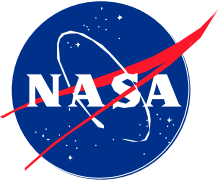


Open Source Release of NASA Software

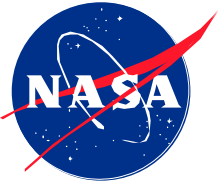
GSA/GWU Open Source in
Government Conference

NASA Open Source Legal Team



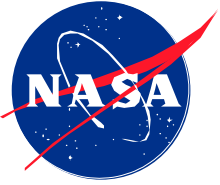
Topics

- General Policy Considerations
- Software Release Policy
- Open Source Legal Team
- NASA Open Source Agreement (NOSA)
- Copyright issues
- Open Source Initiative (OSI) Certification
- Open Source Pilot



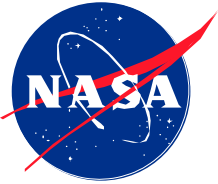
General Policy Considerations

- Space Act provides potentially contrasting goals when applied to NASA developed Software
 - Section 203 - widest practicable and appropriate dissemination of information
 - Section 102 - transferring valuable technology for benefit of U. S. Industry
- Reconciling view
 - Appropriate dissemination includes widely communicating results
 - Not necessarily freely distributing the software itself
 - Especially where software could benefit U.S. Industry and the U.S. Public



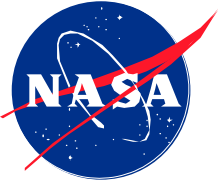
General Policy Considerations

- FOIA establishes right of access to federal agency records
 - Purpose of FOIA is public disclosure of information concerning Government's structure, operation, or decision-making processes
 - Not purpose of FOIA to make Agency's valuable intellectual property available for worldwide use and distribution



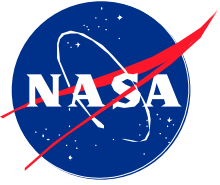
General Policy Considerations

- Gilmore v. U.S. Dept. of Energy, 4 F.Supp.2d 912 (N.D. Cal. 1998)
 - Software that does not illuminate the structure, operation, or decision-making processes of an agency is not an “agency record”
 - Software containing non-FOIA exempt database or for manipulation of it is an “agency record”
- So, majority of NASA software is not subject to the mandatory disclosure provisions of the FOIA and can be released selectively



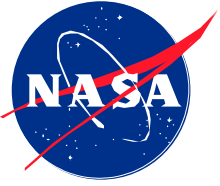
Software Release Policy

- For years NASA has recognized the value of its software
- Implementing policy and guidance documents
 - NPD 2210.1, External Release of NASA Software
 - NPR 2210.1, External Release of NASA Software
- Purpose of Policy
 - To protect NASA and American public's investment in software and to maintain and enhance U.S. industry's competitiveness in the U.S. & international marketplace



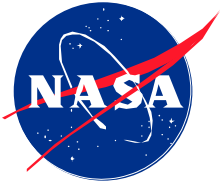
Software Release Policy

- Policy and procedure documents provide process to release software in a manner that:
 - Protects U.S. Government interests and U.S. public's investment
 - Allows NASA to evaluate commercial potential, and
 - Establish appropriate intellectual property protection
 - Prevents improper or premature release that may violate a non-federal party's rights
 - Complies with applicable export control laws
 - Complies with NASA IT Security Requirements
 - Complies with FOIA



Software Release Policy

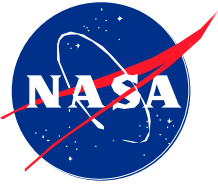
- NASA recognizes the benefits of open source software development
 - Community of software developers identifying and contributing bug fixes and improvements
 - Efficient process of engaging interested developers
 - Apply improvements back into NASA projects
 - Raise awareness and interest in NASA software development
- Have now added a new open source software release option under NASA software release policy



Are you still with us?

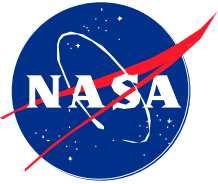


March 17, 2004



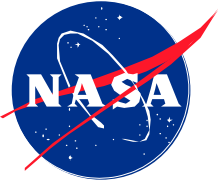
NASA Open Source Legal Team

- NASA researchers requested that NASA consider an open source release option in early 2003
- Open Source Legal Team formed in May 2003 to produce an open source agreement for NASA
 - Team members from NASA Headquarters, Goddard Space Flight Center and the Ames and Langley Research Centers
- Team produced NASA Open Source Agreement (NOSA)
 - Consistent with NASA software release policy documents
 - Consistent with other open source “model” agreements



