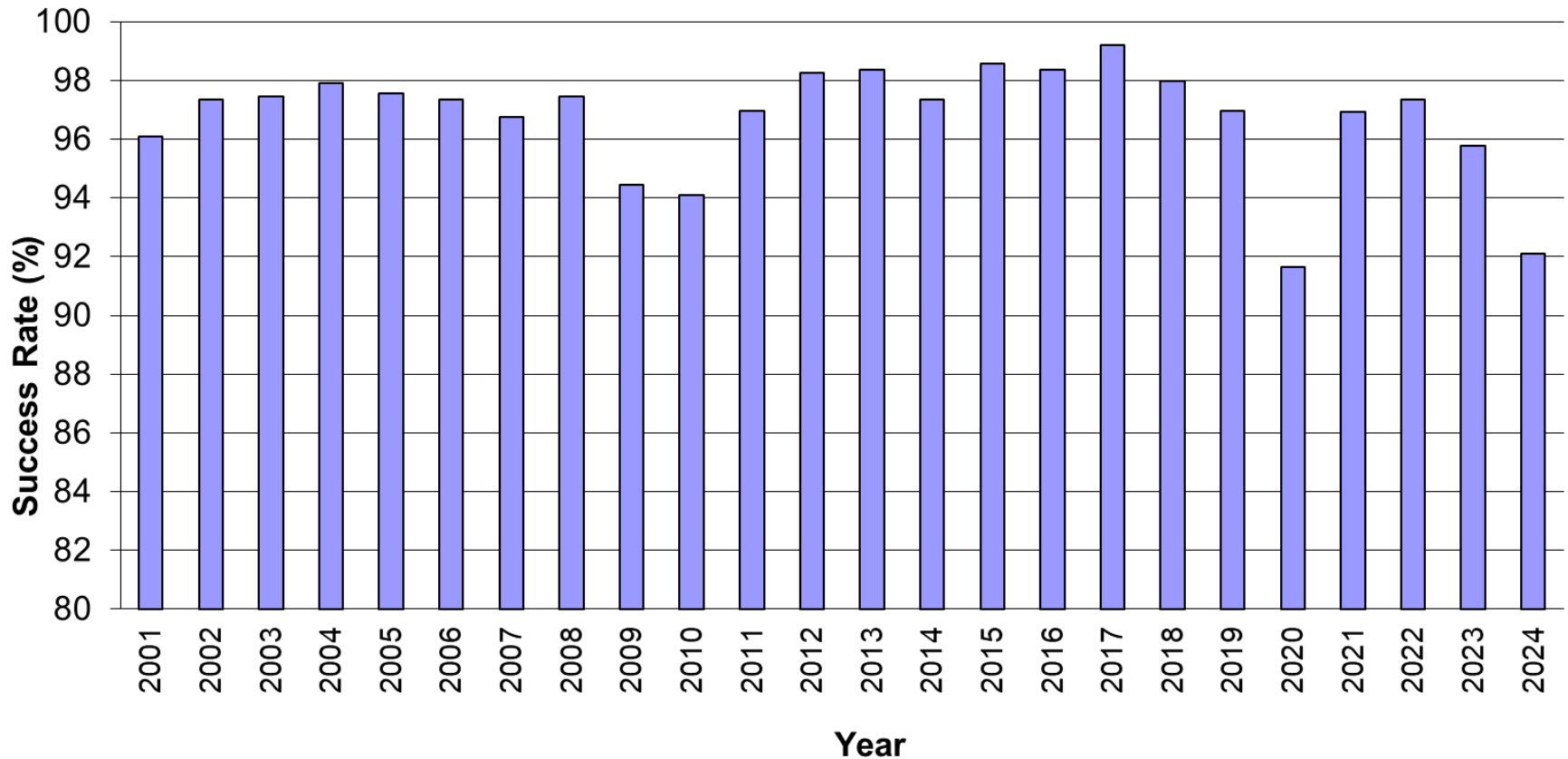


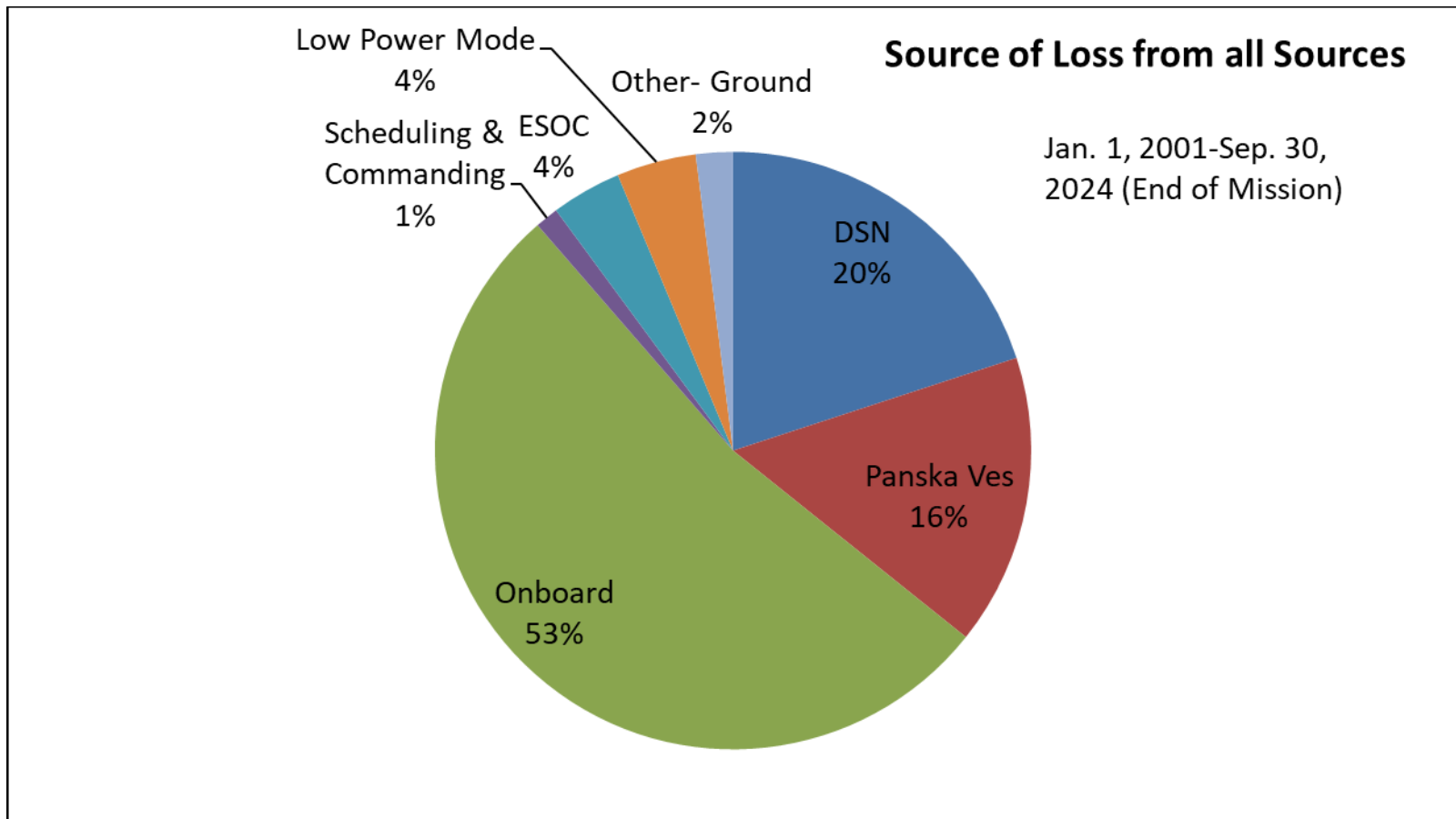
## Cluster WBD Data Retrieval Statistics for Entire Mission



Real Time to Deep Space Network (DSN): January 4, 2001 through February 16, 2015; ~20,700 hours

Real Time to Panska Ves Observatory: October 20, 2007 through September 30, 2024 (end of mission); ~16,550 hours

Burst Mode 2 Recorded Onboard: March 7, 2001, and July 28, 2010 through September 11, 2024; ~3,850 hours, plus during Commissioning Period of September 5 – December 1, 2000; ~13 hours



#### Explanation of Cause of Primary Losses:

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- Onboard: WEC/SEU upsets; OBDH upsets; CTU Switchovers; battery problems; failures of EFW probes.
- DSN: Hardware failure (code red); outdated orbit Predictions; late starts associated with attempts to acquire signal (antenna/recorder hardware and software problems).
- Panska Ves: Hardware Malfunctions; outdated orbit predictions; interference and operator error.
- ESOC: Not allowing for approved low altitude operations.
- Low Power Mode: WBD operations not permitted when spacecraft was put in this mode after commanding.
- Other Ground: Commercial power outage, some due to thunderstorms.
- Scheduling & Commanding: Human error.