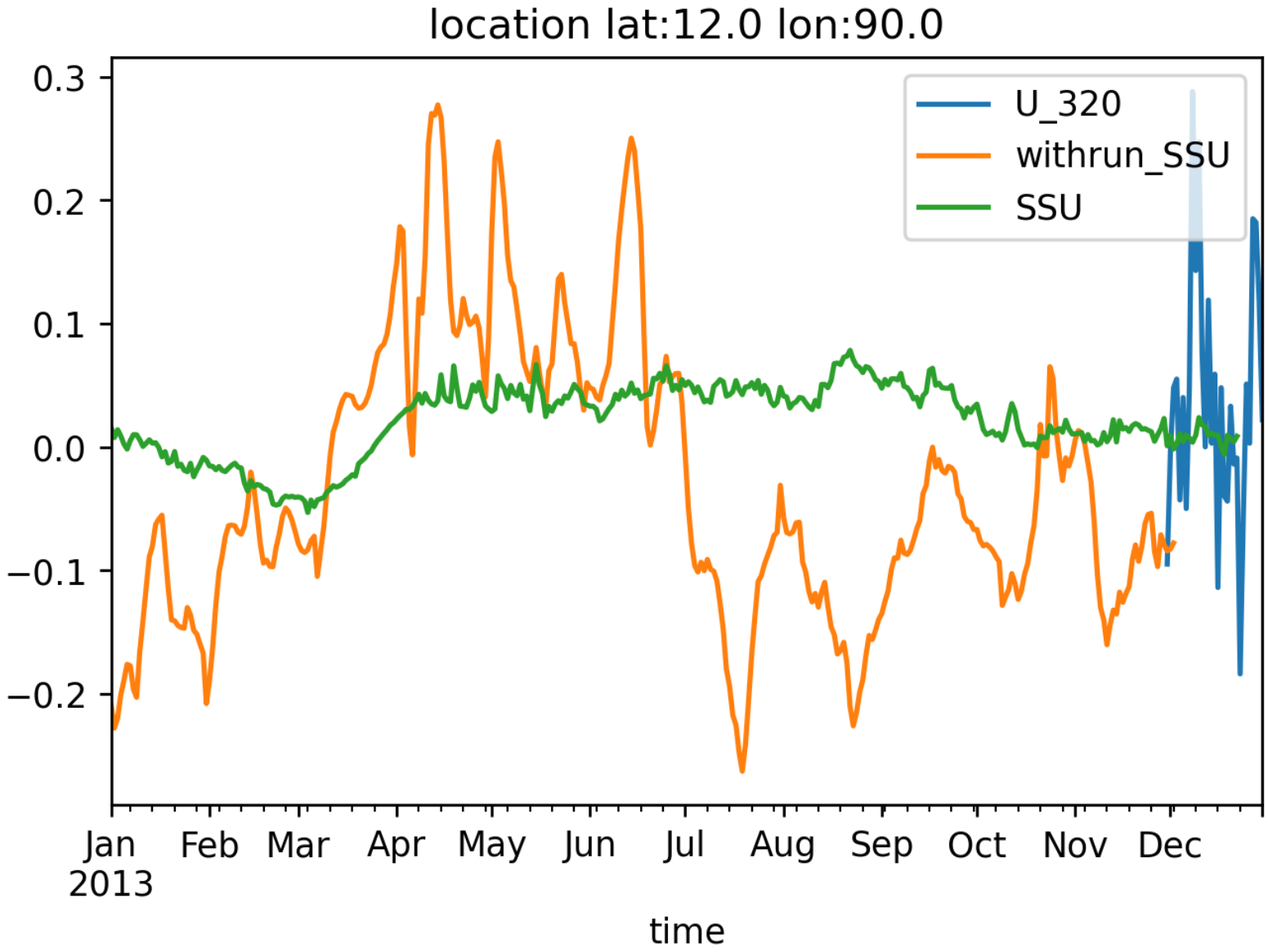
Correlation with observational points (SSS)

SI.No	locations	with runoff	without runoff
1.	90E 8N	0.250059	0.114573
2.	90E 12N	-0.078187	-0.350874
3.	90E 15N	-0.239844	0.230908

U component of Currents (surface only)

- *U_320* is the RAMA observational dataset of U current
- *with_run_SSU* is model output SSU for corresponding point
- *SSU* is model output without runoff and precipitation