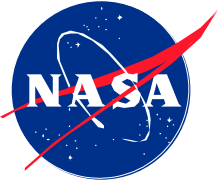
NASA Open Source Agreement

- NOSA provides:
 - Rights to use, reproduce, distribute, display, and modify the original NASA software all without royalty
 - Recipient may create a “Larger Work” by combining separate software not covered by NOSA
 - Voluntary tracking requested
 - Disclaimer & Waiver



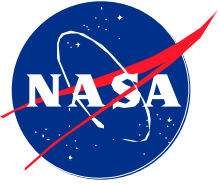
NASA Open Source Agreement

- NOSA requires:
 - All distribution must be made under NOSA terms
 - If distributed, must make source code available
 - Indemnity that covers Government and all previous recipients for liabilities that arise from recipient's use



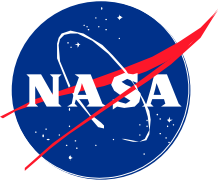
Copyright Issues

- U.S. Copyright protection is not available for any work of the United States Government
 - Work prepared by an officer or employee of the U.S. Government as part of employee's official duties
 - Government may own copyrights in foreign countries



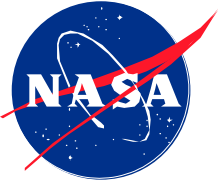
Copyright Issues

- Government is not precluded from receiving and holding copyrights transferred to it by assignment, bequest, or otherwise
 - May receive assignment from NASA contractors
- NASA FAR Supplement (1852.227-14) includes right to direct assignment of copyright in software to Government



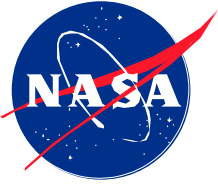
Copyright Issues

- Copyright versus contract law
- ProCD, Inc. v. Zeidenberg et al., 86 F.3d 1447 (7th Cir. 1996)
 - Contract generally only affects parties (not exclusive rights), where copyright is a right against the world established by law
 - Contract enforceable and not preempted by copyright statute as not equivalent to exclusive rights within scope of copyright



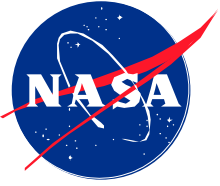
Copyright Issues

- Open source implications of lack of U.S. copyright for Government works
 - How do we enforce NOSA for Government employee software?
 - Rely on contract between NASA and first recipient
- Rely on Government status as intended third-party beneficiary for subsequent distributions



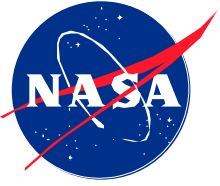
Open Source Initiative Certification

- The Open Source Initiative (OSI) published the Open Source Definition (OSD)
 - OSD sets forth criteria for open source agreements
 - OSI certifies that open source agreements meet the OSD
 - OSI-certified agreements have credibility in the open source community



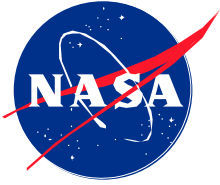
Open Source Initiative (OSI) Certification

- NASA submitted the NOSA for OSI certification
- Working with OSI to obtain certification
 - Expect certification shortly



Open Source Pilot

- Initiated a pilot at Ames Research Center
- Using NOSA to release selected NASA software
- One example--WorldWind software
 - 3-D interactive atlas
 - Provides ability to display multi-resolution 3-D imagery on personal computer
 - Users may add additional information and annotation
 - Software developers may incorporate WorldWind as a component of any software that can benefit from interactive 3-D display

