Joint SCOR/IAPWS/IAPSO Committee on the Properties of Seawater (JCS)

Report to SCOR and IAPSO on JCS Activities June 2017-Aug 2018

Membership

Executive
Rich Pawlowicz (Chair) Canada
Rainer Feistel (Vice-chair) Germany
Trevor J. McDougall (Vice-chair) Australia

Salinity/Density Subgroup
Frank J. Millero USA
(Rich Pawlowicz) Canada
Steffen Seitz Germany
Hiroshi Uchida Japan
Stefan Weinreben Germany
Youngchao Pang China
Henning Wolf (1) Germany

pH Subgroup
Maria Filomena Camoes Portugal
Andrew Dickson USA
Daniela Stoica France

Relative Humidity Subgroup
Olaf Hellmuth Germany
Jeremy Lovell-Smith New Zealand

Thermodynamics
(Rainer Feistel)

Numerical Modelling and Applications
(Trevor J. McDougall)

Software
Paul Barker Australia

Industry Representatives
Richard Williams (OSIL) UK
Barbara Laky (Anton Paar) Austria

(1) HW retired July/2018
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Meetings
JCS did not meet as a full group in 2017-18. However, 6 JCS members did attend the 2017 IAPWS Annual Meeting in Kyoto, Japan (Sept 2-7, 2017), and 3 members attended the 2018 Ocean Sciences meeting (Portland, Feb 1, 2016).

Web site
JCS maintains a web site at www.teos-10.org. This site gets 1600-2300 visitors per month (8574 in the past year, with 64304 “unique views” since Oct 2010). Annual downloads have stabilized below their peak.

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Other Progress
1. SS (and others) have established a metrology network “Climate and Ocean Observation” within EURAMET.

2. SS is working towards making high-pressure measurements of conductivity traceable to the SI.
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3. The 4 Metrologia review papers published in January 2016 and widely read thereafter have had their effect; downloads traffic in 2018 has been low.

4. RF and JLS continue working towards procedures for making systematic error estimates.

5. OH has incorporated TEOS-10 into work on cloud microphysics modelling.

6. TEOS-10 is now the equation of state in the two main community climate ocean models (MOM6 and NEMO). It is also optional in two other widely used models (MITgcm and ROMS).

7. HU has carried out density anomaly measurements in the Bering Sea and Gulf of Alaska (2017), HU/FJM are carrying out an interlaboratory comparison with measurements in the Arabian Sea (May/June 2018).

8. AD continues to provide Tris buffer for seawater pH, also (with WG-145) involved with more Harned Cell data and calibration of spectrophotometric pH methods over a salinity range of 5 to 20, bridging fresh and seawater regimes.

9. FJM/RP continue analysis of East Pacific Rise density anomaly data.

10. RP is working on understanding the diffusion of seawater and possible fractionations that result from this.

Papers published


R. Pawlowicz
JCS chair, Aug 29 2018