

3.5.3 Conventions Centre

Introduction The Conventions Centre provides updated versions of the IERS Conventions in electronic form following approval by the IERS Directing Board (DB) and printed versions at less frequent intervals than the electronic updates, mainly when major changes are introduced. The Centre is operated jointly by L'Observatoire de Paris (OP) and the U.S. Naval Observatory (USNO).

IERS Conventions web and ftp sites are located at: a) <http://iers-conventions.obspm.fr/>, b) <http://maia.usno.navy.mil/conventions/>, and c) <ftp://maia.usno.navy.mil/conventions>. The printed IERS Conventions (2010), IERS Technical Note 36, is available in electronic form at these URLs and at <https://www.iers.org/TN36>. Updates continue to be provided in electronic form and are configuration managed starting in 2018. Conventions versions, starting with v 1.0.0 through the latest update, v 1.3.0, are found at the following URLs:

- a) http://iers-conventions.obspm.fr/conventions_versions.php and
- b) http://maia.usno.navy.mil/conventions/conventions_versions.php

The IERS Conventions Centre continues to work with the IAU Division A Commission on Fundamental Standards that deals with celestial and terrestrial reference systems/frames and the transformations among them, time scales, precession-nutation models, Earth rotation and polar motion, including physical models (e.g., Earth's gravity field, solid Earth-tide modeling), star catalogs, ephemerides of Solar System bodies, special and general relativistic models for time and space.

Technical Content of the IERS Conventions

During 2018, changes in the technical content included the following:

- a) On 1 February, 2018, i) the reference to the former *mean pole* in Chapter 6 was replaced with the term *mean figure axis*, ii) several minor changes to the text in Chapter 6, Section 6.1 were made, and iii) Section 7.1.4 in Chapter 7 was rewritten to include the *secular pole* and remove the former *mean pole*; and
- b) On 28 December, 2018, i) the Conventions has replaced the concept of the *mean pole* with the *secular pole* in Chapters 6 and 7, ii) the definition of secular pole has been added to the Glossary, iii) the code IERS_CMP_2015.F has been removed from Chapter 7, as the Conventions no longer supports the *mean pole*, and iv) the subroutine CALC2JD.F has been renamed to correspond to subroutine called in DAT.F (Chapter 7).

The organization of the Conventions web pages changed in 2018. Figures 1 and 2 illustrate the changes that were implemented. Under

the Conventions menu, the “Conventions Updates” tab was replaced by “Conventions Versions”. When one selects that tab, one is taken to the IERS Conventions (2010) Packaged Content page, where one can scroll down to see each of the versions—the latest version being at the top and the oldest version, v 1.0.0 (the official IERS Conventions (2010) created 15 December 2010), at the bottom of the page.

In addition, in order to address some users concerns to have direct links to the latest updated conventions and to the official 2010 Conventions from the home page, two Quick Links on the far left of the home page were created, namely *Updated* and *Official* Conventions.

