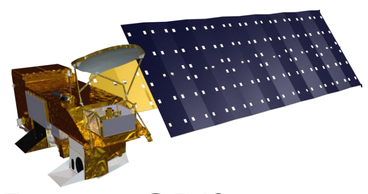
Northeast Alaska Climate

Evaluating Snow Variability through a Climatological Analysis to Support Ecological Monitoring in Northeast Alaska

Study Area/Period

How are Snow Conditions Changing in Northeast Alaska?

Earth Observations & Products


Terra MODIS

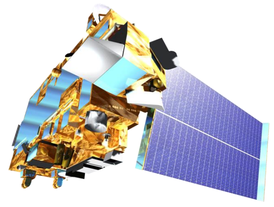
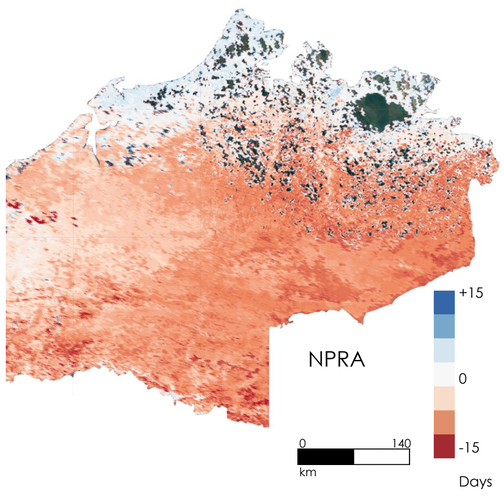

Aqua AMSR-E/AMSR2

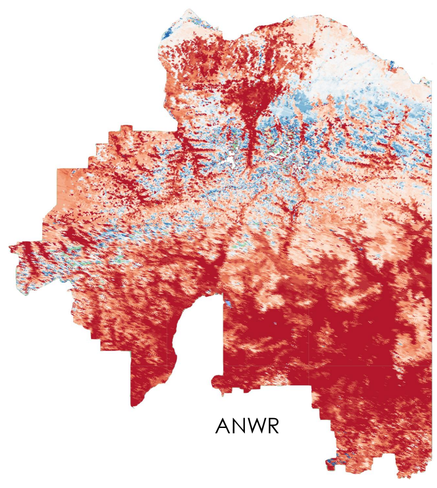
Image Credits: NASA

2.1 Global Land Data Assimilation System (GLDAS-2.1)

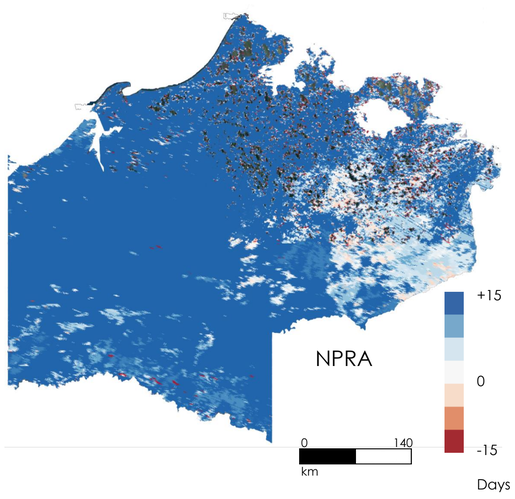
Snow Season Change

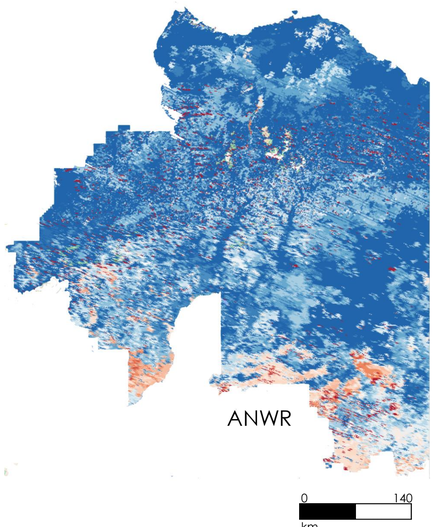
Last Day of Snow Season Difference between 2000 and 2022



