Antarctic snowfall variability and forced change

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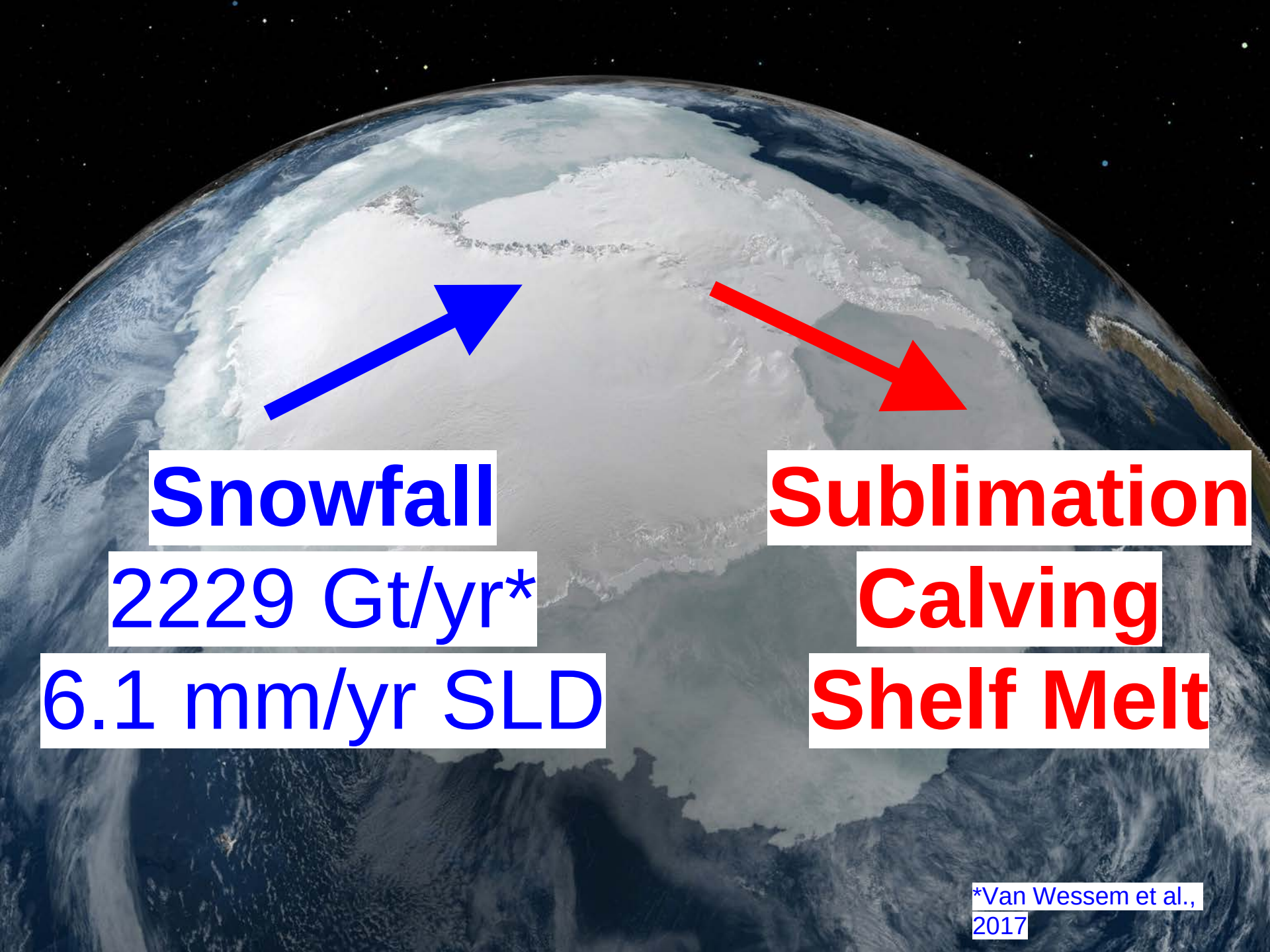
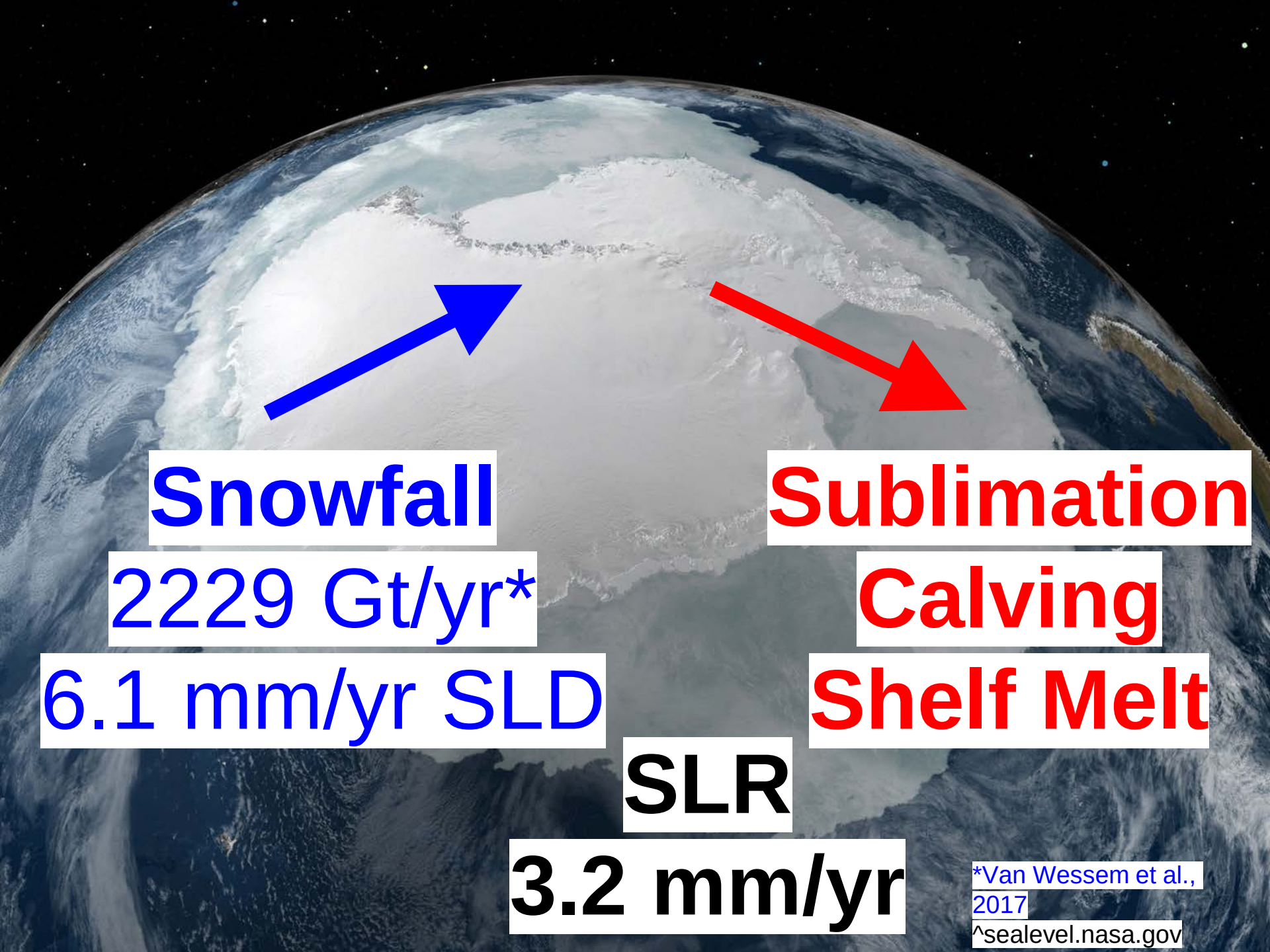
CESM LE community, Laura Landrum[4], Marika Holland[4], Lorenzo Polvani[7], Hailong Wang[8]

