

Land Summary

- Current Emphases for MODLAND
 - AQUA QA
 - Product Outreach / Publication
 - Validation
 - Preparing for Collection 4

Summary of Land Issues 1

- RSE MODLAND Special Edition Submitted (early Validation results)
 - Galleys being reviewed
 - End of Year Publication
- Land Outreach Workshops – a success – good outreach and feedback
 - Landcover / Vegetation / Fire (Radiation Suite to come)
 - Landcover hands-on session particularly useful
 - Feedback (HDF / Projection / EDG issues / Granule based data /Tools)
- Proposed Land Projection Change
 - In response to user dissatisfaction with an unsupported ISIN projection – unmet expectations for ordering in different projections not realized
 - Recognize no one projection suits all users – however ISIN appears to suit none – Goodes H. appears to be a major contender for a new projection (e.g. AVHRR Pathfinder)
 - **Least impact change to move to SIN projection for Collection 4**
 - will come up with SDST schedule impact assessment

Summary of Land Issues 2

- New Era of large volume data sets
 - Transitioning AVHRR users
- Points to **Urgent** need for improved tools and user service
 - Reinvigorate EOSDIS relationship/support to image processing vendors
 - SWGD Florida suggested workshop on tools
 - what happened?
 - Assessment of available tools and a more visible guide to point users to the appropriate tools available around the community

Summary of Land Issues 3

- Continuing to evaluate MODIS data usage
 - Still early days / need better data
 - Considering options to reduce archived products e.g. on-demand processing of Daily Fire Product
 - Would welcome better communication between ST and Users
 - Suggested a voluntary email list of MODIS DAAC users w. simple summary updates
 - Hampered by privacy issue – slow progress on DAAC workarounds
 - Chat room for MODIS Users
- Need to improve the Land / Water Mask
 - BU considering various options – focus initially on problem areas
 - Fast track schedule for collection 4 (URGENT)
 - Longer term - Time for NASA to revisit EOS DEM WG (SRTM ?)
- CMG/IDS Data sets
 - Examining pros and cons between CMG and recent IDS products
 - Await Team Leader guidance on IDS Phase 2).

Summary of Land Issues 4

- Developing MODIS Time – series (awaiting first major reprocessing – Oct 02)
- AVHRR > MODIS
 - need to help the community transition to MODIS quality
 - data continuity a community
- MODIS > NPP
 - We do not want to step back from MODIS even if the system is operational
 - Operational systems will need to support climate measurements
 - We encourage those involved to keep pressure on – the future of land remote sensing will depend heavily on long term science quality moderate resolution data
 - We cannot afford to ignore the EOS data system lessons – keep data production close to the science community
 - We must have a workable solution for generating, archiving Level 2 + products
 - MODIS Validation is the pathfinder for NPP Product Validation
- Time to revisit deliverables for HQ MODIS Metrics for Land

Summary of Land Issues 5

- Validation
 - Land product validation in progress
 - Benefits from internationalizing the product validation agenda (building on existing international structures)
 - Global products – regional expertise
 - Resource sharing
 - Standards for products
 - Better informed user community
 - Proposed land product hierarchy may be of use to other disciplines



Land Interpreted Definitions

- Beta – the algorithm is running - products being generated - QA initiated - known problems exist - algorithm changes being made - not ready for science use
- Provisional – QA acceptable - product looks reasonable – algorithm changes reduced — Stage 1 validation in progress – science users beware
- Validated - accuracy assessed and product uncertainty estimated as compared to independent data



Validation “hierarchy”

- Stage 1 Validation – Product accuracy has been estimated using a small number of independent measurements from selected locations and time periods.
- Stage 2 Validation – Product accuracy has been assessed by a number of independent measurements, at a number of locations or times representative of the range of conditions portrayed by the product e.g. EOS Land Validation Core Sites, Fluxnet sites, Aeronet sites.
- Stage 3 Validation - Product accuracy has been assessed by independent measurements in a systematic and statistically robust way representing global conditions e.g. IGBP DISCover Project



