

# P3-v5.3.15

HRDPS validation in GEM5.3.10-a10 and PA3a configuration

Phase 1 of optimization of 3MOM + LF

# Changes w.r.t v5.3.14

- Introduction of a function to call `mu_i` for 3MOM and compute `mu` based on a error threshold instead of making 5 iterations each time.
- Optimisation when `dum7=1.` and `dumll=1` (`filiq=0`) for the access lookup table. Results show that this does not lead to improvements in mean time with GEM runs, but it does with 1D simulations.
- Max hail size diagnostic removed.
- Diagnose full z precipitation type not at every time step.

winter	V5.3.14+OPT 2MOM_noLF	P314opt	→	Evaluated against v5.3.14_2MOM_noLF
	V5.3.14+OPT 2MOM_LF	P314opL		
	V5.3.14+OPT 3MOM_noLF	P314o3M		
	V5.3.14+OPT 3MOM_LF	P314o3L		
summer	V5.3.14+OPT 3MOM_LF	P315o3S	→	Evaluated against v5.3.14_3MOM_LF

# Results total mean times

EXP	Total mean time
P3v3	5351
V5.3.14 2MOM_noLF	5480
V5.3.14 2MOM_LF	5682
V5.3.14 3MOM_noLF	6225
V5.3.14 3MOM_LF	6498
V5.3.14+OPT 2MOM_noLF	5460
V5.3.14+OPT 2MOM_LF	5655
V5.3.14+OPT 3MOM_noLF	5864
V5.3.14+OPT 3MOM_LF	6123

EXP	Total mean time
V5.3.14 2MOM_noLF	5579
V5.3.14 3MOM_LF	6304 (+13%)
V5.3.14+OPT 3MOM_LF	6114 (+9.5%)

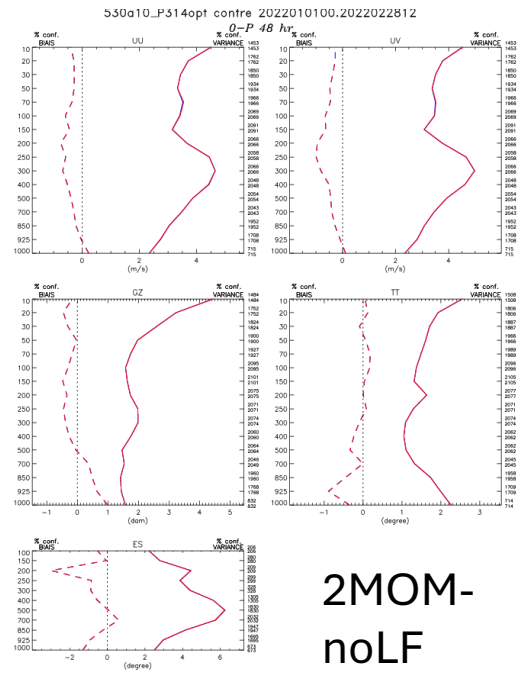
	V5.3.14	V5.3.14+OPT
Impacts of LF in 2MOM	+3.7%	+3.6%
Impacts of LF in 3MOM	+4.3%	+4.4%
Impacts of 3MOM in noLF	+13.5%	+7.4%
Impacts of 3MOM in LF	+14.4%	+8.3%
Compare to P3-v3 in 2MOM_noLF	+2.4%	+2%

winter

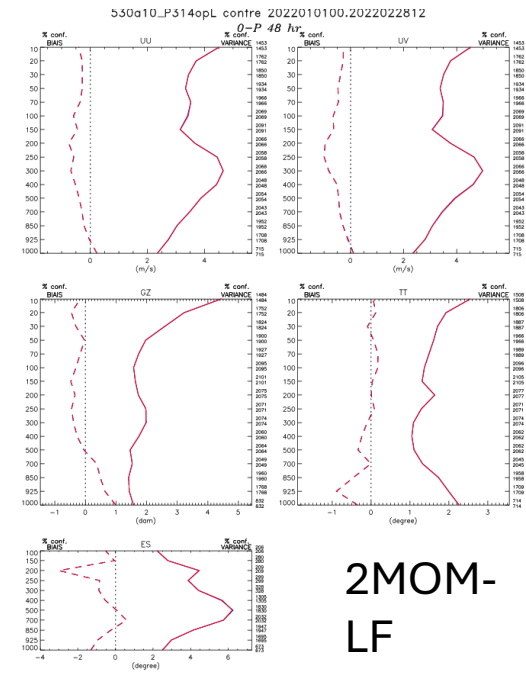
summer

# Winter scores v5.3.14 vs. 5.3.15

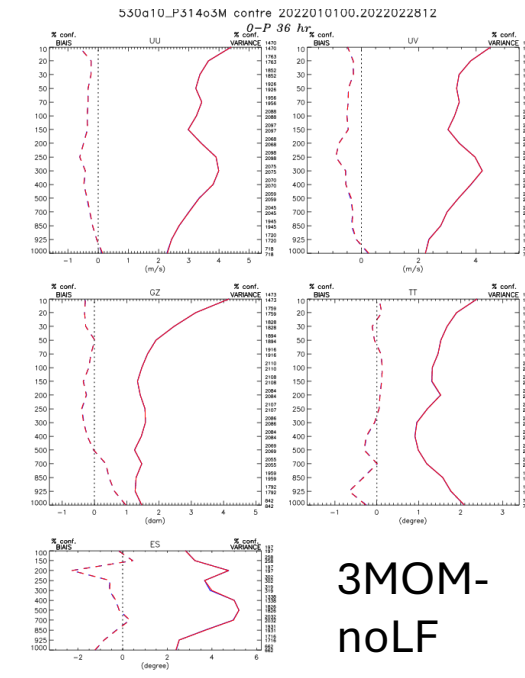
- Arcad → completely neutral



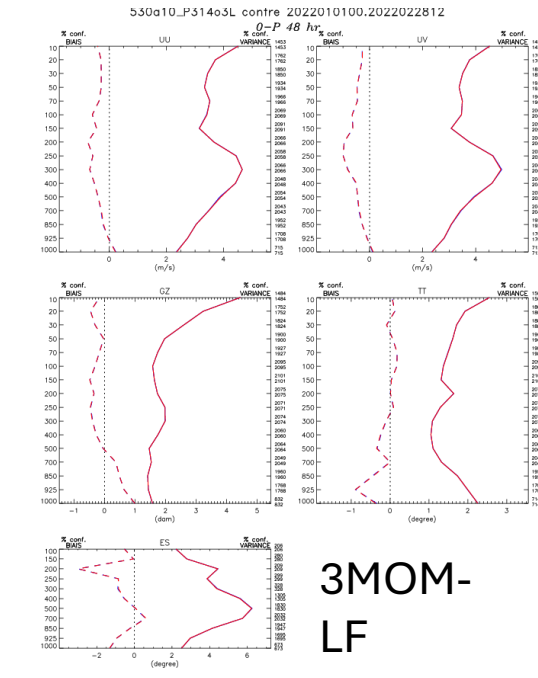
Type : 0-P 48 hr  
Région : Amérique du Nord plus  
Lat-lon : ( 25N, 170W ) ( 85N, 40W )  
Stat. inversées



Type : 0-P 48 hr  
Région : Amérique du Nord plus  
Lat-lon : ( 25N, 170W ) ( 85N, 40W )  
Stat. inversées



Type : 0-P 36 hr  
Région : Amérique du Nord plus  
Lat-lon : ( 25N, 170W ) ( 85N, 40W )  
Stat. inversées



Type : 0-P 48 hr  
Région : Amérique du Nord plus  
Lat-lon : ( 25N, 170W ) ( 85N, 40W )  
Stat. inversées

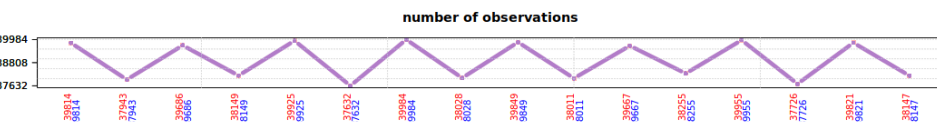
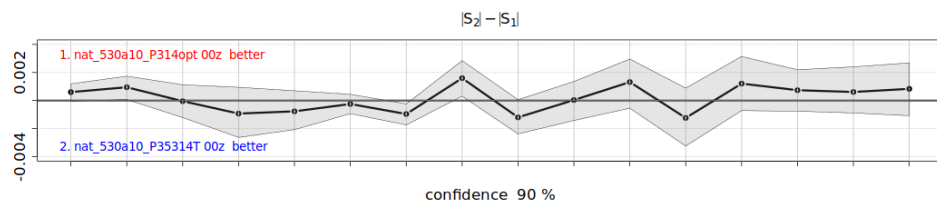
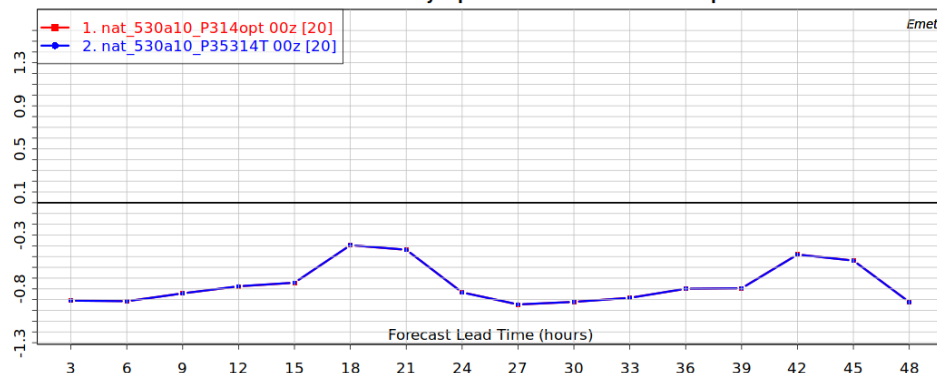
2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15-2MOM-noLF

- Emet TT, TD, UV, P0

Very small differences

MEAN ERROR (P-O) OF SCREEN-LEVEL AIR TEMPERATURE (C) 2022-01-01 @ 2022-02-27  
alt diff max 100 ade synop swob metar North America plus



