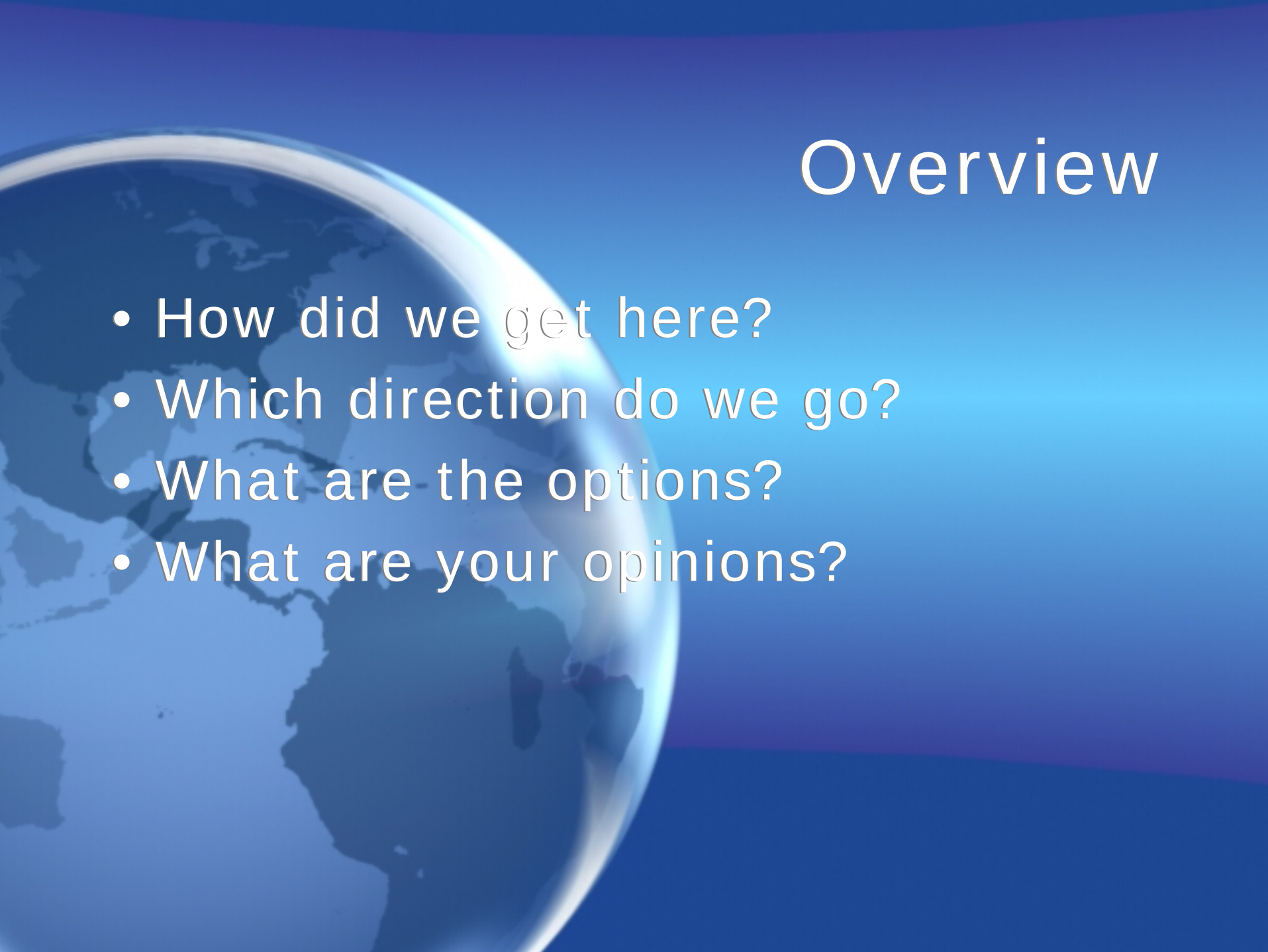




IERS Conventions as an Electronic Document: How far do we go?

Brian Luzum
Gillian Brockett



Overview

- How did we get here?
- Which direction do we go?
- What are the options?
- What are your opinions?