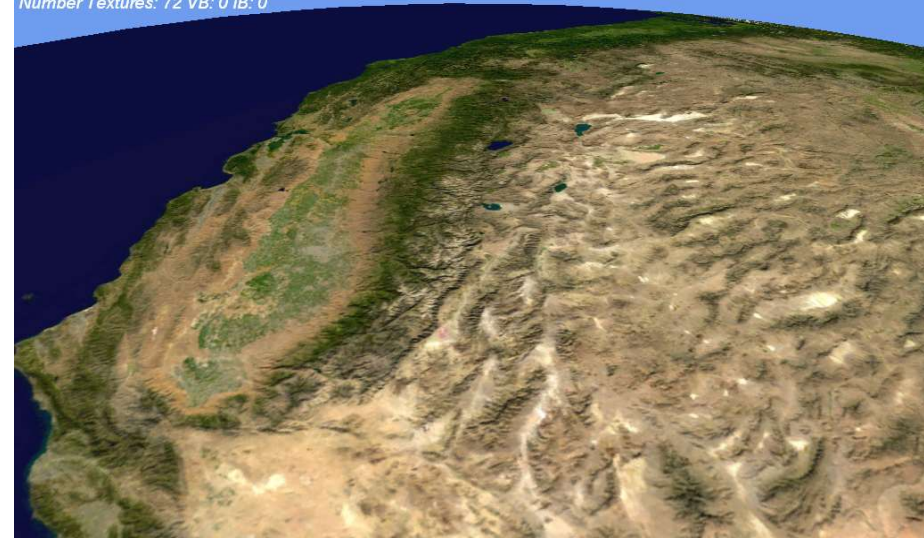


WorldWind

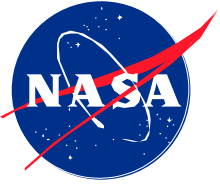
Spicy World (Managed DirectX 9 Version)
Latitude: 18.76271
Longitude: -78.48057
View Range: 180 Tilt: 0 Rotation: 0
Available Texture Memory: 180355072
Number Textures: 8 VB: 0 IB: 0



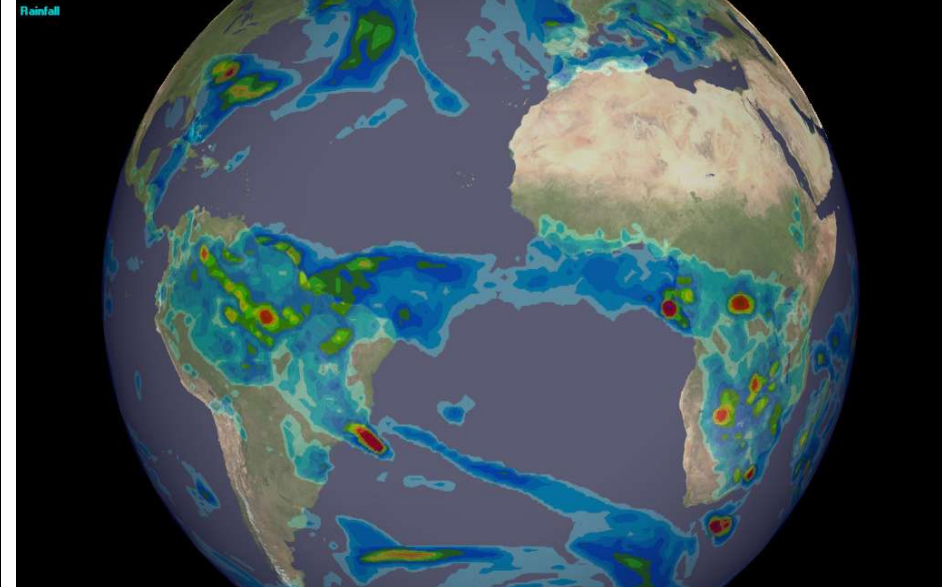
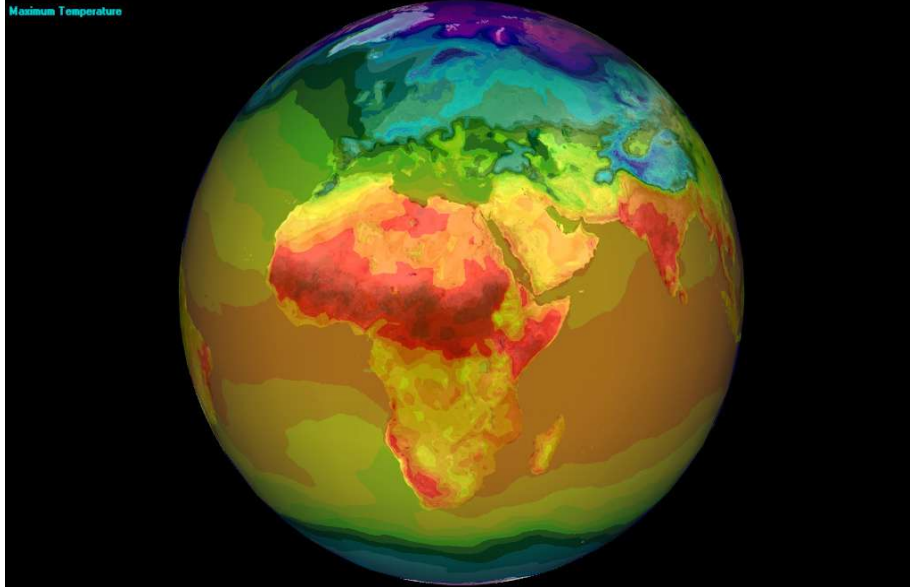
Spicy World (Managed DirectX 9 Version)
Latitude: 33.47358
Longitude: -114.7945
View Range: 3.552769 Tilt: 55.60005 Rotation: 37.73
Available Texture Memory: 171966464
Number Textures: 72 VB: 0 IB: 0