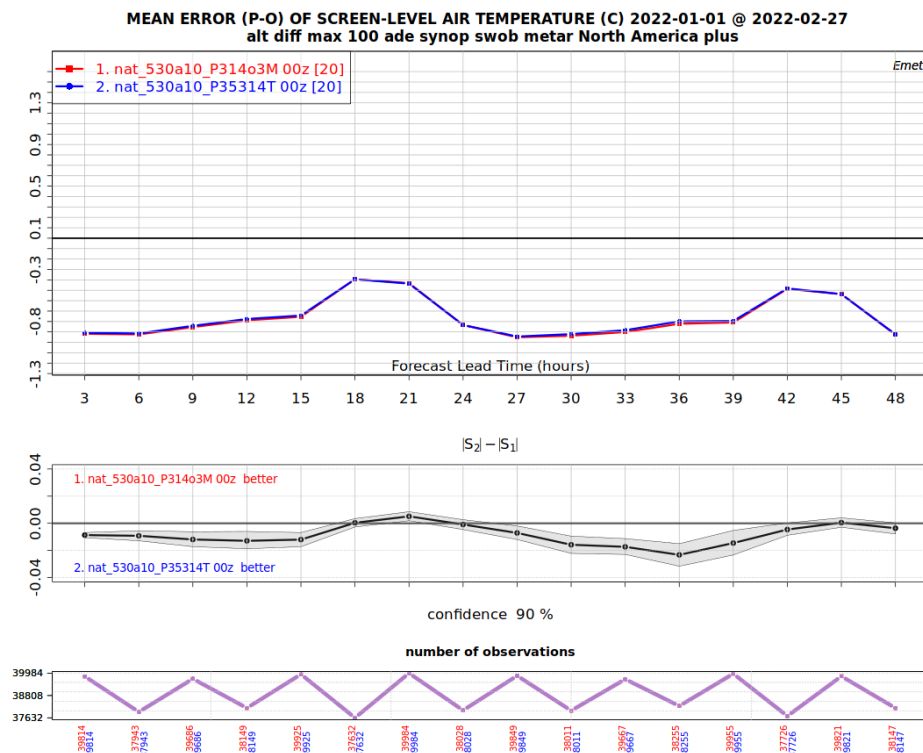
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nat_530a10_P314opt 00z / nat_530a10_P35314T 00z			nat_530a10_P314opt 00z / nat_530a10_P35314T 00z			nat_530a10_P314opt 00z / nat_530a10_P35314T 00z			nat_530a10_P314opt 00z / nat_530a10_P35314T 00z		
Appalachia CLIM	TD	0.00099	Appalachia CLIM	TD	0.0	Appalachia CLIM	TD	8.6e-05	Appalachia CLIM	P0	0.0
	TT	0.00077		TT	0.0		TT	4e-05		P0	-0.00057
Arctic All CLIM	TD	0.0022	Arctic All CLIM	TD	0.00076	Arctic All CLIM	TD	0.00067	Arctic All CLIM	P0	0.0
	TT	0.0025		TT	0.0		TT	0.0		P0	9.5e-06
Arctic Land CLIM	TD	0.0022	Arctic Land CLIM	TD	0.00082	Arctic Land CLIM	TD	0.0	Canada	P0	-0.00014
	TT	0.0014		TT	0.0		TT	0.0	Central CLIM	P0	0.0
Boreal CLIM	TD	0.0	Boreal CLIM	TD	0.0	Boreal CLIM	TD	0.0	Central Plains CLIM	P0	0.00073
	TT	-8e-05		TT	0.0		TT	0.0	Great Lakes CLIM	P0	-0.00074
Canada	TD	0.00015	Canada	TD	0.0	Canada	TD	0.0	MidAtlantic CLIM	P0	-0.00031
	TT	0.00015		TT	-0.00026		TT	-0.00026	Mt West CLIM	P0	0.0
Central CLIM	TD	-0.00027	Central CLIM	TD	-0.00081	Central CLIM	TD	-0.00093	North America plus	P0	-0.00025
	TT	-0.00048		TT	-0.00066		TT	-0.00053	North Atlantic CLIM	P0	0.0
Central Plains CLIM	TD	0.0	Central Plains CLIM	TD	0.0	Central Plains CLIM	TD	0.0	North Plains CLIM	P0	0.0
	TT	0.0		TT	0.0		TT	-0.0013	Pacific North West CLIM	P0	-0.00032
Great Lakes CLIM	TD	0.00064	Great Lakes CLIM	TD	0.0	Great Lakes CLIM	TD	0.0	Prairie CLIM	P0	0.0
	TT	-1.2e-05		TT	0.0		TT	0.0			
MidAtlantic CLIM	TD	0.0	MidAtlantic CLIM	TD	0.0	MidAtlantic CLIM	TD	-0.00077			
	TT	0.00036		TT	-2.4e-05		TT	-8.8e-06			
Mt West CLIM	TD	0.0	Mt West CLIM	TD	-0.0016	Mt West CLIM	TD	-0.0014			
	TT	0.00083		TT	0.0		TT	-0.002			
North America plus	TD	1.7e-05	North America plus	TD	-0.0002	North America plus	TD	-0.00018			
	TT	9.8e-05		TT	-0.00026		TT	-0.00022			
North Atlantic CLIM	TD	0.0	North Atlantic CLIM	TD	0.0	North Atlantic CLIM	TD	0.0			
	TT	0.0		TT	0.00045		TT	0.0			
North Plains CLIM	TD	-0.00016	North Plains CLIM	TD	-0.00037	North Plains CLIM	TD	0.0			
	TT	-0.00063		TT	-0.00073		TT	0.0			
Pacific North West CLIM	TD	0.0	Pacific North West CLIM	TD	0.0	Pacific North West CLIM	TD	-0.00073			
	TT	0.0012		TT	0.00069		TT	0.0			
Prairie CLIM	TD	0.0	Prairie CLIM	TD	0.0	Prairie CLIM	TD	-0.00037			
	TT	0.0		TT	-0.00046		TT	-0.00057			

2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15-3MOM-noLF

- Emet TT, TD, UV, P0

Very small differences



bias < >

bias nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	TD	-0.00029
	TT	-0.002
Arctic All CLIM	TD	0.011
	TT	0.02
Arctic Land CLIM	TD	0.015
	TT	0.019
Boreal CLIM	TD	-0.0059
	TT	0.00046
Canada	TD	-0.0027
	TT	-0.0054
Central CLIM	TD	-0.0053
	TT	-0.013
Central Plains CLIM	TD	0.0
	TT	-0.0084
Great Lakes CLIM	TD	0.00055
	TT	-0.0043
MidAtlantic CLIM	TD	-0.0015
	TT	-0.0013
Mt West CLIM	TD	-0.015
	TT	-0.013
North America plus	TD	-0.0032
	TT	-0.008
North Atlantic CLIM	TD	-0.0035
	TT	-0.0015
North Plains CLIM	TD	0.0024
	TT	-0.0086
Pacific North West CLIM	TD	0.0037
	TT	-0.0004
Prairie CLIM	TD	-0.0062
	TT	-0.017

stdev < >

stdev nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	TD	-0.004
	TT	0.0
Arctic All CLIM	TD	-0.0016
	TT	-0.0025
Arctic Land CLIM	TD	-0.0026
	TT	-0.0018
Boreal CLIM	TD	0.0
	TT	0.00077
Canada	TD	-0.0022
	TT	0.0
Central CLIM	TD	-0.0039
	TT	-0.0029
Central Plains CLIM	TD	-0.0038
	TT	0.0
Great Lakes CLIM	TD	0.0
	TT	-0.00055
MidAtlantic CLIM	TD	-0.0017
	TT	-0.00083
Mt West CLIM	TD	-0.0082
	TT	-0.0041
North America plus	TD	-0.0036
	TT	-0.0018
North Atlantic CLIM	TD	-0.0013
	TT	0.0
North Plains CLIM	TD	-0.0037
	TT	-0.0047
Pacific North West CLIM	TD	-0.0017
	TT	0.0
Prairie CLIM	TD	0.0
	TT	-0.00027

rmse < >

rmse nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	TD	-0.0028
	TT	-0.0021
Arctic All CLIM	TD	0.0
	TT	-0.001
Arctic Land CLIM	TD	0.0
	TT	-0.0011
Boreal CLIM	TD	0.0
	TT	0.00086
Canada	TD	-0.0023
	TT	-0.00056
Central CLIM	TD	-0.006
	TT	-0.0082
Central Plains CLIM	TD	-0.0029
	TT	-0.00051
Great Lakes CLIM	TD	0.0
	TT	-0.0033
MidAtlantic CLIM	TD	-0.0011
	TT	-0.0028
Mt West CLIM	TD	-0.015
	TT	-0.013
North America plus	TD	-0.0043
	TT	-0.0043
North Atlantic CLIM	TD	-0.0011
	TT	-0.00023
North Plains CLIM	TD	-0.0045
	TT	-0.0057
Pacific North West CLIM	TD	0.00021
	TT	0.0012
Prairie CLIM	TD	-0.0045
	TT	-0.007

bias < >

bias nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	P0	-0.0037
Arctic All CLIM	P0	-0.0037
Arctic Land CLIM	P0	-0.0029
Boreal CLIM	P0	-0.004
Canada	P0	-0.0035
Central CLIM	P0	-0.0038
Central Plains CLIM	P0	0.0079
Great Lakes CLIM	P0	-0.0025
MidAtlantic CLIM	P0	0.0
Mt West CLIM	P0	0.0012
North America plus	P0	-0.0037
North Atlantic CLIM	P0	-0.0024
North Plains CLIM	P0	-0.0039
Pacific North West CLIM	P0	-0.00016
Prairie CLIM	P0	-0.0038

bias < >

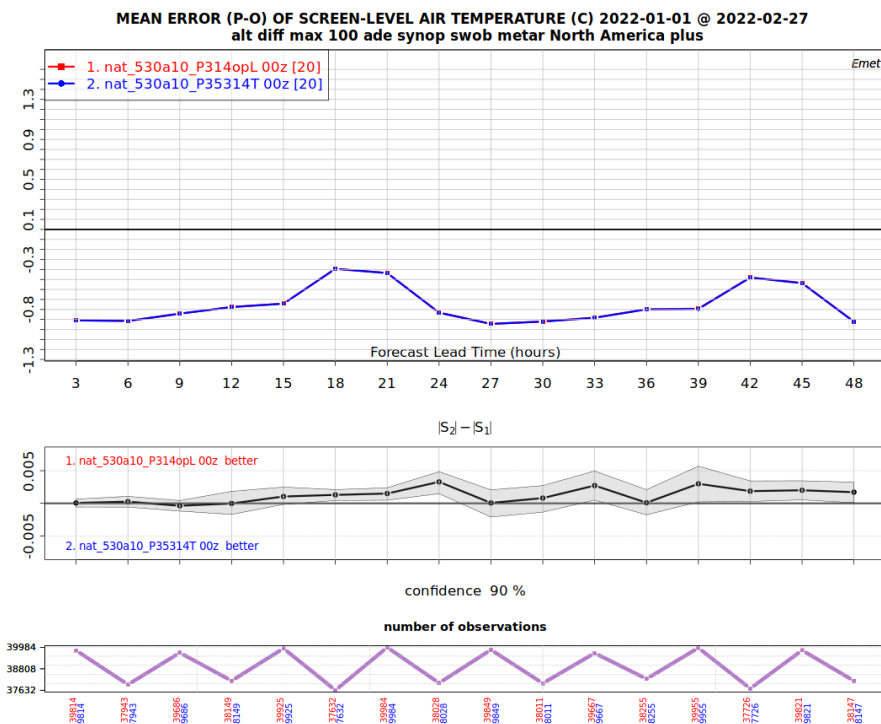
bias nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	UV	0.0
Arctic All CLIM	UV	0.0
Arctic Land CLIM	UV	0.0
Boreal CLIM	UV	0.00068
Canada	UV	0.00037
Central CLIM	UV	-0.00056
Central Plains CLIM	UV	0.0
Great Lakes CLIM	UV	-0.00094
MidAtlantic CLIM	UV	0.00059
Mt West CLIM	UV	0.0
North America plus	UV	0.0
North Atlantic CLIM	UV	0.0019
North Plains CLIM	UV	-0.00075
Pacific North West CLIM	UV	0.0
Prairie CLIM	UV	-0.00044

2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15-2MOM-LF

- Emet TT, TD, UV, P0

Very small differences



bias &lt; &gt;

bias		20220101 / 20220228
nat_530a10_P314opL 00z / nat_530a10_P35314T 00z		All
Appalachia CLIM	TD	-0.0006
	TT	0.0014
Arctic All CLIM	TD	0.0011
	TT	0.00064
Arctic Land CLIM	TD	0.0008
	TT	0.0
Boreal CLIM	TD	-0.0002
	TT	0.00041
Canada	TD	0.0
	TT	0.0005
Central CLIM	TD	0.00033
	TT	0.0
Central Plains CLIM	TD	0.0
	TT	0.0
Great Lakes CLIM	TD	-7.1e-06
	TT	0.0
MidAtlantic CLIM	TD	-0.0021
	TT	0.0018
Mt West CLIM	TD	0.0
	TT	0.0
North America plus	TD	-0.00034
	TT	0.0011
North Atlantic CLIM	TD	0.00018
	TT	0.00098
North Plains CLIM	TD	-0.00046
	TT	0.0
Pacific North West CLIM	TD	-0.00021
	TT	0.0
Prairie CLIM	TD	0.0
	TT	0.0

rmse &lt; &gt;

rmse		20220101 / 20220228
nat_530a10_P314opL 00z / nat_530a10_P35314T 00z		All
Appalachia CLIM	TD	-0.00037
	TT	0.00051
Arctic All CLIM	TD	0.00069
	TT	0.00029
Arctic Land CLIM	TD	0.00043
	TT	0.00057
Boreal CLIM	TD	0.0012
	TT	0.0
Canada	TD	0.00015
	TT	0.00027
Central CLIM	TD	0.0
	TT	0.00063
Central Plains CLIM	TD	-0.00033
	TT	0.0
Great Lakes CLIM	TD	0.0
	TT	0.0
MidAtlantic CLIM	TD	0.0
	TT	0.0
Mt West CLIM	TD	-0.0002
	TT	0.0
North America plus	TD	0.00012
	TT	0.00022
North Atlantic CLIM	TD	0.0
	TT	0.0
North Plains CLIM	TD	0.00033
	TT	0.00074
Pacific North West CLIM	TD	-0.00074
	TT	0.0
Prairie CLIM	TD	0.00023
	TT	0.00043

stdev &lt; &gt;

stdev		20220101 / 20220228
nat_530a10_P314opL 00z / nat_530a10_P35314T 00z		All
Appalachia CLIM	TD	0.0
	TT	0.0
Arctic All CLIM	TD	0.0013
	TT	0.00031
Arctic Land CLIM	TD	0.0012
	TT	0.0006
Boreal CLIM	TD	0.0011
	TT	0.0
Canada	TD	0.00016
	TT	0.00026
Central CLIM	TD	0.0
	TT	0.00061
Central Plains CLIM	TD	-0.00031
	TT	0.0
Great Lakes CLIM	TD	0.0
	TT	0.0
MidAtlantic CLIM	TD	0.0
	TT	-0.00059
Mt West CLIM	TD	-0.00037
	TT	-0.00015
North America plus	TD	0.00013
	TT	0.0
North Atlantic CLIM	TD	-0.0006
	TT	0.0
North Plains CLIM	TD	0.0
	TT	0.0011
Pacific North West CLIM	TD	-0.00084
	TT	8.2e-05
Prairie CLIM	TD	0.00042
	TT	0.0

bias &lt; &gt;

bias		20220101 / 20220228
nat_530a10_P314opL 00z / nat_530a10_P35314T 00z		All
Appalachia CLIM	P0	0.0
Arctic All CLIM	P0	0.0
Arctic Land CLIM	P0	0.0
Boreal CLIM	P0	0.0
Canada	P0	0.0
Central CLIM	P0	0.00051
Central Plains CLIM	P0	-0.0009
Great Lakes CLIM	P0	-0.00053
MidAtlantic CLIM	P0	0.00067
Mt West CLIM	P0	8.1e-05
North America plus	P0	0.0
North Atlantic CLIM	P0	0.0
North Plains CLIM	P0	0.00059
Pacific North West CLIM	P0	0.0
Prairie CLIM	P0	0.0

bias &lt; &gt;

bias		20220101 / 20220228
nat_530a10_P314opL 00z / nat_530a10_P35314T 00z		All
Appalachia CLIM	UV	-0.00081
Arctic All CLIM	UV	0.0
Arctic Land CLIM	UV	-0.0004
Boreal CLIM	UV	0.0
Canada	UV	-1.9e-05
Central CLIM	UV	0.00073
Central Plains CLIM	UV	0.0
Great Lakes CLIM	UV	-0.0007
MidAtlantic CLIM	UV	0.0021
Mt West CLIM	UV	-0.0005
North America plus	UV	-0.00019
North Plains CLIM	UV	0.0012
Pacific North West CLIM	UV	-0.0002
Prairie CLIM	UV	8.6e-05