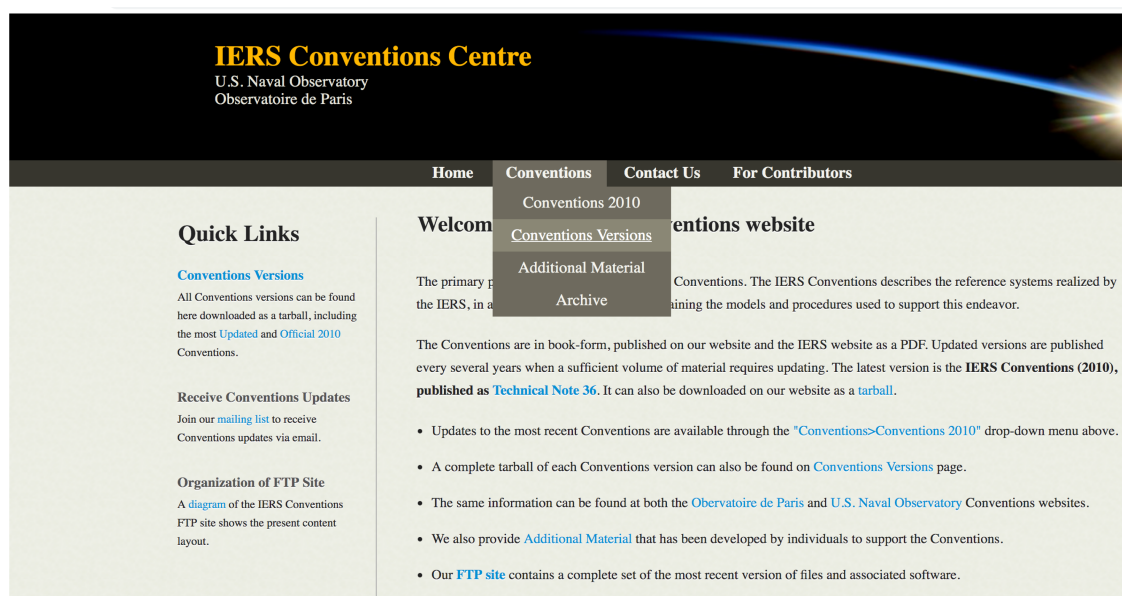


Fig. 1: Change in web design that occurred in 2018. The Conventions Versions link replaced the former Conventions Updates link. (Web site designed by Maria Davis.)

Conventions Software

Software recommended for use in connection with the IERS Conventions consists largely of the library maintained by the IAU Standards of Fundamental Astronomy (SOFA) available at <http://www.iausofa.org>. The 15th release of this library was made available recently. It implements four new routines, corrects another and enhances seventeen others. Further details regarding the specifics of the release can be found at http://www.iausofa.org/current_changes.html.

Major Conventions Update

In anticipation of rewriting the IERS Conventions within the next few years, a call for participation was made. Many experts volunteered to be Chapter Editors-in-Chief, Chapter Experts and Assistant Experts, along with a Software Editor. The table below lists the Conventions major revision chapters along with the latest associated list of filled and vacant

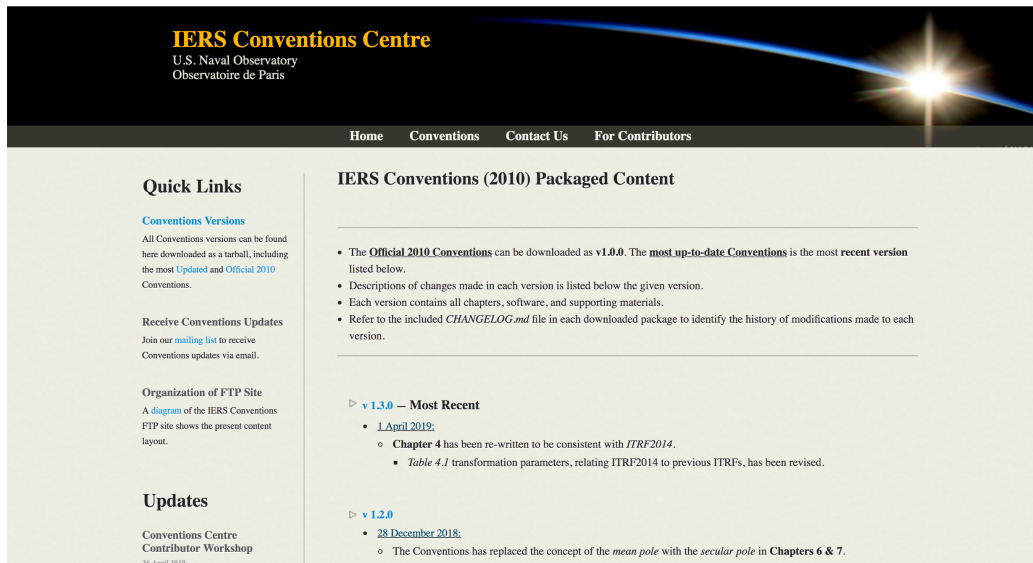


Fig. 2: Change in web design that occurred in 2018 (continued). Version numbers are listed in the new web site, whereas the older site had each chapter updated date listed.

positions. There are still many positions vacant, and we urge those reading this report to reach out to colleagues to inform them of open positions or to consider volunteering by submitting a curriculum vitae along with a possible letter of support from their sponsoring institution.