Land Product Validation Status

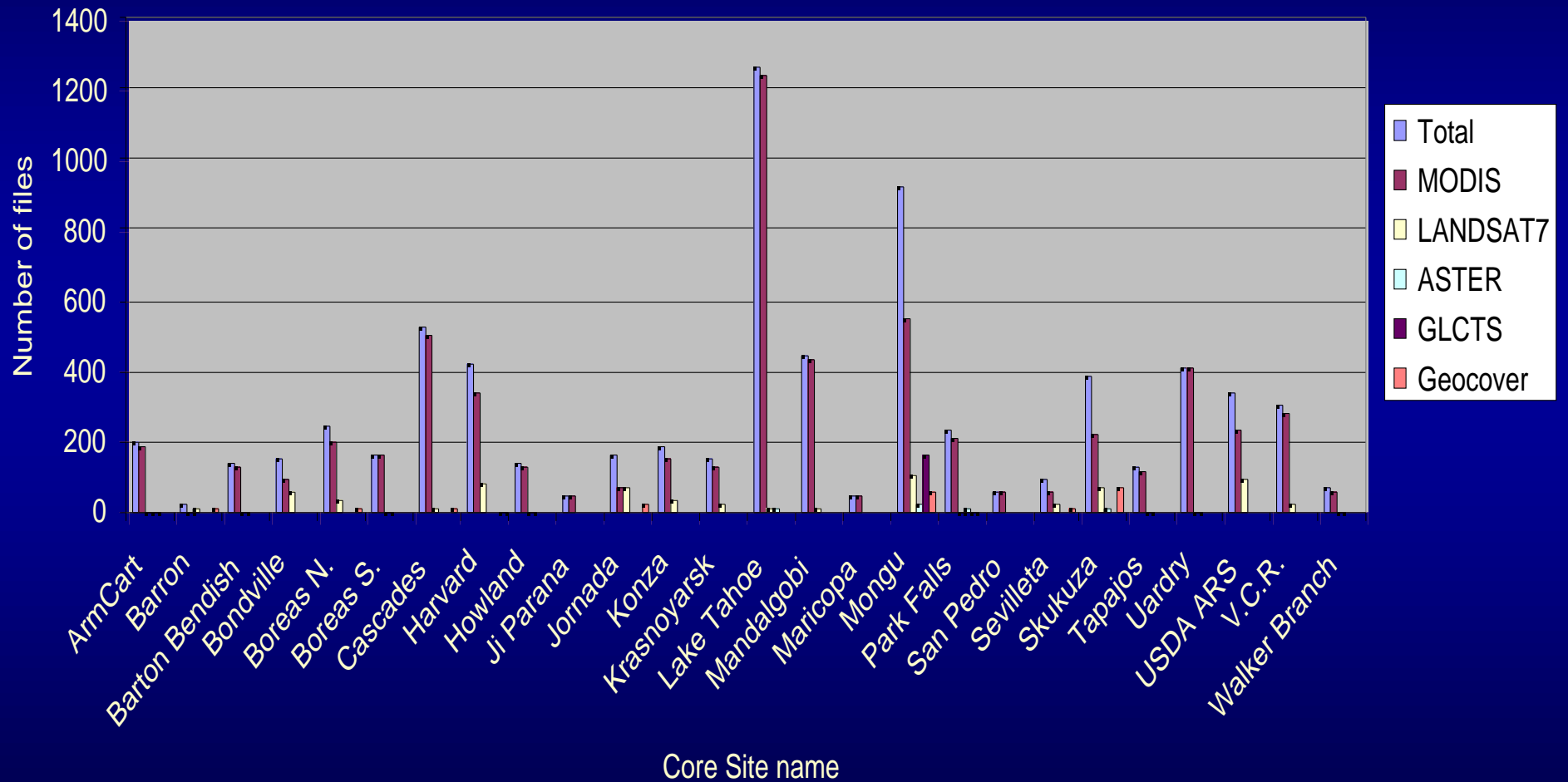
- The Validation Hierarchy provides a more workable definition and recognizes validation as an iterative process
- Recognize that validation will mature as products are more broadly used
 - Closure between validation studies will be needed
- At each stage it is implicit that:
 - Results have been (peer reviewed) published – web visibility
 - Associated validation data are made available
- All MODLAND Standard Products should be validated to Stage 2 i.e. validated over a range of conditions for which the product is provided
- For MODLAND the majority of products are already Validated at Stage 1
- Several products have Stage 2 Validation underway
- We recognize that only the Primary ESE products are likely to be resourced for Stage 3 Validation - these would also be candidates for coordinated international effort e.g. through CEOS LPV
- We will need to make sure users are familiar with these definitions



