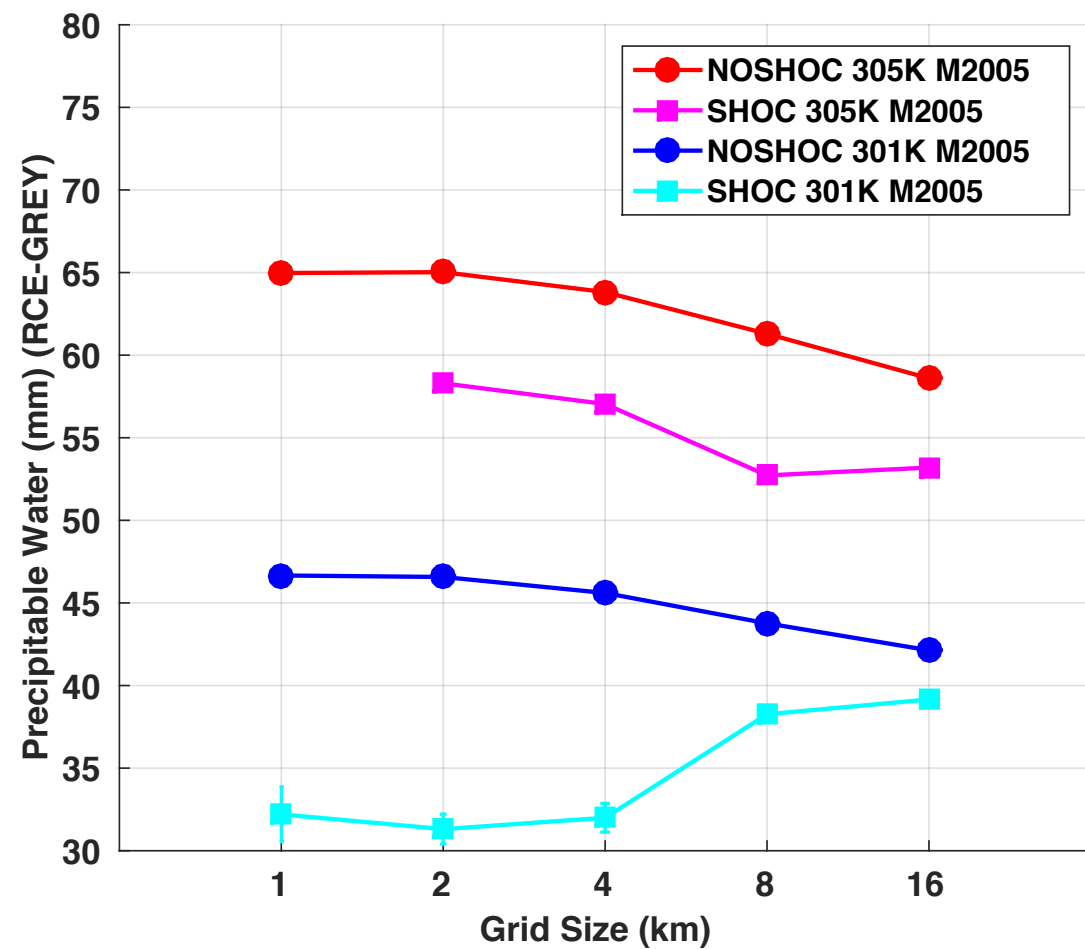
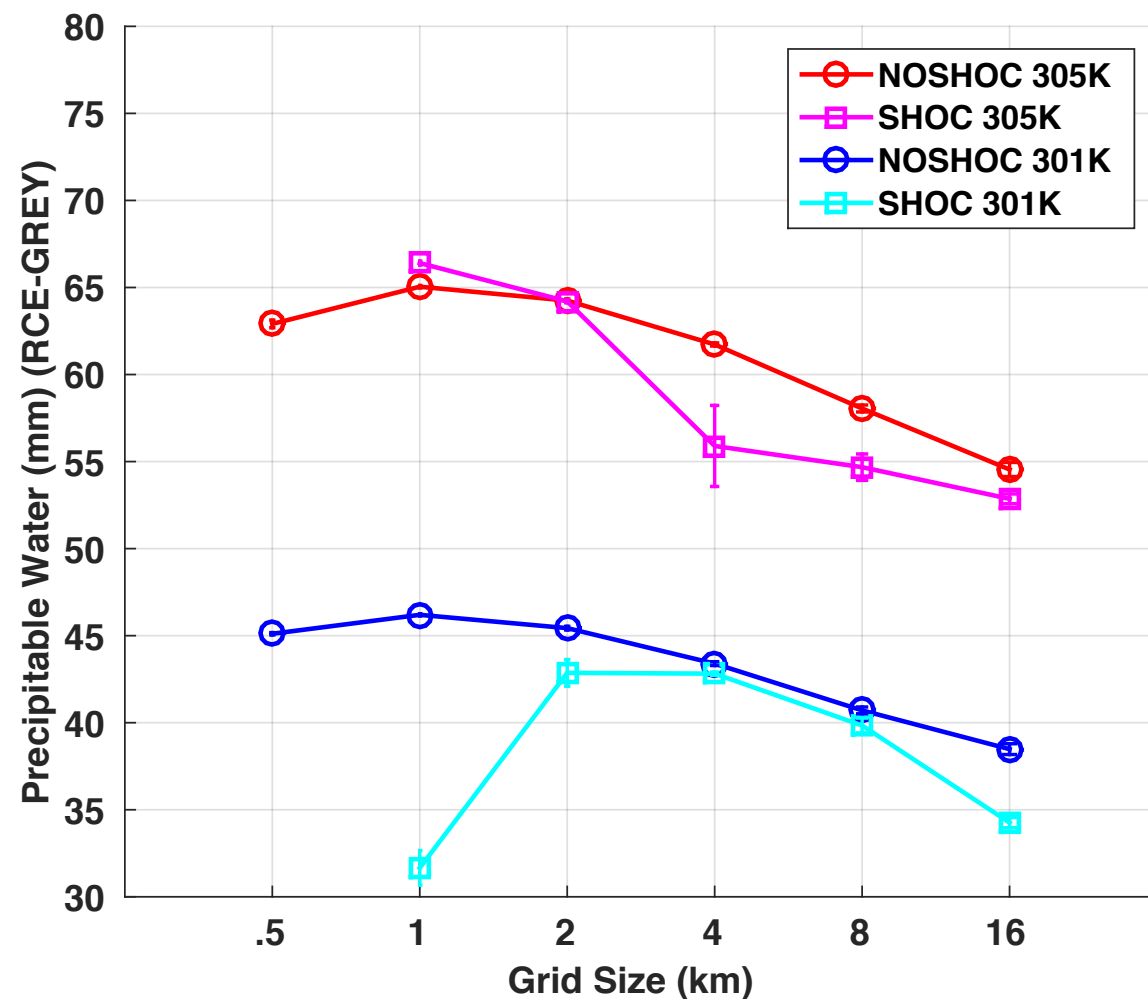