History of IERS Conventions

- IERS Standards (1989)
 - Successor to the Project MERIT Standards (1983)
 - “revisions being made to reflect improvements in models or constants since the Project MERIT Standards were published.”
 - Published as IERS Technical Note 3
 - 76 pages
 - WordPerfect document
 - Few tables or subroutines
 - Errata not available in real-time

History of IERS Conventions

- IERS Standards (1992)
 - Published as IERS Technical Note 13
 - 150 pages
 - WordPerfect Document
 - Included index
 - More tables and subroutines
 - Includes 40 pages of Table 9.1 Ocean Loading Parameters
 - Errata not available in real-time

History of IERS Conventions

- IERS Conventions (1996)
 - Published as IERS Technical Note 21
 - 95 pages
 - TeX Document
 - No index, but included Glossary
 - More tables and subroutines
 - Electronic access through web interface
 - TeX/PS versions of the document
 - All software (some only available online)
 - Some supplemental information
 - Links to web pages/readme files
 - Errata
 - Maintained online only

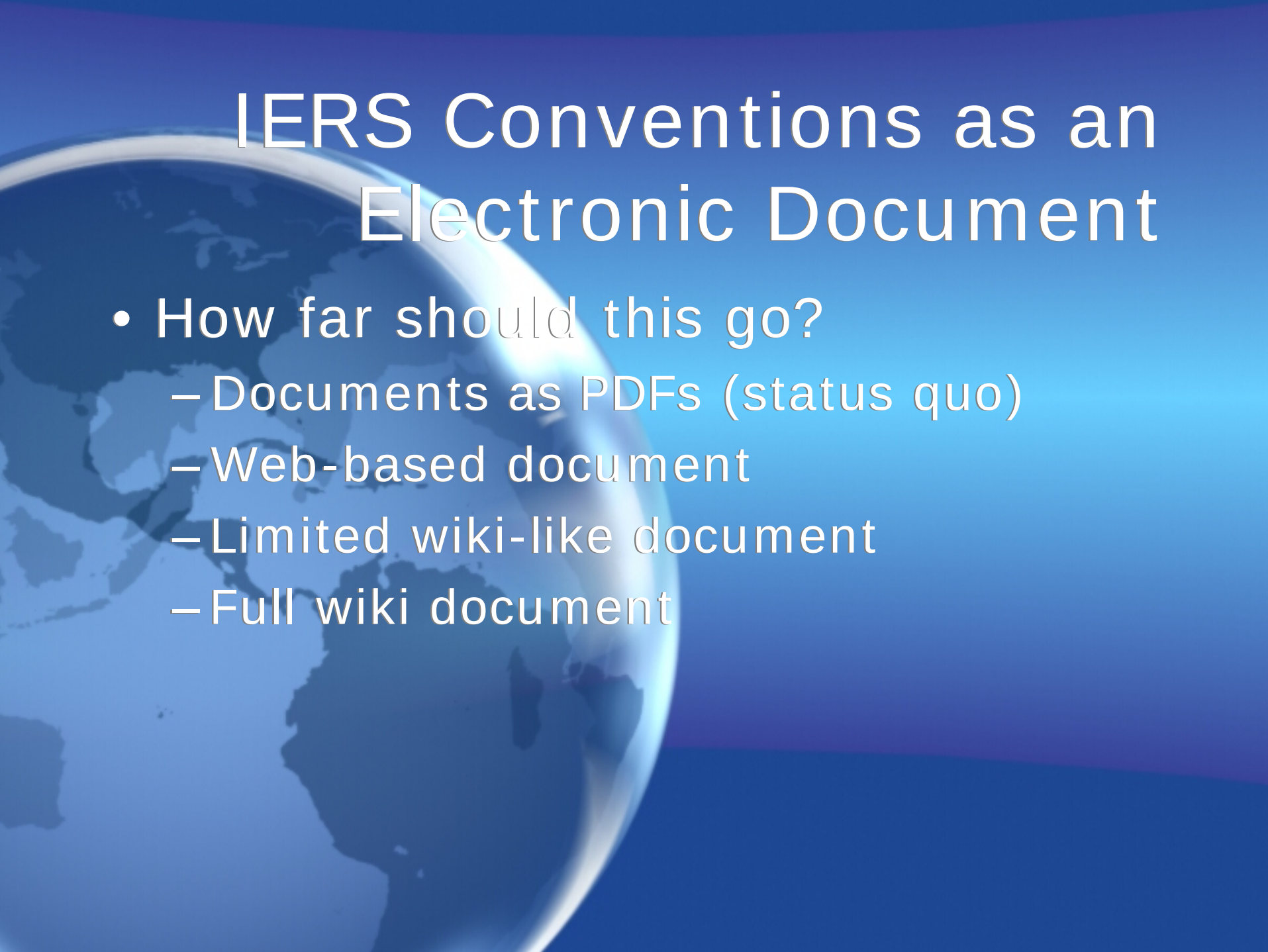
History of IERS Conventions

- IERS Conventions (2003)
 - Published as IERS Technical Note 32
 - 127 pages
 - LaTeX Document
 - Glossary
 - More tables and subroutines
 - Electronic access through web interface
 - LaTeX/PS/PDF versions of the document
 - Conventions Forum
 - All software available online only
 - Some supplemental information
 - Links to web pages/readme files
 - Conventions update
 - It “is under development and is not definitive nor officially approved as a registered edition. However it contains all corrections to the IERS Conventions (2003) that have been identified.”