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0.3
0.2
0.1
0.0
−0.1
−0.2
U_320
withrun_SSU
SSU
Jan
2013
Feb
Mar
Apr
May
Jun
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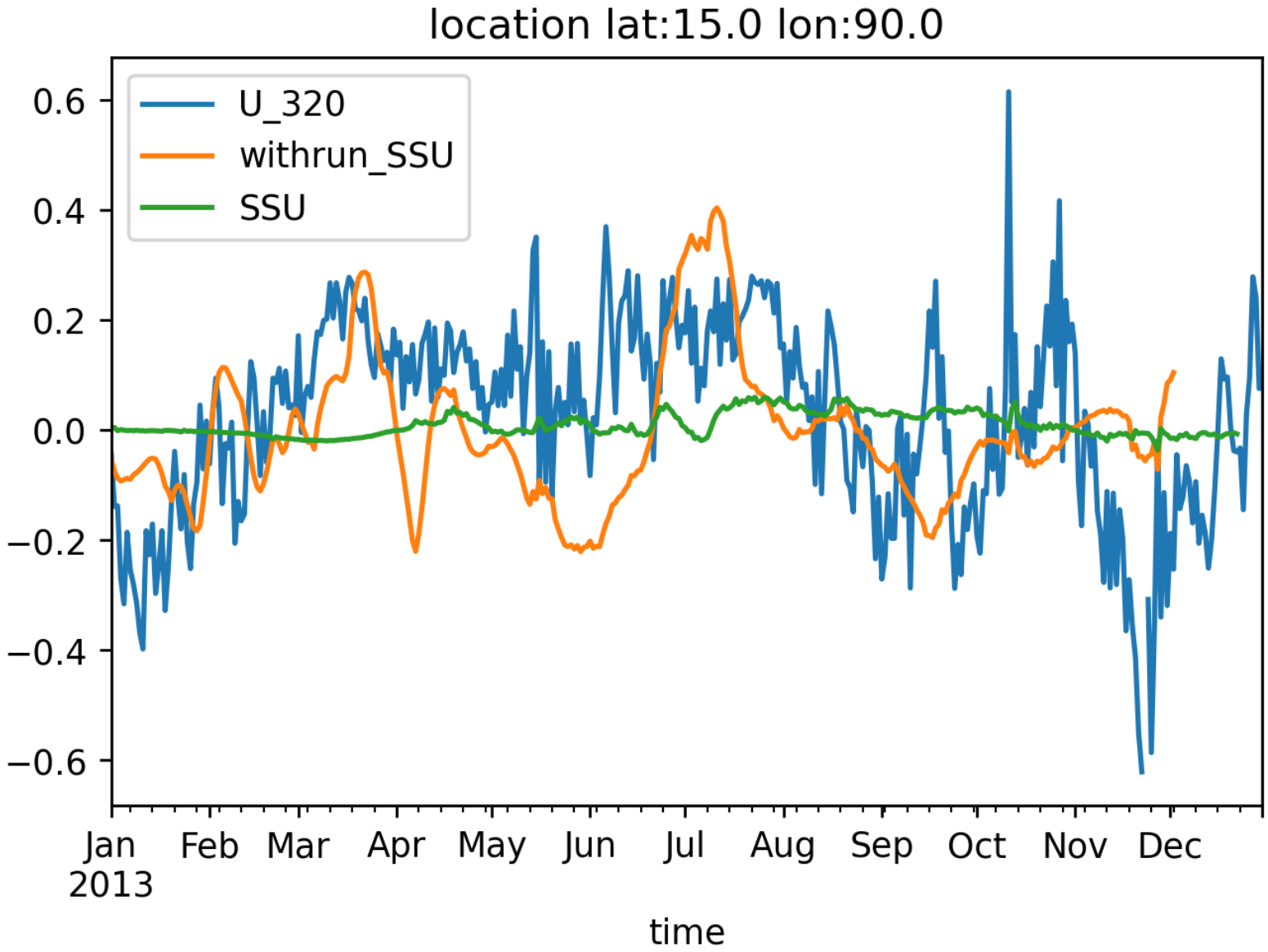
Aug
Sep
Oct
Nov
Dec
time