LANL[1],CU Boulder[2], NASA[3], NCAR[4], TU Delft[5], NASA[6], Columbia[7], PNNL[8]


Snowfall
2229 Gt/yr*
6.1 mm/yr SLD
Sublimation
Calving
Shelf Melt
*Van Wessem et al., 2017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3.2 mm/yr
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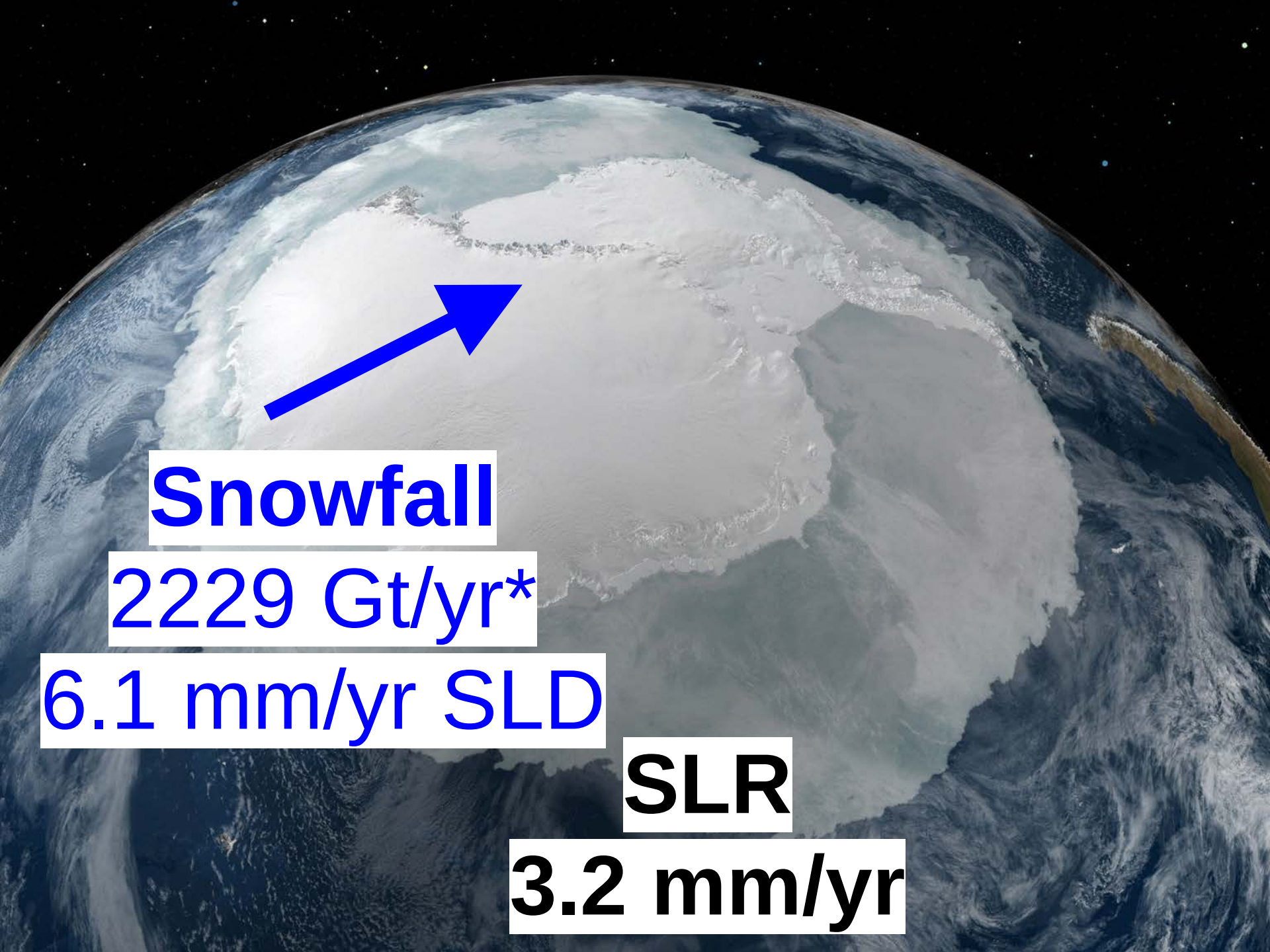
^sealevel.nasa.gov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Patterns in AIS variability controlled by regional atmospheric circulation