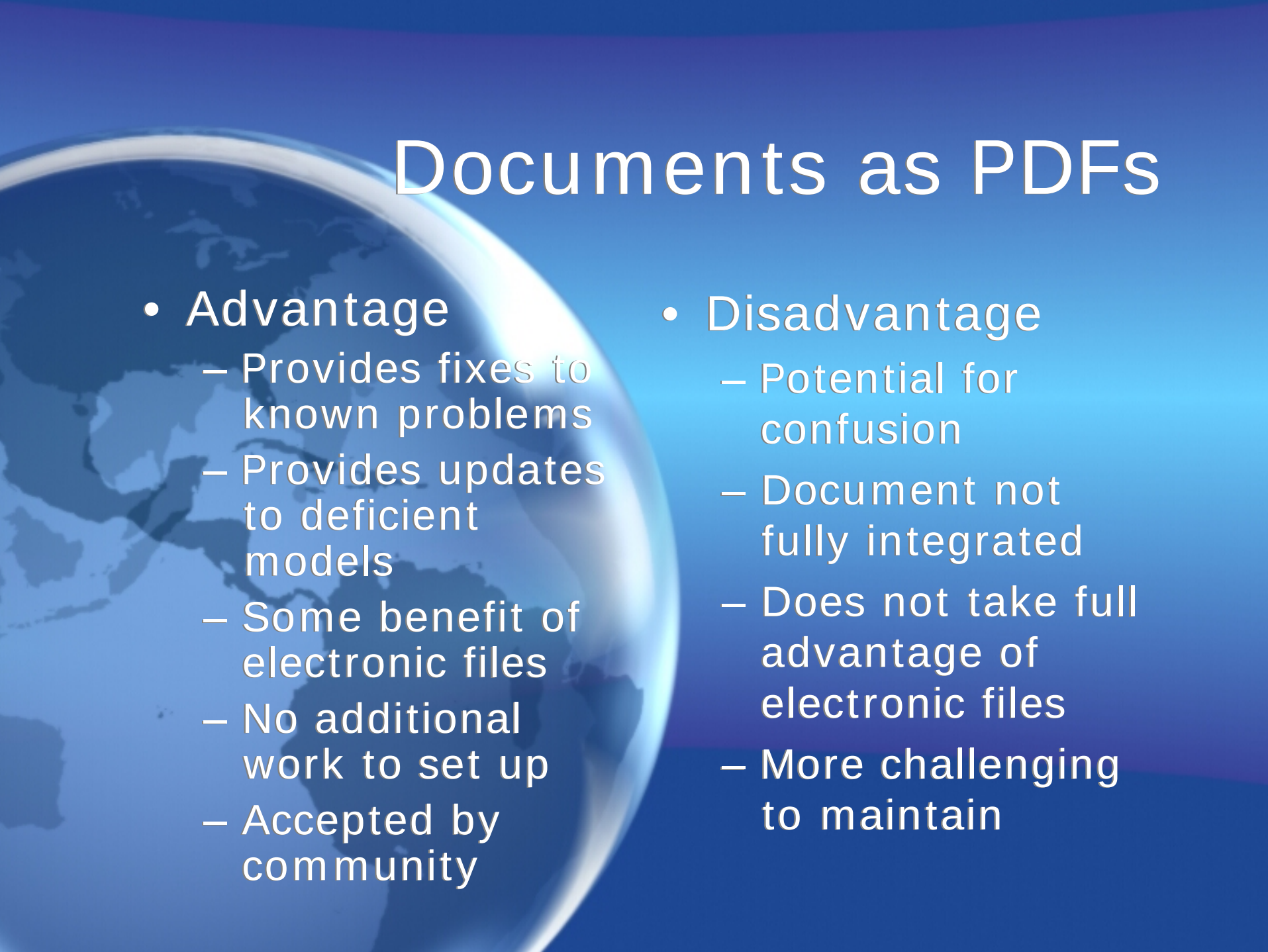
Future of IERS Conventions

- What should a user use?
 - The registered edition which potentially has known and corrected errors/shortcomings
 - Stick with the paper version
 - The updated version which has few known errors and improved modeling but is not a registered edition
 - Only available electronically



IERS Conventions as an Electronic Document

- How far should this go?
 - Documents as PDFs (status quo)
 - Web-based document
 - Limited wiki-like document
 - Full wiki document



Documents as PDFs

- Advantage

- Provides fixes to known problems
- Provides updates to deficient models
- Some benefit of electronic files
- No additional work to set up
- Accepted by community

- Disadvantage

- Potential for confusion
- Document not fully integrated
- Does not take full advantage of electronic files
- More challenging to maintain



Web-based document

- Advantage

- Provides fixes to known problems
- Provides updates to deficient models
- Full benefit of electronic files
- Easier to maintain

- Disadvantage

- Additional work to set up
 - Work will be done by very limited group
- Accepted by community?
- Trouble with browser compatibility?



Limited Wiki-like document

- Advantage

- Provides fixes to known problems
- Provides updates to deficient models
- Full benefit of electronic files
- Easier to maintain
- Distributes work load

- Disadvantage

- Additional work to set up
- Accepted by community?
- Trouble with browser compatibility?
- More difficult to track/maintain version control



Full Wiki document

- Advantage

- Provides fixes to known problems
- Provides updates to deficient models
- Full benefit of electronic files
- Easier to maintain
- Distributes work load even more

- Disadvantage

- Additional work to set up
- Accepted by community?
- Trouble with browser compatibility?
- Difficult to track/maintain version control

Future of IERS Conventions

- Depends on
 - Potential users of the document
 - Direction of technological advancement
 - Direction of scientific culture
 - Acceptable nature of reference
 - Others?

Future of IERS Conventions

- Depends on the potential users of the document
 - Highly technical users can tolerate less user-friendly format
 - Lower tech users would benefit from a more seamless document