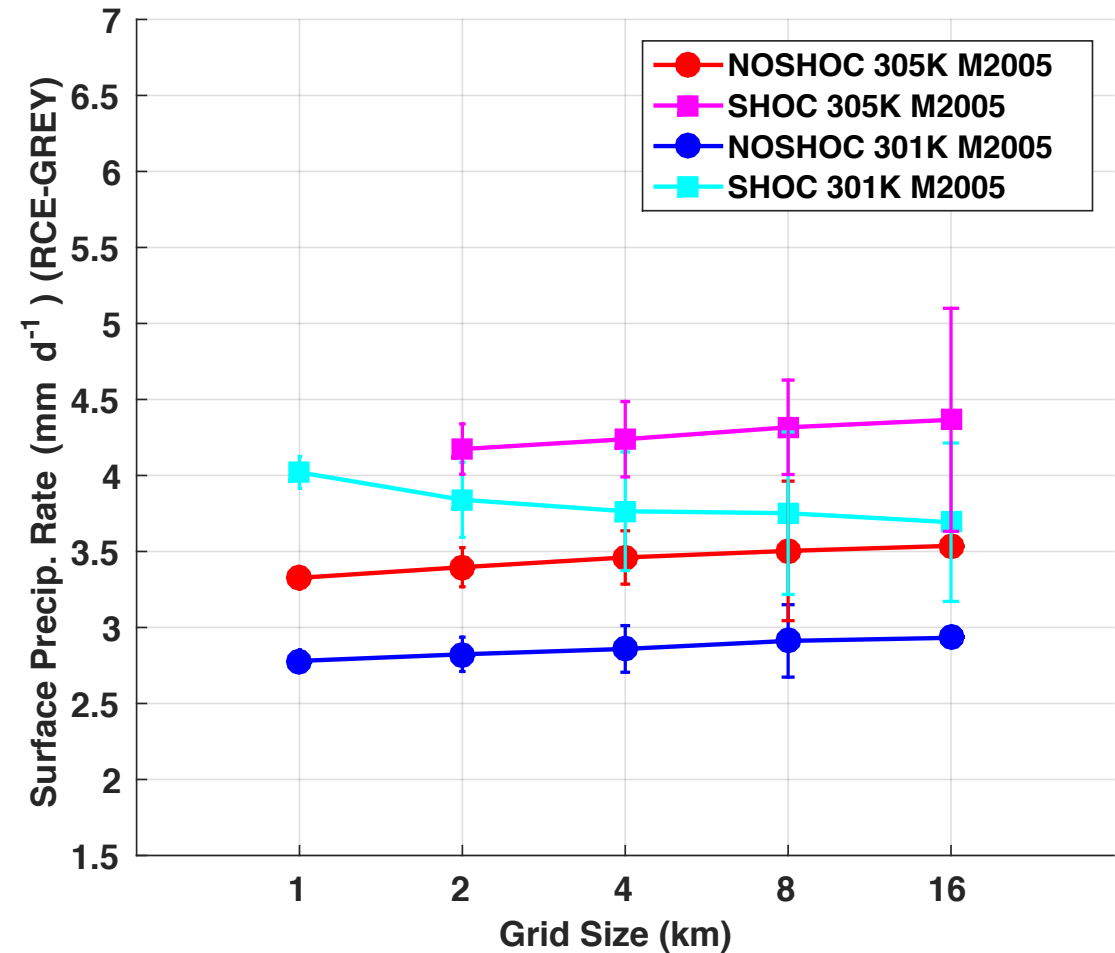
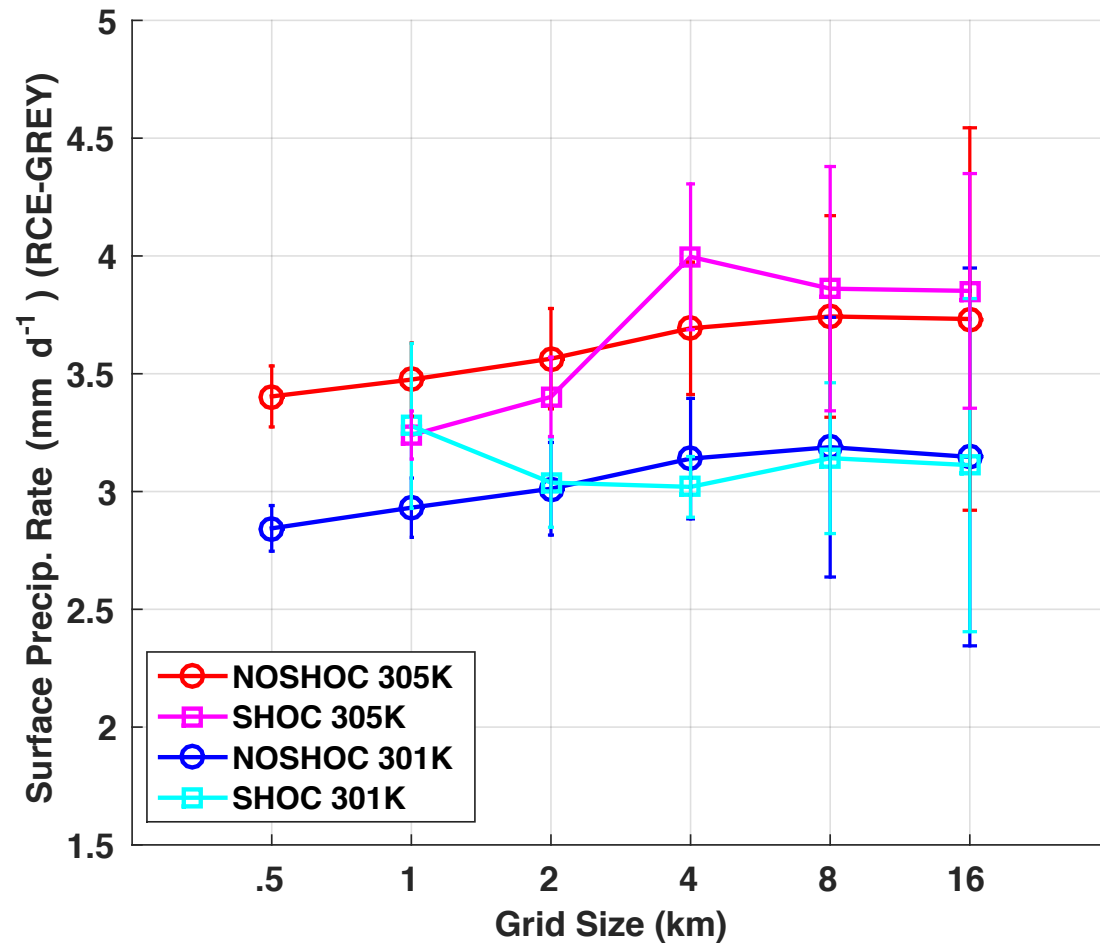
RCE-GREY Run Comparisons: Single-moment vs double-moment.

Precipitable Water



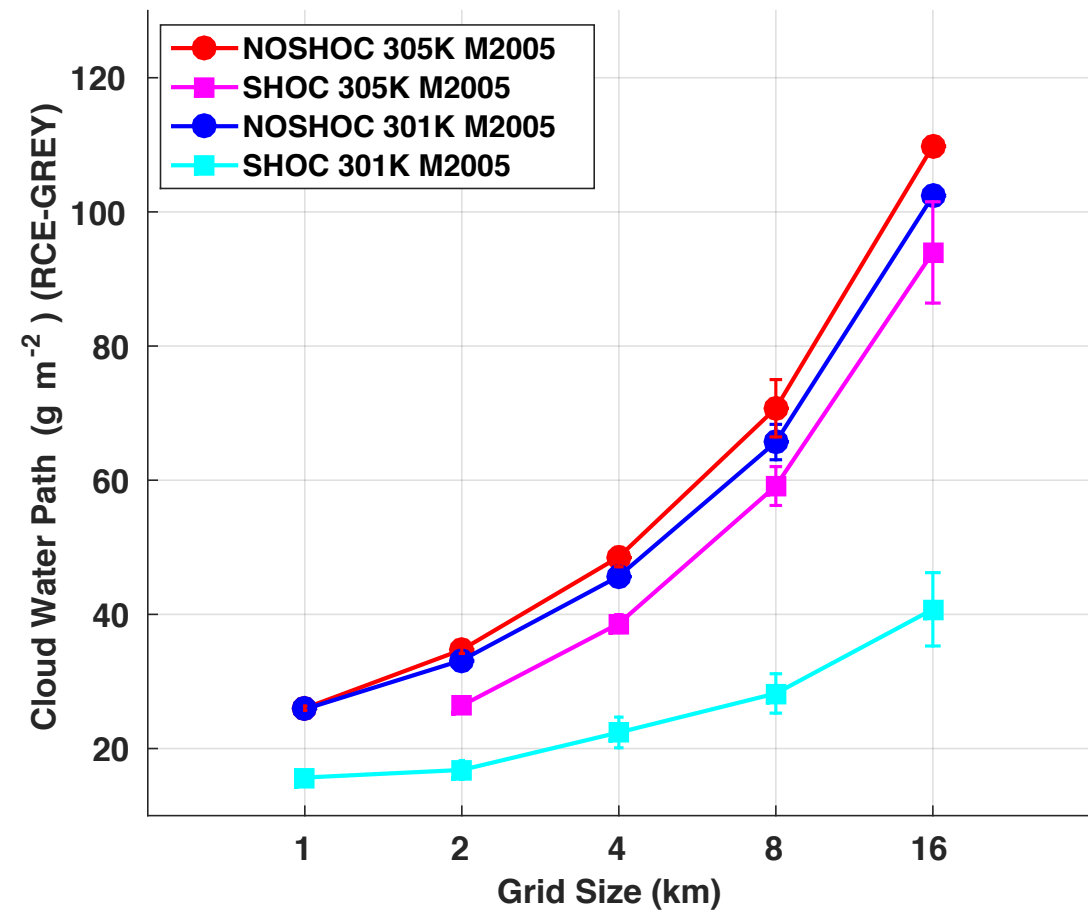
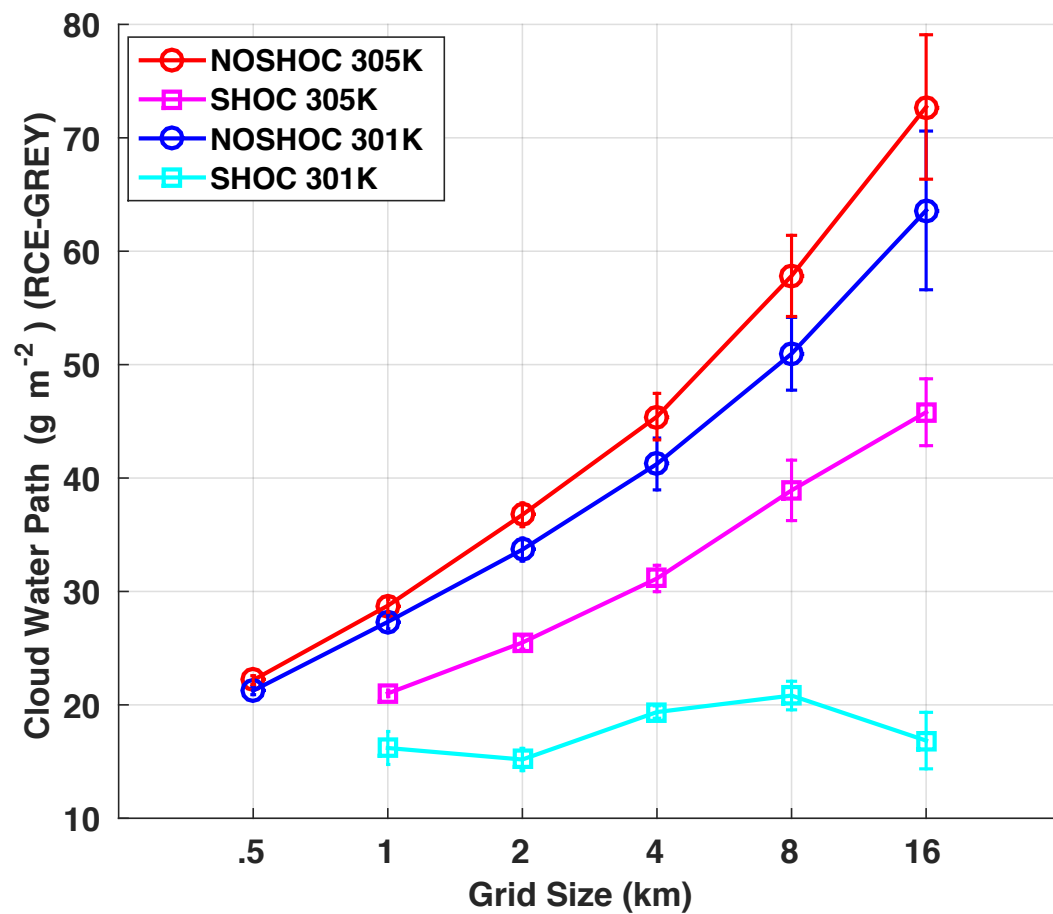
- Single-moment and double-moment runs similar for NOSHOC. Differences occur in SHOC runs.