(Fyke et al., 2017, The Cryosphere)

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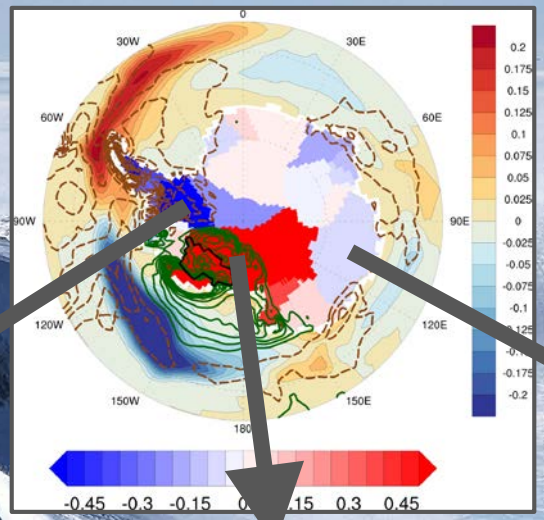
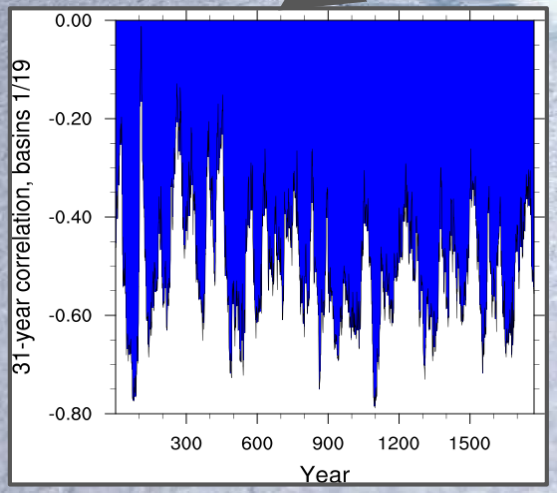
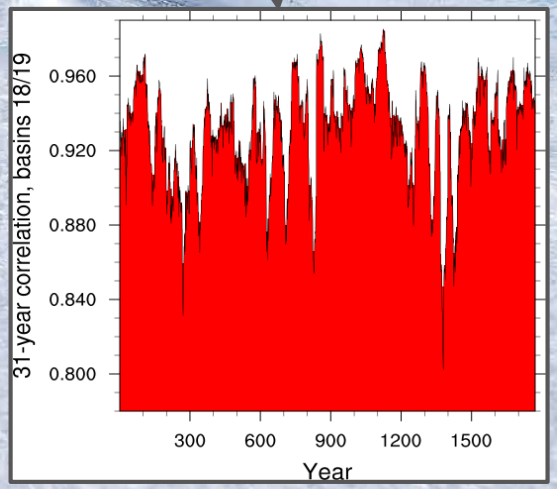
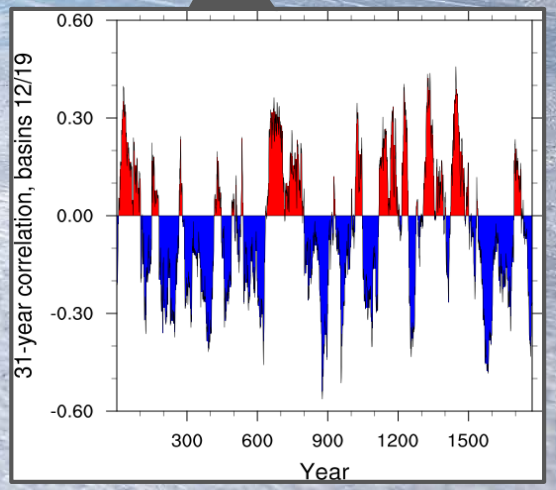


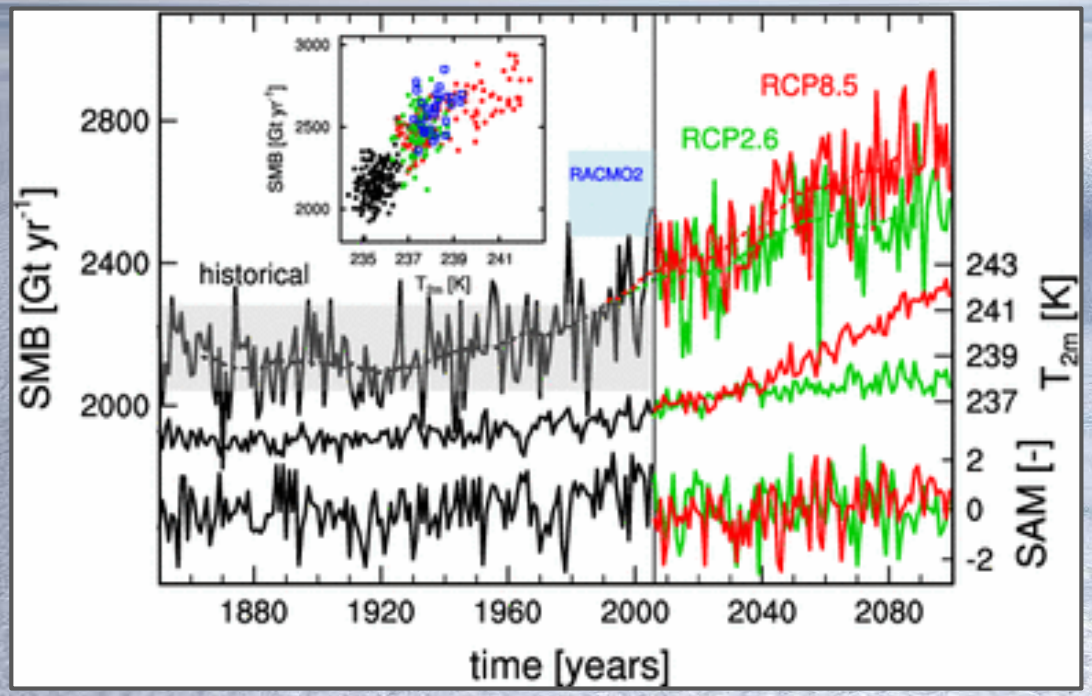






AIS snowfall will strongly increase in response to anthopogenic forcing

(Lenaerts et al., 2016, Climate Dynamics)



