National Aeronautics and Space Administration

NASA Human Exploration and Operations Mission Directorate (HEOMD) View of CCMC/SWRC

John R. Allen

CCMC, 3 April 2014

Human Exploration and Operations

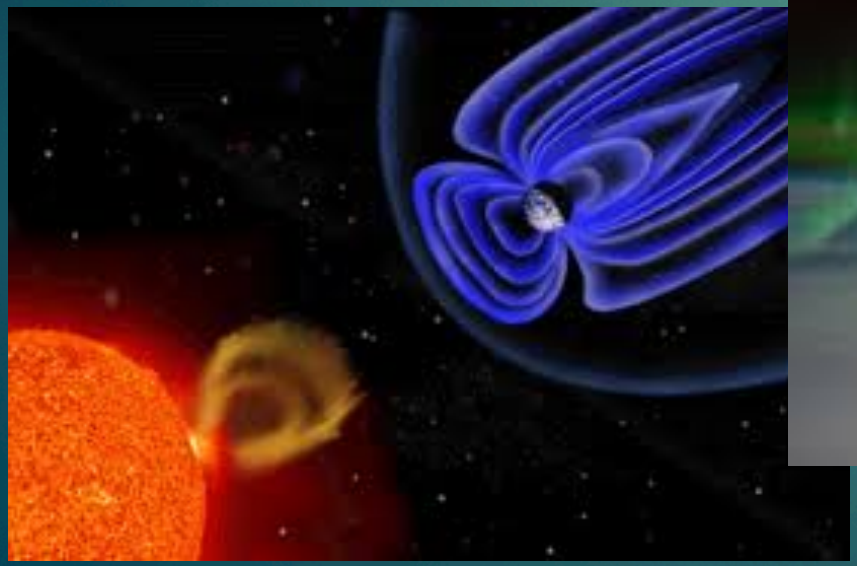
- International Space Station
- Launch Services
- Rocket Propulsion and Testing
- Commercial Space Flight Development
- Space Life and Physical Sciences
- Human Space Flight Capabilities
- Advanced Exploration Systems
- Space Communications and Navigation