Precipitation



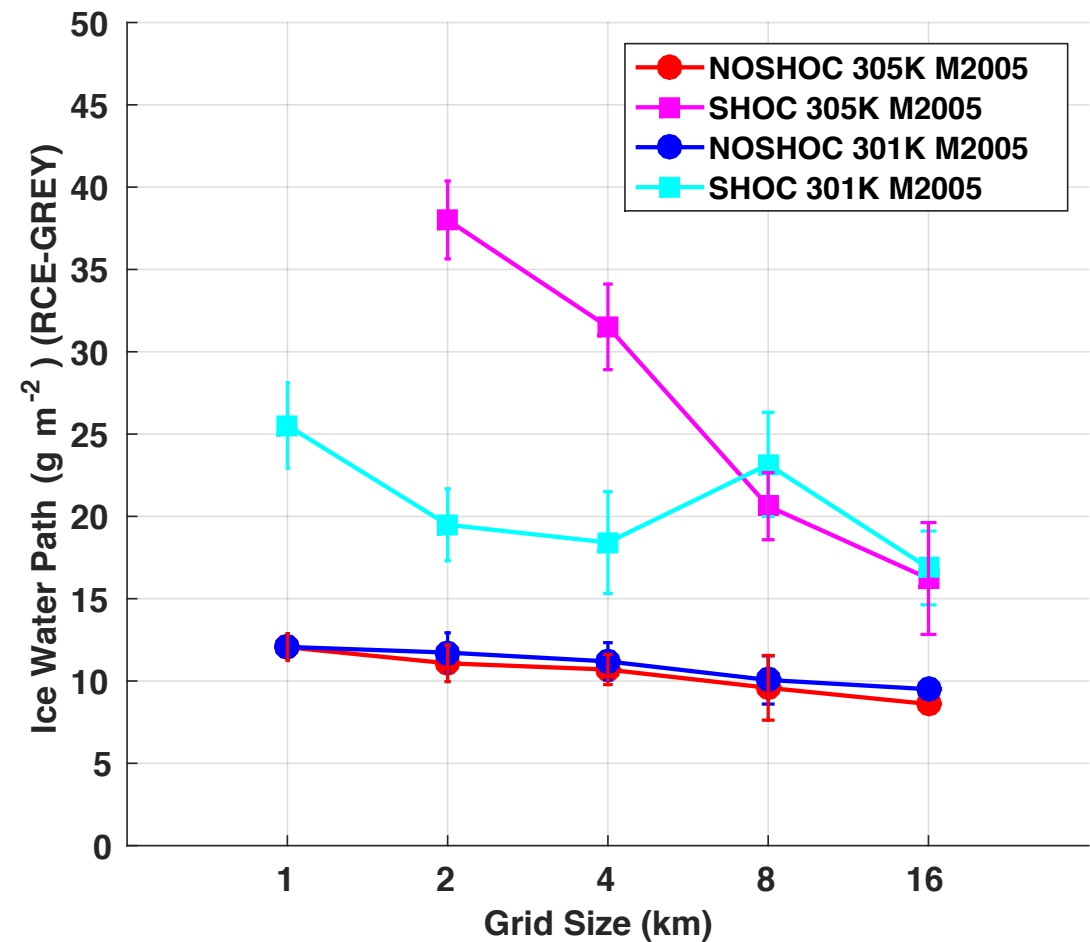
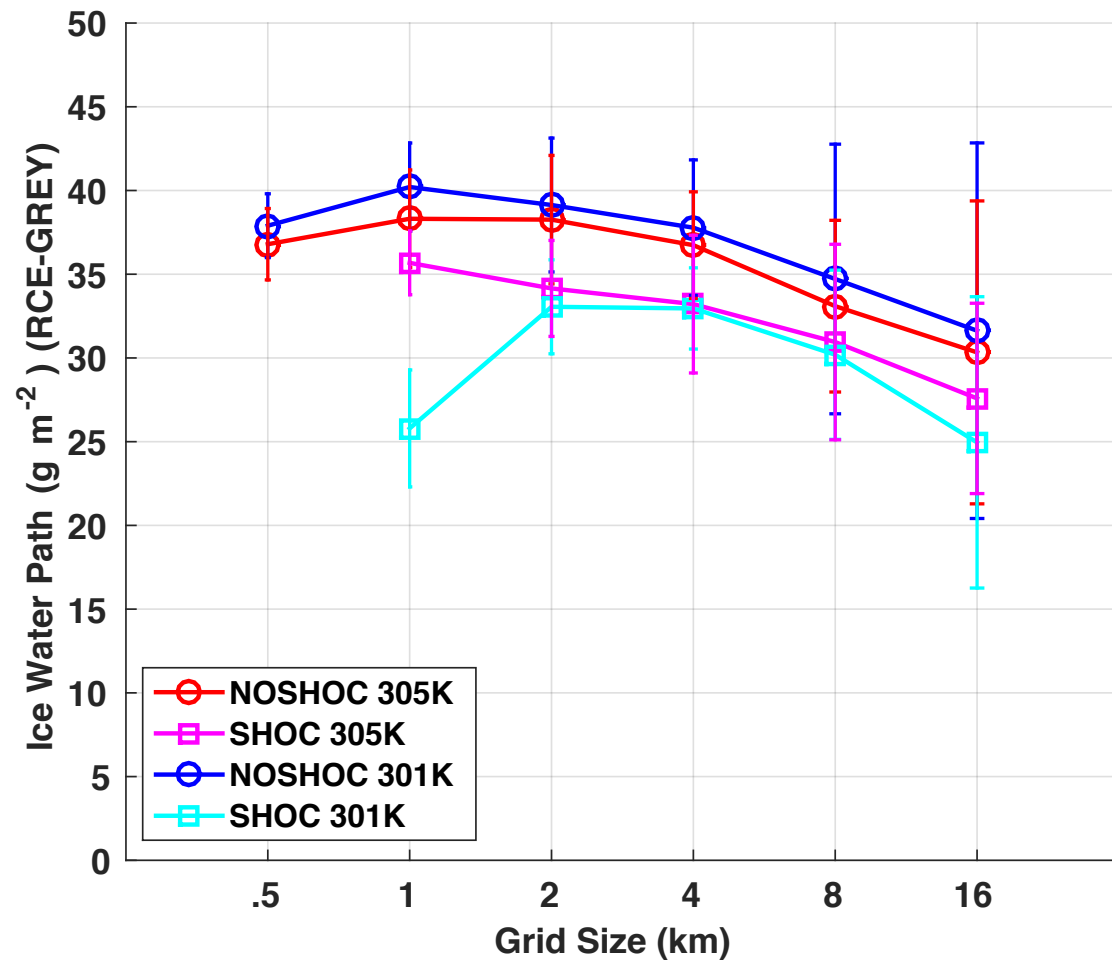
- Similar shape for both.
- Double moment SHOC runs have higher magnitude than single-moment (note: different y-axis scale)

CWP



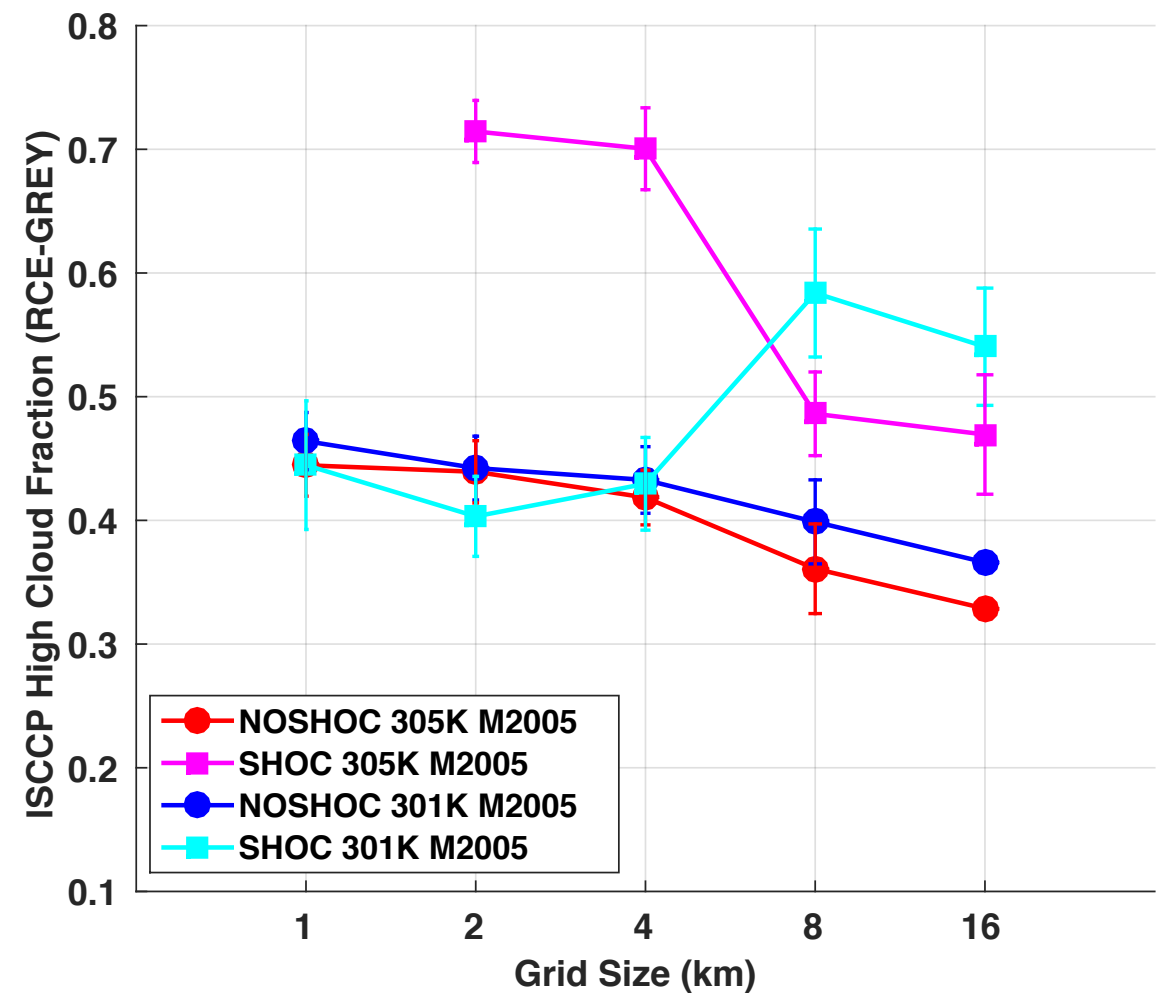
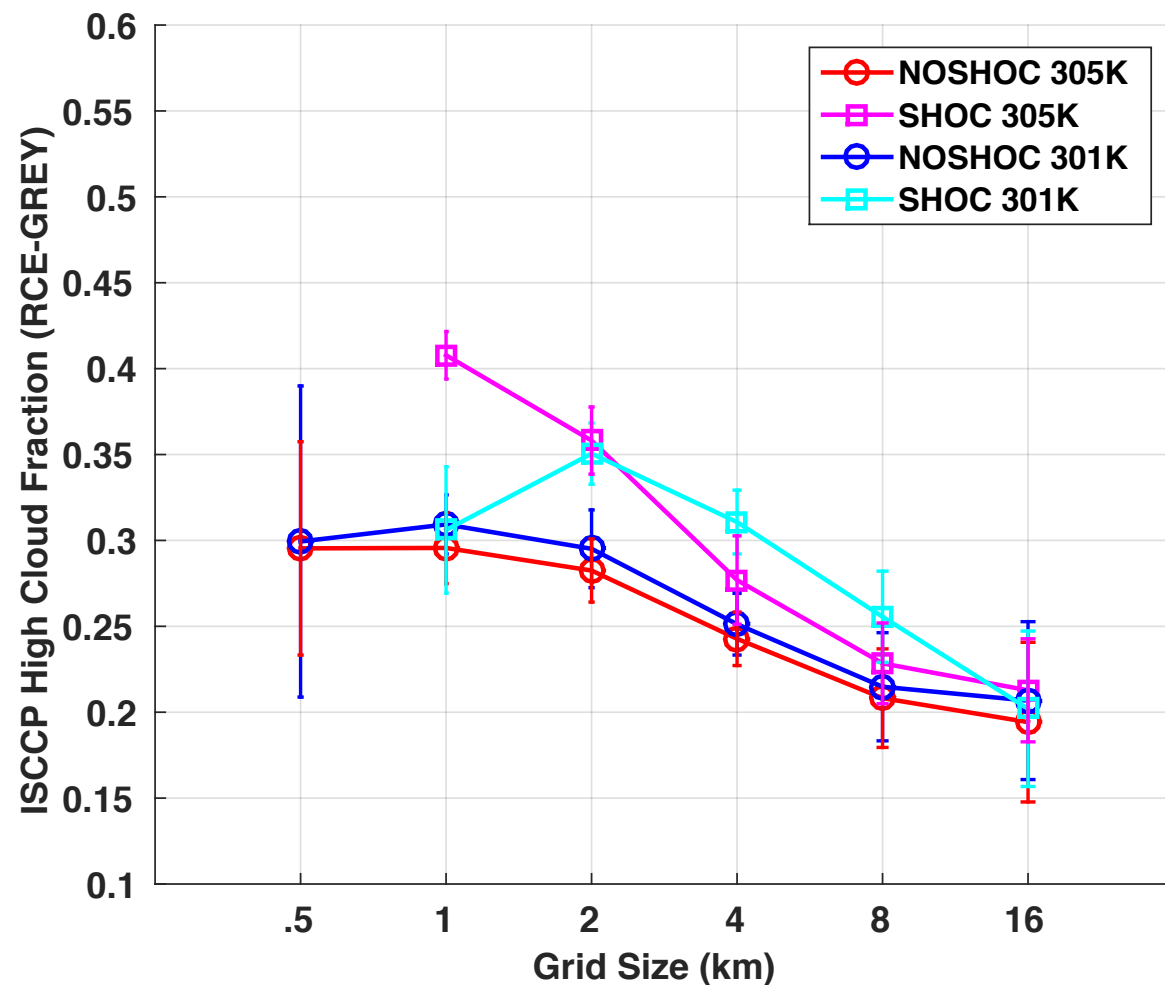
- Single-moment runs have less steep increase with higher grid spacing (note: different y-axis scale).