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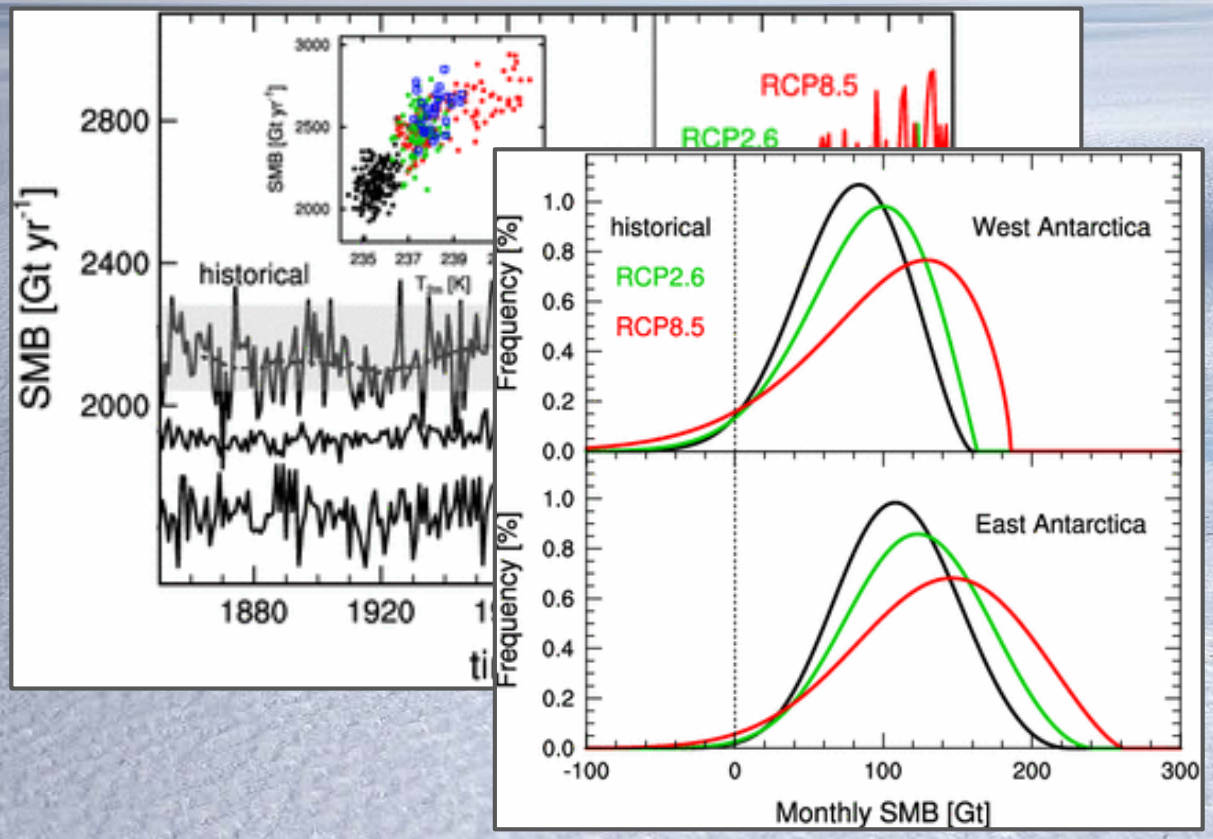