As part of the Conventions update, the Conventions staff has begun using the GitLab web-based DevOps lifecycle tool to implement a more robust and comprehensive configuration management scheme for Conventions updates. (A training class led by Maria Davis from the Conventions staff was held in early October 2019 to aid those unfamiliar with using GitLab, and in addition, the Conventions Centre staff can provide more assistance after the training class.)

In addition, Slack instant messaging has been implemented to enhance communication among Chapter contributors. Many of the re-write staff have signed up and are utilizing Slack to provide quick turnaround for discussions and dissemination of information regarding the Conventions. All contributors were notified via email and via Slack instant messaging of proposed simplifications to the Conventions text. An example from Chapter 5 was provided to contributors to guide them in this recommendation. Lastly, all contributors were notified of the 2019 Unified Analysis Workshop in Paris, France, where Conventions-related topics was discussed among various disciplines of the IERS, Global Geodetic Observing System (GGOS), and other associated organizations.

Table 1: *Status of participation in the IERS Conventions major update. A letter “Y” in the Applicant column indicates that at least one person has agreed to participate in this function; a letter “N” indicates that no one is serving in this function.*

#	Chapter Title	Position	Applicant
1	General Definitions and Numerical Standards	Chapter Editor-in-Chief	Y
		Chapter Expert	Y
		Assistant Chapter Expert	Y
2	General Relativistic Models for Space-Time Coordinates and Equations of Motion	Chapter Editor-in-Chief	Y
		Chapter Expert	Y
		Assistant Chapter Expert	Y
3	Celestial Reference System and Frame	Chapter Editor-in-Chief	Y
		Chapter Expert	Y
		Assistant Chapter Expert	Y
4	Terrestrial Reference Systems and Frames	Chapter Editor-in-Chief	Y
		Chapter Expert	Y
		Assistant Chapter Expert	Y
5	Transformation Between the International Terrestrial Reference System and the Geocentric Celestial Reference System	Chapter Editor-in-Chief	Y
		Chapter Expert	N
		Assistant Chapter Expert	Y
6	Geopotential	Chapter Editor-in-Chief	Y
		Chapter Expert	Y
		Assistant Chapter Expert	Y
7	Displacement of Reference Points	Chapter Editor-in-Chief	Y
		Chapter Expert	Y
		Assistant Chapter Expert	Y
8	Tidal Variations in the Earth's Rotation	Chapter Editor-in-Chief	N
		Chapter Expert	Y
		Assistant Chapter Expert	Y
9	Models for Atmospheric Propagation Delays	Chapter Editor-in-Chief	N
		Chapter Expert	N
		Assistant Chapter Expert	Y
10	General Relativistic Models for Propagation	Chapter Editor-in-Chief	N
		Chapter Expert	Y
		Assistant Chapter Expert	Y
	Software Associated with Chapters 1 through 10	Software Editor-in-Chief	Y

Acknowledgements

The Conventions web pages at OP <http://iers-conventions.obspm.fr/> and USNO <http://maia.usno.navy.mil/conventions/> were maintained and improved. The IERS Conventions Centre would like to acknowledge the work of Maria Davis from USNO and Teddy Carlucci from OP for their work on the updated IERS web and ftp sites.

**Conventions Centre
Staff**

- Nick Stamatakos (USNO), co-director since 1 January 2016. (Per existing agreement between the IERS DB and the IERS Conventions, the USNO co-director has become the representative to the IERS Directing Board on 01 January 2019.)
- Christian Bizouard (OP), co-director since 1 September 2016 (and the representative to the IERS Directing Board through 31 December 2018).
- Sébastien Lambert (OP)
- Maria Davis (USNO)
- Dennis McCarthy (USNO, contractor)

Nick Stamatakos, Christian Bizouard