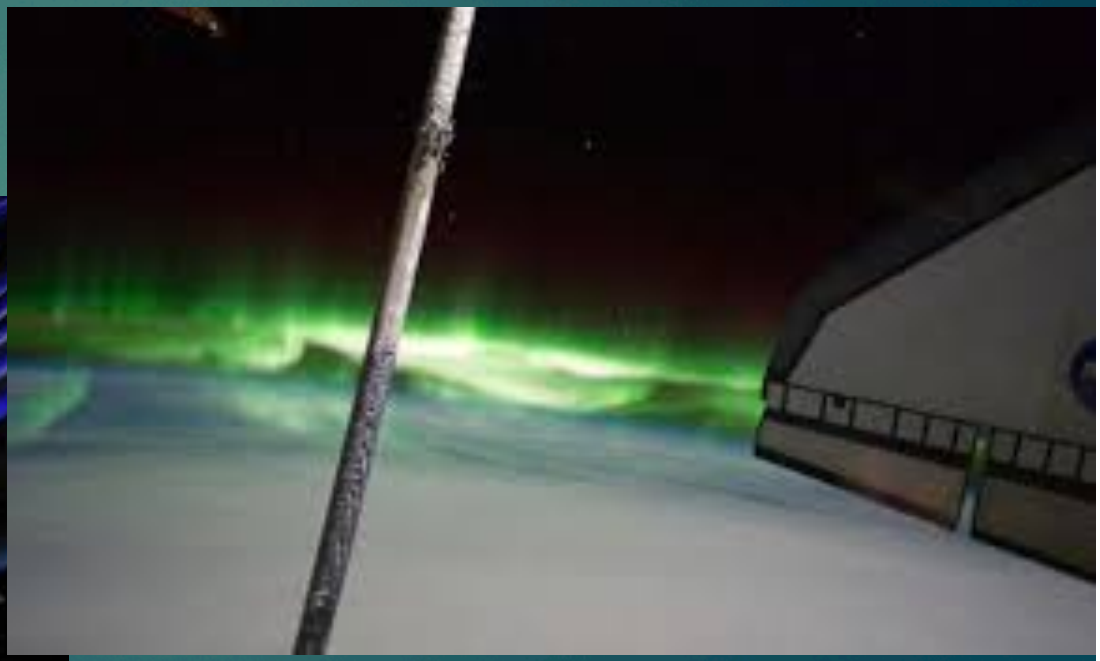

HEOMD View Of CCMC/SWRC

HEOMD View Of CCMC/SWRC

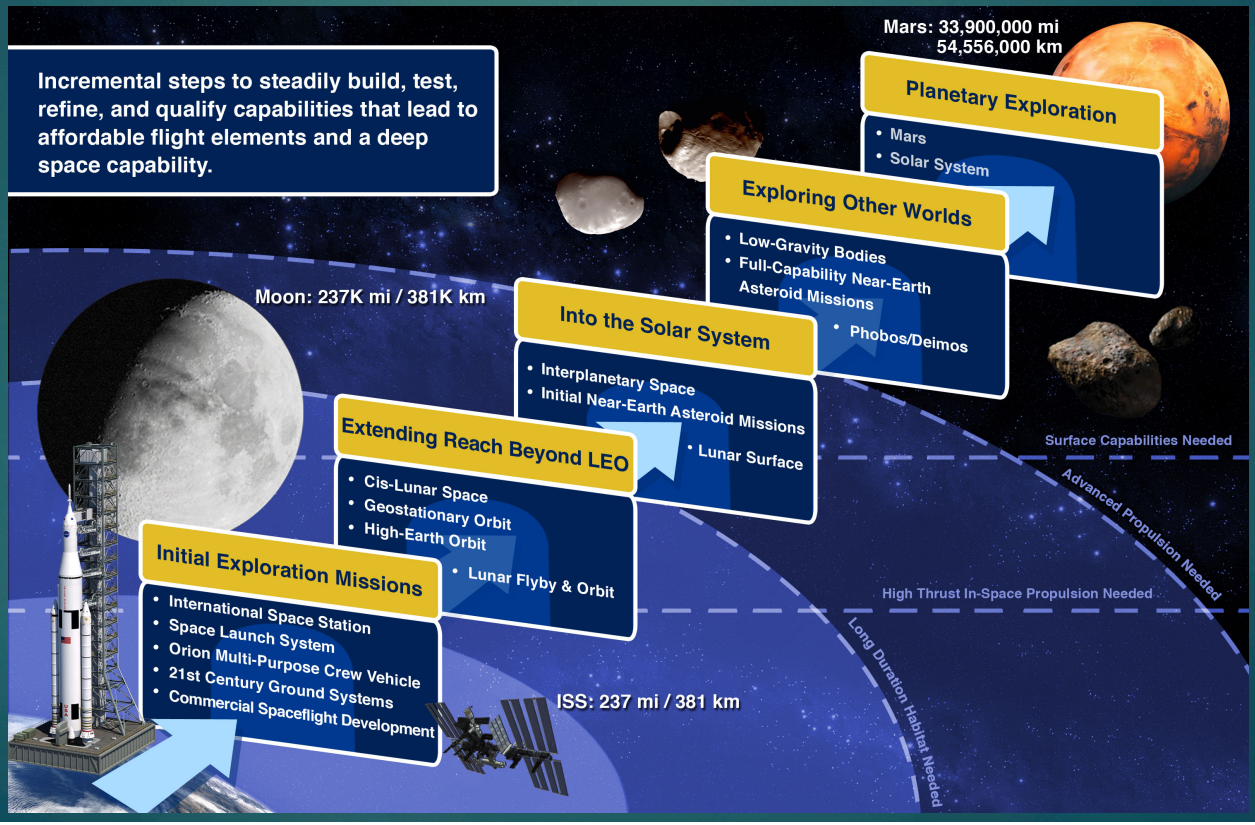
What is HEOMD's View of CCMC?

Space Weather and Space Ops – Why Should/Do We Care?