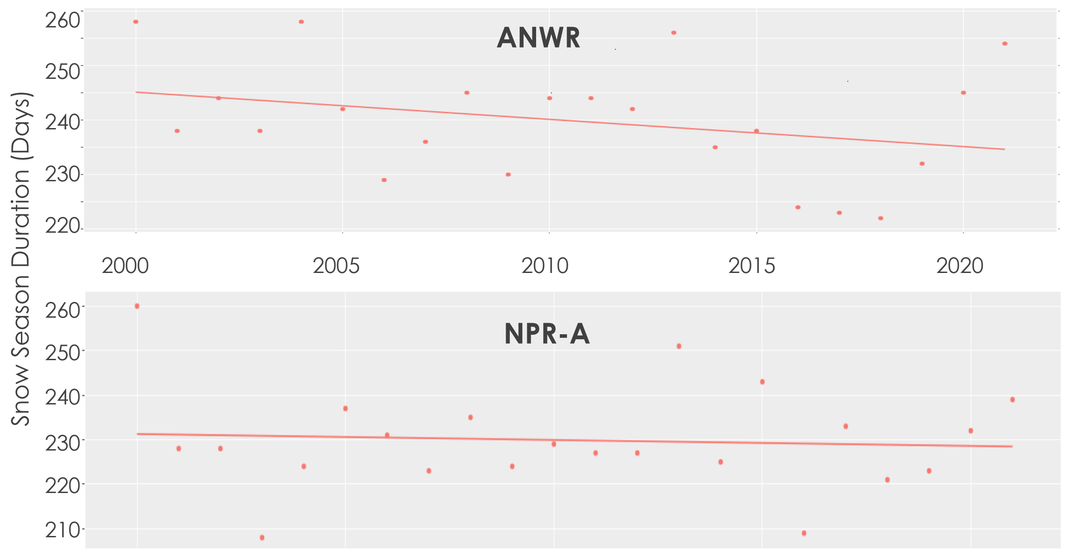


First Day of Snow Season Difference between 2000 and 2022

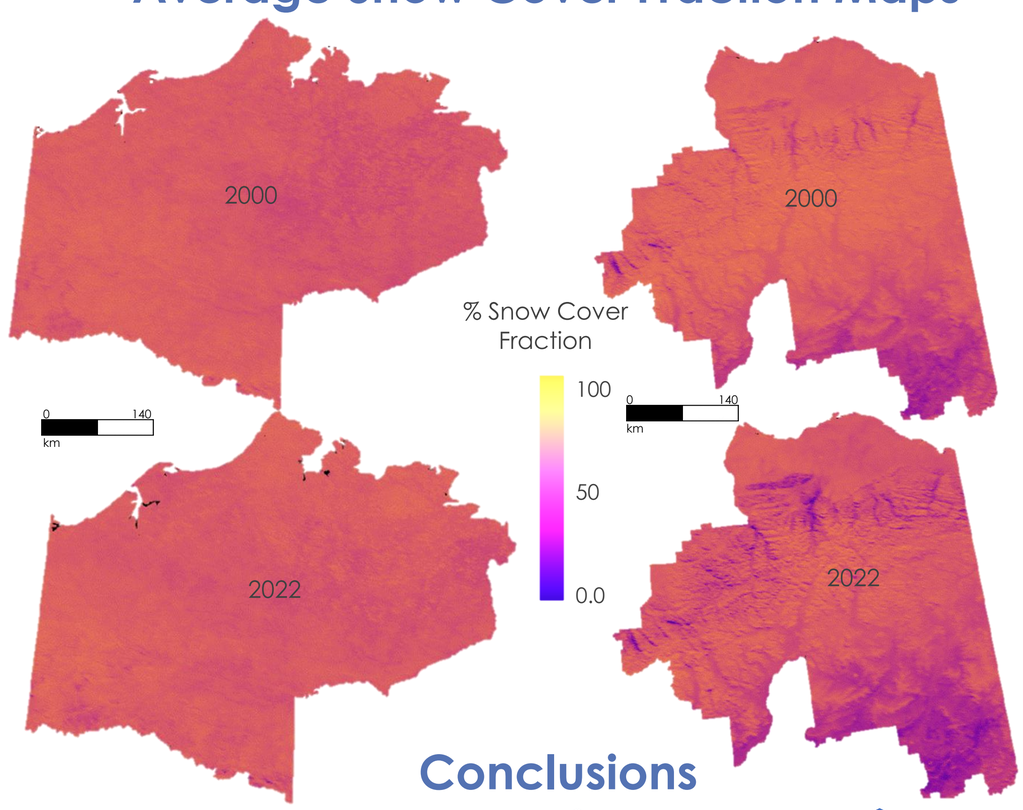




Snow Season Duration



Average Snow Cover Fraction Maps



Conclusions

- The duration of the snow season is shortening
- Snow Cover is Decreasing
- The last & first days of snow are occurring earlier and later respectively

Team Members


Kristin Anderson
Project Lead


Isabella Chittumuri


Omeed Arooji


Thomas Germann

25TH DEVELOP ANNIVERSARY

Acknowledgements

Advisors: Dr. Kent Ross, NASA Langley Research Center; Julian Dann, University of Alaska Fairbanks (UAF); Dr. Bob Bolton, UAF International Arctic Research Center; Ryan Theuer, Airborne Snow Observatories; Dr. Jessie Cherry, National Centers for Environmental Information (NCEI) Alaska Regional Climate Services; Molly Woloszyn, NIDIS
Partners: Dr. Jessica Garron, Alaska Climate Adaptation Science Center; Dr. Paul Leonard, US Fish and Wildlife Service Arctic National Wildlife Refuge
Fellow: Kathryn Caruso, NCEI NASA DEVELOP

This material is based upon work supported by NASA through contract NNL16AA05C. Any mention of a commercial product, service, or activity in this material does not constitute NASA endorsement. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration and partner organizations.