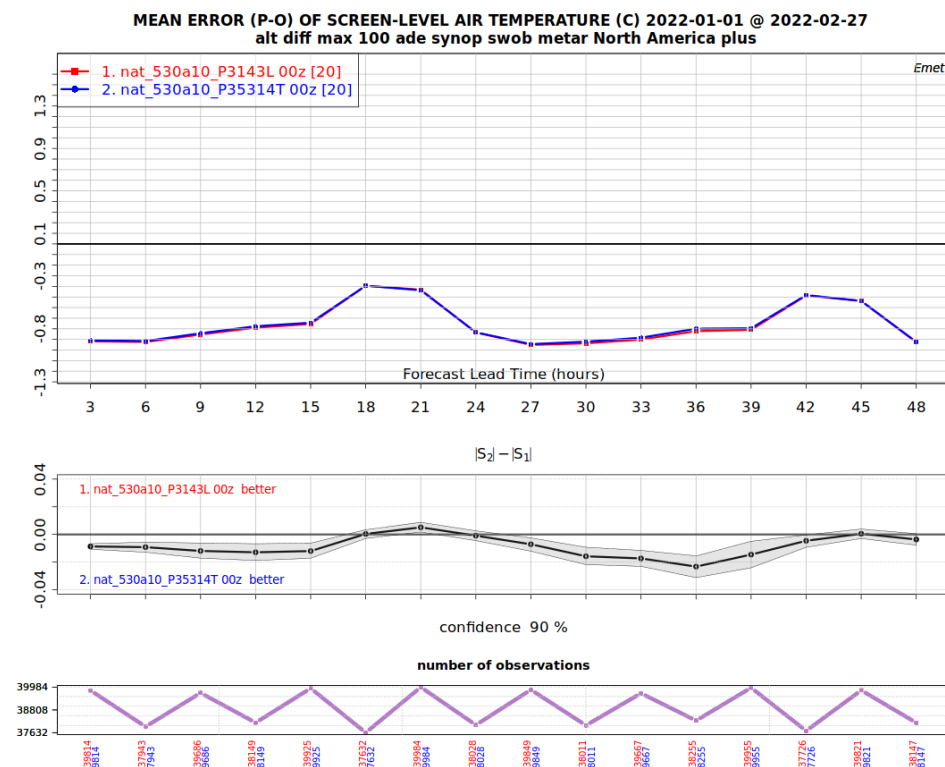


2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15-3MOM-LF

- Emet TT, TD, UV, P0

Very small differences



bias	<	>
nat_530a10_P3143L 00z / nat_530a10_P35314T 00z	20220101 / 20220228	All
Appalachia CLIM	TD 0.00063	TT -0.0015
Arctic All CLIM	TD 0.013	TT 0.02
Arctic Land CLIM	TD 0.015	TT 0.019
Boreal CLIM	TD -0.0059	TT 0.00046
Canada	TD -0.0027	TT -0.005
Central CLIM	TD -0.0053	TT -0.013
Central Plains CLIM	TD 0.0	TT -0.0074
Great Lakes CLIM	TD -3.6e-06	TT -0.0043
MidAtlantic CLIM	TD -0.0021	TT -0.0013
Mt West CLIM	TD -0.015	TT -0.013
North America plus	TD -0.0032	TT -0.0083
North Atlantic CLIM	TD -0.0035	TT -0.001
North Plains CLIM	TD 0.0024	TT -0.0099
Pacific North West CLIM	TD 0.0037	TT -0.0004
Prairie CLIM	TD -0.0062	TT -0.017

rmse	<	>
nat_530a10_P3143L 00z / nat_530a10_P35314T 00z	20220101 / 20220228	All
Appalachia CLIM	TD -0.0031	TT -0.0021
Arctic All CLIM	TD -0.00017	TT -0.001
Arctic Land CLIM	TD 0.0	TT 0.0
Boreal CLIM	TD 0.0	TT 0.00087
Canada	TD -0.0023	TT -0.00056
Central CLIM	TD -0.0055	TT -0.0082
Central Plains CLIM	TD -0.0033	TT -0.00051
Great Lakes CLIM	TD 0.0	TT -0.0033
MidAtlantic CLIM	TD -0.0011	TT -0.0028
Mt West CLIM	TD -0.015	TT -0.013
North America plus	TD -0.0043	TT -0.0041
North Atlantic CLIM	TD -0.0011	TT -0.00023
North Plains CLIM	TD -0.0045	TT -0.0057
Pacific North West CLIM	TD 0.00021	TT 0.0
Prairie CLIM	TD -0.0037	TT -0.0073

stdev	<	>
nat_530a10_P3143L 00z / nat_530a10_P35314T 00z	20220101 / 20220228	All
Appalachia CLIM	TD -0.004	TT 0.0
Arctic All CLIM	TD -0.0025	TT -0.0025
Arctic Land CLIM	TD -0.0036	TT -0.0018
Boreal CLIM	TD 0.0	TT 0.00075
Canada	TD -0.0022	TT 0.0
Central CLIM	TD -0.0039	TT -0.0036
Central Plains CLIM	TD -0.0038	TT 0.0
Great Lakes CLIM	TD 0.0	TT 0.0
MidAtlantic CLIM	TD -0.0017	TT -0.00083
Mt West CLIM	TD -0.0089	TT -0.0041
North America plus	TD -0.0038	TT -0.0018
North Atlantic CLIM	TD -0.0013	TT 0.0
North Plains CLIM	TD -0.0037	TT -0.0047
Pacific North West CLIM	TD -0.0017	TT 0.0
Prairie CLIM	TD -0.00091	TT -0.00027

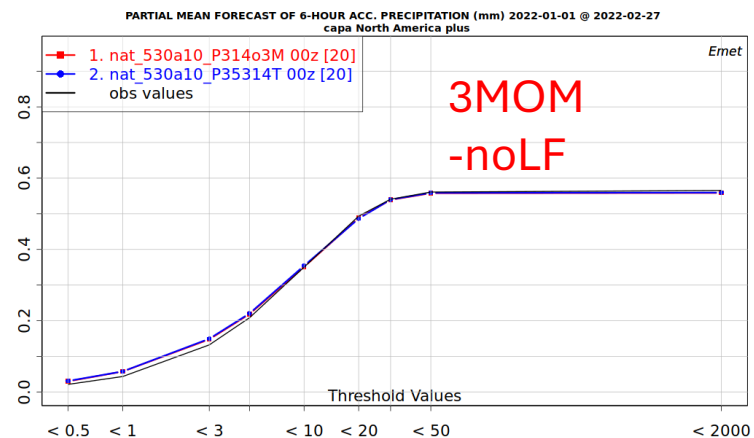
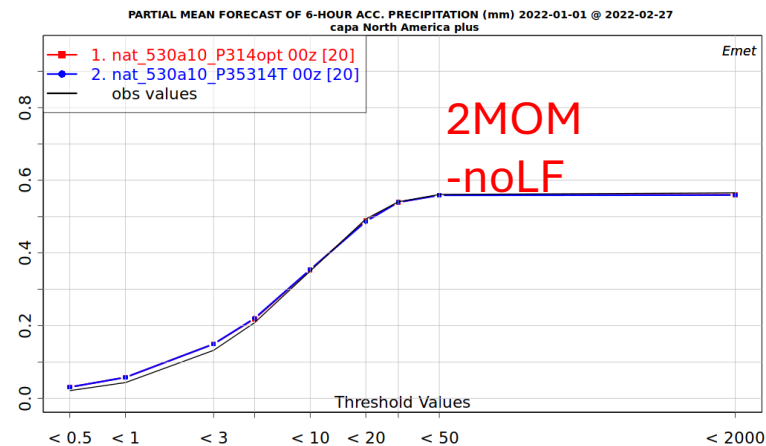
  

bias	<	>
nat_530a10_P3143L 00z / nat_530a10_P35314T 00z	20220101 / 20220228	All
Appalachia CLIM	P0 -0.0032	UV -0.00033
Arctic All CLIM	P0 -0.0029	UV 0.0
Arctic Land CLIM	P0 -0.004	UV 0.0
Boreal CLIM	P0 -0.0035	UV 0.00068
Canada	P0 -0.0038	UV 0.00015
Central CLIM	P0 0.0079	UV -0.00056
Central Plains CLIM	P0 -0.0024	UV 0.0
Great Lakes CLIM	P0 0.0	UV 0.00059
MidAtlantic CLIM	P0 -0.0012	UV 0.0
Mt West CLIM	P0 -0.0037	UV 0.00029
North America plus	P0 -0.0024	UV 0.0019
North Atlantic CLIM	P0 -0.0034	UV -0.00075
North Plains CLIM	P0 -0.0016	UV 0.0
Pacific North West CLIM	P0 -0.0038	UV -0.00044
Prairie CLIM	P0 -0.0038	UV -0.00044

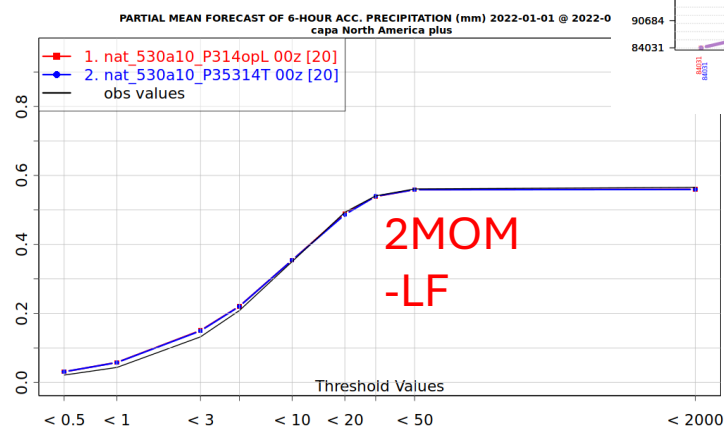
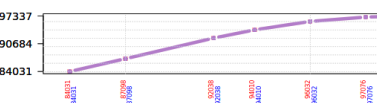


2MOM-noLF

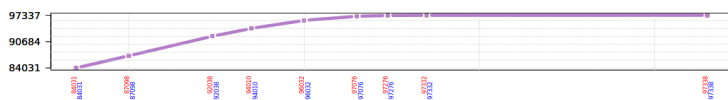
# Winter scores v5.3.14 vs. 5.3.15



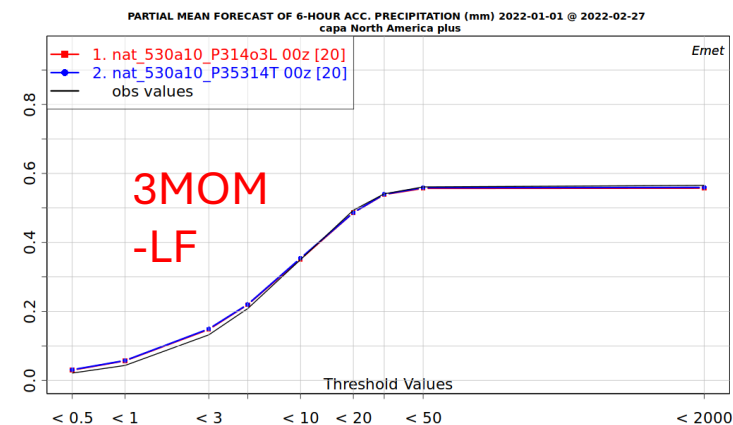
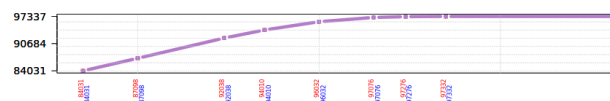
number of observed events