IWP



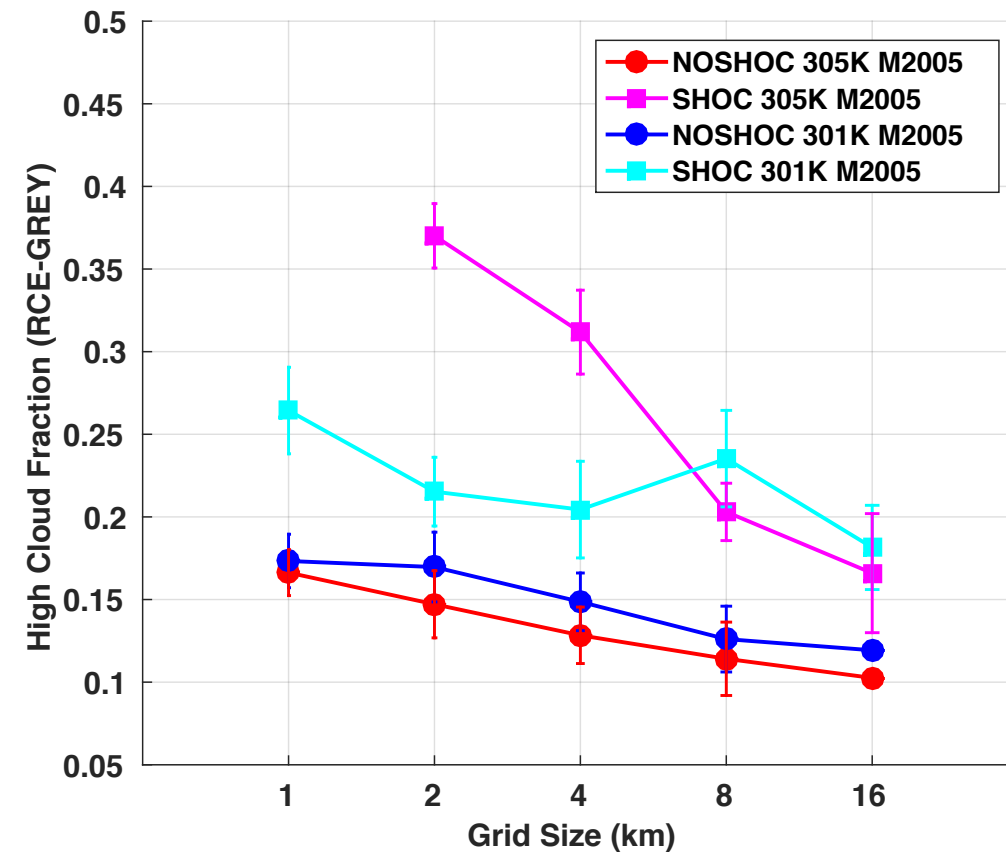
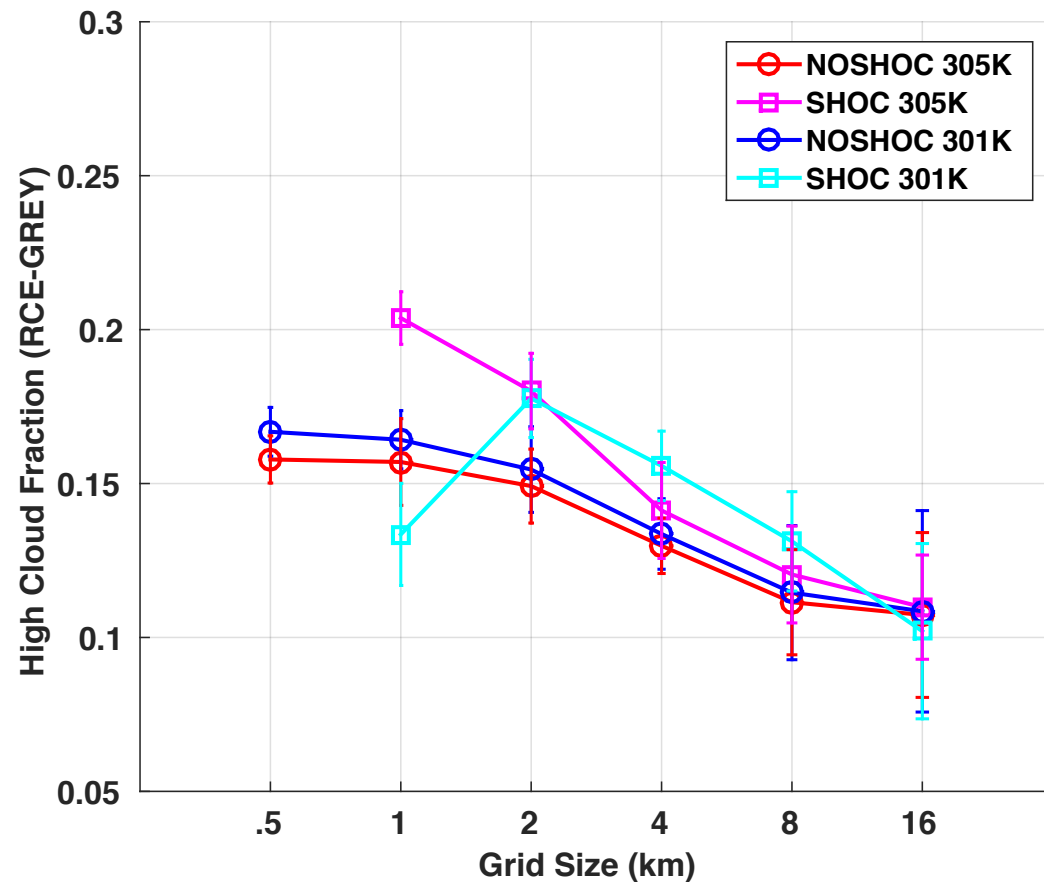
- Single moment runs have higher magnitudes of IWP than double moment, especially in NOSHOC runs. (Recall: CONSTRAIN IWP was non-zero but incredibly small).

