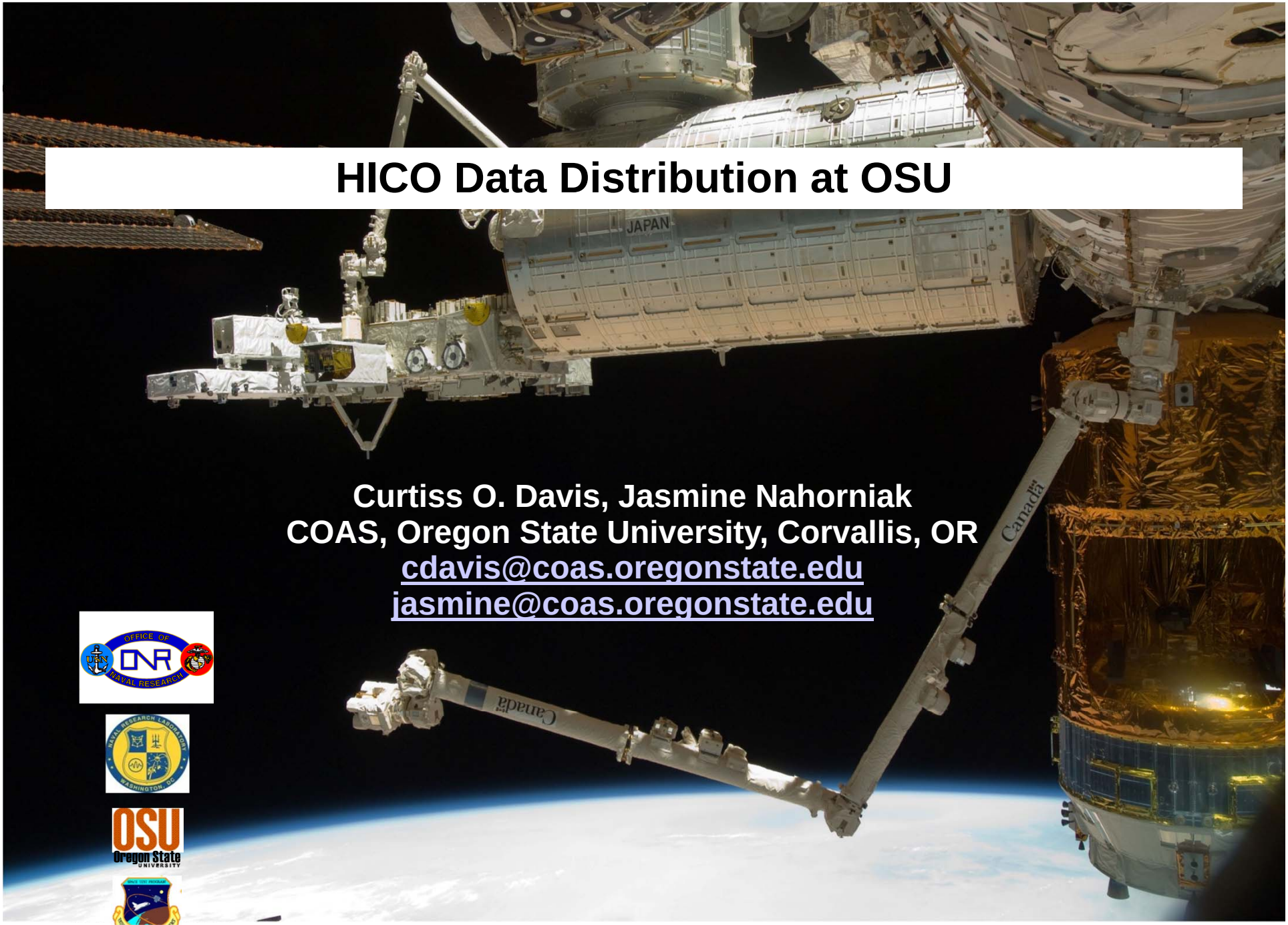


HICO Data Distribution at OSU

Curtiss O. Davis, Jasmine Nahorniak
COAS, Oregon State University, Corvallis, OR
cdavis@coas.oregonstate.edu
jasmine@coas.oregonstate.edu

Planned HICO Data Distribution at OSU

- **Developed HICO Public Website at OSU using published and approved for distribution data, publications and presentations.**
  - **Currently Password protected working with a test group of users**
- **Will include some example HICO data (e.g. Columbia River) that is approved for distribution.**
- **OSU HICO Web site will be portal for data requests and distribution**
  - **Data requests require proposal and data agreement signed by the requestor and their institution and approved by NRL.**
- **Example data and data requested by that user will be available to them.**
- **http://hico.coas.oregonstate.edu/login/login.shtml**