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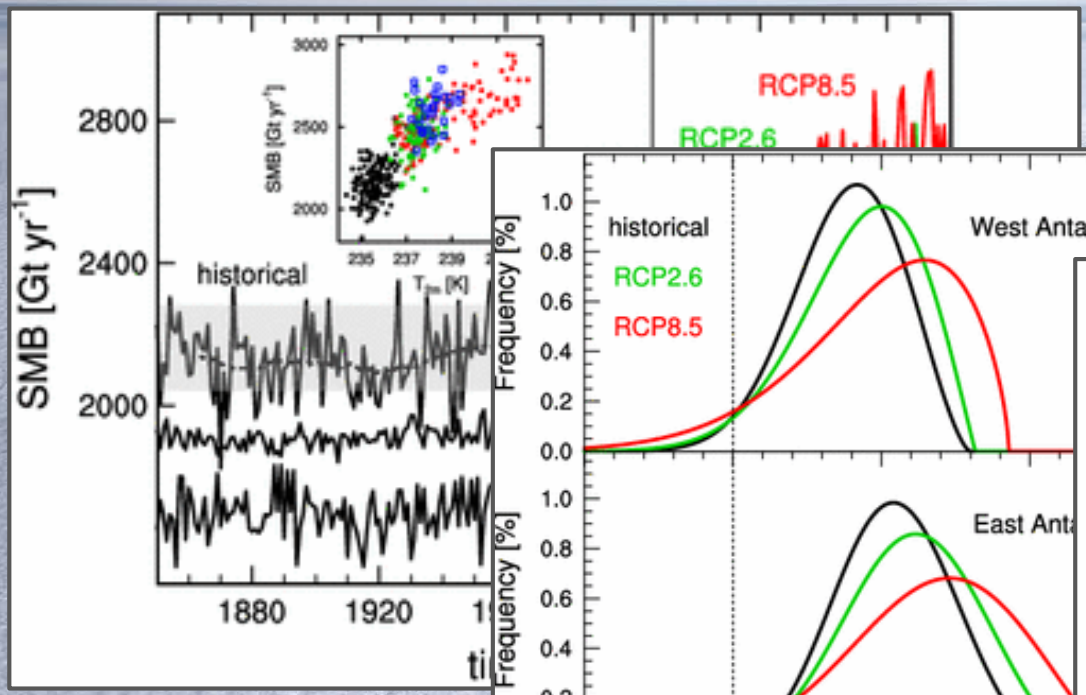
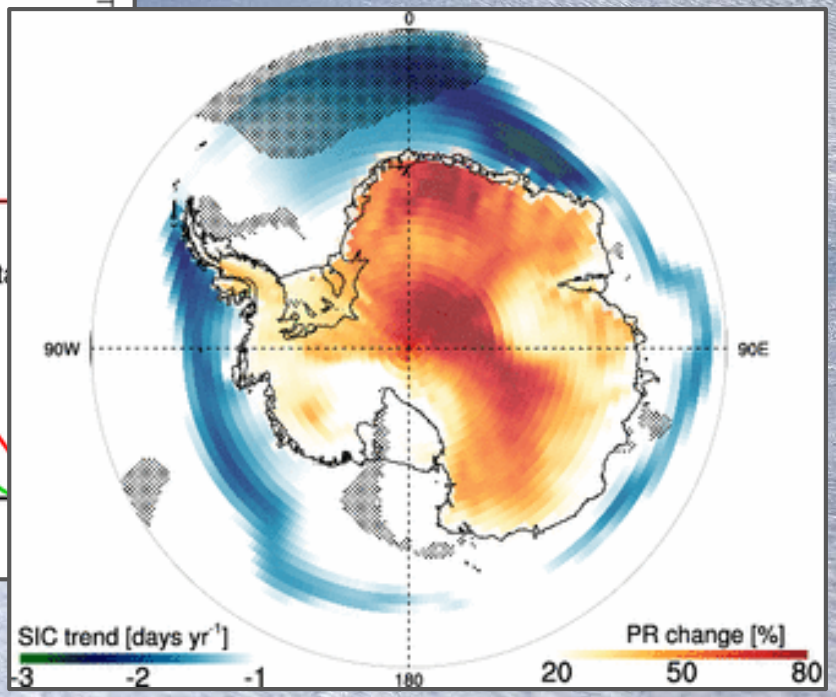
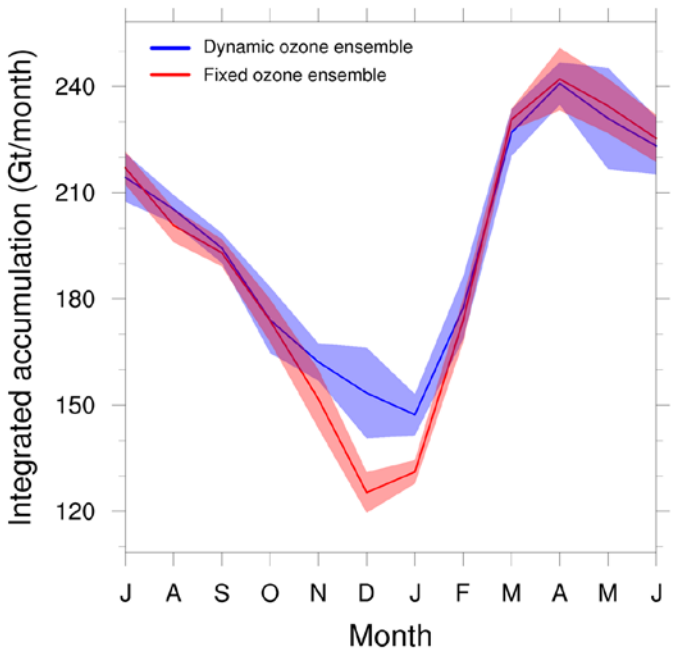




Recent snowfall trends display strong ozone signature

(Fyke/Lenaerts and Medley, in review)



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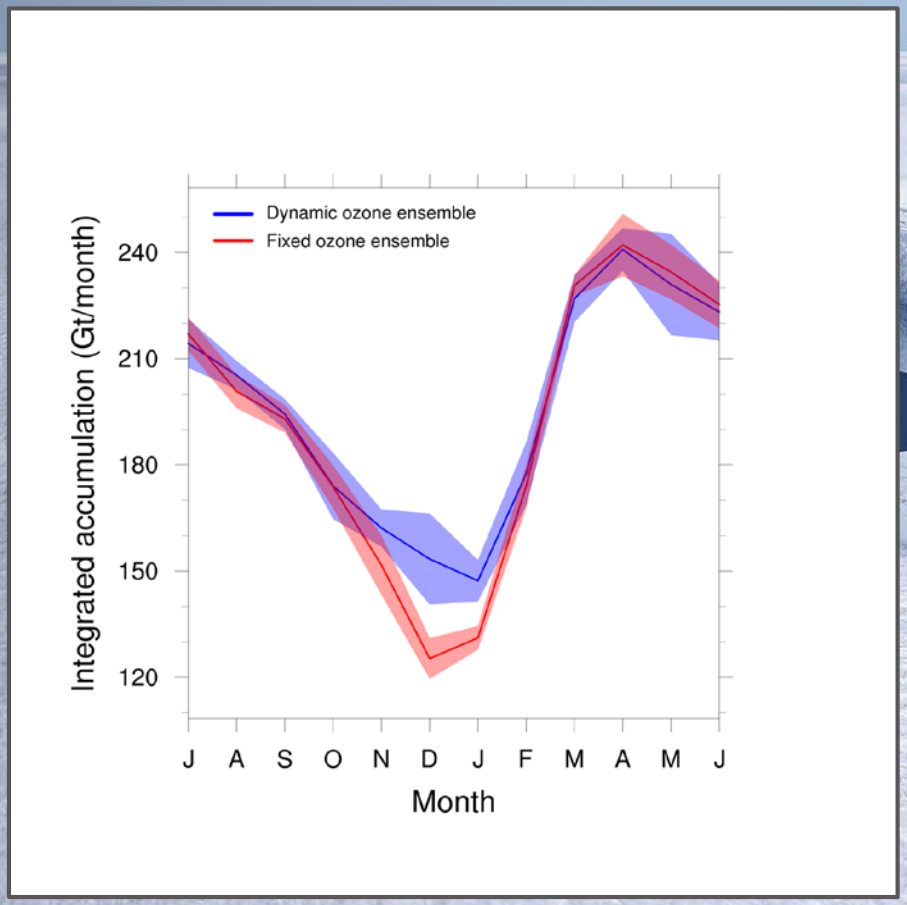

