Polar Cap Absorption Ionospheric irregularities Thermospheric drag Ionospheric variation Cause of failure **Ground-based** Space-based Infrastructure Infrastructure link disruption link disruption loss of lock /link disruption Impacted services **PNT Terrestrial** Satcom EO AO radio systems **GBAS** Degraded HF Interruptions to Businesses Users are denied Inability to comms affect Potential loss providing access to GNSS: no monitoring of detect Sun's aviation, info for transport, communication of satellites in sea ice, oil spills, flares and defense, surveying, service lose income humanitarian orgs, and other SAR Sun's coronal **LEO** consumer-based from undelivered coastal hazard mass ejections services services, finance, ... service

management, ...