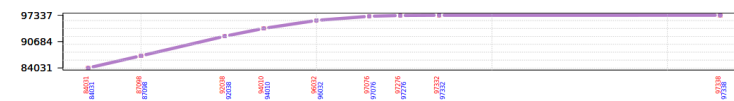
number of observed events



number of observed events



number of observed events



2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15

2MOM

-noLF

fbi			20220101 / 20220228
nat_530a10_P314opt 00z / nat_530a10_P35314T 00z			All
Appalachia CLIM	PR24	-0.0015	
	PR6	0.012	
Arctic All CLIM	PR24	0.0	
	PR6	0.018	
Arctic Land CLIM	PR24	0.0	
	PR6	0.0	
Boreal CLIM	PR24	0.011	
	PR6	-0.0088	
Canada	PR24	0.0	
	PR6	0.0013	
Central CLIM	PR24	-0.0063	
	PR6	0.022	
Central Plains CLIM	PR24	0.0	
	PR6	-0.062	
Great Lakes CLIM	PR24	-0.026	
	PR6	0.0	
MidAtlantic CLIM	PR24	0.0022	
	PR6	0.0084	
Mt West CLIM	PR24	-0.013	
	PR6	0.0	
North America plus	PR24	-0.00068	
	PR6	0.015	
North Atlantic CLIM	PR24	0.015	
	PR6	-0.016	
North Plains CLIM	PR24	0.0	
	PR6	0.0	
Pacific North West CLIM	PR24	0.0	
	PR6	0.0021	
Prairie CLIM	PR24	-0.0063	
	PR6	0.022	

2MOM

-LF

fbi			20220101 / 20220228
nat_530a10_P314opL 00z / nat_530a10_P35314T 00z			All
Appalachia CLIM	PR24	-0.0022	
	PR6	0.011	
Arctic All CLIM	PR24	0.0	
	PR6	0.0	
Arctic Land CLIM	PR24	0.0	
	PR6	0.0	
Boreal CLIM	PR24	0.0	
	PR6	0.0	
Canada	PR24	-0.0012	
	PR6	-0.00061	
Central CLIM	PR24	-0.0068	
	PR6	0.0089	
Central Plains CLIM	PR24	0.0	
	PR6	-0.062	
Great Lakes CLIM	PR24	-0.016	
	PR6	0.008	
MidAtlantic CLIM	PR24	-0.011	
	PR6	-0.0095	
Mt West CLIM	PR24	0.035	
	PR6	0.0052	
North America plus	PR24	0.0	
	PR6	0.018	
North Atlantic CLIM	PR24	0.026	
	PR6	-0.022	
North Plains CLIM	PR24	0.0	
	PR6	0.0	
Pacific North West CLIM	PR24	0.0	
	PR6	-0.018	
Prairie CLIM	PR24	-0.0098	
	PR6	-0.005	

3MOM

-noLF

fbi			20220101 / 20220228
nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z			All
Appalachia CLIM	PR24	-0.0011	
	PR6	0.013	
Arctic All CLIM	PR24	0.0	
	PR6	0.018	
Arctic Land CLIM	PR24	0.0	
	PR6	0.0	
Boreal CLIM	PR24	0.0	
	PR6	-0.0032	
Canada	PR24	0.0	
	PR6	-0.0095	
Central CLIM	PR24	-0.023	
	PR6	0.0	
Central Plains CLIM	PR24	0.0	
	PR6	-0.062	
Great Lakes CLIM	PR24	0.021	
	PR6	0.0	
MidAtlantic CLIM	PR24	0.0021	
	PR6	0.011	
Mt West CLIM	PR24	0.012	
	PR6	0.0075	
North America plus	PR24	-0.0014	
	PR6	0.0036	
North Atlantic CLIM	PR24	0.0	
	PR6	-0.002	
North Plains CLIM	PR24	0.0	
	PR6	0.0	
Pacific North West CLIM	PR24	-0.0044	
	PR6	0.0	
Prairie CLIM	PR24	-0.023	
	PR6	-0.006	

3MOM

-LF

fbi			20220101 / 20220228
nat_530a10_P314o3L 00z / nat_530a10_P35314T 00z			All
Appalachia CLIM	PR24	-0.0013	
	PR6	0.016	
Arctic All CLIM	PR24	0.0	
	PR6	0.018	
Arctic Land CLIM	PR24	0.0	
	PR6	0.0	
Boreal CLIM	PR24	0.0	
	PR6	0.0068	
Canada	PR24	0.0	
	PR6	-0.0019	
Central CLIM	PR24	-0.031	
	PR6	0.0	
Central Plains CLIM	PR24	0.0	
	PR6	0.0	
Great Lakes CLIM	PR24	0.021	
	PR6	0.0	
MidAtlantic CLIM	PR24	0.0044	
	PR6	0.00017	
Mt West CLIM	PR24	-0.011	
	PR6	0.006	
North America plus	PR24	0.0	
	PR6	-0.0047	
North Atlantic CLIM	PR24	0.0	
	PR6	-0.014	
North Plains CLIM	PR24	0.0	
	PR6	0.0	
Pacific North West CLIM	PR24	-0.011	
	PR6	0.0	
Prairie CLIM	PR24	-0.033	
	PR6	0.0	

2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15

2MOM  
-noLF

ets < >

ets nat_530a10_P314opt 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	PR24	-0.0051
	PR6	-0.0014
Arctic All CLIM	PR24	0.0
	PR6	-0.002
Arctic Land CLIM	PR24	0.0
	PR6	-0.0027
Boreal CLIM	PR24	-0.0019
	PR6	-0.0081
Canada	PR24	0.0
	PR6	0.0015
Central CLIM	PR24	0.00051
	PR6	-0.0028
Central Plains CLIM	PR24	0.0
	PR6	0.02
Great Lakes CLIM	PR24	0.0
	PR6	-0.0033
MidAtlantic CLIM	PR24	0.00071
	PR6	-0.0031
Mt West CLIM	PR24	0.0
	PR6	-0.0024
North America plus	PR24	0.00093
	PR6	0.00062
North Atlantic CLIM	PR24	0.0032
	PR6	-0.01
North Plains CLIM	PR24	0.013
	PR6	0.0031
Pacific North West CLIM	PR24	-0.0011
	PR6	0.0
Prairie CLIM	PR24	0.00084
	PR6	-0.0026

2MOM  
-LF

ets nat_530a10_P314opL 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	PR24	-0.0015
	PR6	-0.0014
Arctic All CLIM	PR24	0.0
	PR6	0.015
Arctic Land CLIM	PR24	0.0
	PR6	-0.0044
Boreal CLIM	PR24	0.0
	PR6	0.019
Canada	PR24	-0.00089
	PR6	0.0
Central CLIM	PR24	-0.0073
	PR6	-0.001
Central Plains CLIM	PR24	0.0
	PR6	0.02
Great Lakes CLIM	PR24	0.0
	PR6	-0.007
MidAtlantic CLIM	PR24	0.0
	PR6	-0.0099
Mt West CLIM	PR24	0.0
	PR6	-0.0027
North America plus	PR24	0.00082
	PR6	0.0
North Atlantic CLIM	PR24	0.016
	PR6	0.0
North Plains CLIM	PR24	0.0085
	PR6	-0.0048
Pacific North West CLIM	PR24	-0.0031
	PR6	0.0
Prairie CLIM	PR24	-0.0096
	PR6	-0.00089

3MOM  
-noLF

ets nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	PR24	4.2e-05
	PR6	-0.0012
Arctic All CLIM	PR24	0.0
	PR6	0.0025
Arctic Land CLIM	PR24	0.0
	PR6	0.0035
Boreal CLIM	PR24	0.0
	PR6	0.013
Canada	PR24	-0.0022
	PR6	0.0
Central CLIM	PR24	-0.009
	PR6	0.0041
Central Plains CLIM	PR24	0.0
	PR6	0.02
Great Lakes CLIM	PR24	-0.016
	PR6	0.012
MidAtlantic CLIM	PR24	-0.0026
	PR6	-0.0031
Mt West CLIM	PR24	0.0
	PR6	-0.012
North America plus	PR24	0.0029
	PR6	0.0
North Atlantic CLIM	PR24	0.0061
	PR6	0.0
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.00019
	PR6	0.00015
Prairie CLIM	PR24	-0.011
	PR6	0.0033

3MOM  
-LF

ets nat_530a10_P314o3L 00z / nat_530a10_P35314T 00z		20220101 / 20220228 All
Appalachia CLIM	PR24	-0.002
	PR6	0.00066
Arctic All CLIM	PR24	0.0
	PR6	0.0025
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	0.0
	PR6	-0.0042
Canada	PR24	0.0065
	PR6	0.0021
Central CLIM	PR24	-0.012
	PR6	0.0
Central Plains CLIM	PR24	0.0
	PR6	0.0
Great Lakes CLIM	PR24	-0.017
	PR6	0.00052
MidAtlantic CLIM	PR24	-0.0012
	PR6	-0.008
Mt West CLIM	PR24	-0.011
	PR6	-0.0087
North America plus	PR24	0.0015
	PR6	0.0
North Atlantic CLIM	PR24	0.013
	PR6	-0.0081
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.0024
	PR6	0.0021
Prairie CLIM	PR24	-0.014
	PR6	0.0

2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15

2MOM  
-noLF

far		
nat_530a10_P314opt00z / nat_530a10_P35314T00z		
All		
Appalachia CLIM	PR24	-0.0018
	PR6	-0.0016
Arctic All CLIM	PR24	0.0
	PR6	0.0
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	-0.001
	PR6	-0.007
Canada	PR24	0.0
	PR6	0.0
Central CLIM	PR24	0.071
	PR6	-0.012
Central Plains CLIM	PR24	0.0
	PR6	0.051
Great Lakes CLIM	PR24	0.0
	PR6	-0.018
MidAtlantic CLIM	PR24	0.012
	PR6	-0.0082
Mt West CLIM	PR24	-0.011
	PR6	0.0
North America plus	PR24	0.00021
	PR6	-0.0013
North Atlantic CLIM	PR24	0.005
	PR6	0.0016
North Plains CLIM	PR24	0.012
	PR6	0.0
Pacific North West CLIM	PR24	0.00028
	PR6	0.0
Prairie CLIM	PR24	0.067
	PR6	-0.011

2MOM  
-LF

far		
nat_530a10_P314opL00z / nat_530a10_P35314T00z		
All		
Appalachia CLIM	PR24	0.0026
	PR6	-0.0016
Arctic All CLIM	PR24	0.0
	PR6	0.018
Arctic Land CLIM	PR24	0.0
	PR6	-0.0038
Boreal CLIM	PR24	0.0
	PR6	0.0
Canada	PR24	-0.00057
	PR6	0.0
Central CLIM	PR24	-0.034
	PR6	-0.005
Central Plains CLIM	PR24	0.0
	PR6	0.051
Great Lakes CLIM	PR24	0.0017
	PR6	-0.0086
MidAtlantic CLIM	PR24	-0.0014
	PR6	-0.012
Mt West CLIM	PR24	0.0
	PR6	-0.003
North America plus	PR24	0.0
	PR6	0.0
North Atlantic CLIM	PR24	0.014
	PR6	0.0
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.0
	PR6	0.0
Prairie CLIM	PR24	-0.028
	PR6	-0.0041

3MOM  
-noLF

far		
nat_530a10_P314o3M00z / nat_530a10_P35314T00z		
All		
Appalachia CLIM	PR24	0.0014
	PR6	-0.0014
Arctic All CLIM	PR24	0.0
	PR6	0.0
Arctic Land CLIM	PR24	0.0
	PR6	0.0034
Boreal CLIM	PR24	0.0
	PR6	0.0
Canada	PR24	-0.0015
	PR6	0.0
Central CLIM	PR24	0.048
	PR6	0.005
Central Plains CLIM	PR24	0.0
	PR6	0.051
Great Lakes CLIM	PR24	-0.0056
	PR6	0.0056
MidAtlantic CLIM	PR24	-0.0017
	PR6	-0.007
Mt West CLIM	PR24	-0.0097
	PR6	-0.025
North America plus	PR24	0.0014
	PR6	0.00067
North Atlantic CLIM	PR24	0.0024
	PR6	0.0033
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.00012
	PR6	-1.8e-05
Prairie CLIM	PR24	0.065
	PR6	0.011

3MOM  
-LF

far		
nat_530a10_P314o3L00z / nat_530a10_P35314T00z		
All		
Appalachia CLIM	PR24	0.00049
	PR6	0.0015
Arctic All CLIM	PR24	0.0
	PR6	0.0032
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	0.0
	PR6	0.0056
Canada	PR24	0.0098
	PR6	0.0
Central CLIM	PR24	0.043
	PR6	0.0
Central Plains CLIM	PR24	0.0
	PR6	0.0
Great Lakes CLIM	PR24	-0.014
	PR6	-0.0068
MidAtlantic CLIM	PR24	0.0096
	PR6	-0.012
Mt West CLIM	PR24	-0.012
	PR6	-0.013
North America plus	PR24	0.0022
	PR6	0.0
North Atlantic CLIM	PR24	0.0069
	PR6	-0.0075
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.0084
	PR6	0.0021
Prairie CLIM	PR24	0.059
	PR6	0.0

