

Enhancing Resiliency through Sustainability in Remote, Mission-Critical Locations

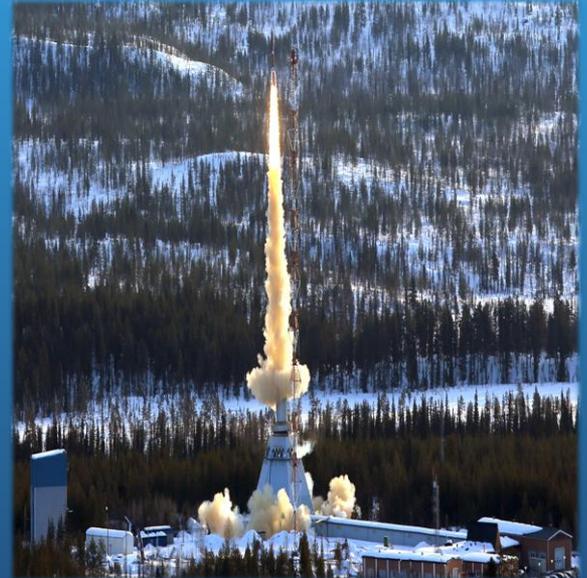
"Increasing Space Mission Ground Infrastructure
Resiliency through Sustainability"



Poker Flat Research Range, AK USA



KSAT/SvalSat, Svalbard, NORWAY



European Space Range (ESRange), Kiruna, SWEDEN

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Deep Space Network
 Near Earth Network
 Space Network



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Space Asset Protection Program:

Current trends in technology proliferation ease of accessibility to space, the globalization of space programs and commercialization of space systems and services, has led to a fundamental change in the space environment.

This fundamental change has led to a congested, contested, and competitive space environment which increases the likelihood that U.S. space systems and the infrastructure and ground systems may be vulnerable to multiple types of threats.

The reality is that there are many existing capabilities to deny, disrupt or physically destroy NASA's space systems and the ground facilities that control them.

Due to the reliance the United States has on Space Systems, the latest National Space Policies, PPD-4 and PPD-21, **requires the protection of all critical space systems and supporting infrastructure.**



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So, what are considered “critical space systems and supporting infrastructure”?

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Critical Infrastructure:

– Represents “systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.”*



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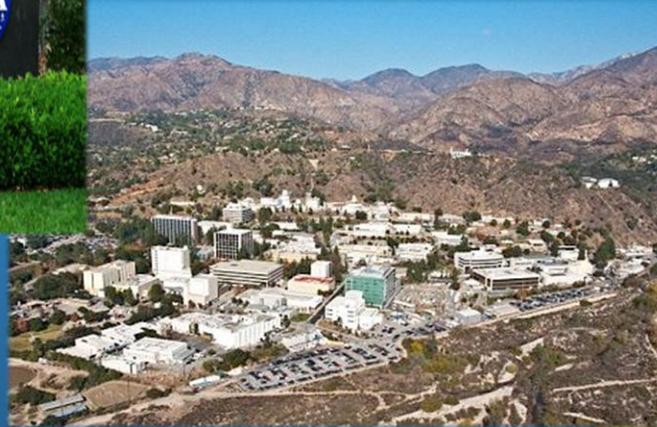


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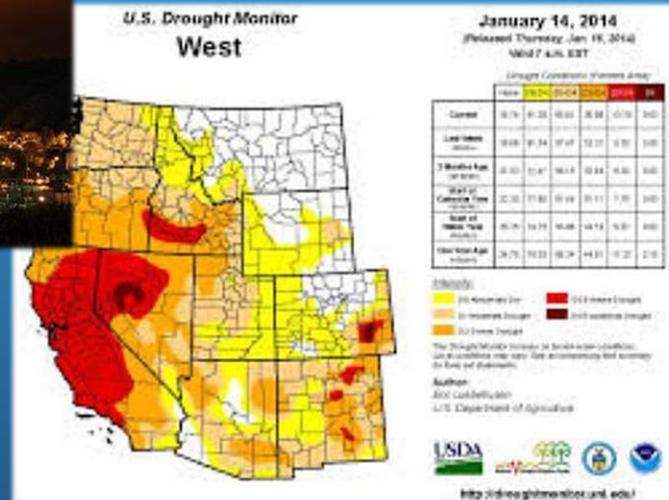




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Examples of resiliency and sustainability enhancement cases:



Svalbard repeater station outage...

Poker Flats Research Range power outage...



Solar flares knock out satellite communications and power to ESRange...





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“Cosmos is a Greek word for the order of the universe. It is, in a way, the opposite of Chaos. It implies the deep interconnectedness of all things. It conveys awe for the intricate and subtle way in which the universe is put together.” — Carl Sagan, Cosmos



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Thank you!

Gracias!