Example of multi-resolution 3-D images of Earth and California & Nevada

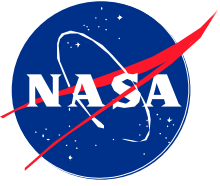


WorldWind

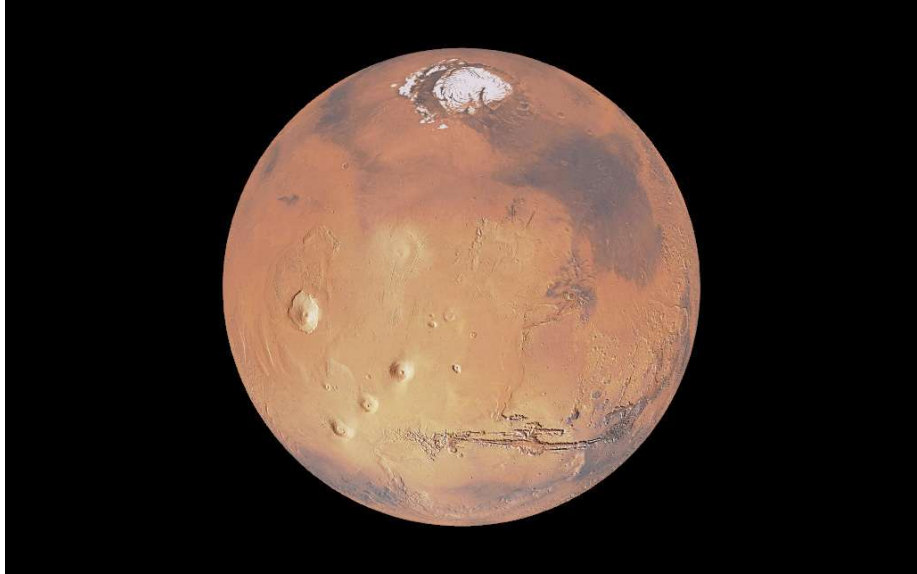


Maximum Earth temperature

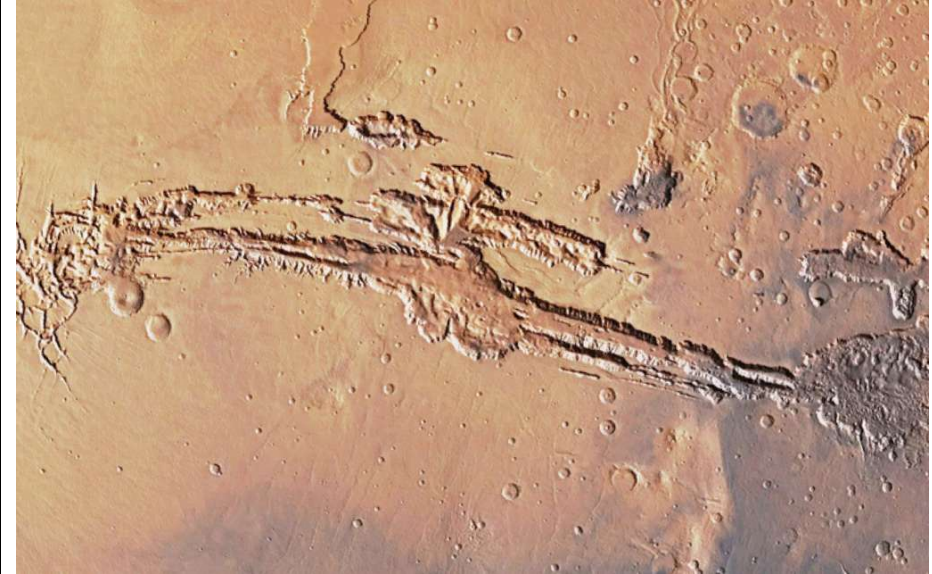
Rainfall



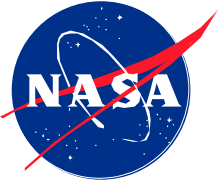
WorldWind



Mars



Valle Marineris



Conclusion

- NOSA
 - A new open source software release option under NASA software release policy
 - Provides for open source software community development
 - Improvements can be applied back into NASA projects
 - Raises exposure and interest in NASA software
- Questions?