location lat:15.0 lon:90.0
U_320
withrun_SSU
SSU
0.6
0.4
0.2
0.0
−0.2
−0.4
−0.6
Jan
2013
Feb
Mar
Apr
May
Jun
Jul
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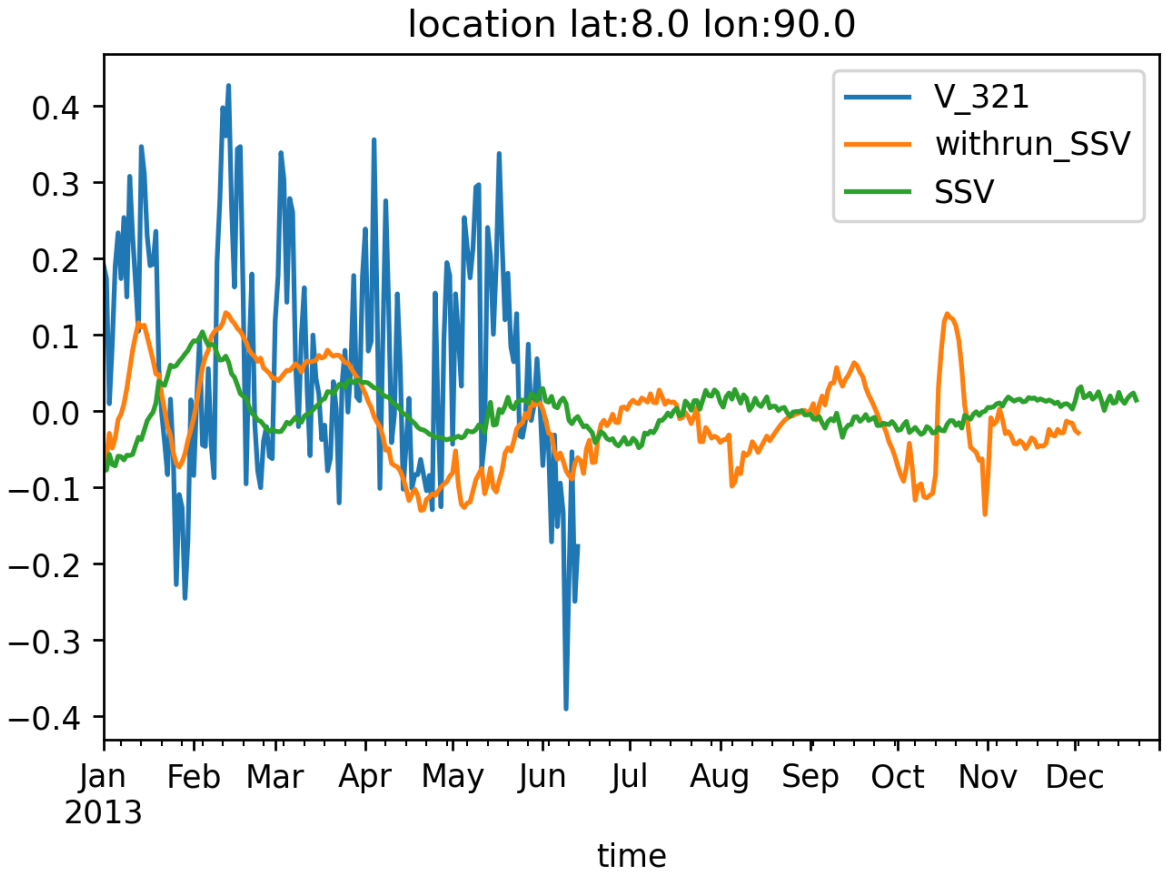
Sep
Oct
Nov
Dec
time

