The Arctic Report Card: Its Benefits, Impacts, and the Way Forward

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For almost two decades, the National Oceanic and Atmospheric Administration (NOAA) Arctic Report Card (ARC) has been providing yearly updates to key climate indicators and observations, making it one of the authoritative sources on the state of the Arctic's climate and environment. Through the years, the ARC has been making great strides to translate complex Earth system changes to key 'vital signs', giving a holistic picture of the changes and the impacts on the environment and local communities. It has evolved to address emerging needs and opportunities, with the newly developed ARC data portal, collaboration with Indigenous peoples, and rich multimedia materials to raise awareness of a changing Arctic. The ARC is organized into three sections: Vital Signs, Other Indicators, and Frostbites. The Vital Signs section is for annual updates on seven recurring topics: Surface Air Temperature; Terrestrial Snow Cover; Greenland Ice Sheet; Sea Ice; Sea Surface Temperature; Arctic Ocean Primary Productivity; and Tundra Greenness. The Other Indicators section is for topics updated every 2-4 years, many of which have appeared in previous ARCs. The Frostbites section reports on new and newsworthy items, describing emerging issues, and addressing topics related to long-term observations in the Arctic. Looking ahead, the ARC plans to expand its reach by engaging with the NOAA Education, creating standalone products to aid the policy-making process, and promoting Indigenous knowledge, observations, and authorship. Leveraging on the expertise and diversity of our Arctic observing enterprise, the ARC will continue to play an active role in understanding the changes of today, and how the Arctic will transform in the future.