

Meeting Report

JTF SMART Subsea Cables at the



JCOMM-5

Joint Technical Commission for Oceanography and Marine Meteorology 5th Session and Technical Conference (TECO) WMO, Geneva, Switzerland 23-29 October 2017

Bruce Howe
24 November 2017

Summary

At the suggestion of Champika Gallage (WMO) in July, followed by strong encouragement of Nadia Pinarði (JCOMM), David Meldrum (JTF) and Andi Sakya (BMKG, Indonesia), we planned to obtain a formal statement of JCOMM endorsement. This was accomplished with the help of many participants. The key text is:

Noting further the work done by the Joint Task Force of ITU, WMO and UNESCO-IOC to integrate environmental monitoring sensors into transoceanic commercial submarine telecommunication cables in order to provide tsunami warnings as well as climate-quality data from the oceans,

Encourages the Joint Task Force (JTF) of ITU, WMO and UNESCO-IOC to continue its efforts to bring to fruition a global network of ocean sensors and requests Member States to report to their Ministries, Agencies and Institutes, to draw particular attention to the activities of the JTF and the significant societal benefits that might flow from the realisation of its objectives, notably in the field of reliable and timely tsunami warning as well as climate-quality data from the oceans, and urges all stakeholders in the endeavour to proactively contribute to the effort.

This endorsement is important for JTF SMART Cables, because JCOMM is the highest technical body within the international global ocean observing endeavor:

“JCOMM, the Joint Technical Commission for Oceanography and Marine Meteorology, is an intergovernmental body of technical experts that provides a mechanism for international coordination of oceanographic and marine meteorological observing, data management and services, combining the expertise, technologies and capacity building capabilities of the meteorological and oceanographic communities. The creation of this Joint Technical Commission results from a general recognition that worldwide improvements in coordination and efficiency may be achieved by combining the expertise and technological capabilities of World Meteorological Organization ([WMO](#)) and UNESCO's Intergovernmental Oceanographic Commission ([IOC](#)).”

Detail

The ITU Secretariat presented a poster describing the JTF SMART Subsea Cable Initiative on the second day, Tuesday 24 October, of the two day TECO Conference.

On Wednesday 25 October, Nadia Pinardi, in her opening report as co-President of JCOMM (with co-President Johan Stander), included a slide summarizing the SMART cable effort (below), one of five on “JCOMM into the future.”: <http://meetings.wmo.int/JCOMM-5/layouts/15/WopiFrame.aspx?sourcedoc=/JCOMM-5/Presentations/2.1%20Co%20President%20Report%20IOOC.pptx&action=default>

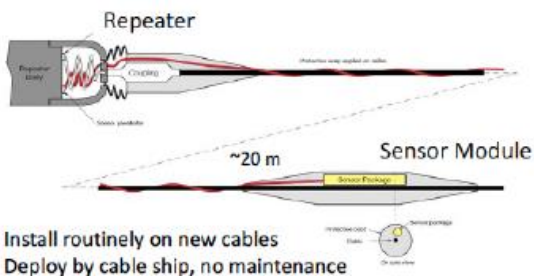
During the opening, Indonesia also made reference to the JTF.

JCOMM into the Future: the ITU/WMO/UNESCO-IOC Joint Task Force

Climate, Oceans

Earthquakes, Tsunamis – Global Array

SMART cables: first order addition to the ocean-earth observing system, with unique contributions that will strengthen and complement satellite and in-situ systems



- Telecom + science
- Cable repeaters host sensors
- Potential: global spanning, trans-ocean, 1 Gm, ~10,000 repeaters (~100 km) 10-20 year refresh cycle
- Initially: bottom pressure, temperature and acceleration; supplement later

John You, Nature, 2010 – Harnessing telecoms cables for science



JTF SMART Cables is also recognized as an organization with working relationships with JCOMM:

Decision 3.3/1 (JCOMM-5), RELATIONSHIPS TO OTHER BODIES
Annex to draft Decision 3.3/1 (JCOMM-5)
ORGANIZATIONS WITH WORKING RELATIONSHIPS WITH JCOMM

1. The International Maritime Organization (IMO), the International Hydrographic Organization (IHO), the International Mobile Satellite Organization (IMSO) and Inmarsat on safety-related marine meteorological services, and with the International Atomic Energy Agency, on the Marine Environmental Emergency Response.
2. The Group on Earth Observations (GEO) and its Global Earth Observing System of Systems (GEOSS), where the Commission in its role as coordinating implementation of ocean and marine meteorological observations, data management, and services, provides an important contribution to the Societal Benefit Areas of the Global Earth Observing System of Systems. It is represented in GEO through the participation of WMO, IOC, and GOOS.
3. The World Ocean Council (WOC), which brings together a wide range of ocean industries in an international coalition to coordinate industry support for ocean science and other environmental action. Cooperation with the Commission is expected to improve opportunities for collaboration in ocean and marine meteorological observations.
4. The International Ice Charting Working Group (IICWG), which brings the national ice services together with their partners and clients to address issues of common concern. Since 1999, the IICWG has served as an active advisory body to the JCOMM Expert Team on Sea Ice.
5. The International Telecommunication Union (ITU), which together with WMO and IOC, is exploring the use of undersea cables for ocean observations supporting tsunami and climate monitoring.
6. The Satellite Telecommunications Forum (SATCOM), which aims to engage other satellite service providers in a synergistic way on issues related to data transmission from autonomous in situ met-ocean platforms and in particular autonomous platforms.

