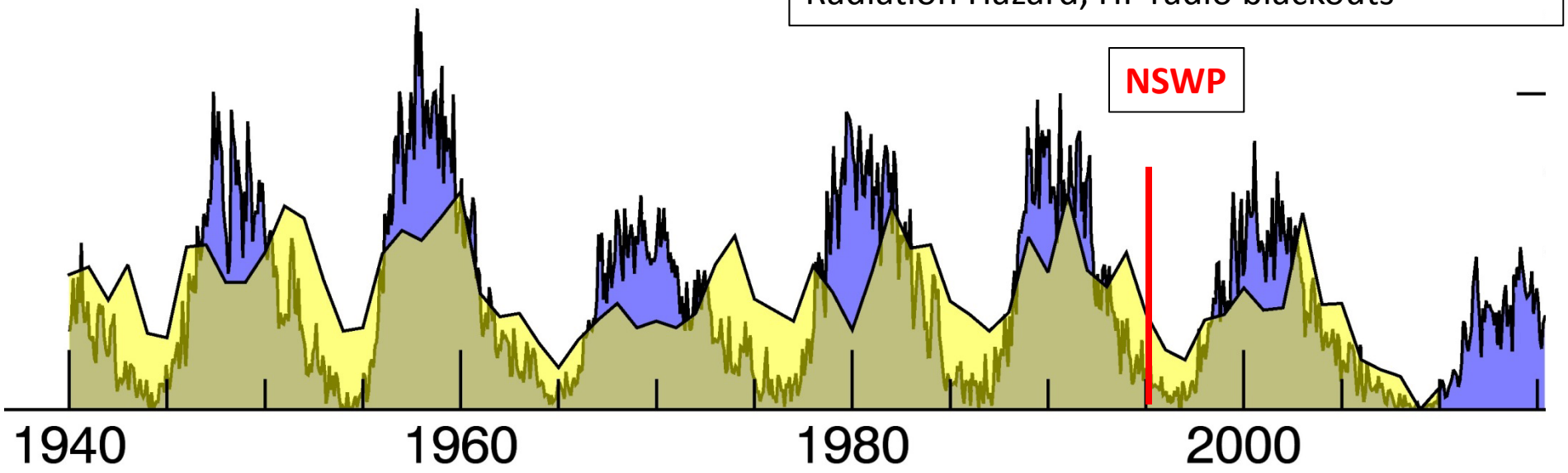
Communication and Navigation: Short wave radio communications, long-line telephone systems, VLF navigation systems (OMEGA, LORAN), over-the-horizon radar, submarine detection, commercial TV relay , GPS navigation, cellphones, precision-guided munition.

Spacecraft Operations: Satellite orbit prediction, human space flights, radiation hazards to satellite hardware, satellite reconnaissance and remote sensing instrument damage, spacecraft charging, military, civil and commercial satellite operations.

Global Technological Systems: power line distribution, pipeline operations, geophysical exploration.

Research: balloon and rocket experiments, carbon dating, ozone measurements.

Travel (aircraft and commercial space travel): Radiation Hazard, HF radio blackouts