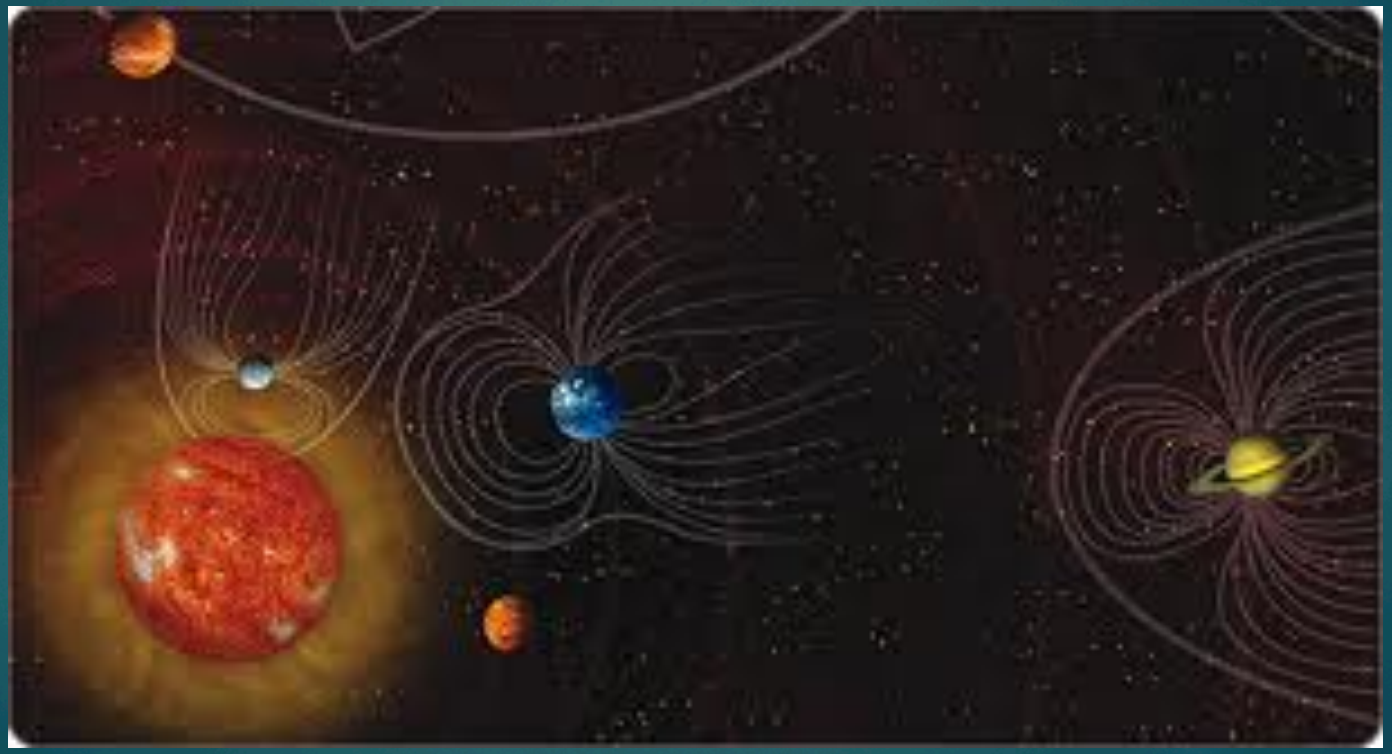




Space Weather and Space Ops – Why Should/Do We Care?



Space Weather and Space Ops – Why Should/Do We Care?