ISCCP High Cloud



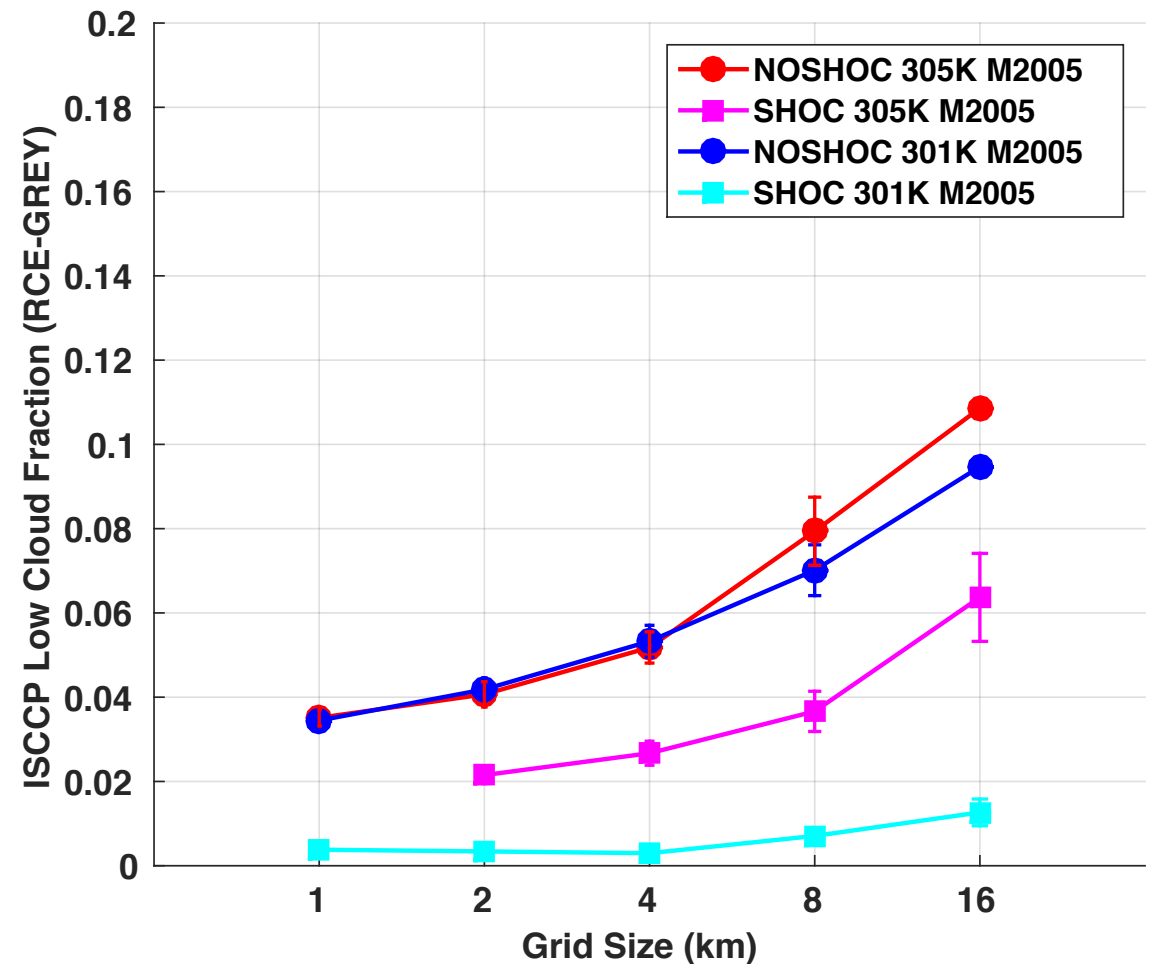
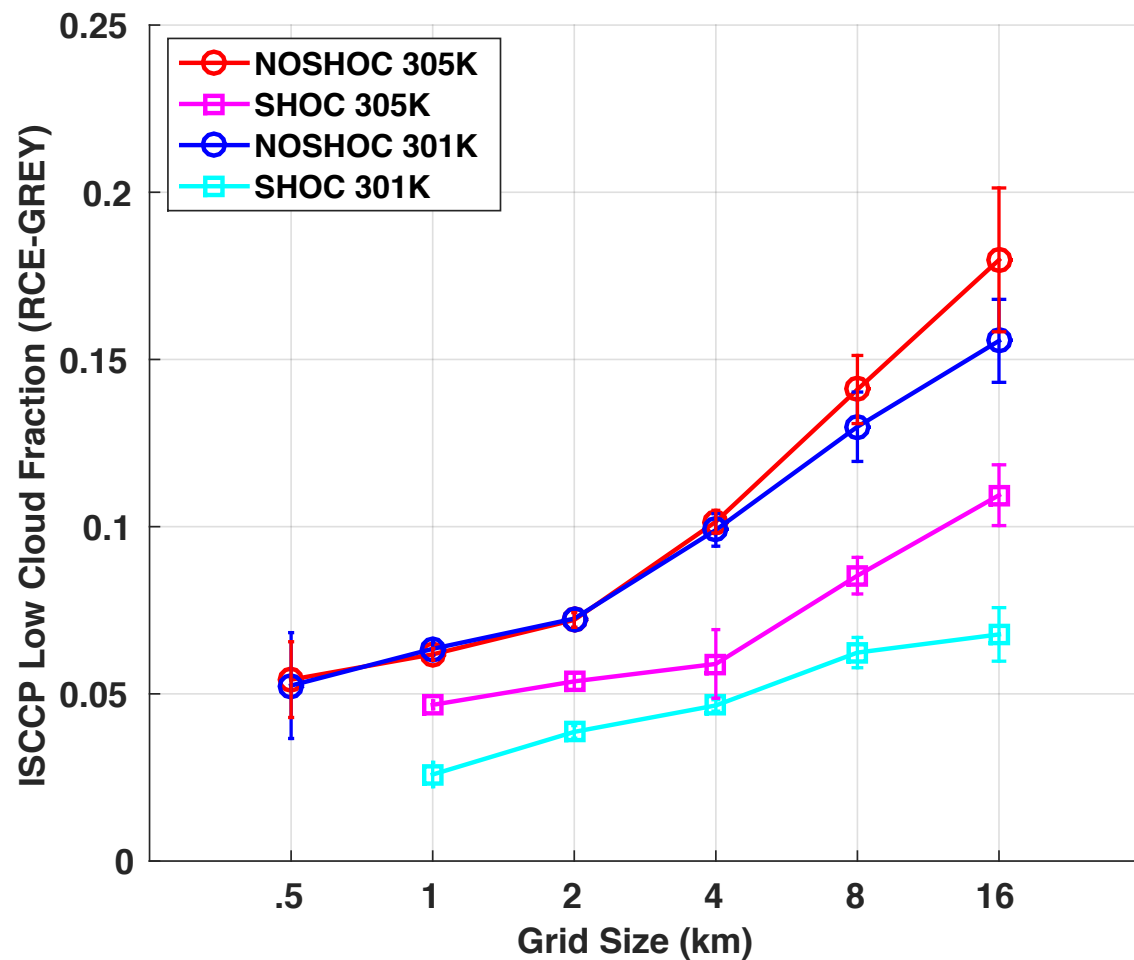
- ISCCP high cloud fractions around 50% higher for double moment runs (note: different y-axis).

High Cloud (CLDHI)



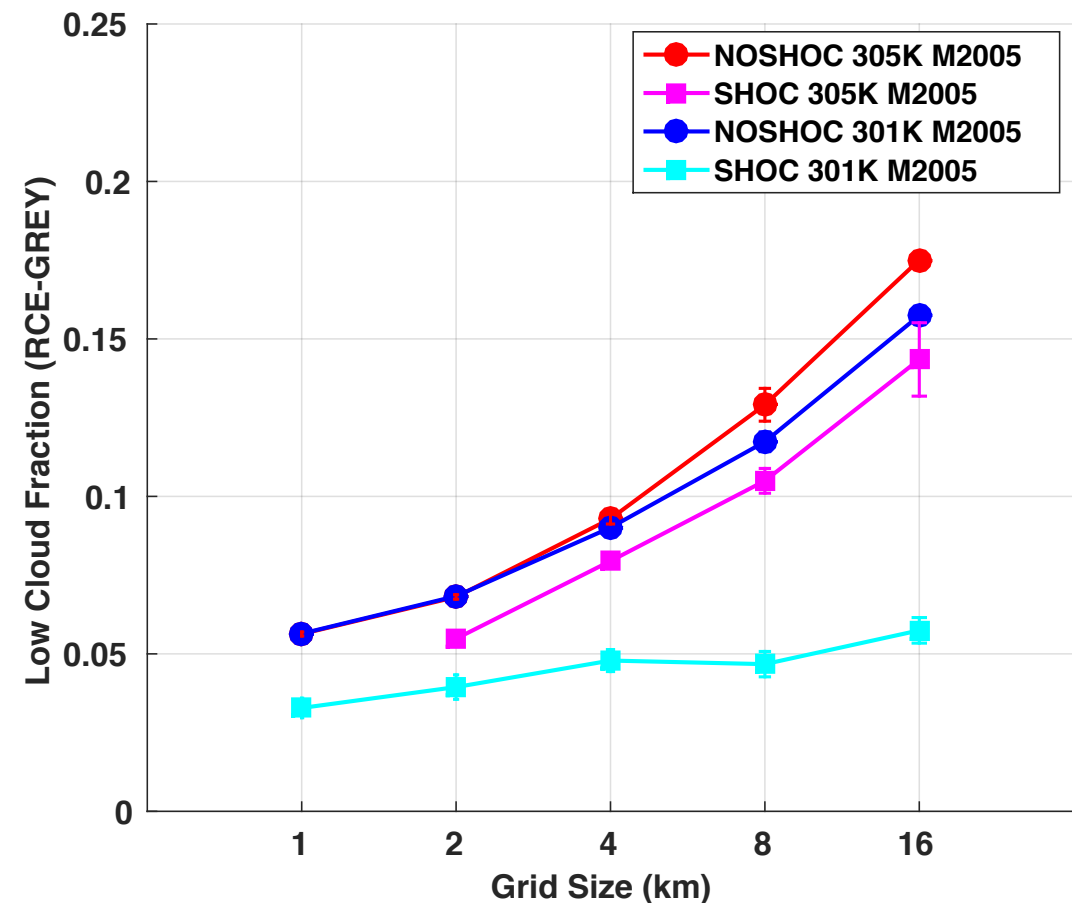
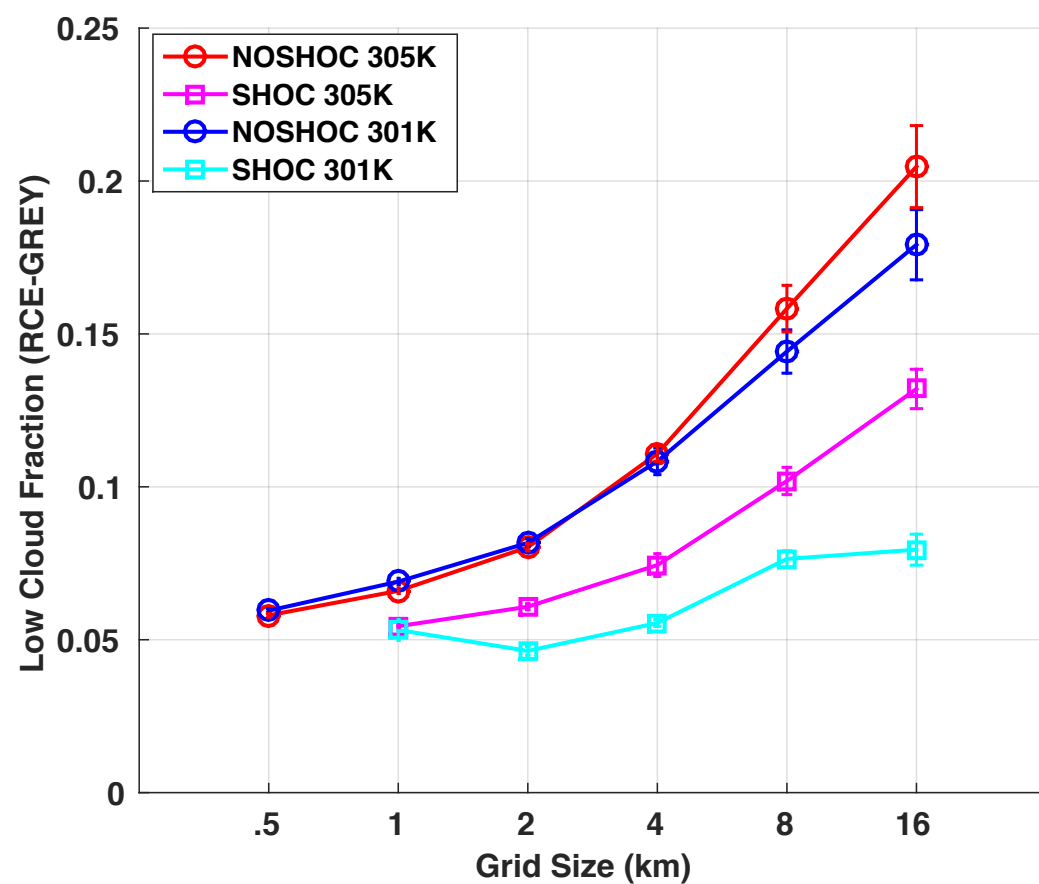
- Shape very similar to ISCCP high clouds but magnitude half the size.
- Single moment much closer between SHOC and NOSHOC than double moment.