Follow ESA Plan for Data Distribution

- **Follow the approach used by the European Space Agency (ESA) for selecting and certifying international users for ERIS and other ESA data.**
  - **5 Pg. Data users proposal**
  - **Formal Data users Agreement**
  - **Distribute standard data products in standard formats from an FTP website (password protected)**
  - **Website at OSU to avoid any issues of international users accessing a NRL website.**
- **Directions on the HICO website; click on “Become an HICO Data User”**

Data Users Proposal Format

- **Abstract/project summary** (approximately 200 word overview of the project)
- **Statement of work/project description** Background, state of the field, what HICO data is requested and how is it useful to you. Describe study sites, in situ and other data, algorithms and proposed products and deliverables.
- **Biographical sketch and available facilities**
- **Output and deliverables** Assuming a successful outcome what are the products that will be produced (New products, validation of HICO products, etc.)? How will using HICO data advance the mission of your program?
- All HICO data users will be asked to attend an annual HICO team meeting to present their results and discuss HICO data and its uses and applications.
- **References**

[Proposal follows the general format used by ESA for Cat 1 investigator proposals. Total proposal should be less than 5 pages]

Data Users Agreement

Essentially a copy of the ESA Data users Agreement. Required to be signed by all data users outside the NRL team.

Sections of the agreement:

- Definitions (HICO, ONR, NRL, etc)
- ONR and NRL Rights and Obligations
- HICO Data User PIs Rights and Obligations
- Intellectual Property Rights
- Miscellaneous
- **Signed by the PI and designated official that can commit the university or other organization.**

- The proposal and signed agreement should be mailed to:

  Curtiss O. Davis, HICO Project Scientist
  104 COAS Admin. Bldg.
  Oregon State University
  Corvallis, OR 97331 USA

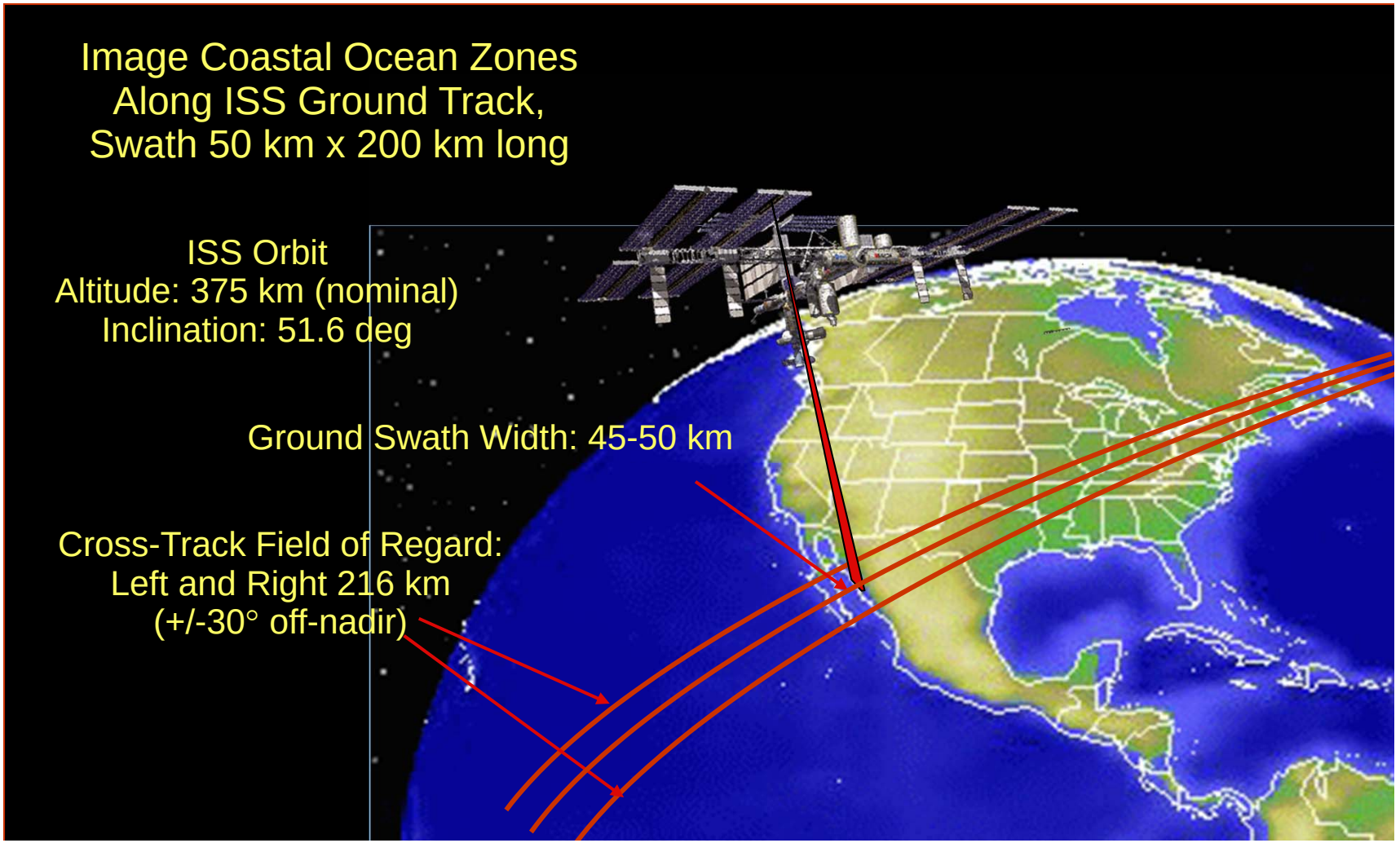
- **Then Signed by NRL (Mike Corson) and copied back to OSU who is then authorized to distribute the data.**