Validation Overview

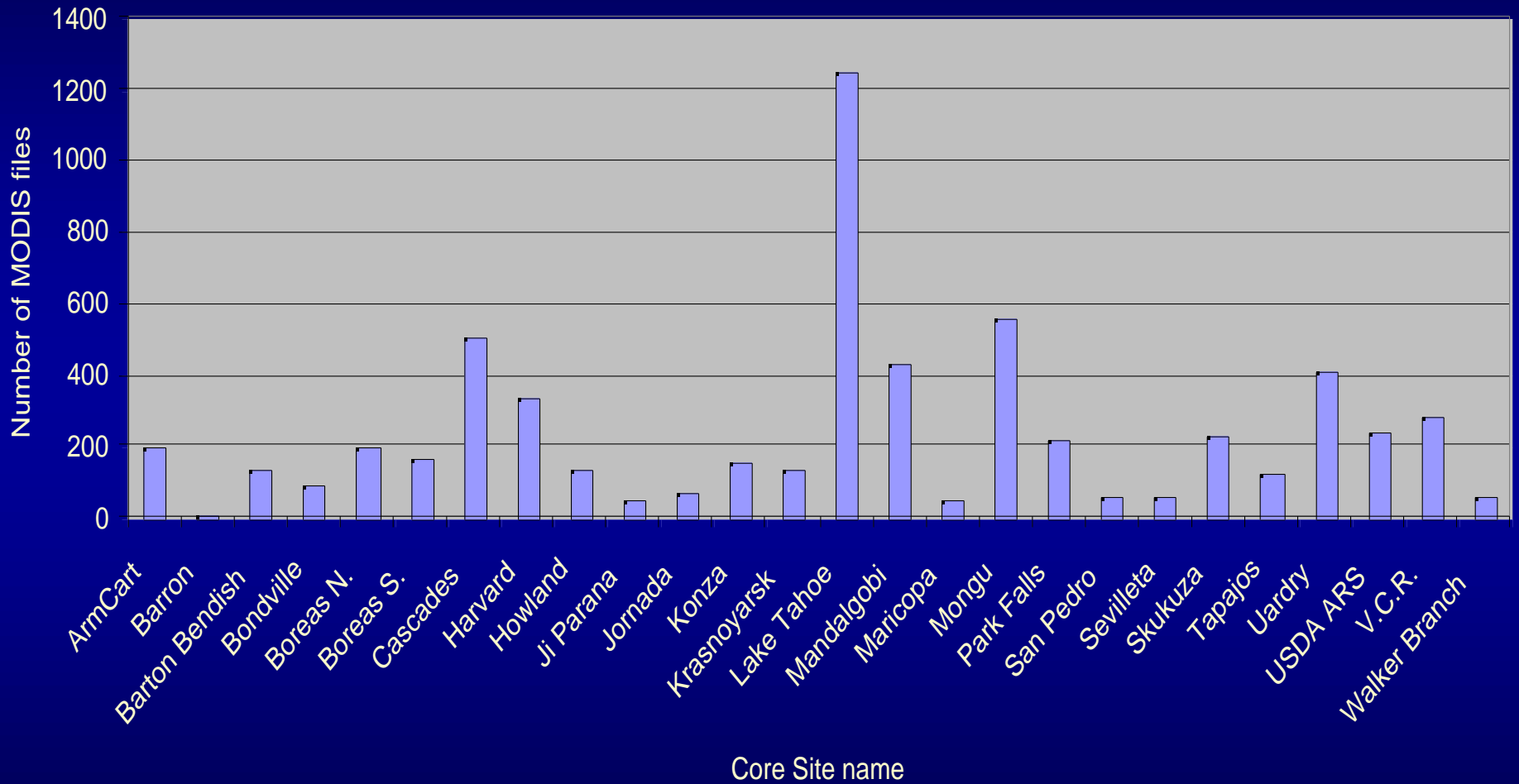
- CEOS Land Product Validation activities
 - **Albedo/BRDF** validation meeting at BU, this fall
 - **LAI intercomparison**, still waiting for high res input
 - **Land cover** “programmatic article” in review, meeting planned at BU in late 2002/early 2003
 - **Fire/Burn scar** validation utilizing GOFD regional networks: ongoing work in S. Africa (Roy), SE Asia (Elvidge), potential work in Siberia (Csiszar), Brazil, Mexico, Australia, US(?)
- Continued use of Core Sites, transition to “CEOS Land Product Validation” Core sites
 - Initially: LAI-intercomparison, EOS Core Sites, and GOFD
 - Subsetting and packaging data for Validation Sites
- Misc:
 - Aqua validation – lack of coincident high resolution data
 - LBA AVIRIS flight in 2003 (Huete)
 - MODLAND group article on use of IKONOS submitted to special issue on scientific data purchase