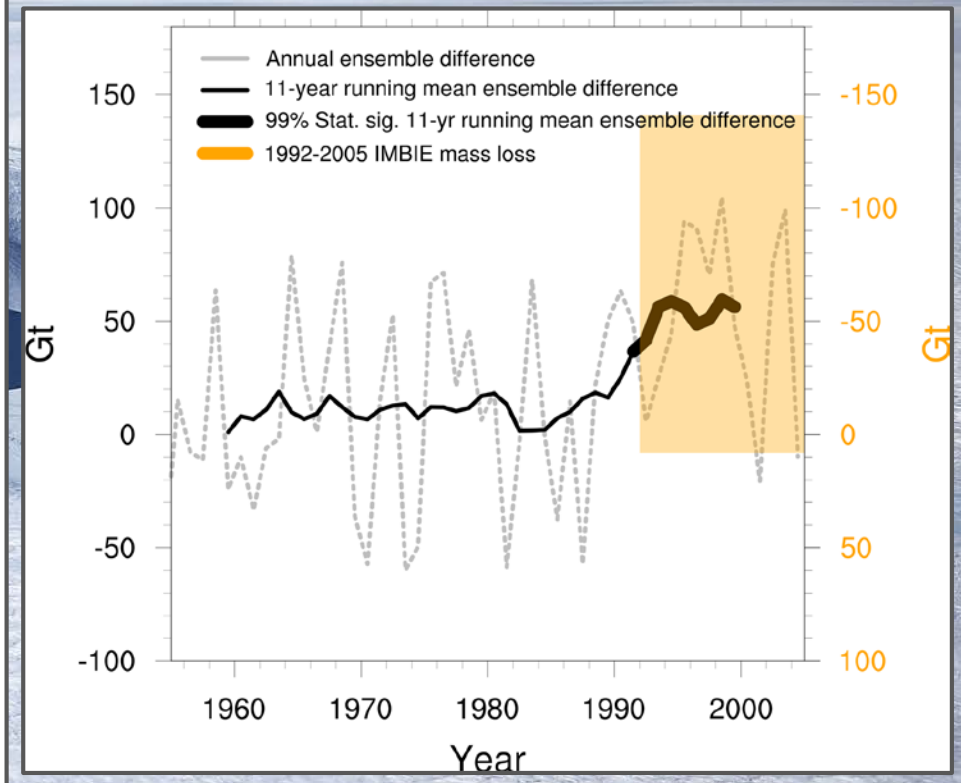

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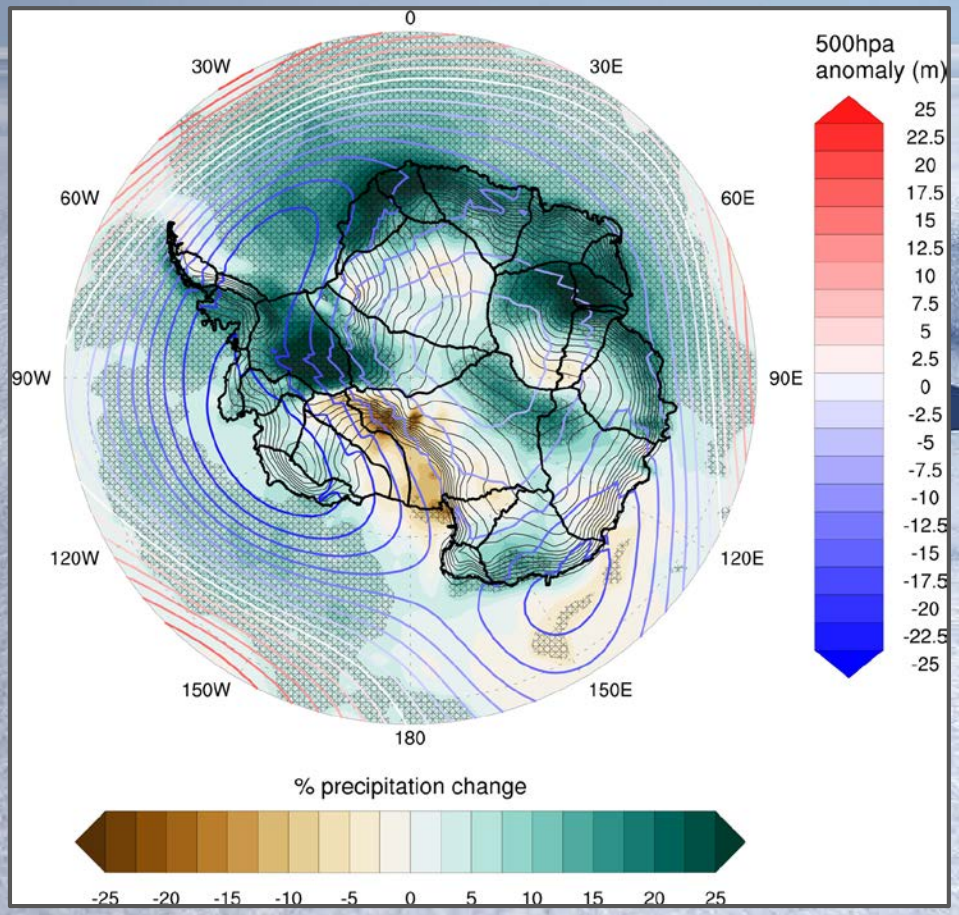