Future of IERS Conventions

- Direction of technological advancement
 - More computer capability
 - Better display capability
 - More sophisticated and integrated programming/display capabilities
 - More information available electronically to integrate
 - More widespread internet
 - Wi-Fi (IEEE 802.11 standard)
 - WiMAX (IEEE 802.16 standard)

Future of IERS Conventions

- Direction of scientific culture
 - More computer savvy
 - More comfortable with electronic documents
 - Including the use of electronic documents as references
 - See doi, electronic copyright, AGU, AAS, EGU
 - More integrated applications
 - Less tolerant of waiting for information

Future of IERS Conventions

- Acceptable nature of reference
 - Previously, hardcopy only
 - Now, hardcopy or electronic
 - Electronic becoming more prevalent
 - Future?
 - Need to identify the need served by the hardcopy

Where do we go?

- Already using an electronic document
- Do we turn back?
- Do we go further?
 - If so, how far?

Backups



Case Study

- American Geophysical Union
 - On 1 January 2002, “the electronic edition (html) will constitute the journal of record of the Union. ... It is these article that will be cited in the literature and the print journal will be a byproduct of the electronic journal. The html file will constitute the version of record because it will contain the non-static material accepted for publication and archiving, and therefore the html file may include material not found in the pdf or the printed journal”

Case Study

- American Geophysical Union
 - Electronic version is the version of record
 - Not printed version
 - Journal no longer have traditional page numbers
 - “The electronic format is designed to enable presentation of material in new formats, to enhance services available to subscribers, and to streamline (and speed) the entire publication process.”

Case Study

- American Astronomical Society
 - Switched from University of Chicago Press to Institute of Physics Publishing for AJ and ApJ
 - “IOP Publishing emerged as the choice in large part because of their current leadership in electronic publishing and their manifest enthusiasm to move forward toward greater enrichment of technical publishing with more connectedness among journal articles:
 - Cross-references
 - Links to images and other data bases.”