ISCCP Low Cloud



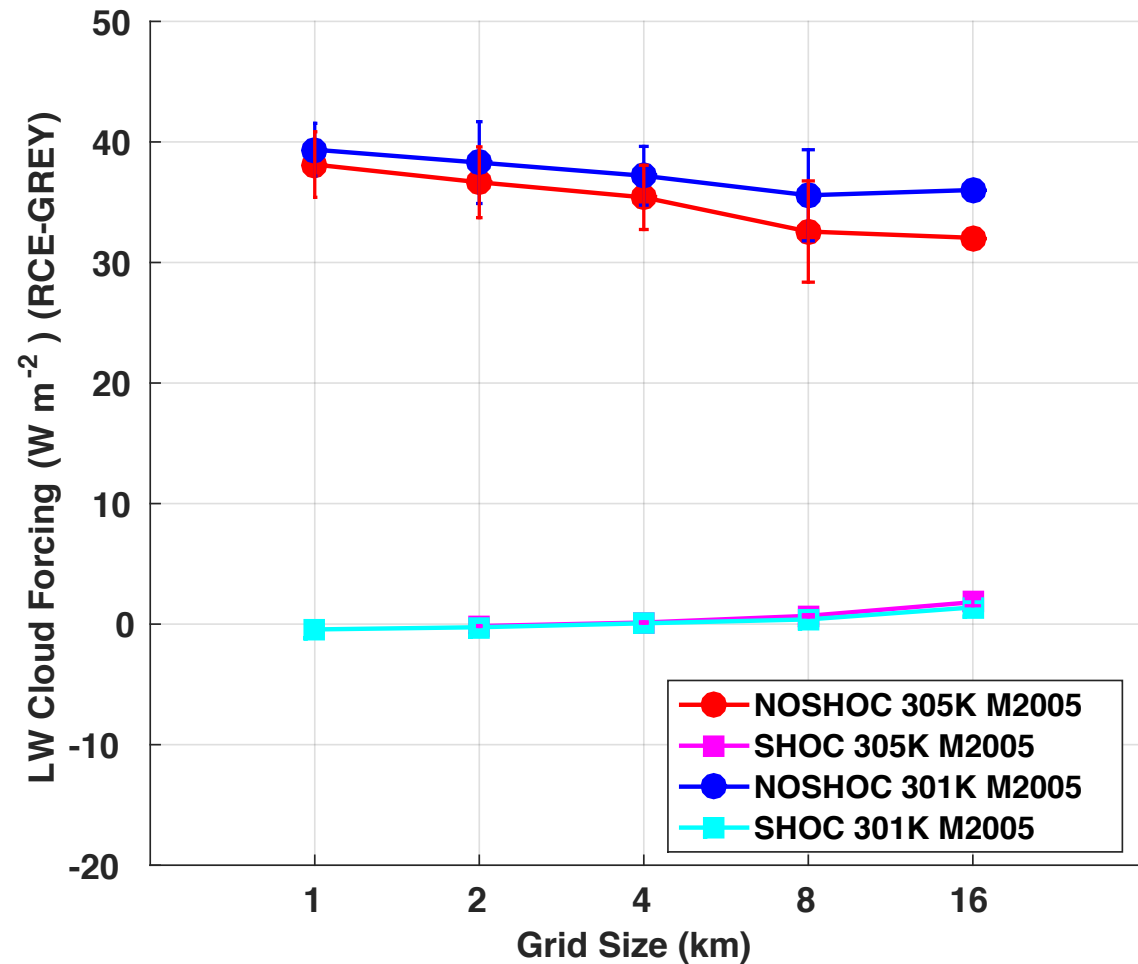
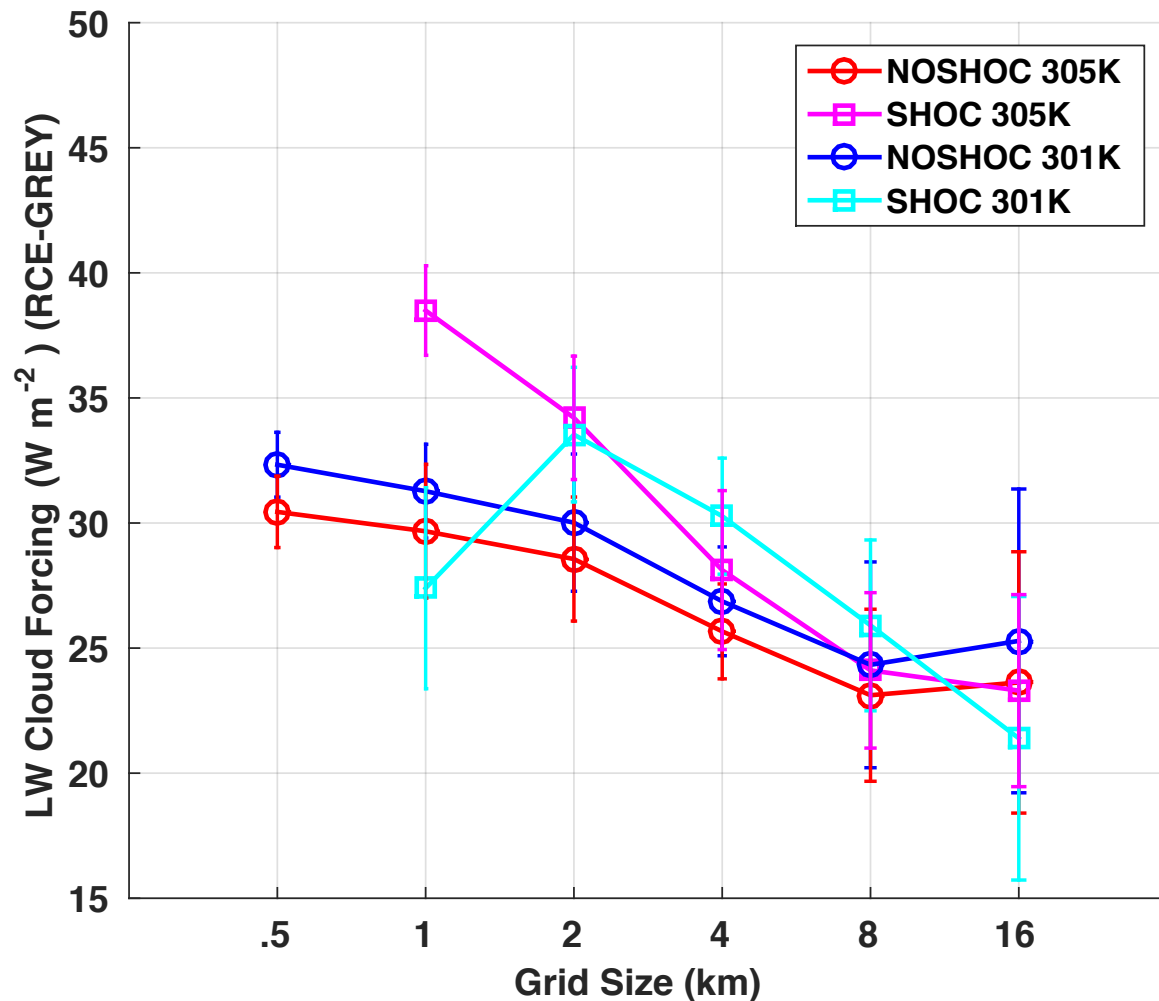
- Similar shape but single-moment higher in magnitude.