How to Request Data

- Follow directions **"How to Request Data"** on the HICO website.

- Individuals will request data via their proposal
- Must also create and sign a HICO data agreement
- Data requests will be forwarded by OSU to NRL to be added to the HICO imaging queue.
- Request data for a specific location or locations
  - Provide a center latitude and longitude for the collection site.
  - If the site is larger than a single HICO scene may request a series of images to cover the entire area.
- Requests can include requesting a time series of data for change detection, seasonal or other studies.
- As an archive develops HICO data for standard sites (e.g. MOBY, AAOT, etc.) may be viewed by all HICO data users, who can then request existing scenes.
- Data requests are filled on a priority basis set by NRL and special effort will be made to collect data for field experiments, etc.

HICO Imaging Geometry from ISS



Mechanics of Data Distribution

- Data will be distributed via the OSU HICO Website.
- Investigators will be given 7 day advance notice when we will attempt to collect data for their site.
- Once data is collected it is downlinked to NASA MSFC and forwarded to NRL.
- NRL processes the data and sends OSU a message to pull the data from a web site.
- OSU pulls the data and reviews it for quality, and if good notifies the investigator.
- The investigator pulls the data from an OSU website (password protected).
- We estimate it will take 1 to 2 days for the data to become available. Actual time depends on many factors including the Station operations and NASA schedules that we cannot control. We have a mandated 48 hour delay for all requested data.

Data Products

- Standard Data Product Level 1b in ENVI format (useful for testing atmospheric correction and other algorithms)
- Standard data products (level 2 Products)
  - A set of products (chl, suspended sediments, CDOM, IOPs, etc.) based on simulated MODIS data created from the HICO data. HICO channels are summed to create simulated MODIS data at 100 m GSD then products are created by automated processing for MODIS data in APS.
  - A hyperspectral image cube of land and ocean remote sensing reflectances. The HICO image cube after atmospheric correction. In ENVI format
  - All products are geo-located and in HDF-5 format which can be read in standard software like SeaDAS and ENVI.
- Additional products on request
  - Will consider other special requests on case by case basis.

Partial list of International Scientists who have expressed interest in HICO Data