2MOM-noLF

# Winter scores v5.3.14 vs. 5.3.15

2MOM  
-noLF

pod		
pod nat_530a10_P314opt 00z / nat_530a10_P35314T 00z		
		20220101 / 20220228
		All
Appalachia CLIM	PR24	-0.0078
	PR6	-0.0033
Arctic All CLIM	PR24	0.0
	PR6	0.0
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	0.0
	PR6	-0.0088
Canada	PR24	0.0
	PR6	0.0017
Central CLIM	PR24	0.0
	PR6	0.0
Central Plains CLIM	PR24	0.0
	PR6	0.0
Great Lakes CLIM	PR24	0.044
	PR6	-0.0022
MidAtlantic CLIM	PR24	0.00038
	PR6	0.0
Mt West CLIM	PR24	0.0
	PR6	-0.0023
North America plus	PR24	0.0
	PR6	0.00094
North Atlantic CLIM	PR24	0.0
	PR6	-0.013
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.0
	PR6	0.0015
Prairie CLIM	PR24	0.0
	PR6	0.0

2MOM  
-LF

pod		
pod nat_530a10_P314opl 00z / nat_530a10_P35314T 00z		
		20220101 / 20220228
		All
Appalachia CLIM	PR24	-0.0001
	PR6	-0.0025
Arctic All CLIM	PR24	0.0
	PR6	-0.0031
Arctic Land CLIM	PR24	0.0
	PR6	-0.0045
Boreal CLIM	PR24	0.0
	PR6	0.02
Canada	PR24	0.0022
	PR6	0.00031
Central CLIM	PR24	-0.01
	PR6	0.0
Central Plains CLIM	PR24	0.0
	PR6	0.0
Great Lakes CLIM	PR24	0.0
	PR6	-0.0093
MidAtlantic CLIM	PR24	0.00038
	PR6	-0.0084
Mt West CLIM	PR24	0.0
	PR6	-0.0016
North America plus	PR24	0.00078
	PR6	0.00045
North Atlantic CLIM	PR24	-0.00077
	PR6	-0.0067
North Plains CLIM	PR24	0.0
	PR6	-0.0084
Pacific North West CLIM	PR24	-0.0029
	PR6	0.0014
Prairie CLIM	PR24	-0.013
	PR6	-0.0015

3MOM  
-noLF

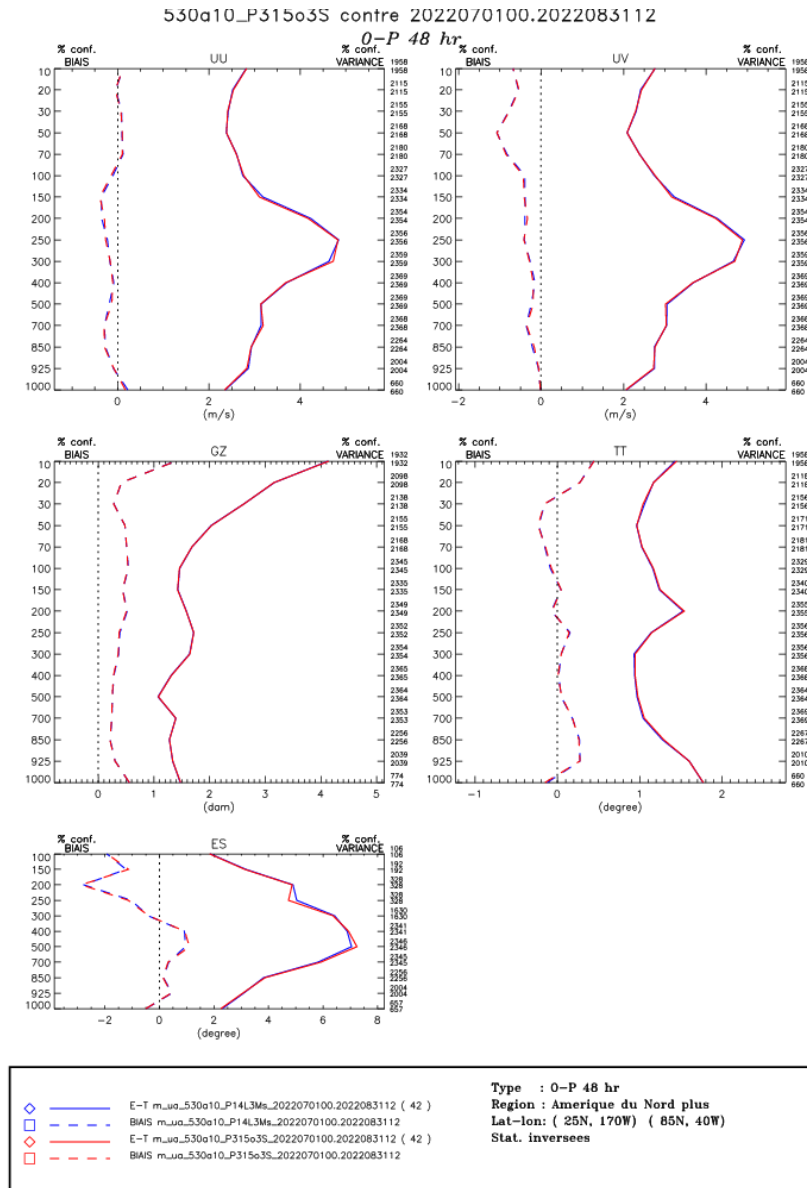
pod		
pod nat_530a10_P314o3M 00z / nat_530a10_P35314T 00z		
		20220101 / 20220228
		All
Appalachia CLIM	PR24	-8.4e-05
	PR6	-0.0038
Arctic All CLIM	PR24	0.0
	PR6	0.0
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	0.0
	PR6	0.015
Canada	PR24	0.0
	PR6	0.0042
Central CLIM	PR24	-0.0094
	PR6	0.0
Central Plains CLIM	PR24	0.0
	PR6	0.0
Great Lakes CLIM	PR24	0.0
	PR6	0.019
MidAtlantic CLIM	PR24	0.0025
	PR6	0.0012
Mt West CLIM	PR24	0.0
	PR6	-0.0068
North America plus	PR24	0.0018
	PR6	0.0
North Atlantic CLIM	PR24	0.0036
	PR6	0.0
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.0014
	PR6	0.0
Prairie CLIM	PR24	-0.015
	PR6	0.0

3MOM  
-LF

pod		
pod nat_530a10_P314o3L 00z / nat_530a10_P35314T 00z		
		20220101 / 20220228
		All
Appalachia CLIM	PR24	-0.0048
	PR6	-0.0026
Arctic All CLIM	PR24	0.0
	PR6	0.0
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	0.0
	PR6	0.0028
Canada	PR24	0.0
	PR6	0.005
Central CLIM	PR24	-0.013
	PR6	-0.0041
Central Plains CLIM	PR24	0.0
	PR6	0.0
Great Lakes CLIM	PR24	-0.013
	PR6	0.011
MidAtlantic CLIM	PR24	0.0025
	PR6	-0.0053
Mt West CLIM	PR24	0.0
	PR6	-0.0074
North America plus	PR24	0.00025
	PR6	0.0
North Atlantic CLIM	PR24	0.0061
	PR6	-0.013
North Plains CLIM	PR24	0.0
	PR6	0.0085
Pacific North West CLIM	PR24	0.0012
	PR6	0.0024
Prairie CLIM	PR24	-0.018
	PR6	-0.0046

# Summer scores v5.3.14 vs. 5.3.15 (both 3MOM-LF)

- Arcad → completely neutral



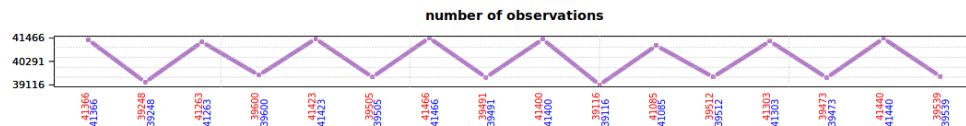
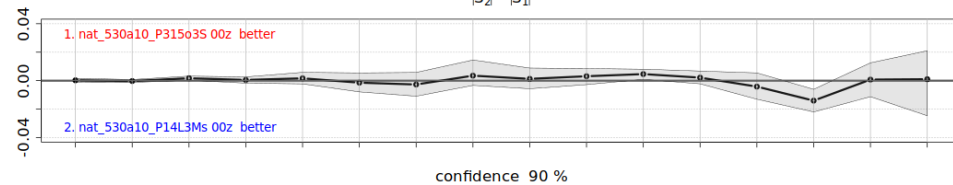
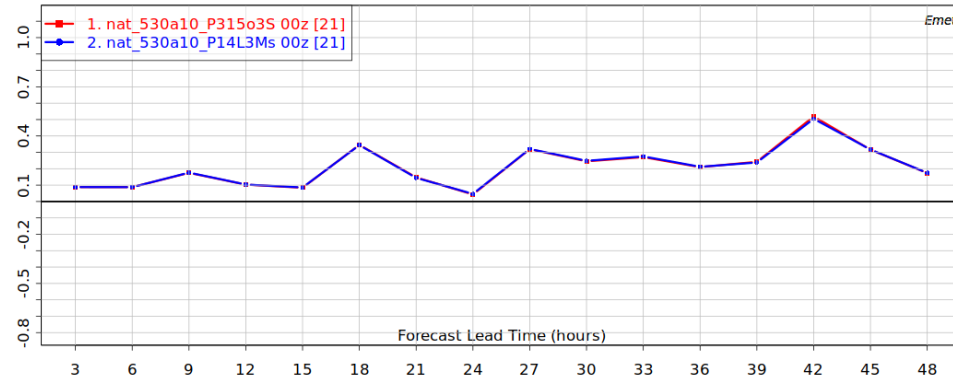


# Summer scores v5.3.14 vs. 5.3.15 (both 3MOM-LF)

- Emet TT, TD, UV, P0

Very small differences

MEAN ERROR (P-O) OF SCREEN-LEVEL AIR TEMPERATURE (C) 2022-07-01 @ 2022-08-30  
alt diff max 100 ade synop swob metar North America plus



bias		20220701 / 20220831	
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All	
Appalachia CLIM	TD	-0.00015	
	TT	-0.014	
Arctic All CLIM	TD	0.0	
	TT	-0.0017	
Arctic Land CLIM	TD	-0.0012	
	TT	-0.0018	
Boreal CLIM	TD	0.0	
	TT	0.0	
Canada	TD	0.0014	
	TT	0.0	
Central CLIM	TD	0.0	
	TT	0.0	
Central Plains CLIM	TD	-0.0031	
	TT	0.0078	
Great Lakes CLIM	TD	0.0	
	TT	0.0025	
MidAtlantic CLIM	TD	-0.00049	
	TT	-0.001	
Mt West CLIM	TD	0.0	
	TT	-0.0024	
North America plus	TD	0.0	
	TT	-0.00049	
North Atlantic CLIM	TD	0.0	
	TT	0.0	
North Plains CLIM	TD	-0.0033	
	TT	0.0039	
Pacific North West CLIM	TD	0.0	
	TT	-0.0005	
Prairie CLIM	TD	0.0	
	TT	-0.0038	

rmse		20220701 / 20220831	
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All	
Appalachia CLIM	TD	0.002	
	TT	0.0	
Arctic All CLIM	TD	0.0	
	TT	9.9e-05	
Arctic Land CLIM	TD	0.0014	
	TT	0.00012	
Boreal CLIM	TD	0.0	
	TT	0.001	
Canada	TD	0.0	
	TT	-0.001	
Central CLIM	TD	-0.0016	
	TT	0.0	
Central Plains CLIM	TD	-0.014	
	TT	0.00078	
Great Lakes CLIM	TD	0.0	
	TT	-0.0049	
MidAtlantic CLIM	TD	0.0	
	TT	-0.0068	
Mt West CLIM	TD	0.0	
	TT	0.0	
North America plus	TD	0.0	
	TT	-0.0026	
North Atlantic CLIM	TD	0.0	
	TT	-0.0036	
North Plains CLIM	TD	0.0	
	TT	0.0	
Pacific North West CLIM	TD	0.0	
	TT	-0.0002	
Prairie CLIM	TD	0.00084	
	TT	0.0	

stdev		20220701 / 20220831	
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All	
Appalachia CLIM	TD	-0.00081	
	TT	0.0	
Arctic All CLIM	TD	0.0014	
	TT	0.0011	
Arctic Land CLIM	TD	0.0027	
	TT	0.0016	
Boreal CLIM	TD	0.0	
	TT	-0.00024	
Canada	TD	0.0	
	TT	-0.0011	
Central CLIM	TD	-0.0024	
	TT	0.0	
Central Plains CLIM	TD	-0.02	
	TT	0.0025	
Great Lakes CLIM	TD	0.0	
	TT	-0.005	
MidAtlantic CLIM	TD	0.005	
	TT	0.00042	
Mt West CLIM	TD	0.0	
	TT	0.0	
North America plus	TD	0.0	
	TT	-0.0043	
North Atlantic CLIM	TD	0.0	
	TT	-0.0024	
North Plains CLIM	TD	0.0	
	TT	0.0	
Pacific North West CLIM	TD	0.0	
	TT	-0.00018	
Prairie CLIM	TD	0.0018	
	TT	0.0	

bias		20220701 / 20220831	
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All	
Appalachia CLIM	P0	-0.0015	
Arctic All CLIM	P0	-0.00099	
Arctic Land CLIM	P0	-0.0017	
Boreal CLIM	P0	0.0	
Canada	P0	0.0013	
Central CLIM	P0	0.0026	
Central Plains CLIM	P0	-0.01	
Great Lakes CLIM	P0	-0.0013	
MidAtlantic CLIM	P0	0.004	
Mt West CLIM	P0	0.0	
North America plus	P0	0.00079	
North Atlantic CLIM	P0	0.0	
North Plains CLIM	P0	0.0	
Pacific North West CLIM	P0	7.8e-06	
Prairie CLIM	P0	-0.00067	