Missions

ACE
AIM
Apollo
Apollo-Soyuz
Aqua
Aquarius
ARCTAS
ARTEMIS
Asteroid Redirect Initiative
ASTRO-1
ASTRO-2
Astro-E2
ATTREX
Aura
CALIPSO
Cassini-Huygens
CHAMP
Chandra X-Ray Observatory
CINDI
Clementine
Cloudsat
Cluster ESA/NASA Mission
Commercial Crew
Commercial Space Transportation
Compton Gamma-Ray Observatory
Cosmic Background Explorer (COBE)
Cosmic Hot Interstellar Plasma Spectrometer (CHIPS)
CubeSats
Curiosity

Suomi NPP
Surveyor
Suzaku
Swift

Missions

Dawn
Deep Impact
Earth Observing-1
Earth Probe Total Ozone Mapping Spectrometer (EP-TOMS)
Earth Radiation Budget Satellite
EPOXI
Euclid
Exploration Plans
Explorer
Extreme Ultraviolet Explorer
FAST
Fermi Gamma-ray Space Telescope
Fire and Smoke
FUSE
GALEX
Galileo
Gemini
Genesis
Geotail
GLAST
Global Precipitation Measurement (GPM)
Glory
GOES-N
GOES-O
GOES-P
GOES-R
GRAIL
Gravity Probe-B
Gravity Recovery and Climate Experiment

Missions

Gravity Recovery and Climate Experiment (GRACE)
Herschel
HETE-2
Hinode (Solar-b)
Hubble
Hurricanes
IBEX
ICEsat
IMAGE
InSight
International Gamma-Ray Astrophysics Laboratory (INTEGRAL)
International Space Station
IRIS: Interface Region Imaging Spectrograph
James Webb Space Telescope
Jason
Juno
J2X
Kepler
LADEE: Lunar Atmosphere Dust Environment Explorer
LAGEOS 1 and 2
Landsat
LDCM: Landsat Data Continuity Mission
LCROSS

Missions

LRO (Lunar Reconnaissance Orbiter)
Lunar Quest Program
Magellan
Magnetospheric MultiScale (MMS)
Mariner
Mars 2020 Mission Plans
Mars Express
Mars Exploration Rovers Spirit and Opportunity
Mars Global Surveyor
Mars Odyssey
Mars Pathfinder
Mars Reconnaissance Orbiter
Mars Science Laboratory
MAVEN: Mars Atmosphere and Volatile EvolutioN
Mercury
MESSENGER: Mercury, Surface, Space Environment, Geochemistry and Ranging
Mini-RF
Moon Mineralogy Mapper
Near Earth Asteroid Rendezvous (NEAR)
NEOWISE
New Horizons
NMP EO-1
NOAA-N
NOAA-N Prime
NPP
NuSTAR

Missions

Ocean Surface Topography Mission/Jason 2
Operation Ice Bridge
Orbiting Carbon Observatory-2
Orion Multi-Purpose Crew Vehicle
OSIRIS-REX
Phoenix
Pioneer
Pioneer Venus
Planck
POES
Polar
QuikSCAT
Radiation Belt Storm Probes/Van Allen Probes
Ranger
RHESSI
Roentgen Satellite (ROSAT)
Rosetta
RXTE
Small Satellites
SOFIA
SOHO
Solar Anomalous and Magnetospherice Particle Explorer (SAMPEX)
Solar Radiation and Climate Experiment (SORCE)
Space Launch System (SLS)
Space Shuttle
Space Technology 5
Spitzer
Stardust-NExT
STEREO
Submillimeter Wave Astronomy Satellite (SWAS)
Suomi NPP
Surveyor
Suzaku
Swift

Missions

TDRS
Terra
THEMIS
TIMED
TOMS-EP
TOPEX/Poseidon
TRACE
Tropical Rainfall Measuring Mission
Ulysses
Upper Atmosphere Radiation Satellite (UARS)
Van Allen Probes
Viking
Voyager
Wide-Field Infrared Explorer
WIND
WISE
Wilkinson Microwave Anisotropy Probe (WMAP)
XMM Newton