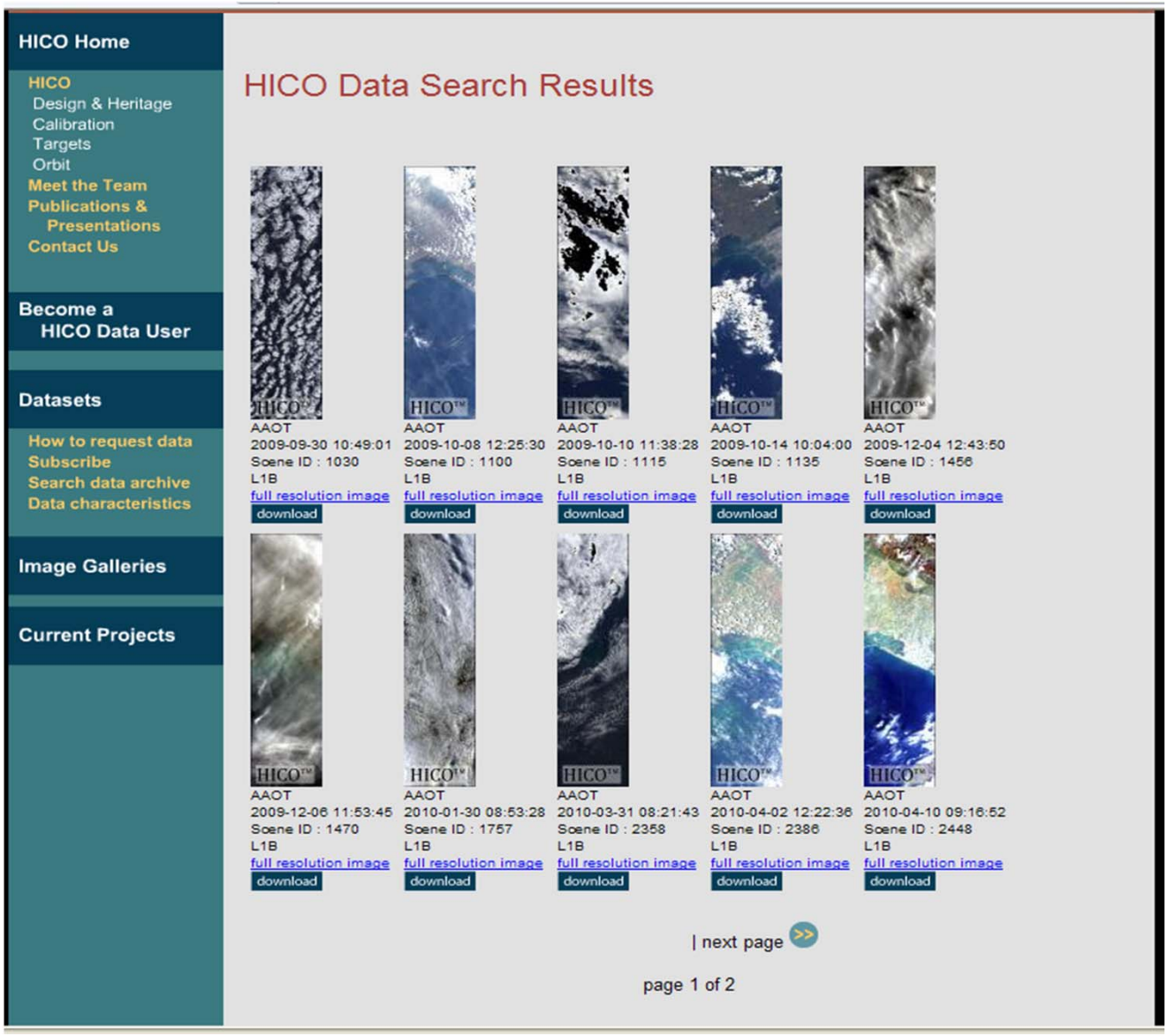
Arnold Dekker	Arnold.Dekker@csiro.au
Hiroshi Murakami	murakami.hiroshi.eo@jaxa.jp
Jim Gower	gowerj@dfo-mpo.gc.ca
Joji Ishizaka	ishizaka@net.nagasaki-u.ac.jp
Mark Dowell	mark.dowell@jrc.it
Mervin Lynch	M.Lynch@exchange.curtin.edu.au
Milton Kampel	milton@dsr.inpe.br
Nicolas Hoepffner	nicolas.hoepffner@jrc.it
Peter Fearns	p.fearns@curtin.edu.au
Peter Regner	Peter.Regner@esa.int
Roland Doerffer	doerffer@gkss.de
Samantha Lavender	S.Lavender@plymouth.ac.uk
Stewart Bernard	SBernard@csir.co.za
Vittorio Brando	vittorio.brando@csiro.au
Yu-Hwan Ahn	yhahn@kordi.re.kr

