



Major components of Earth's cryosphere, with the bi-polar extent of sea ice shown from June 21, 2019. Past scientific ocean drilling sites located at latitudes greater than 55° illustrate both the ongoing efforts to unravel the evolution and dynamics of the cryosphere and some of the understudied regions around the Antarctic continent and within the Arctic Ocean that innovative drilling strategies, platforms, and tools now enable us to target. The circular thermostats show the average sea level rise that can be expected from the melting of these ice sheets. DSDP = Deep Sea Drilling Project. ODP = Ocean Drilling Program. IODP = Integrated Ocean Drilling Program and International Ocean Discovery Program. *Illustration by Matt O'Regan*