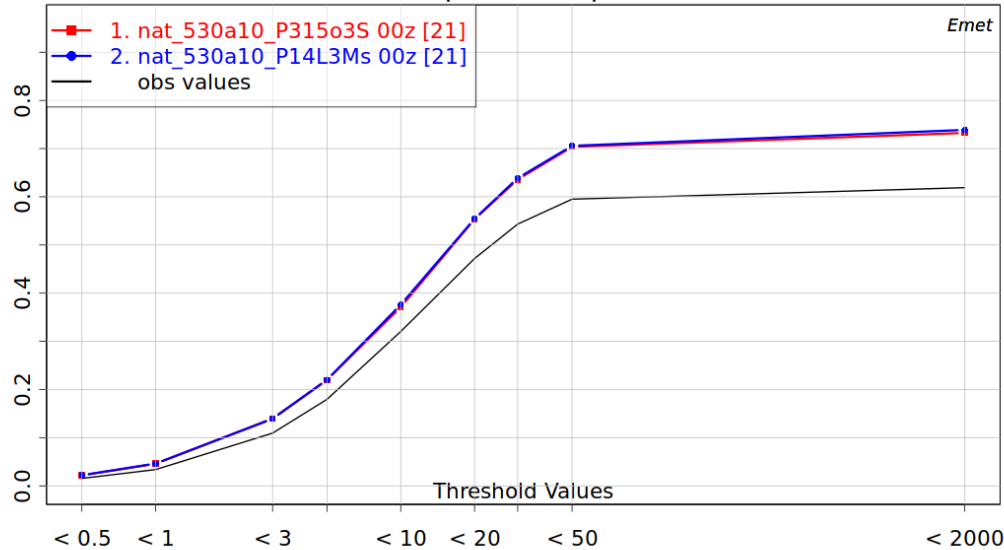
bias		20220701 / 20220831	
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All	
Appalachia CLIM	UV	0.0029	
Arctic All CLIM	UV	0.0	
Arctic Land CLIM	UV	-0.0013	
Boreal CLIM	UV	0.003	
Canada	UV	0.0	
Central CLIM	UV	0.0022	
Central Plains CLIM	UV	0.0061	
Great Lakes CLIM	UV	0.0	
MidAtlantic CLIM	UV	0.0	
Mt West CLIM	UV	0.0	
North America plus	UV	0.0	
North Atlantic CLIM	UV	0.0035	
North Plains CLIM	UV	-0.00055	
Pacific North West CLIM	UV	0.002	
Prairie CLIM	UV	-0.00037	



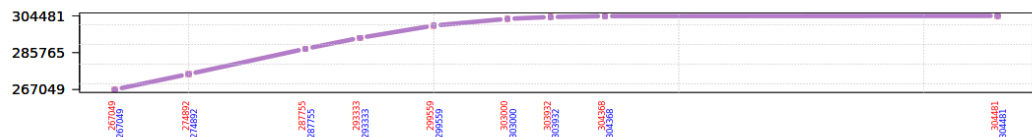
# Summer scores v5.3.14 vs. 5.3.15 (both 3MOM-LF)

- PR6-PR24

PARTIAL MEAN FORECAST OF 6-HOUR ACC. PRECIPITATION (mm) 2022-07-01 @ 2022-08-30  
capa North America plus



number of observed events



fbi		20220701 / 20220831
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All
Appalachia CLIM	PR24	-0.008
	PR6	0.0
Arctic All CLIM	PR24	0.043
	PR6	0.0089
Arctic Land CLIM	PR24	-0.019
	PR6	0.01
Boreal CLIM	PR24	0.022
	PR6	0.0086
Canada	PR24	-0.0026
	PR6	0.0033
Central CLIM	PR24	0.0
	PR6	-0.0051
Central Plains CLIM	PR24	0.0
	PR6	0.021
Great Lakes CLIM	PR24	-0.0053
	PR6	-0.0029
MidAtlantic CLIM	PR24	0.0
	PR6	-0.0024
Mt West CLIM	PR24	0.0
	PR6	0.018
North America plus	PR24	-0.0054
	PR6	0.0
North Atlantic CLIM	PR24	0.0
	PR6	0.0
North Plains CLIM	PR24	0.0
	PR6	0.0
Pacific North West CLIM	PR24	0.0
	PR6	-0.078
Prairie CLIM	PR24	0.0
	PR6	0.0

ets		20220701 / 20220831
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All
Appalachia CLIM	PR24	-0.003
	PR6	-0.0043
Arctic All CLIM	PR24	0.0045
	PR6	0.006
Arctic Land CLIM	PR24	0.0048
	PR6	0.0
Boreal CLIM	PR24	0.014
	PR6	0.0027
Canada	PR24	0.0078
	PR6	0.0063
Central CLIM	PR24	-0.0036
	PR6	-0.0018
Central Plains CLIM	PR24	0.00033
	PR6	-0.006
Great Lakes CLIM	PR24	0.0
	PR6	-0.0056
MidAtlantic CLIM	PR24	0.0
	PR6	-0.0019
Mt West CLIM	PR24	0.0042
	PR6	0.0
North America plus	PR24	-0.0026
	PR6	-0.00092
North Atlantic CLIM	PR24	-0.0035
	PR6	0.0
North Plains CLIM	PR24	-0.0042
	PR6	-0.0026
Pacific North West CLIM	PR24	0.0015
	PR6	0.0
Prairie CLIM	PR24	-0.0037
	PR6	-0.00096

far		20220701 / 20220831
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All
Appalachia CLIM	PR24	-0.0014
	PR6	-0.0023
Arctic All CLIM	PR24	0.0
	PR6	0.0
Arctic Land CLIM	PR24	0.0
	PR6	0.0
Boreal CLIM	PR24	0.026
	PR6	0.0039
Canada	PR24	0.0086
	PR6	0.013
Central CLIM	PR24	-0.0037
	PR6	-0.0026
Central Plains CLIM	PR24	-0.007
	PR6	-0.0086
Great Lakes CLIM	PR24	-0.0051
	PR6	-0.0092
MidAtlantic CLIM	PR24	0.0
	PR6	-0.0022
Mt West CLIM	PR24	0.004
	PR6	0.005
North America plus	PR24	-0.0043
	PR6	0.0
North Atlantic CLIM	PR24	-0.003
	PR6	0.0063
North Plains CLIM	PR24	-0.0059
	PR6	-0.0039
Pacific North West CLIM	PR24	0.0022
	PR6	0.039
Prairie CLIM	PR24	-0.0034
	PR6	0.0

pod		20220701 / 20220831
nat_530a10_P315o3S 00z / nat_530a10_P14L3Ms 00z		All
Appalachia CLIM	PR24	-0.0023
	PR6	-0.0021
Arctic All CLIM	PR24	-0.00017
	PR6	-0.002
Arctic Land CLIM	PR24	0.004
	PR6	-0.0021
Boreal CLIM	PR24	0.019
	PR6	0.00096
Canada	PR24	0.013
	PR6	0.0079
Central CLIM	PR24	-0.0055
	PR6	-0.0028
Central Plains CLIM	PR24	0.0046
	PR6	0.0
Great Lakes CLIM	PR24	0.0
	PR6	-0.0066
MidAtlantic CLIM	PR24	0.0
	PR6	-0.0078
Mt West CLIM	PR24	0.0044
	PR6	-0.0058
North America plus	PR24	-0.0035
	PR6	-0.0043
North Atlantic CLIM	PR24	0.0
	PR6	0.0
North Plains CLIM	PR24	0.0093
	PR6	-0.0041
Pacific North West CLIM	PR24	0.0
	PR6	0.0
Prairie CLIM	PR24	-0.0056
	PR6	-0.0012

# Conclusions

- Scores are neutral
- V5.3.14+dev-opt (v5.3.15) reduced the mean timing by 6% in winter and by 3.5% in summer with 3MOM\_LF\_n1, this is a good start towards optimisation of the 3MOM code.
- No major changes for LF in both 2MOM and 3MOM (the latter is a bit surprising), so optimisation for dumll=1 does not have much of an impact, perhaps Filiq is small but  $>0$ ...

# Timing v5.3.14+dev-optimize winter

HRnat\_530a10\_P314opt\_2022010100\_M\_5286571.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5476.7105 seconds (13.61 ms logging)  
HRnat\_530a10\_P314opt\_2022010212\_M\_5286570.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5710.1584 seconds (13.83 ms logging)  
HRnat\_530a10\_P314opt\_2022010400\_M\_5286581.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5548.7974 seconds (13.89 ms logging)  
HRnat\_530a10\_P314opt\_2022010512\_M\_5286580.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5463.5236 seconds (13.45 ms logging)  
HRnat\_530a10\_P314opt\_2022010700\_M\_5286563.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5621.5090 seconds (13.70 ms logging)  
HRnat\_530a10\_P314opt\_2022010812\_M\_5286583.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5468.4132 seconds (13.44 ms logging)  
HRnat\_530a10\_P314opt\_2022011000\_M\_5286566.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5418.1395 seconds (13.62 ms logging)  
HRnat\_530a10\_P314opt\_2022011112\_M\_5286578.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5406.0014 seconds (13.89 ms logging)  
HRnat\_530a10\_P314opt\_2022011300\_M\_5286567.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5451.6951 seconds (14.04 ms logging)  
HRnat\_530a10\_P314opt\_2022011412\_M\_5286586.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5520.5019 seconds (13.69 ms logging)  
HRnat\_530a10\_P314opt\_2022011600\_M\_5286587.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5475.5635 seconds (13.34 ms logging)  
HRnat\_530a10\_P314opt\_2022011712\_M\_5286585.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5537.6611 seconds (13.73 ms logging)  
HRnat\_530a10\_P314opt\_2022011900\_M\_5286573.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5442.4504 seconds (13.74 ms logging)  
HRnat\_530a10\_P314opt\_2022012012\_M\_5286572.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5465.9816 seconds (13.75 ms logging)  
HRnat\_530a10\_P314opt\_2022012200\_M\_5286574.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5485.6250 seconds (13.35 ms logging)  
HRnat\_530a10\_P314opt\_2022012312\_M\_5286575.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5346.6871 seconds (13.92 ms logging)  
HRnat\_530a10\_P314opt\_2022012500\_M\_5286588.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5333.7514 seconds (13.95 ms logging)  
HRnat\_530a10\_P314opt\_2022012612\_M\_5286579.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5437.0059 seconds (13.60 ms logging)  
HRnat\_530a10\_P314opt\_2022012800\_M\_5286589.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5556.6080 seconds (13.55 ms logging)  
HRnat\_530a10\_P314opt\_2022012912\_M\_5286568.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5681.9162 seconds (13.56 ms logging)  
HRnat\_530a10\_P314opt\_2022013100\_M\_5288605.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5310.8245 seconds (13.94 ms logging)  
HRnat\_530a10\_P314opt\_2022020112\_M\_5288613.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5373.3974 seconds (13.72 ms logging)  
HRnat\_530a10\_P314opt\_2022020300\_M\_5288612.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5419.5616 seconds (13.99 ms logging)  
HRnat\_530a10\_P314opt\_2022020412\_M\_5288647.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5486.4803 seconds (13.26 ms logging)  
HRnat\_530a10\_P314opt\_2022020600\_M\_5288635.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5443.2749 seconds (14.02 ms logging)  
HRnat\_530a10\_P314opt\_2022020712\_M\_5288671.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5484.6321 seconds (13.99 ms logging)  
HRnat\_530a10\_P314opt\_2022020900\_M\_5288659.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5468.4566 seconds (13.63 ms logging)  
HRnat\_530a10\_P314opt\_2022021012\_M\_5288661.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5347.3903 seconds (13.56 ms logging)  
HRnat\_530a10\_P314opt\_2022021200\_M\_5288699.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5359.9058 seconds (13.70 ms logging)  
HRnat\_530a10\_P314opt\_2022021312\_M\_5288631.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5487.6990 seconds (13.49 ms logging)  
HRnat\_530a10\_P314opt\_2022021500\_M\_5288706.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5409.0715 seconds (13.53 ms logging)  
HRnat\_530a10\_P314opt\_2022021612\_M\_5288704.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5488.2726 seconds (13.25 ms logging)  
HRnat\_530a10\_P314opt\_2022021800\_M\_5288714.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5584.3636 seconds (13.78 ms logging)  
HRnat\_530a10\_P314opt\_2022021912\_M\_5288711.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5458.1487 seconds (13.60 ms logging)  
HRnat\_530a10\_P314opt\_2022022100\_M\_5288718.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5330.5400 seconds (13.75 ms logging)  
HRnat\_530a10\_P314opt\_2022022212\_M\_5288719.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5426.1066 seconds (13.75 ms logging)  
HRnat\_530a10\_P314opt\_2022022400\_M\_5288723.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5437.6226 seconds (13.70 ms logging)  
HRnat\_530a10\_P314opt\_2022022512\_M\_5288720.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5409.8976 seconds (13.66 ms logging)  
HRnat\_530a10\_P314opt\_2022022700\_M\_5288725.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5425.3318 seconds (13.53 ms logging)  
HRnat\_530a10\_P314opt\_2022022812\_M\_5288727.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5457.9149 seconds (13.58 ms logging)