Low Cloud (CLDLLOW)



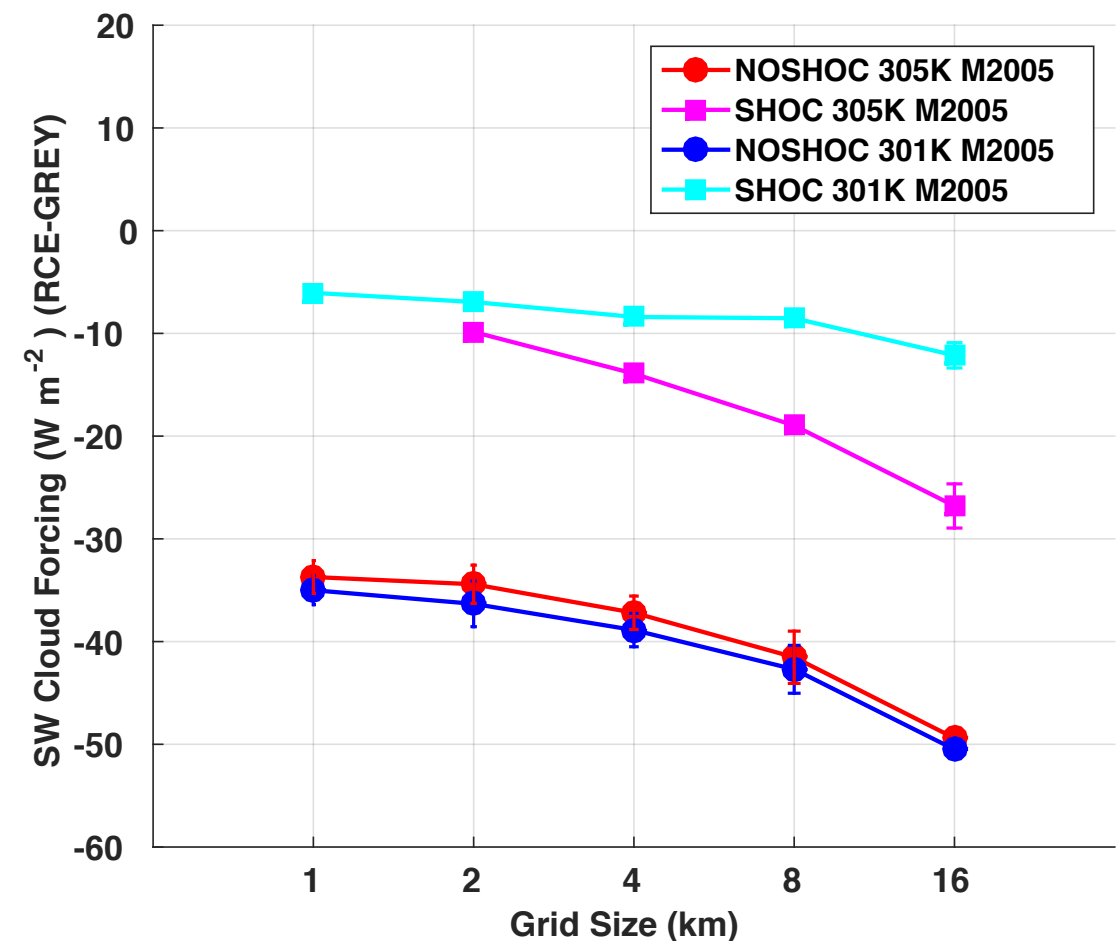
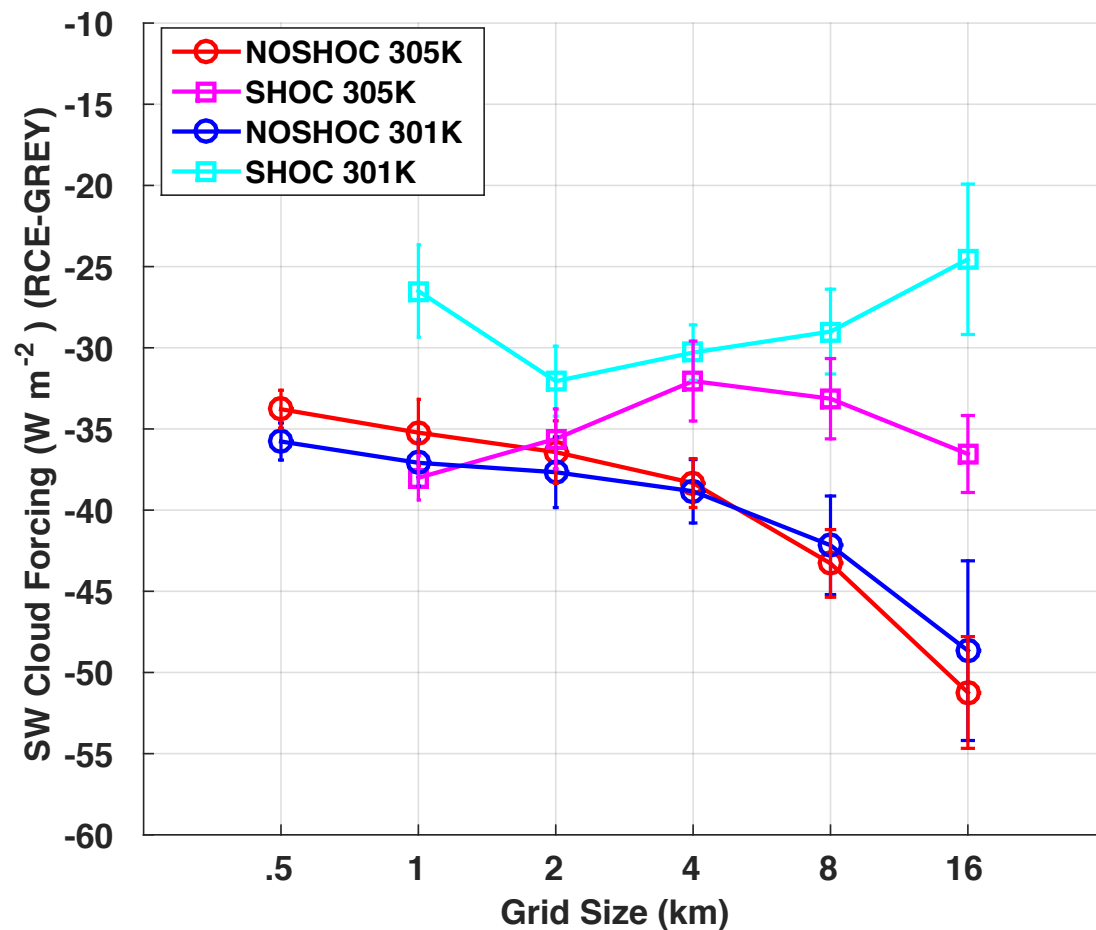
- Less difference in magnitude between single-moment and double-moment in low cloud than ISCCP low cloud.

LW Cloud Forcing



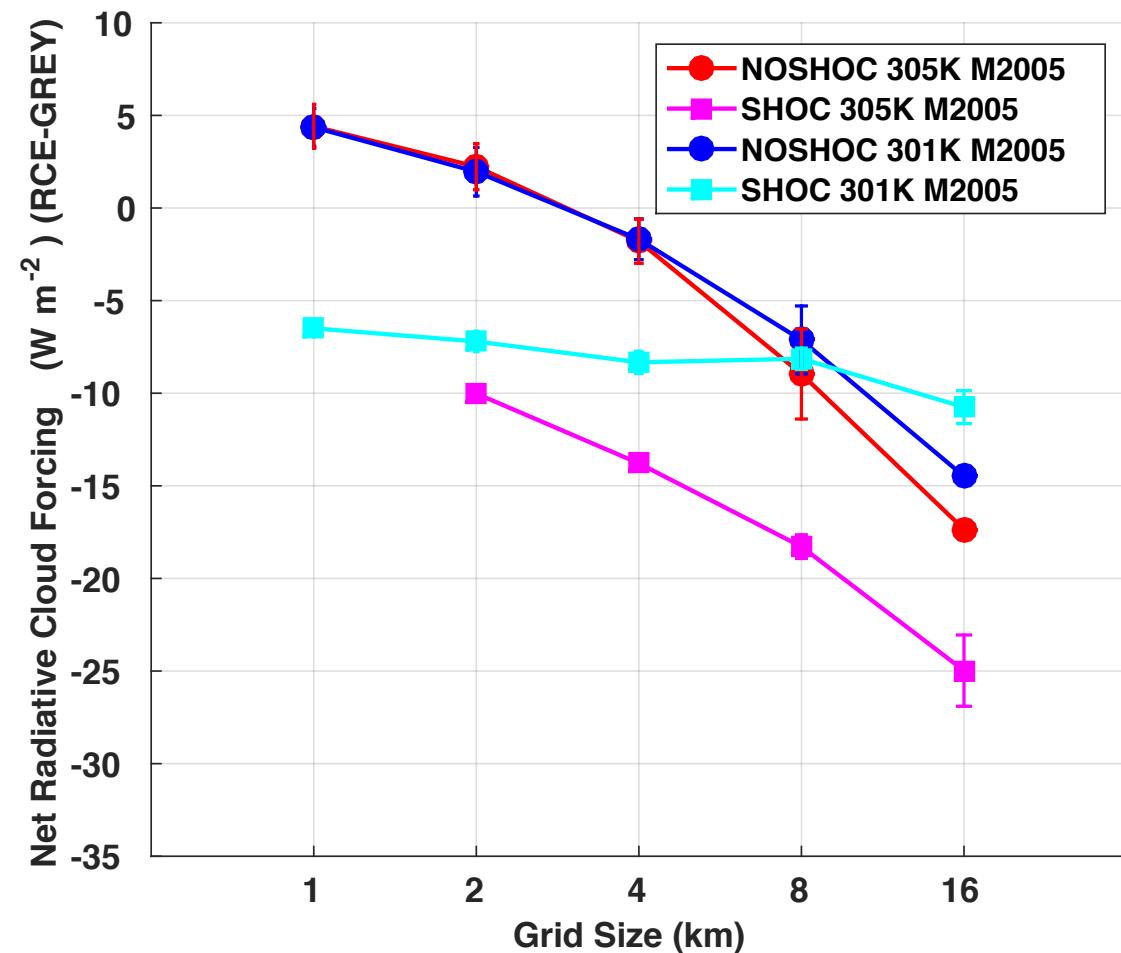
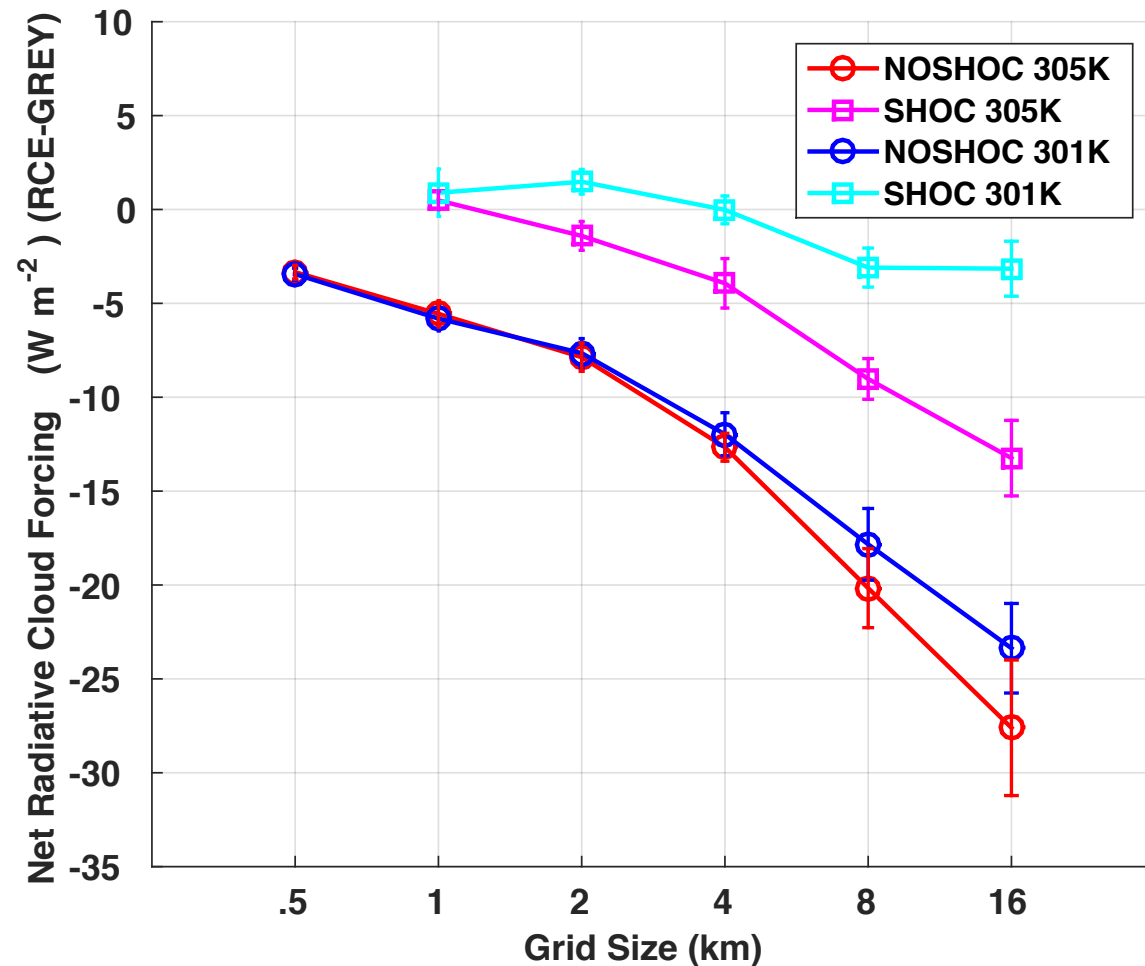
- Single moment mostly has similar pattern except for 1 and 16km SHOC 301K
- Double moment has clear SHOC dependence.

