

**16th MEETING OF THE IHO CAPACITY BUILDING SUB-COMMITTEE
IHO-CBSC16
Goa, India, 30 May - 1 June 2018**

Paper for Consideration by CBSC16

**Training Opportunity for CSBSC Consideration
(USA, Summer 2019 and beyond)**

Submitted by:	United States of America (NOAA)
Executive Summary:	USA (NOAA) wishes to explore interest of the CBSC to consider the annual Chart Adequacy Workshop as a potential resource for the CBSC program to advance hydrographic capacity
Related Documents:	Summary of the 2015 Workshop ¹ Summary of the 2016 Workshop ² Summary of the 2017 Workshop ³
Related Projects:	

1. Introduction / Background

From summer 2016, NOAA has hosted annual three day workshops for building capacity for hydrographers and related professionals to assess chart adequacy from a computer desk top using publically available tools, including remote sensing imagery. Approximately one dozen hydrographers from outside the US receive this training per year. Approximately half are GEBCO Scholars concurrently studying at the University of New Hampshire.

Funding support for the workshop is provided by NOAA, the University of New Hampshire, and the UKHO. English language proficiency is required. Nominating authorities should consider (subject to the NOAA coordinator, Dr. Shachak Pe'eri):

- a. Previous experience in ocean bathymetry (minimum two years in hydrography or cartography).
- b. Nominee's ability in English.
- c. Future opportunities to work on bathymetric projects and the likelihood of the nominee continuing to work in related subjects.
- d. Personal motivation.

The Workshop is held in Silver Spring, MD USA at the headquarters of the NOAA Office of Coast Survey.

In addition to the technical workshop, participants are exposed to programmatic, management and operational environment of the a globally premier hydrographic office as well as the role of a national hydrographic office within a broader context in terms of NOAA's service in environmental stewardship and earth observations, predictions and forecasts (www.noaa.gov).

¹ <https://noaacoastsurvey.wordpress.com/2015/07/16/noaa-holds-international-workshop-for-nautical-chart-agencies/>

² <https://noaacoastsurvey.wordpress.com/2016/07/19/noaa-hosts-international-chart-adequacy-workshop/>

³ <https://noaacoastsurvey.wordpress.com/2017/07/14/noaa-hosts-third-annual-workshop-on-nautical-chart-adequacy/>

2. Analysis/Discussion

NOAA would like the CBSC to consider the relevance of utilizing this training opportunity within its CB Strategy and within its portfolio of capacity building efforts.

The subjects addressed during the workshop appear within the scope of IHO objectives and the current IHO work program Element 3.3 “Capacity Building” which has the objective to “study the possibilities for capacity building assistance and training from the CB Fund and other sources.”

There should be no direct funding consequences to the CBSC as the workshop sponsors provide travel and per diem (based on US schedules) for the duration of the training. Salaries for “trainees” is not provided.

For additional detail about the planned workshop schedule, please refer to the attached 2018 workshop curriculum plan. The 2019 workshop is expected to largely mirror the 2018 schedule.

3. Conclusions

It appears to the US that the opportunity for the CBSC to nominate two trainees to join the annual workshop could be an additional useful resource to expand capacity in hydrography worldwide.

4. Recommendations

The US recommends the CBSC evaluate the invitation from NOAA to utilize this workshop to support its goals from 2019 and beyond.

5. Justification and Impacts

Justification and impacts should be evaluated by the CBSC against its requirements.

NOAA has received nothing but excellent reviews from prior participants. However, any situation could develop for any reason whereby the workshop would be discontinued at any time due to any reason. NOAA assumes no responsibilities if the workshop does not proceed for any circumstances.

6. Action Required of CBSC

The CBSC is invited to:

- a. consider this proposal against the CB Strategy and determine if the invitation contained is of interest for further pursuit by the CBSC;
- b. Respond to the US CBSC representative Calvin Martin, and, for technical, logistical or other questions, the NOAA workshop coordinator, Dr. Shachak Pe’eri at Shachak.Peeri@noaa.gov.

Attached

- General Plan and Curriculum for the 2018 Workshop
- Example of invitation letter for reference

Draft itinerary for Chart Adequacy Workshop:

Day 1: July 23, 2018 (Monday)

Time	Activity	Notes
8:30 to 9:00	Participants Entering NOAA building SSMC3	Room 7300
9:00 to 10:00	Welcome and housekeeping Chart adequacy overview Room 7300	Shachak Pe'eri /Rochelle Wigley <ul style="list-style-type: none"> • Introductions and expectations from the workshop. • Itinerary • IT security • Building security • Lunches, coffee breaks, nature breaks, etc.
10:00 to 10:15	Coffee/nature break	
10:15 to 10:45	Overview of Coast Survey and MCD	John Nyberg
10:45 to 12:30	Tour of MCD	Nautical Chart Manual (10:45 – 11:05) (John Macek) ENC policy including S-57 and S-101 (11:05-11:25) (Sean Legeer) NDB (11:25 – 11:45) Introduction to NDB that includes: incoming datasets, DREG and requirements for acceptance (Lance Roddy) IC-ENC online (11:45-12:05) (Jenny Thacker and Rob C.) Critical Information from notices to mariners (12:05 – 12:25) (Travis Newman and Daniel Black)
12:30 to 13:30	Lunch break	Catered lunch in room 7420
13:30 to 14:30	Lab 1 & 2 Room 7300	Shachak Peeri <ul style="list-style-type: none"> • Setting up an ArcMap environment. • Loading Charts • Uploading imagery • Loading ENC • Loading smooth (fair) sheet soundings • Loading AIS point data
14:30 to 14:45	Coffee/nature break	