Mean (2MOM\_noLF\_n1):  
218437/40 = 5460 seconds

# Timing v5.3.14+LF dev-optimize winter

HRnat\_530a10\_P3142L\_2022010100\_M\_5320966.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5678.2537 seconds (13.81 ms logging)  
HRnat\_530a10\_P3142L\_2022010212\_M\_5320962.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5869.8323 seconds (14.06 ms logging)  
HRnat\_530a10\_P3142L\_2022010400\_M\_5320955.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5739.3893 seconds (14.03 ms logging)  
HRnat\_530a10\_P3142L\_2022010512\_M\_5320961.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5681.4998 seconds (13.81 ms logging)  
HRnat\_530a10\_P3142L\_2022010700\_M\_5320958.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5838.9425 seconds (14.04 ms logging)  
HRnat\_530a10\_P3142L\_2022010812\_M\_5320963.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5673.0390 seconds (14.01 ms logging)  
HRnat\_530a10\_P3142L\_2022011000\_M\_5320959.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5648.5039 seconds (14.15 ms logging)  
HRnat\_530a10\_P3142L\_2022011112\_M\_5320968.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5642.1606 seconds (14.01 ms logging)  
HRnat\_530a10\_P3142L\_2022011300\_M\_5320956.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5639.9320 seconds (14.02 ms logging)  
HRnat\_530a10\_P3142L\_2022011412\_M\_5320957.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5724.3280 seconds (14.12 ms logging)  
HRnat\_530a10\_P3142L\_2022011600\_M\_5320960.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5677.9206 seconds (13.91 ms logging)  
HRnat\_530a10\_P3142L\_2022011712\_M\_5320964.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5769.8754 seconds (13.89 ms logging)  
HRnat\_530a10\_P3142L\_2022011900\_M\_5320971.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5673.8457 seconds (13.76 ms logging)  
HRnat\_530a10\_P3142L\_2022012012\_M\_5320965.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5687.5257 seconds (14.05 ms logging)  
HRnat\_530a10\_P3142L\_2022012200\_M\_5320967.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5689.8869 seconds (14.07 ms logging)  
HRnat\_530a10\_P3142L\_2022012312\_M\_5320976.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5560.3676 seconds (13.86 ms logging)  
HRnat\_530a10\_P3142L\_2022012500\_M\_5320979.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5517.5604 seconds (13.89 ms logging)  
HRnat\_530a10\_P3142L\_2022012612\_M\_5320969.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5610.2591 seconds (14.28 ms logging)  
HRnat\_530a10\_P3142L\_2022012800\_M\_5320970.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5724.6049 seconds (14.19 ms logging)  
HRnat\_530a10\_P3142L\_2022012912\_M\_5320973.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5908.6436 seconds (13.83 ms logging)  
HRnat\_530a10\_P3142L\_2022013100\_M\_5321981.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5496.7518 seconds (14.06 ms logging)  
HRnat\_530a10\_P3142L\_2022020112\_M\_5321986.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5563.5674 seconds (14.03 ms logging)  
HRnat\_530a10\_P3142L\_2022020300\_M\_5321985.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5616.7068 seconds (13.82 ms logging)  
HRnat\_530a10\_P3142L\_2022020412\_M\_5321995.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5722.5312 seconds (14.25 ms logging)  
HRnat\_530a10\_P3142L\_2022020600\_M\_5321994.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5629.9254 seconds (14.00 ms logging)  
HRnat\_530a10\_P3142L\_2022020712\_M\_5321999.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5643.0583 seconds (13.66 ms logging)  
HRnat\_530a10\_P3142L\_2022020900\_M\_5321996.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5685.1652 seconds (13.86 ms logging)  
HRnat\_530a10\_P3142L\_2022021012\_M\_5322087.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5507.8703 seconds (13.93 ms logging)  
HRnat\_530a10\_P3142L\_2022021200\_M\_5322097.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5503.3773 seconds (13.83 ms logging)  
HRnat\_530a10\_P3142L\_2022021312\_M\_5322099.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5648.4623 seconds (13.67 ms logging)  
HRnat\_530a10\_P3142L\_2022021500\_M\_5322098.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5563.8798 seconds (13.65 ms logging)  
HRnat\_530a10\_P3142L\_2022021612\_M\_5322092.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5645.6947 seconds (13.82 ms logging)  
HRnat\_530a10\_P3142L\_2022021800\_M\_5322091.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5720.5924 seconds (14.27 ms logging)  
HRnat\_530a10\_P3142L\_2022021912\_M\_5322096.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5647.1889 seconds (14.23 ms logging)  
HRnat\_530a10\_P3142L\_2022022100\_M\_5322106.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5555.4186 seconds (13.94 ms logging)  
HRnat\_530a10\_P3142L\_2022022212\_M\_5322112.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5648.7329 seconds (14.42 ms logging)  
HRnat\_530a10\_P3142L\_2022022400\_M\_5322121.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5638.5413 seconds (14.18 ms logging)  
HRnat\_530a10\_P3142L\_2022022512\_M\_5322314.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5623.0051 seconds (13.69 ms logging)  
HRnat\_530a10\_P3142L\_2022022700\_M\_5322339.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5570.9120 seconds (13.84 ms logging)  
HRnat\_530a10\_P3142L\_2022022812\_M\_5322340.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5659.8421 seconds (14.12 ms logging)

Mean (2MOM\_LF\_n1):  
 $226225/40 = 5655$

# Timing v5.3.14-3M+dev-optimize winter

HRnat\_530a10\_P314o3M\_2022010100\_M\_5302788.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5954.9646 seconds (14.07 ms logging)  
HRnat\_530a10\_P314o3M\_2022010212\_M\_5302792.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6269.0913 seconds (14.26 ms logging)  
HRnat\_530a10\_P314o3M\_2022010400\_M\_5302774.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6142.9231 seconds (14.15 ms logging)  
HRnat\_530a10\_P314o3M\_2022010512\_M\_5302793.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6038.4828 seconds (14.07 ms logging)  
HRnat\_530a10\_P314o3M\_2022010700\_M\_5302789.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6201.5380 seconds (14.17 ms logging)  
HRnat\_530a10\_P314o3M\_2022010812\_M\_5302769.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6069.9685 seconds (13.95 ms logging)  
HRnat\_530a10\_P314o3M\_2022011000\_M\_5302780.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5933.9919 seconds (13.68 ms logging)  
HRnat\_530a10\_P314o3M\_2022011112\_M\_5302775.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5955.2276 seconds (13.66 ms logging)  
HRnat\_530a10\_P314o3M\_2022011300\_M\_5302776.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5923.8799 seconds (13.93 ms logging)  
HRnat\_530a10\_P314o3M\_2022011412\_M\_5302778.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6105.4303 seconds (14.28 ms logging)  
HRnat\_530a10\_P314o3M\_2022011600\_M\_5302784.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5997.2366 seconds (13.90 ms logging)  
HRnat\_530a10\_P314o3M\_2022011712\_M\_5302794.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6246.2533 seconds (13.72 ms logging)  
HRnat\_530a10\_P314o3M\_2022011900\_M\_5302779.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6076.6748 seconds (14.14 ms logging)  
HRnat\_530a10\_P314o3M\_2022012012\_M\_5302770.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6104.1491 seconds (13.55 ms logging)  
HRnat\_530a10\_P314o3M\_2022012200\_M\_5302773.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6090.1657 seconds (13.77 ms logging)  
HRnat\_530a10\_P314o3M\_2022012312\_M\_5302790.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5874.6276 seconds (13.77 ms logging)  
HRnat\_530a10\_P314o3M\_2022012500\_M\_5302783.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5830.7775 seconds (13.82 ms logging)  
HRnat\_530a10\_P314o3M\_2022012612\_M\_5302777.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5861.6041 seconds (13.67 ms logging)  
HRnat\_530a10\_P314o3M\_2022012800\_M\_5302791.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6039.4537 seconds (14.17 ms logging)  
HRnat\_530a10\_P314o3M\_2022012912\_M\_5302782.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6335.9292 seconds (14.31 ms logging)  
HRnat\_530a10\_P314o3M\_2022013100\_M\_5304271.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5706.2559 seconds (13.89 ms logging)  
HRnat\_530a10\_P314o3M\_2022020112\_M\_5304286.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5891.4504 seconds (13.82 ms logging)  
HRnat\_530a10\_P314o3M\_2022020300\_M\_5304288.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6078.6187 seconds (13.69 ms logging)  
HRnat\_530a10\_P314o3M\_2022020412\_M\_5304297.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6092.4737 seconds (14.21 ms logging)  
HRnat\_530a10\_P314o3M\_2022020600\_M\_5304294.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5925.3641 seconds (13.63 ms logging)  
HRnat\_530a10\_P314o3M\_2022020712\_M\_5304299.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5942.9066 seconds (13.99 ms logging)  
HRnat\_530a10\_P314o3M\_2022020900\_M\_5304319.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5979.9727 seconds (13.61 ms logging)  
HRnat\_530a10\_P314o3M\_2022021012\_M\_5304351.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5807.9417 seconds (13.78 ms logging)  
HRnat\_530a10\_P314o3M\_2022021200\_M\_5304390.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5826.1354 seconds (13.94 ms logging)  
HRnat\_530a10\_P314o3M\_2022021312\_M\_5304391.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5994.4343 seconds (14.18 ms logging)  
HRnat\_530a10\_P314o3M\_2022021500\_M\_5304451.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5873.3942 seconds (13.77 ms logging)  
HRnat\_530a10\_P314o3M\_2022021612\_M\_5304474.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6068.2674 seconds (13.95 ms logging)  
HRnat\_530a10\_P314o3M\_2022021800\_M\_5304477.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6039.2665 seconds (13.78 ms logging)  
HRnat\_530a10\_P314o3M\_2022021912\_M\_5304478.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5873.5090 seconds (13.96 ms logging)  
HRnat\_530a10\_P314o3M\_2022022100\_M\_5304530.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5915.1336 seconds (13.73 ms logging)  
HRnat\_530a10\_P314o3M\_2022022212\_M\_5304549.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6129.2352 seconds (13.66 ms logging)  
HRnat\_530a10\_P314o3M\_2022022400\_M\_5304545.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6087.0056 seconds (13.61 ms logging)  
HRnat\_530a10\_P314o3M\_2022022512\_M\_5304547.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5916.3459 seconds (13.75 ms logging)  
HRnat\_530a10\_P314o3M\_2022022700\_M\_5304553.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5800.7340 seconds (13.87 ms logging)  
HRnat\_530a10\_P314o3M\_2022022812\_M\_5304578.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5864.1584 seconds (14.41 ms logging)