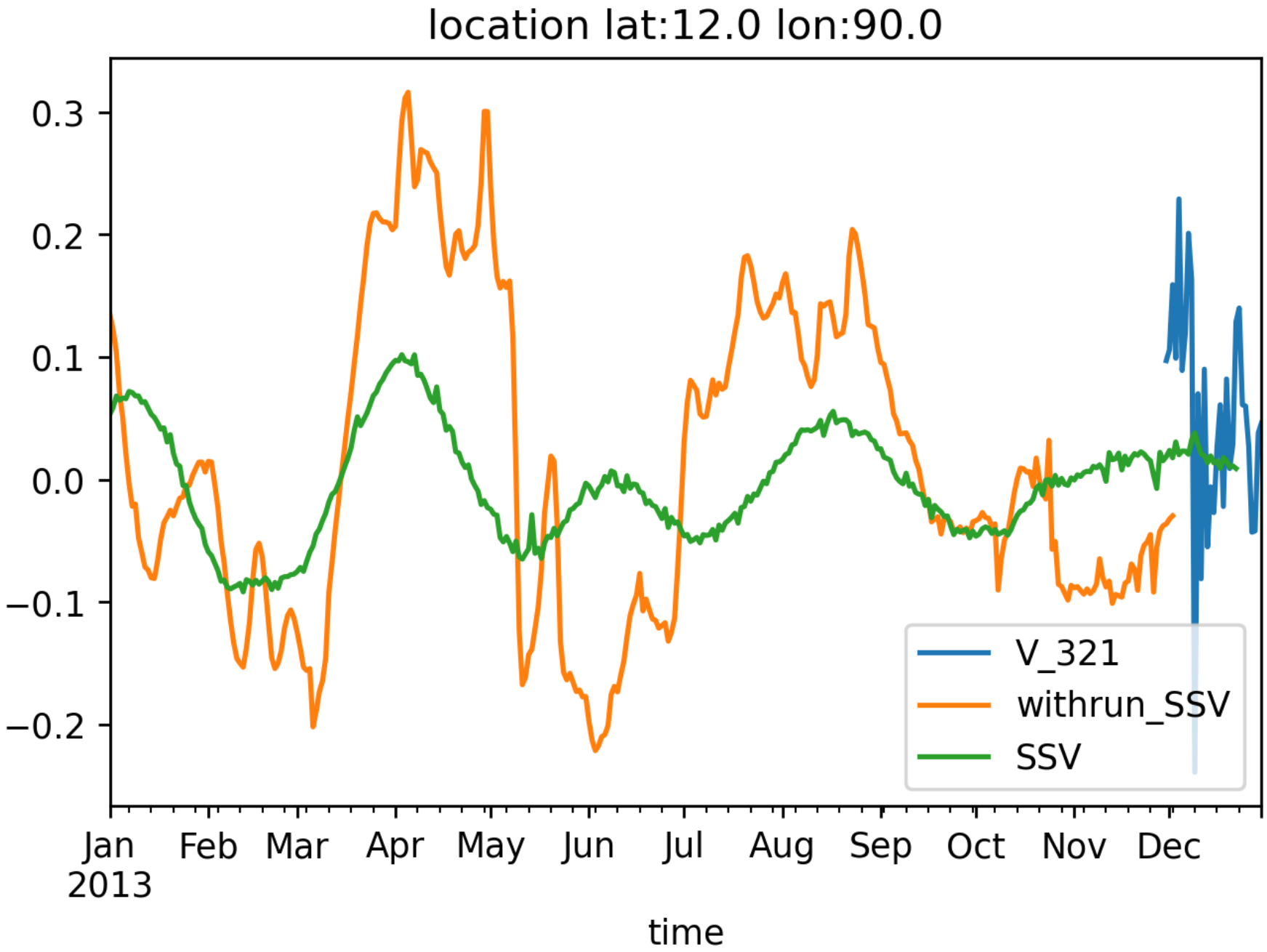
Correlation with observational points (U)

Sl.No	locations	with runoff	without runoff
1.	90E 8N	0.463818	0.485121
2.	90E 12N	0.898688	0.257806
3.	90E 15N	0.272106	0.166525

V component of Current (surface only)

- *V_321* is the RAMA observational dataset of V current
- *with_run_SSV* is model output SSV for corresponding point
- *SSV* is model output without runoff and precipitation