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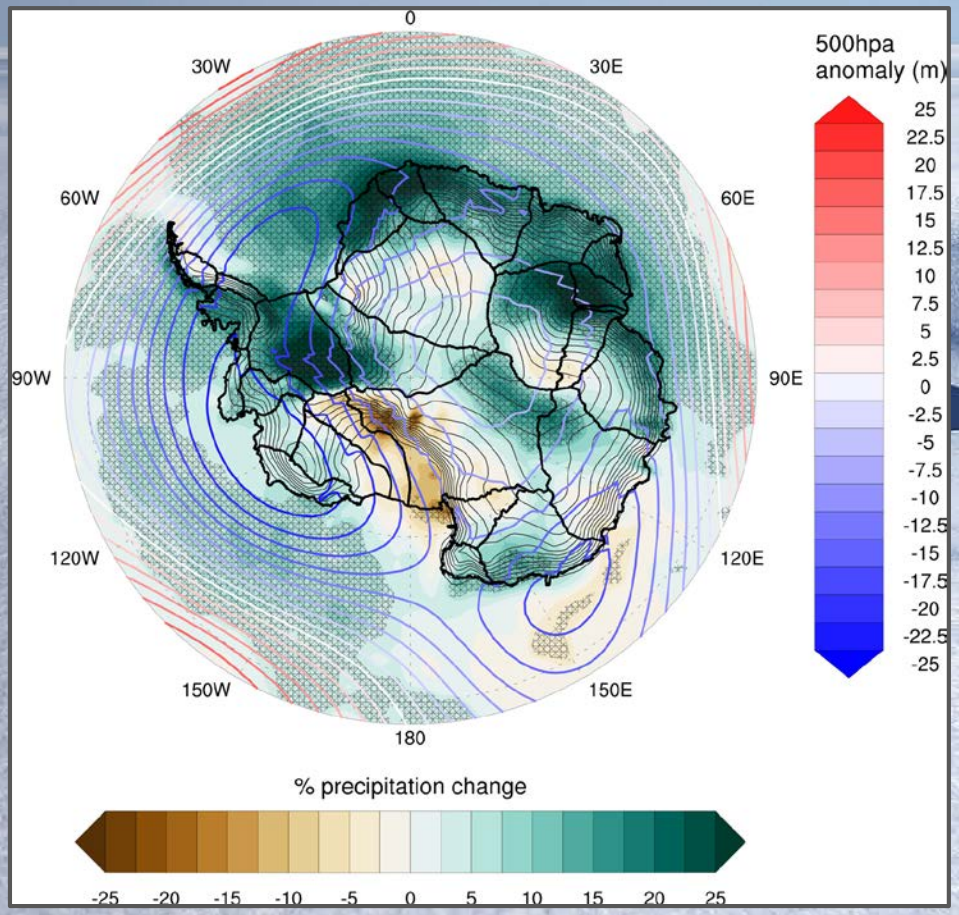

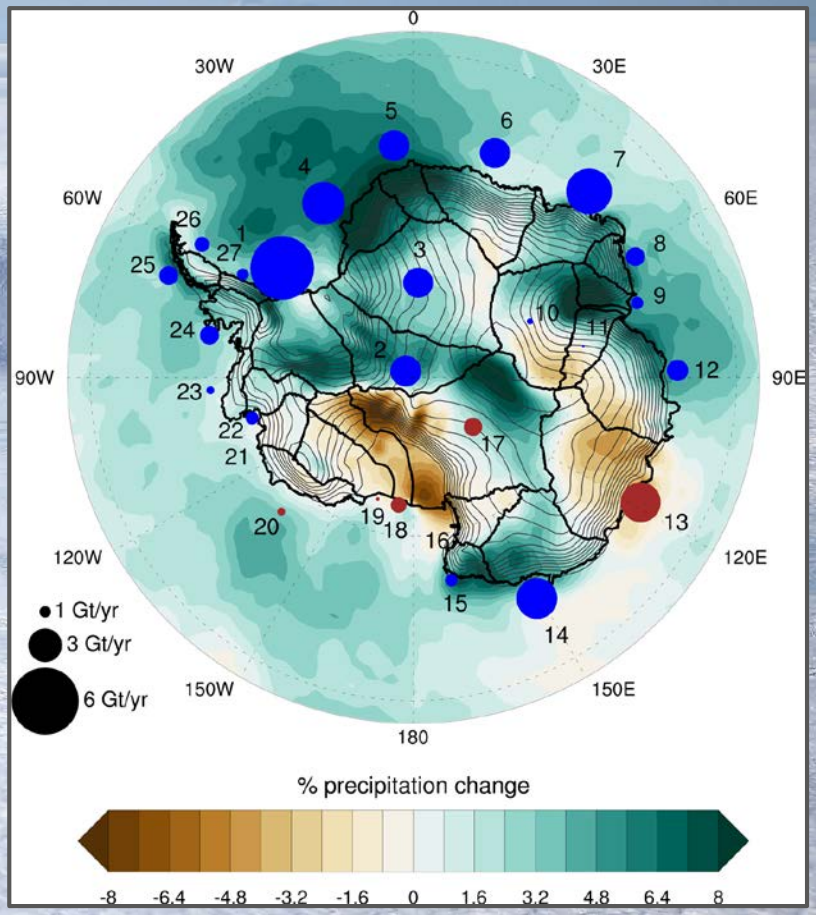

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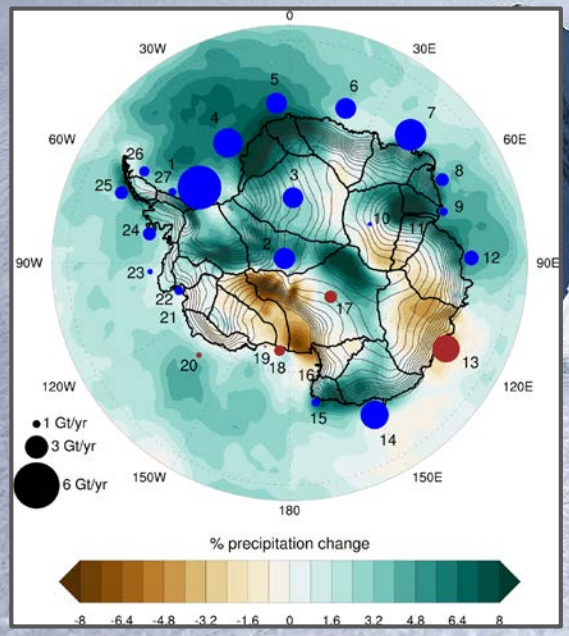