Mean (3MOM\_noLF\_n1):  
234570/40 = 5864

# Timing v5.3.14-3M-LF+dev-optimize winter

HRnat\_530a10\_P14o23L\_2022010100\_M\_5329719.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6253.9305 seconds (14.10 ms logging)  
HRnat\_530a10\_P14o23L\_2022010212\_M\_5329712.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6589.3261 seconds (14.23 ms logging)  
HRnat\_530a10\_P14o23L\_2022010400\_M\_5329713.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6442.1462 seconds (14.24 ms logging)  
HRnat\_530a10\_P14o23L\_2022010512\_M\_5329716.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6309.4471 seconds (14.32 ms logging)  
HRnat\_530a10\_P14o23L\_2022010700\_M\_5329722.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6483.5052 seconds (14.22 ms logging)  
HRnat\_530a10\_P14o23L\_2022010812\_M\_5329717.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6328.3824 seconds (14.19 ms logging)  
HRnat\_530a10\_P14o23L\_2022011000\_M\_5329724.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6223.7120 seconds (14.76 ms logging)  
HRnat\_530a10\_P14o23L\_2022011112\_M\_5329725.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6254.7443 seconds (13.81 ms logging)  
HRnat\_530a10\_P14o23L\_2022011300\_M\_5329720.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6247.6781 seconds (14.24 ms logging)  
HRnat\_530a10\_P14o23L\_2022011412\_M\_5329715.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6338.6960 seconds (14.25 ms logging)  
HRnat\_530a10\_P14o23L\_2022011600\_M\_5329727.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6272.7617 seconds (14.42 ms logging)  
HRnat\_530a10\_P14o23L\_2022011712\_M\_5329718.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6594.3740 seconds (14.38 ms logging)  
HRnat\_530a10\_P14o23L\_2022011900\_M\_5329714.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6416.1989 seconds (14.38 ms logging)  
HRnat\_530a10\_P14o23L\_2022012012\_M\_5329731.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6355.2092 seconds (14.20 ms logging)  
HRnat\_530a10\_P14o23L\_2022012200\_M\_5329732.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6382.0741 seconds (13.86 ms logging)  
HRnat\_530a10\_P14o23L\_2022012312\_M\_5329735.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6171.8149 seconds (14.09 ms logging)  
HRnat\_530a10\_P14o23L\_2022012500\_M\_5329723.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6147.0140 seconds (14.54 ms logging)  
HRnat\_530a10\_P14o23L\_2022012612\_M\_5329733.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6183.3527 seconds (14.32 ms logging)  
HRnat\_530a10\_P14o23L\_2022012800\_M\_5329737.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6280.9336 seconds (13.98 ms logging)  
HRnat\_530a10\_P14o23L\_2022012912\_M\_5329738.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6637.9957 seconds (14.07 ms logging)  
HRnat\_530a10\_P14o23L\_2022013100\_M\_5330862.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5936.5492 seconds (14.11 ms logging)  
HRnat\_530a10\_P14o23L\_2022020112\_M\_5330865.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6156.1220 seconds (14.20 ms logging)  
HRnat\_530a10\_P14o23L\_2022020300\_M\_5330860.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6363.4273 seconds (14.26 ms logging)  
HRnat\_530a10\_P14o23L\_2022020412\_M\_5330868.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6362.5298 seconds (14.28 ms logging)  
HRnat\_530a10\_P14o23L\_2022020600\_M\_5330938.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6165.0085 seconds (13.95 ms logging)  
HRnat\_530a10\_P14o23L\_2022020712\_M\_5330956.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6257.7985 seconds (14.23 ms logging)  
HRnat\_530a10\_P14o23L\_2022020900\_M\_5330974.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6304.8694 seconds (14.13 ms logging)  
HRnat\_530a10\_P14o23L\_2022021012\_M\_5330962.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6097.0457 seconds (14.28 ms logging)  
HRnat\_530a10\_P14o23L\_2022021200\_M\_5330958.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6095.6607 seconds (14.12 ms logging)  
HRnat\_530a10\_P14o23L\_2022021312\_M\_5330993.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6322.8452 seconds (14.10 ms logging)  
HRnat\_530a10\_P14o23L\_2022021500\_M\_5330985.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6177.0491 seconds (14.50 ms logging)  
HRnat\_530a10\_P14o23L\_2022021612\_M\_5331006.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6344.0081 seconds (14.13 ms logging)  
HRnat\_530a10\_P14o23L\_2022021800\_M\_5331017.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6321.5782 seconds (14.48 ms logging)  
HRnat\_530a10\_P14o23L\_2022021912\_M\_5331030.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6155.8375 seconds (14.20 ms logging)  
HRnat\_530a10\_P14o23L\_2022022100\_M\_5331032.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6112.0270 seconds (14.31 ms logging)  
HRnat\_530a10\_P14o23L\_2022022212\_M\_5331041.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6336.8943 seconds (13.87 ms logging)  
HRnat\_530a10\_P14o23L\_2022022400\_M\_5331048.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6327.3006 seconds (14.31 ms logging)  
HRnat\_530a10\_P14o23L\_2022022512\_M\_5331045.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6182.0517 seconds (13.98 ms logging)  
HRnat\_530a10\_P14o23L\_2022022700\_M\_5331076.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6044.1335 seconds (14.44 ms logging)  
HRnat\_530a10\_P14o23L\_2022022812\_M\_5331094.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6130.4000 seconds (14.40 ms logging)

Mean (3MOM\_LF\_n1):  
244941/40 = 6123

# Timing v5.3.14FL3M summer

HRnat\_530a10\_P14L3Ms\_2022070100\_M\_4602857.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6344.2018 seconds (13.96 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022070212\_M\_4602882.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6491.1019 seconds (14.31 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022070400\_M\_4602895.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6748.9002 seconds (14.79 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022070512\_M\_4602902.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6458.4500 seconds (13.89 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022070700\_M\_4602873.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6423.6210 seconds (14.11 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022070812\_M\_4602897.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6415.0038 seconds (13.80 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071000\_M\_4602899.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6380.6089 seconds (13.91 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071112\_M\_4602849.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6410.8030 seconds (13.80 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071300\_M\_4602887.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6311.8356 seconds (13.82 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071412\_M\_4602850.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6312.6328 seconds (14.20 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071600\_M\_4602898.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6350.5033 seconds (13.80 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071712\_M\_4602918.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6394.5767 seconds (13.90 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022071900\_M\_4602889.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6274.7195 seconds (13.98 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072012\_M\_4602900.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6204.5301 seconds (14.01 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072200\_M\_4602914.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6195.9209 seconds (14.22 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072312\_M\_4602891.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6315.7284 seconds (14.27 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072500\_M\_4602854.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6274.7259 seconds (14.44 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072612\_M\_4602912.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6248.5083 seconds (14.08 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072800\_M\_4602904.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6214.3690 seconds (14.12 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022072912\_M\_4602896.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6145.4995 seconds (13.93 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022073100\_M\_4604231.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6205.8873 seconds (14.22 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022080112\_M\_4604237.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6307.3576 seconds (14.34 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022080300\_M\_4604250.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6330.8111 seconds (13.80 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022080412\_M\_4604279.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6328.9978 seconds (13.96 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022080600\_M\_4604290.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6344.5731 seconds (13.85 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022080712\_M\_4604296.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6280.7758 seconds (13.92 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022080900\_M\_4604302.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6273.8029 seconds (14.44 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081012\_M\_4604297.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6214.2336 seconds (14.01 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081200\_M\_4604293.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6169.2249 seconds (14.08 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081312\_M\_4604307.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6189.6977 seconds (14.07 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081500\_M\_4604319.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6221.5156 seconds (14.05 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081612\_M\_4604331.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6343.5872 seconds (14.49 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081800\_M\_4604333.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6210.7125 seconds (14.14 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022081912\_M\_4604337.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6128.9259 seconds (14.06 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022082100\_M\_4604325.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6143.8215 seconds (14.20 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022082212\_M\_4604396.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6296.7291 seconds (13.64 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022082400\_M\_4604411.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6292.7489 seconds (13.95 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022082512\_M\_4604483.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6231.8455 seconds (14.32 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022082700\_M\_4604609.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6254.6666 seconds (14.18 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022082812\_M\_4604639.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6357.7624 seconds (14.20 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022083000\_M\_4605416.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6356.9669 seconds (13.95 ms logging)  
HRnat\_530a10\_P14L3Ms\_2022083112\_M\_4605425.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6414.8780 seconds (14.08 ms logging)

Mean (3MOM\_LF\_n1):  
 $264789/42 = 6304$  seconds (+13%)



# Timing v5.3.15FL3M summer (OPT)

HRnat\_530a10\_P315o3S\_2022070100\_M\_5414333.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6091.0264 seconds (14.12 ms logging)  
HRnat\_530a10\_P315o3S\_2022070212\_M\_5414334.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6211.0752 seconds (14.37 ms logging)  
HRnat\_530a10\_P315o3S\_2022070400\_M\_5414336.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6370.8890 seconds (14.20 ms logging)  
HRnat\_530a10\_P315o3S\_2022070512\_M\_5414414.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6281.7922 seconds (13.94 ms logging)  
HRnat\_530a10\_P315o3S\_2022070700\_M\_5414420.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6218.2936 seconds (14.12 ms logging)  
HRnat\_530a10\_P315o3S\_2022070812\_M\_5414421.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6261.4472 seconds (14.33 ms logging)  
HRnat\_530a10\_P315o3S\_2022071000\_M\_5414410.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6223.9641 seconds (14.40 ms logging)  
HRnat\_530a10\_P315o3S\_2022071112\_M\_5414392.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6165.8062 seconds (14.11 ms logging)  
HRnat\_530a10\_P315o3S\_2022071300\_M\_5414417.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6093.6946 seconds (14.01 ms logging)  
HRnat\_530a10\_P315o3S\_2022071412\_M\_5414405.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6121.1033 seconds (13.90 ms logging)  
HRnat\_530a10\_P315o3S\_2022071600\_M\_5414399.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6125.1330 seconds (14.11 ms logging)  
HRnat\_530a10\_P315o3S\_2022071712\_M\_5414411.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6169.0076 seconds (14.53 ms logging)  
HRnat\_530a10\_P315o3S\_2022071900\_M\_5414415.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6135.5613 seconds (14.10 ms logging)  
HRnat\_530a10\_P315o3S\_2022072012\_M\_5414416.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6045.5945 seconds (14.41 ms logging)  
HRnat\_530a10\_P315o3S\_2022072200\_M\_5414424.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6003.8878 seconds (14.25 ms logging)  
HRnat\_530a10\_P315o3S\_2022072312\_M\_5414425.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6132.0239 seconds (14.09 ms logging)  
HRnat\_530a10\_P315o3S\_2022072500\_M\_5414426.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6112.8270 seconds (14.17 ms logging)  
HRnat\_530a10\_P315o3S\_2022072612\_M\_5414372.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6121.4872 seconds (14.02 ms logging)  
HRnat\_530a10\_P315o3S\_2022072800\_M\_5414419.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6066.5853 seconds (14.31 ms logging)  
HRnat\_530a10\_P315o3S\_2022072912\_M\_5414431.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6008.9778 seconds (13.98 ms logging)  
HRnat\_530a10\_P315o3S\_2022073100\_M\_5415250.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6061.2144 seconds (14.63 ms logging)  
HRnat\_530a10\_P315o3S\_2022080112\_M\_5415272.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6131.9916 seconds (14.01 ms logging)  
HRnat\_530a10\_P315o3S\_2022080300\_M\_5415275.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6152.9391 seconds (13.96 ms logging)  
HRnat\_530a10\_P315o3S\_2022080412\_M\_5415408.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6138.7210 seconds (14.66 ms logging)  
HRnat\_530a10\_P315o3S\_2022080600\_M\_5415442.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6139.4090 seconds (14.28 ms logging)  
HRnat\_530a10\_P315o3S\_2022080712\_M\_5415485.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6074.0707 seconds (13.96 ms logging)  
HRnat\_530a10\_P315o3S\_2022080900\_M\_5415513.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6089.6077 seconds (14.02 ms logging)  
HRnat\_530a10\_P315o3S\_2022081012\_M\_5415535.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6037.1206 seconds (13.86 ms logging)  
HRnat\_530a10\_P315o3S\_2022081200\_M\_5415532.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5977.9313 seconds (14.10 ms logging)  
HRnat\_530a10\_P315o3S\_2022081312\_M\_5415537.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6041.0793 seconds (14.15 ms logging)  
HRnat\_530a10\_P315o3S\_2022081500\_M\_5415533.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6098.8478 seconds (13.98 ms logging)  
HRnat\_530a10\_P315o3S\_2022081612\_M\_5415542.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6170.6208 seconds (14.01 ms logging)  
HRnat\_530a10\_P315o3S\_2022081800\_M\_5415541.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6029.6383 seconds (14.06 ms logging)  
HRnat\_530a10\_P315o3S\_2022081912\_M\_5415543.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 5982.3341 seconds (14.06 ms logging)  
HRnat\_530a10\_P315o3S\_2022082100\_M\_5415552.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6008.4398 seconds (14.05 ms logging)  
HRnat\_530a10\_P315o3S\_2022082212\_M\_5419102.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6099.7145 seconds (14.42 ms logging)  
HRnat\_530a10\_P315o3S\_2022082400\_M\_5415567.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6109.3600 seconds (14.81 ms logging)  
HRnat\_530a10\_P315o3S\_2022082512\_M\_5415628.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6075.1995 seconds (14.27 ms logging)  
HRnat\_530a10\_P315o3S\_2022082700\_M\_5415627.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6090.5299 seconds (14.25 ms logging)  
HRnat\_530a10\_P315o3S\_2022082812\_M\_5415630.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6125.8847 seconds (14.47 ms logging)  
HRnat\_530a10\_P315o3S\_2022083000\_M\_5416489.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6112.1725 seconds (14.24 ms logging)  
HRnat\_530a10\_P315o3S\_2022083112\_M\_5416488.sc6pbs-001-ib.out.000:oe-00000-00000: Execution time : 6138.4040 seconds (14.31 ms logging)

Mean (3MOM\_LF\_n1):

256824/42 = 6114 seconds (-3%)

+9.5% compared to 2MOM\_noLF\_n1