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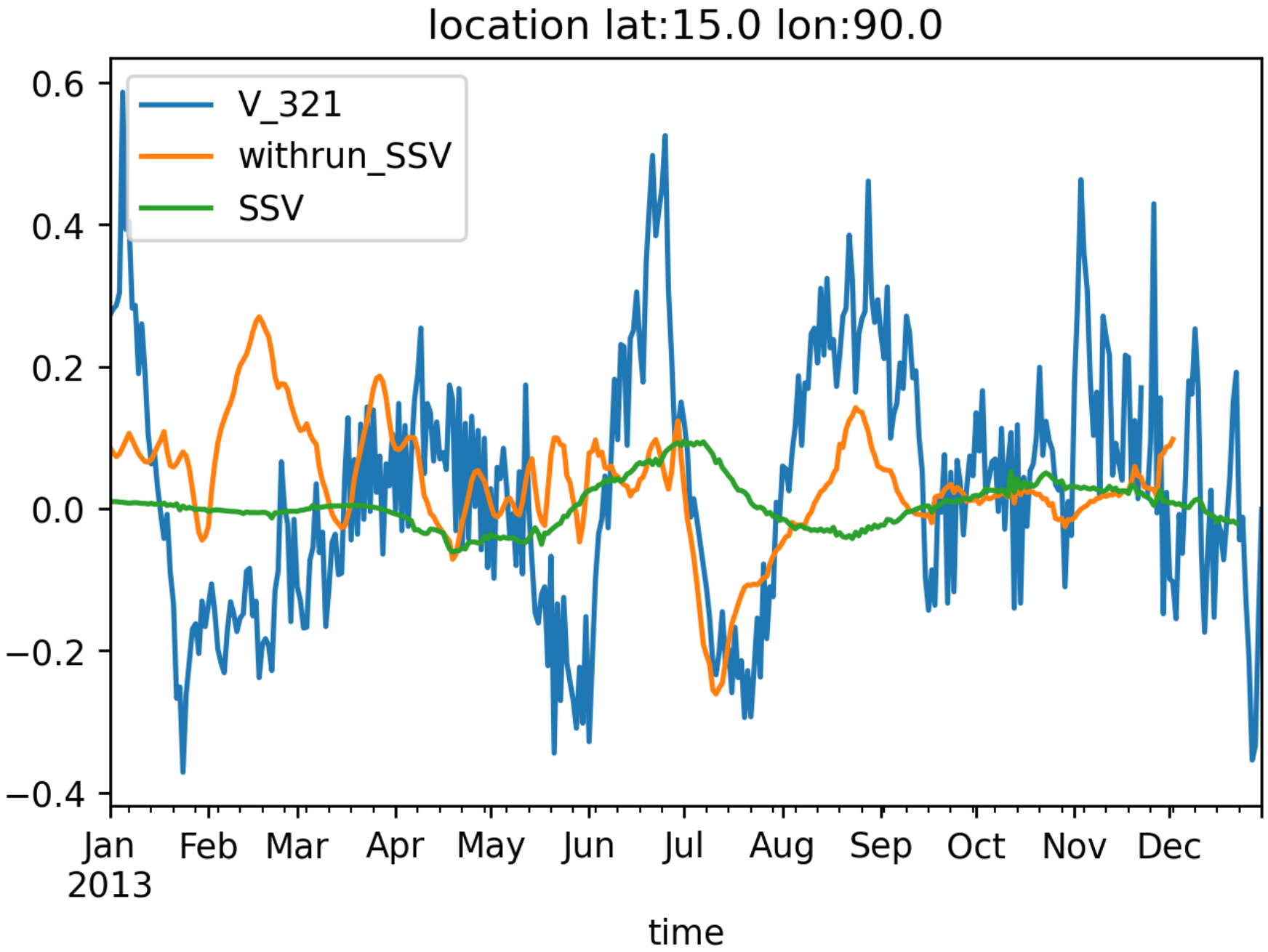
0.3
0.2
0.1
0.0
−0.1
−0.2
Jan
2013
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
time
V_321
withrun_SSV
SSV


location lat:15.0 lon:90.0
V_321
withrun_SSV
SSV
0.6
0.4
0.2
0.0
−0.2
−0.4
Jan
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time

Correlation with observational points (V)

SI.No	locations	with runoff	without runoff
1.	90E 8N	0.281317	-0.184674
2.	90E 12N	0.874680	-0.111687
3.	90E 15N	0.135301	0.050775

Results

1. The model surface salinity is negatively correlated to observational values which indicates that model is poor at picking up observational patterns
2. Addition of surface runoff and precipitation are greatly improved the results and more close to observational values
3. The current components (U and V) are close to the observational values.
4. The correlation coefficients of U and V also suggests and the values are positively correlated and model is picking up realistic current pattterns
5. Generally simulations with runoff flux and precipitation increased the model performace by large extend