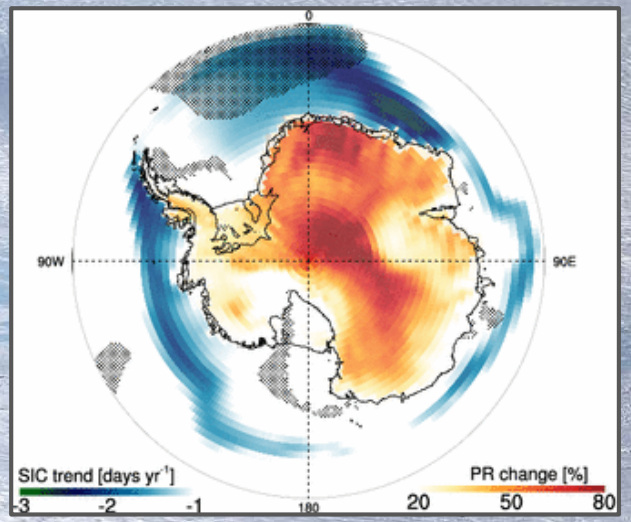

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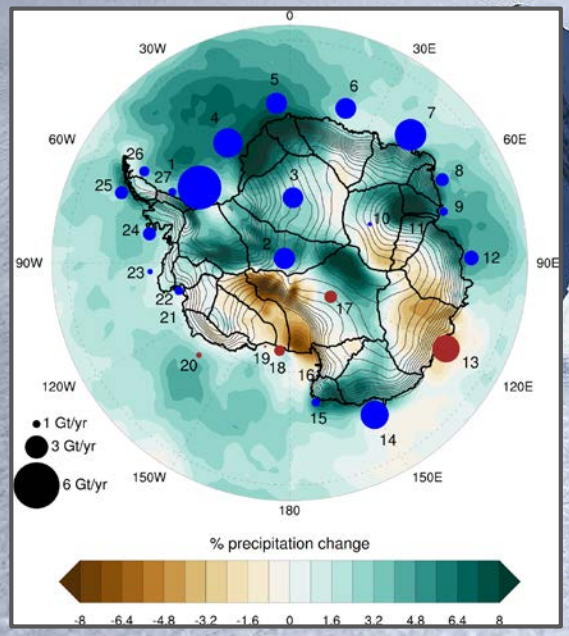

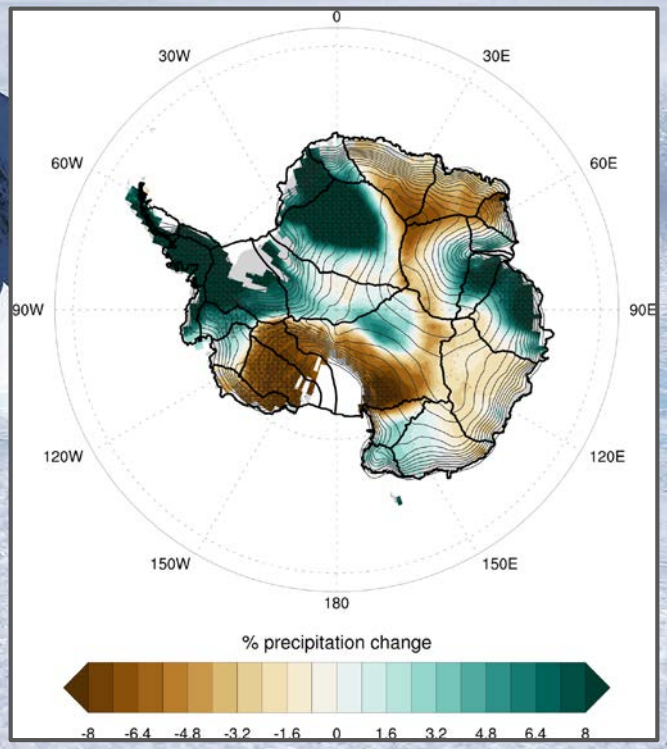

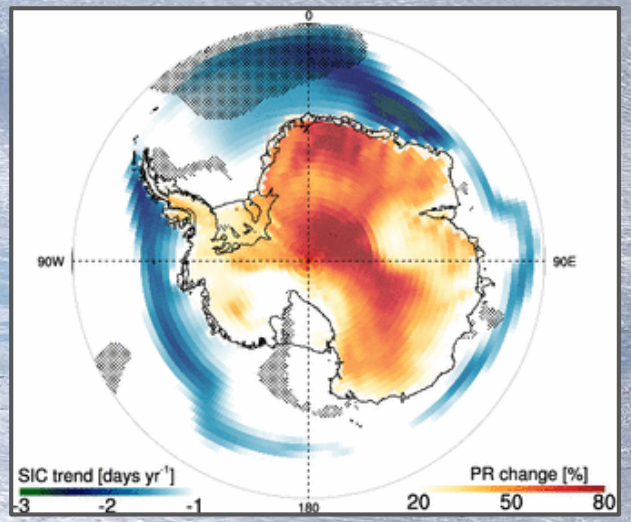

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Antarctic snowfall is important for sea level!

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