Number of EOS Land Validation Core Site files pulled from EDC's ftp directories



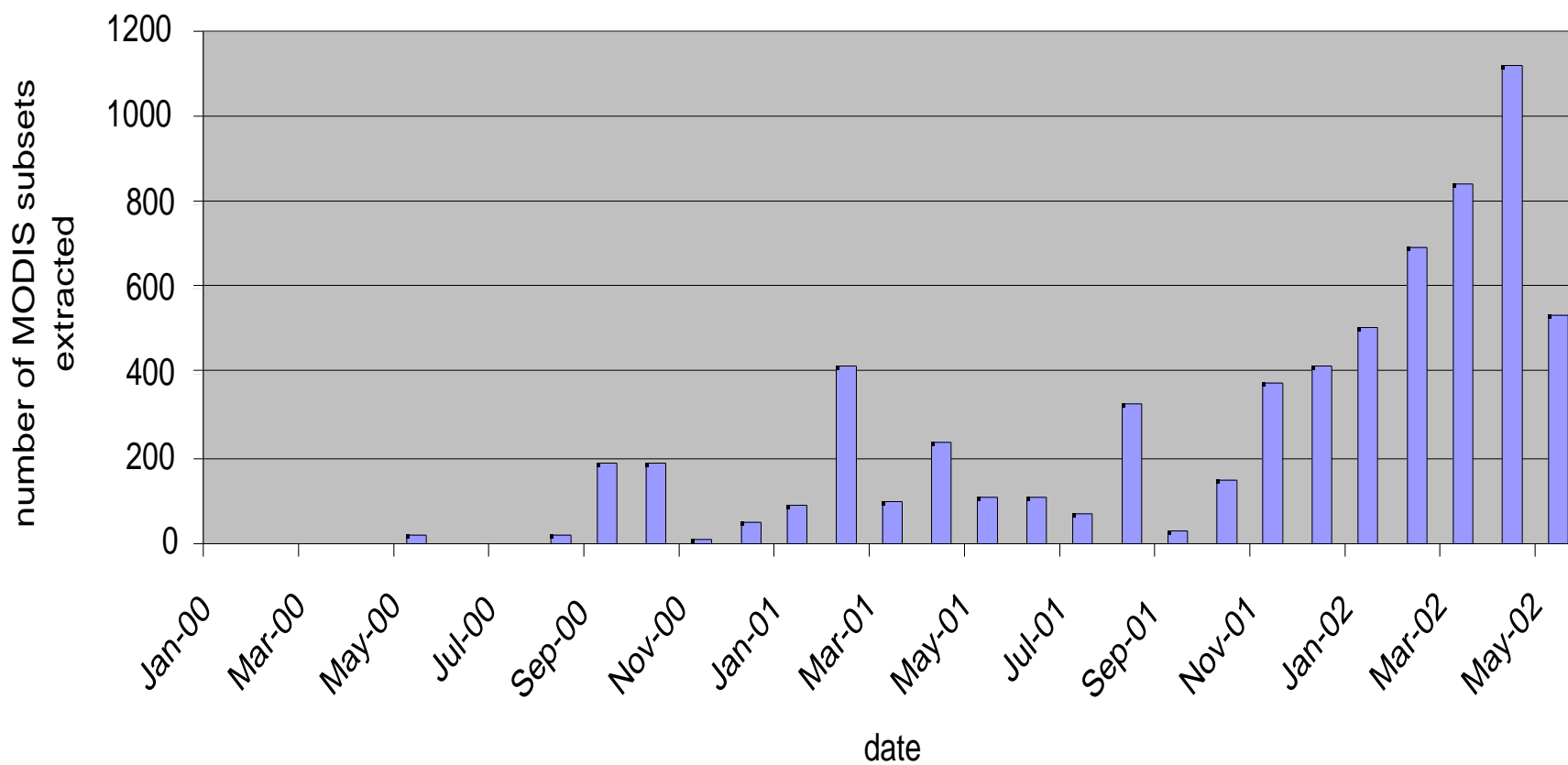
(as of June 2002)

Number of MODIS files pulled from EDC's ftp directories



(as of June 2002)

Orders combined for all sites



In Summary

- MODIS is an outstanding instrument with some excellent data products for land science
- Early days - but Aqua looks good for land science (except 1.6)
 - good science support from MCST
 - might consider bringing forward date for the generation of combined A/T products
- Data production has stabilized and is now sustained
 - Largely due to the dedication of Ed Masuoka and SDST Staff and the GSFC DAAC
 - Approaching 100% Global 250m production
 - Keeping an eye on AQUA impact
 - Collection 4 Land Reprocessing in October
- Emphasis shifting to data distribution and use - not the envisioned role for the Science Team – although trying to help (IDS product, SCF generated special data sets, Tools)
 - Need a different way of conducting business – responsive to large data volumes
 - Data Management and Analysis Tools Critical to success
- Need to help broader range of users to be aware of the products and how to utilize the data – science demonstration activities underway
- Need to be responsive to user needs – projection / products
- MODLAND has embraced the HQ request for improved outreach
- Land RR is engaging the operational and applications communities
- Need to move validation to a main stream activity
 - For current and future products
 - With our international partners (CEOS LPV)