14:45 to 16:00	Lab work 2 & 3 Room 7300	Shachak Peeri <ul style="list-style-type: none"> • Continuation of Lab 2 • Create Reference Surface • Surface Analysis
16:00 to 16:30	Summary of the days and feedback from the participants	Shachak Peeri
18:30	Dinner together	

Day 2: July 24, 2018 (Tuesday)

Time	Activity	Notes
8:30 to 9:00	Participants Entering NOAA building SSMC3	Room 7300
9:00 to 9:15	Recap and plans for today	Shachak Peeri <ul style="list-style-type: none"> • Comments from the participants.
9:15 to 11:00	Bathymetric Difference (Lab 4)	Shachak Peeri
11:00 to 11:15	Coffee/nature break	
11:15 to 12:00	Vessel Traffic (Lab 5)	Shachak Peeri <ul style="list-style-type: none"> • AIS track creation
12:00 to 13:00	Lunch break	Catered lunch in room 7420
13:00 to 14:00	Hydrographic Characteristics (Lab 6)	Shachak Peeri <ul style="list-style-type: none"> • Hydrographic Characteristics
14:00 to 14:15	Coffee/nature break	
14:15 to 16:30	Archiving and Reporting (Lab 7)	Shachak Peeri <ul style="list-style-type: none"> • Continuing Lab 6 • Archiving and reporting
16:00 to 16:30	Summary and recap	Shachak Peeri Allowing the option for a next day training on gaps in the material
18:30	T.B.D. (Dinner?)	

Day 3: July 25, 2018 (Wednesday)

Time	Activity	Notes
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8:30 to 9:00	Participants Entering NOAA building SSMC3	Room 7300
9:00 to 9:15	Recap and plans for today	Shachak Peeri <ul style="list-style-type: none">• Comments from the participants.
9:15 to 10:30	STAR Lab (NESDIS)	Rochelle Wigley: <ul style="list-style-type: none">• Overview on the lab.• GEBCO activities• GEBCO Cook Book
10:30 to 10:45	Coffee/nature break	
10:45 to 12:00	GEBCO presentations (5-10 minutes per student)	Rochelle Wigley <ul style="list-style-type: none">• GEBCO students• International guests
12:00 to 12:30	Summary	
12:30 to 13:00	Lunch and farewell to the participants	



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Dear Hydrographer,

1. This Circular Letter is to advise Selected States that nominations are being sought for the 4th NOAA Chart Adequacy Workshop at NOAA headquarters in Silver Spring, Maryland, USA.
2. The workshop is being co-ordinated by the Dr. Rochelle Wigley, the Project Director Nippon Foundation GEBCO projects and Dr. Shachak Pe'eri, Research Associate Professor at the Center for Coastal and Ocean Mapping /Joint Hydrographic Center of the University of New Hampshire.
3. The workshop is expected to begin in July 23, 2018 till July 25, 2018. The final dates are subject to confirmation by the current list of prospect participants.
4. The goals of the workshop are to: 1) Develop a chart adequacy assessment procedure using automatic-identification system (AIS) data and satellite-derived bathymetry (SDB) that can be applied in OCS. The procedure will be low cost and could be readily applied by HO's worldwide; 2) Train an international group of hydrographers; and 3) Replicate the NOAA Chart Adequacy procedure internationally.
5. The course structure consists of an intensive 3-day workshop of lectures and practical laboratory (in a GIS environment). The course syllabus includes: Overview of NOAA's Coast Survey organization with an emphasis on Marine Chart Division, Chart Adequacy principles, Raster and Electronic Navigational Charts, Key Chart Symbols, IHO S-57 Standards, CATZOC, AIS, Satellite imagery and SDB, Surveys of Opportunity, and NOAA Chart Adequacy procedure.
6. The language of instruction is English, and candidates must speak and read in English.
7. The Selected States are requested to consider nominating suitable candidates for the Chart Adequacy Workshop from among their nationals. The nominee details should include: Name (as written in the passport), Gender, Passport Number and Issuing County, Country of Citizenship, Country of Residence, Country of Birth, City of Birth, Date of Birth, and contact email.

8. Nominating authorities should consider:
 - a. Previous experience in ocean bathymetry (minimum two years in hydrography or cartography).
 - b. Nominee's ability in English.
 - c. Future opportunities to work on bathymetric projects and the likelihood of the nominee continuing to work in related subjects.
 - d. Personal motivation.
9. Travel costs will be covered by the host. The workshop will incur no costs for the invitee and his/her home organization.
10. Although it is advantageous to have data from a Selected State, this is not a requirement. NOAA will be able to provide a local US approach as substitute dataset.

A reply with a candidate details should be provided by March 10, 2018. This will allow a candidate from another state to participate in the workshop. After a name is provided, NOAA will provide an invitation letter for the workshop in order to apply for a visa to United States. Travel costs and per diem rates will be discussed once a candidate has been accepted.

Regards,

Dr Rochelle Wigley
Project Director Nippon Foundation GEBCO projects

Copy:

John Nyberg – NOAA/NOS/OCS
Jonathan Justi – NOAA/NOS/OCS
Shachak Pe'eri – JHC-CCOM/UNH