SW Cloud Forcing



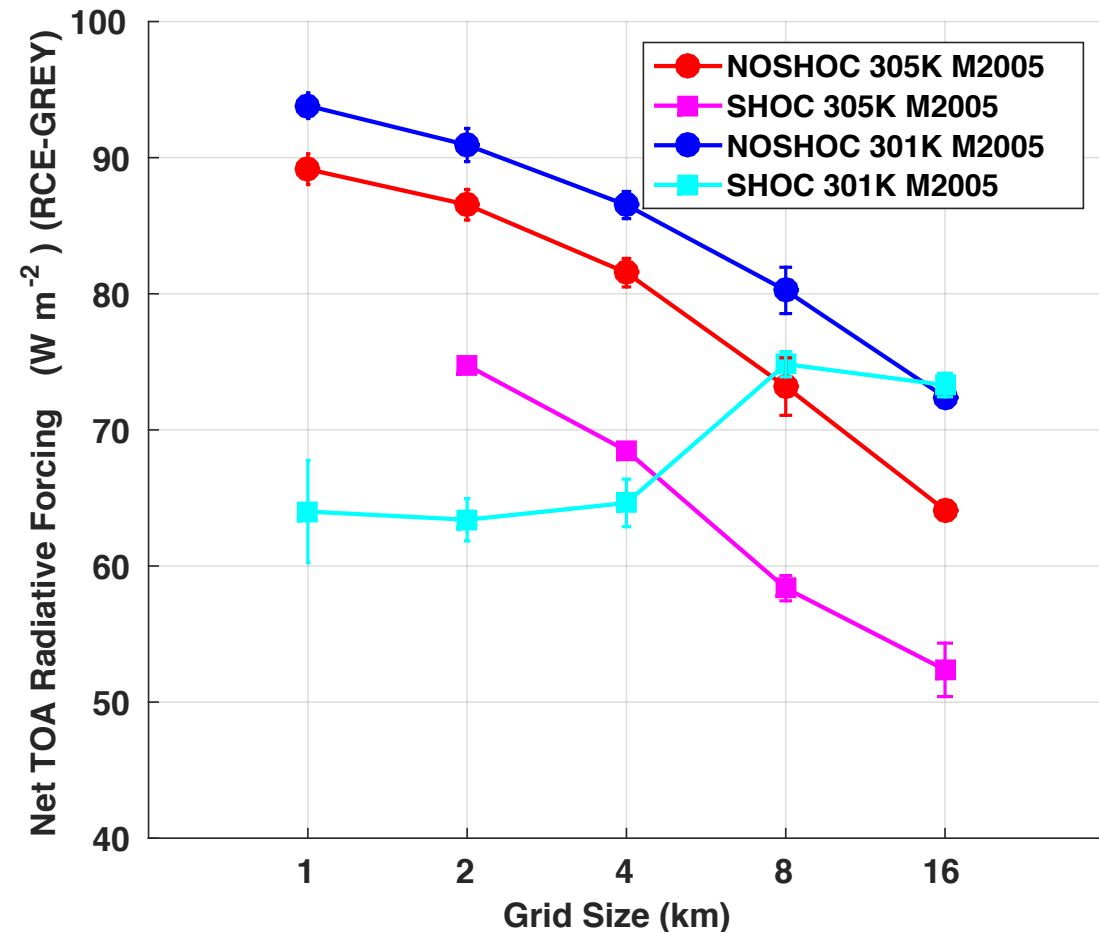
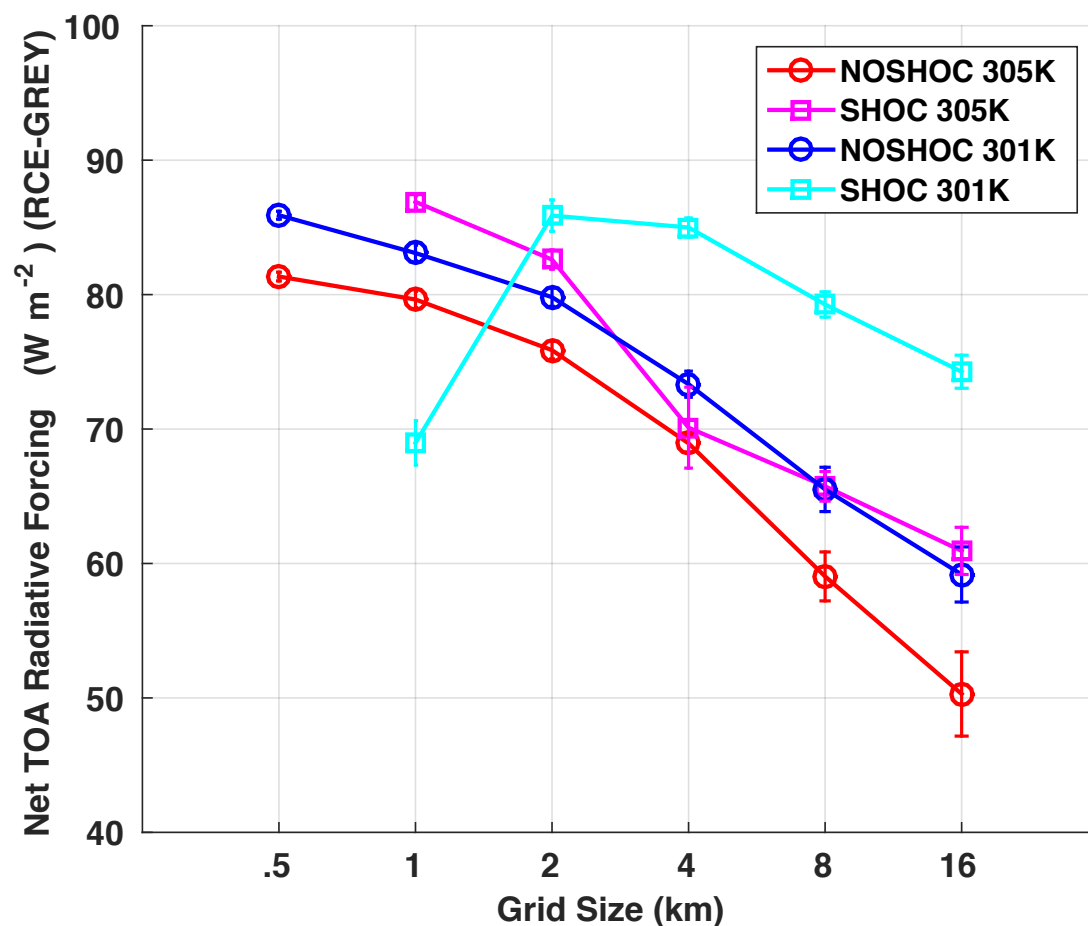
- NOSHOC runs similar for both.
- Single-moment has less of a gap between SHOC and NOSHOC (note: different y-axis)

Net Radiative Cld Forcing



- Single-moment runs have NOSHOC more negative.
- Double-moment runs have SHOC more negative.
- All 4 colors similar shape on both plots.

Net TOA Radiation



- NOSHOC runs similar shape on both plots but higher magnitude for double-moment.
- Single-moment has higher magnitude values for SHOC.