Disclaimer

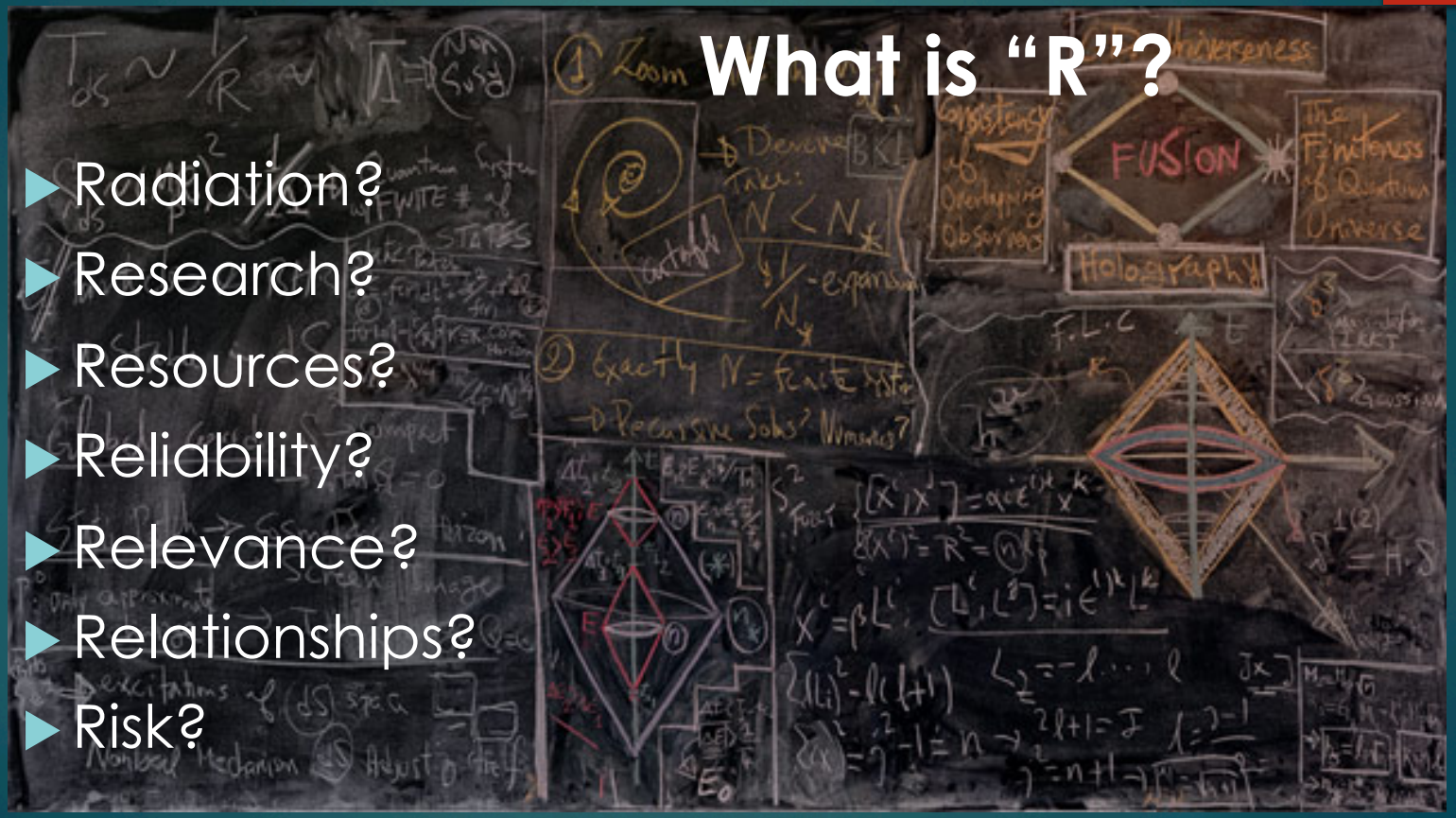
- The opinions you are about to hear are mine alone.
- They do not necessarily represent those of my boss, my boss' boss, my boss' boss' boss, his boss, NASA, the Federal Government of the USA or any other nation, or life form that we may discover on any other terrestrial body (Pluto included) at any time in the future of humankind.

swRc

Marlo?

Josh?