On Friday 27 October, as a result of the team effort, the Indonesian delegation (represented by Nelly Florida Riama) proposed to add text on the JTF to draft Decision 7.1/4 “Inclusion of new networks to the Observations Coordination Group (OCG) membership. The US delegation (represented by David Legler and Jennifer Lewis) supported the text.

This resulted in the following JCOMM decision:

Draft Decision 7.1/4 (JCOMM-5)

INCLUSION OF NEW NETWORKS TO THE OBSERVATIONS COORDINATION GROUP (OCG) MEMBERSHIP

THE JOINT WMO/IOC TECHNICAL COMMISSION FOR OCEANOGRAPHY AND
MARINE METEOROLOGY,

Noting the progress made towards global coordination of ocean glider activities including the formation of an OceanGliders steering committee, a data management task team and mission oriented task teams,

Noting also the existing Group on Earth Observations (GEO) High Frequency (HF) Radar (marine meteorological remote sensing) community of practice and its synergies with other networks, and interest in the task areas of the OCG Workplan,

Recognizing the mutual importance of bringing emerging networks into the OCG, building on the expertise and experience of the established observing networks through the OCG Workplan,

Observing the increasing importance of, in particular of bridging the gap between, the open ocean and coastal observations,

Noting with appreciation the proactive role of the IOC-WMO-UNEP-ICSU Global Ocean Observing System (GOOS) Regional Alliances in supporting coastal observations, including the promotion of globally coordinated coastal observation networks,

Noting further the work done by the Joint Task Force of ITU, WMO and UNESCO-IOC to integrate environmental monitoring sensors into transoceanic commercial submarine telecommunication cables in order to provide tsunami warnings as well as climate-quality data from the oceans,

Encourages the Joint Task Force (JTF) of ITU, WMO and UNESCO-IOC to continue its efforts to bring to fruition a global network of ocean sensors and requests Member States to report to their Ministries, Agencies and Institutes, to draw particular attention to the activities of the JTF and the significant societal benefits that might flow from the realisation of its objectives, notably in the field of reliable and timely tsunami warning as well as climate-quality data from the oceans, and urges all stakeholders in the endeavour to proactively contribute to the effort.

Decides to approve the expansion of OCG membership to include OceanGliders and HF Radar as associated members;

Advocates that emerging observing networks improve their readiness for sustained observing development (drawing on the framework for ocean observing) by:

- Working towards sustained observations through self-organized global engagement, supported by a mature community;
- Developing design missions and observation targets, which respond to key observing requirements;
- Developing agreed standards and best practices, including data standards with coordinated data delivery;
- Working proactively with other observing networks;

Requests OCG to continue to work proactively with GOOS Regional Alliances and GOOS Expert Panels and the broader ocean observing community by:

- Reaching out to emerging networks and assess their maturity against the Framework for Ocean Observing (FOO) readiness levels for requirements, coordination of observations and data management;
- Engaging those considered approaching ‘mature’;
- Assessing readiness of new observing technologies, their utility across the observing system, and how they could be considered within the ocean observing system.

Participants in the JTF SMART Cable related efforts at JCOMM-5

Bruce Howe, JTF
 Thorkild Aarup, IOC, JTF
 Albert Fischer, IOC, JTF
 Champika Gallage, WMO, JTF
 David Legler, NOAA, USA
 Jennifer Lewis, NOAA, USA
 David Meldrum, SAMS, JTF
 Nadia Pinardi, JCOMM, JTF
 Nelly Florida Riama, BMKG, Indonesia
 Andi Sakya, BMKG, Indonesia
 Hiroshi Ota, ITU, JTF
 Reinhard Scholl, ITU, JTF

References – Web Links

TECO (technical meeting 23-24 October 2017) documents and presentations can be found here (go to bottom of page):
<http://meetings.wmo.int/JCOMM-5/SitePages/TECO.aspx>

All JCOMM-5 meeting documents can be found at:
[http://meetings.wmo.int/JCOMM-5/SitePages/Documents \(in English\).aspx](http://meetings.wmo.int/JCOMM-5/SitePages/Documents%20(in%20English).aspx)

The JCOMM-5 session presentations (25-29 October 2017):
<http://meetings.wmo.int/JCOMM-5/SitePages/Presentations.aspx>

The JCOMM-5 Provisional Report (approved documents) can be found at:
[JCOMM-5 Provisional Report \(approved documents\)](#)

This is the link to the document [Decision 3.3/1 \(JCOMM-5\), RELATIONSHIPS TO OTHER BODIES.](#)

This is the link to the document [Draft Decision 7.1/4 \(JCOMM-5\) INCLUSION OF NEW NETWORKS TO THE OBSERVATIONS COORDINATION GROUP \(OCG\) MEMBERSHIP.](#)