OSU HICO Website: Search Archive

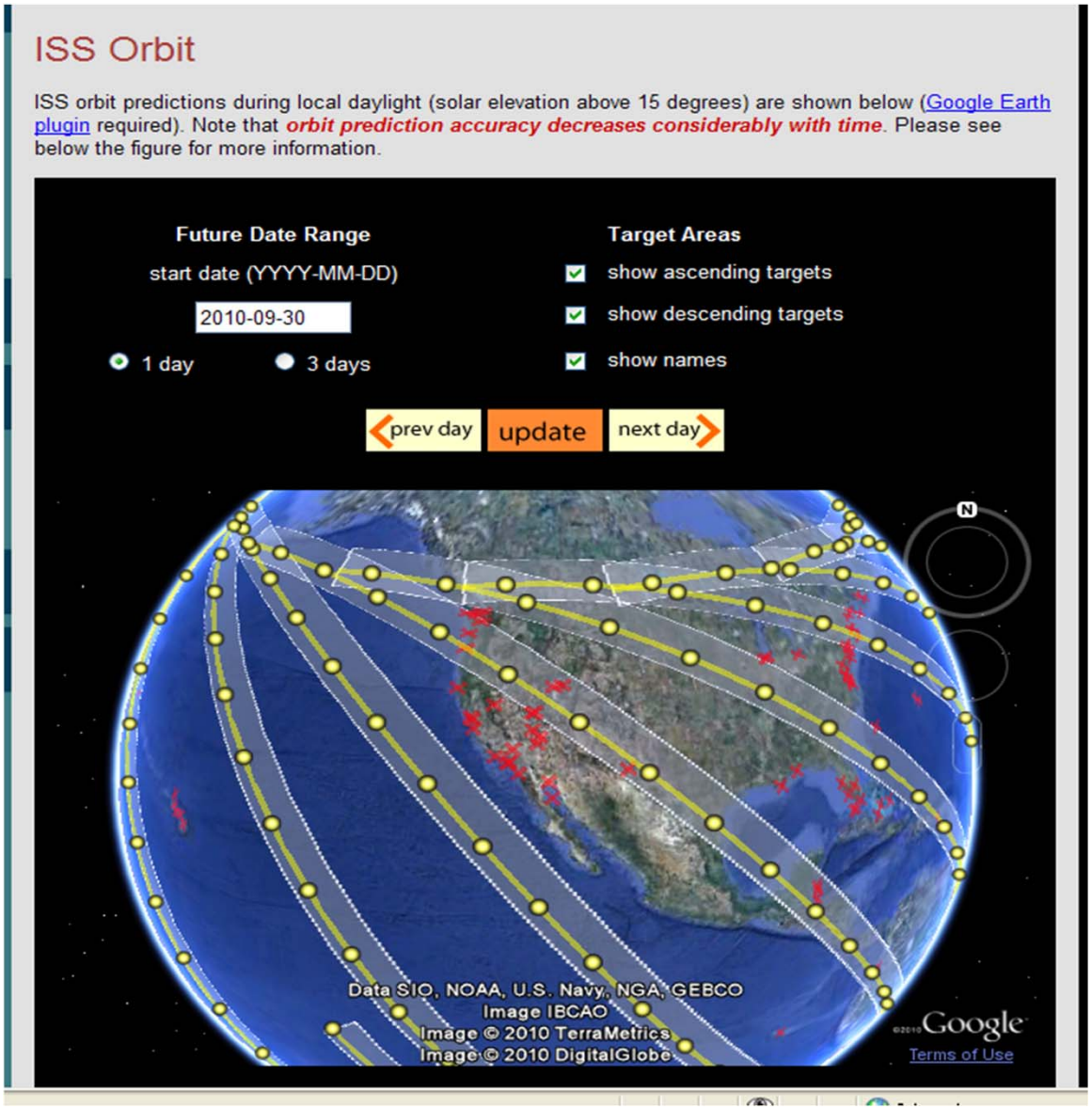
OSU Oregon State University HICO

http://hico.coas.oregonstate.edu/login

OSU HICO Website: Select from Archive



OSU HICO Website: Experiment Planning



Data Distribution Status and Issues

- We have tested it internally, but are looking to this group to pull data and test the system.
  - Give us your Feedback
- We are still refining the calibration and level 1B processing
  - Will likely do a t least 1 reprocessing later this year
- We are still working on atmospheric correction
  - We can use help and feedback, especially related to matching up with in situ data.
- Let us know when/if you have issues

NRL – HICO Team

NRL – DC

- Michael Corson, PI
- Robert Lucke, Lead Engineer
- Bo-Cai Gao
- Charles Bachmann
- Ellen Bennert
- Karen Patterson
- Dan Korwan
- Marcos Montes
- Robert Fusina
- Rong-Rong Li
- William Snyder

NRL – SSC

- Bob Arnone
- Rick Gould
- Paul Martinolich
- Will Hou
- David Lewis
- Ronnie Vaughn
- Adam Lawson
- Alan Weidemann
- Ruhul Amin

Academic

- Curt Davis, OSU, Project Scientist
- Jasmine Nahorniak, OSU
- Nick Tufillaro, OSU
- Curt Vandetta, OSU
- Ricardo Letelier, OSU
- Zhong-Ping Lee, MSU

Special thanks to our sponsors the Office of Naval Research, the Space Test Program, and to NASA and JAXA who made this program possible.

Summary (HICO Docked on the Space Station)

- **Built and launched in 28 months**
- **Over 1700 scenes in first year**
- **Two more years of operations**
- **Data from OSU HICO website**