Solve for "R"

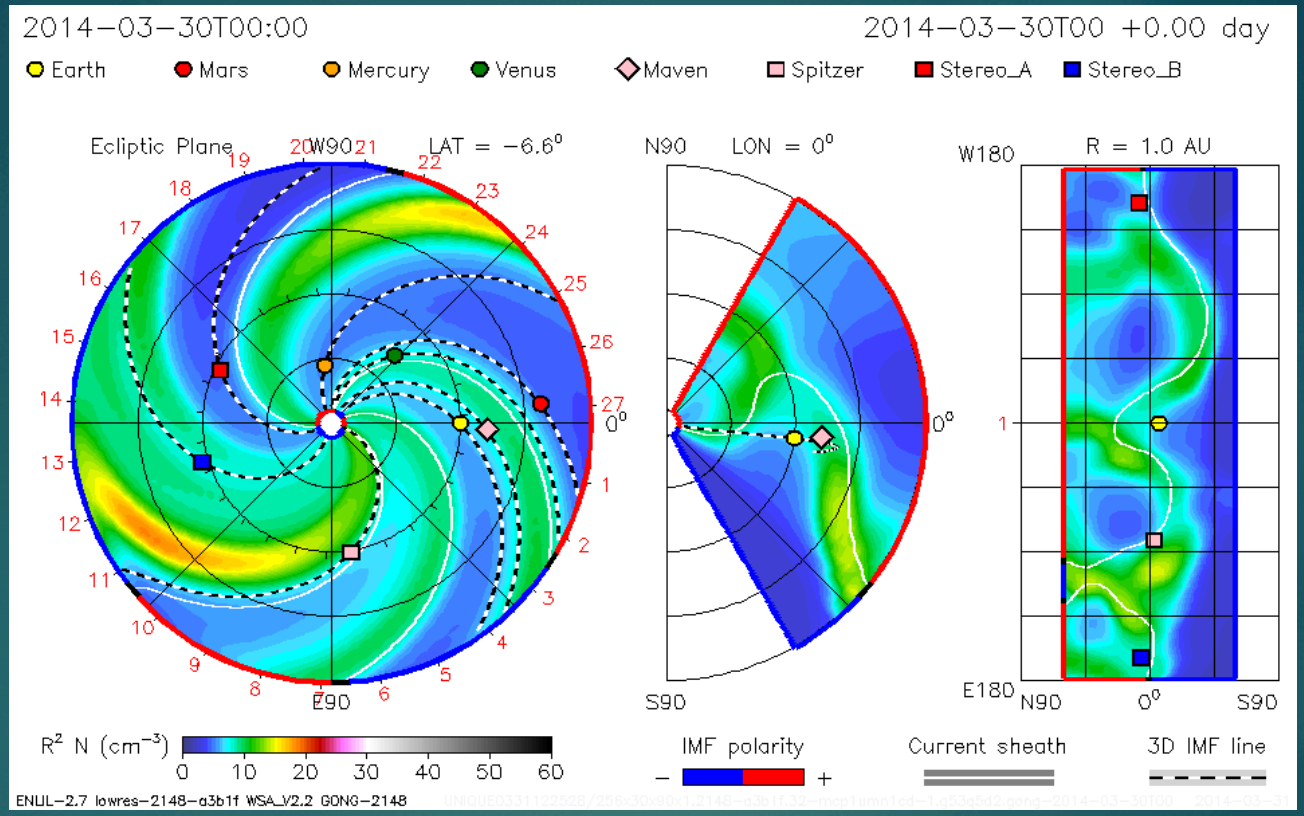


- Radiation?
- Research?
- Resources?
- Reliability?
- Relevance?
- Relationships?
- Risk?

A Good Start

"Maxwell Smart" Approach

Novel Approaches



NOAA's Space Weather Prediction Center (http://swpc.noaa.gov) is the United States Government official source for space weather forecasts. This "Experimental Research Information" consists of preliminary NASA research products and should be interpreted and used accordingly.

Fiscal Realities

Baseline Reset

- Baseline: An imaginary line, standard of value, etc. by which things are measured or compared.
- Reassess/reestablish priorities
- Do more with less, and less

Summary

- Tremendous job providing a one-of-a-kind resource of international benefit
- Continues to
  - Build collaborations across agencies, academic institutions, nations
  - Push science and research
  - Stimulate another generation of experts
  - Opens itself up for/invites constructive criticism
- Challenged to
  - Respond to the needs of all stakeholders
  - Work within constraints of its resources and mandates