• How can the PICES scientific community best inform other sectors of society about the extent of changes in the ecosystems of the North Pacific?

• What are the tools and approaches necessary for PICES to indefinitely sustain its role of providing scientific advice on North Pacific ecosystems?

• How do we build the next generation North Pacific Ecosystem Status Report?
PICES history;

“The first advice was generated from within the organization, as a showcase of what the organization was uniquely positioned to provide; to assess trends and predict changes in marine ecosystems of the North Pacific”

Tjossem (2017)
Where did the **next generation** concept originate?

Technical Committee on Data Exchange TCODE (1995)

Technical Committee on Monitoring MONITOR (2004)

North Pacific Ecosystem Status Reports (2004, 2011)
Advice from TCODE + MONITOR + NPESR 1 and 2

1. **Gather information** in the form of narratives and graphics; make **data optional**
2. **Web based** exchange of international information among PICES nations is feasible
3. **Environmental Time Series Observations, ETSOs**, capable of detecting change are available from **all nations, all disciplines**, and in some localities and disciplines the volume of ETSOs may be very large
4. **Reduce labor** required to produce an ecosystem status report
5. Production of **more timely information** on ecosystem status is also desirable
SG-NPESR3 Recommendations Accepted by Science Board

- **A web site** of national and international environmental time series observations “ETSOs” that build the next generation NPESR,

- PICES supports .. **software for receiving and processing ecosystem time series observations,**

- A working group .. **to include an editorial board of Committee Chairs or their designates,**

- The working group .. **to work with the authors of the individual ETSOs to develop regional syntheses, culminating in a North Pacific synthesis.**
<table>
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<tr>
<th>TASK</th>
<th>WHO?</th>
<th>2016</th>
<th>2017</th>
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<td>1. ETSO System Development</td>
<td>Data Management Contractor</td>
<td>J</td>
<td>F</td>
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<td>2. ETSO Maintenance</td>
<td>Data Management Contractor</td>
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<tr>
<td>3. ETSO Nominations</td>
<td>BIO_FIS_MEQ_POC_TCODE_MONITOR</td>
<td>A</td>
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<td>4. ETSO Submissions</td>
<td>Authors</td>
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<td>5. Interim Workshop on NPESR Time Series</td>
<td>SG-NPESR et al.</td>
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<td>6. Ed Board Review &amp; Adds Nominations</td>
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<td>7. Establish NPESR Synthesis Expert Group</td>
<td>Governing Council</td>
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<td>8. Invitations &amp; Confirmations to Authors</td>
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<td>9. Present selections to PICES 2016</td>
<td>SG-NPESR</td>
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<td>TASK</td>
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<td>10. Synthesis</td>
<td>NPESR SWG</td>
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<td>NPESR SWG, NPESR Editorial Board</td>
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<td>13. Formatting NPESR</td>
<td>Data Management Contractor</td>
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<tr>
<td>14. Review and Adoption NPESR</td>
<td>NPESR Editorial Board</td>
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</tbody>
</table>

Revised June 2016
PICES INTERSESSIONAL WORKSHOP
North Pacific Ecosystem Status Report, Third Edition (NPESR-3)
Invitational Workshop: Evaluation and Synthesis North Pacific Time Series Observations
June 28 – 30, Sidney BC Canada
SG-NPESR recommendation on a preferred approach for biogeographical classification of data submitted to the North Pacific Ecosystem Status Report developed at ETSO Workshop.
Numbers ETSOs All Sources (Committees, S Human Dimensions, WG-31 Pollution)

Total 435

6 NOV 2016

28 VARIABLES: OC&ATM PHYSICS, BIOLOGY, CHEMISTRY, LOWER TROPHIC, UPPER TROPHIC
10 VARIABLES: FISHING EMPLOYMENT, FISHING HOUSEHOLDS, PER CAPITA SEAFOOD CONSUMPTION, CPUE, VALUES AQUACULTURE, VALUES CATCH, WEIGHT CATCH
8 BIO Variables: Benthos, Chl a, HABs, Ichthyp, Jellies, Phytopl, PriProd, Zoop
5 CHEM Variables: C, nutrients, oxygen, Ph, TA
Numbers ETSOs Physical, Marine Pollution

6 Phys Variables: ASI, Currents, Ice, MLD, Sal, T
Multiple Variables Marine Pollution

6 NOV 2016

Totals
Phys 83
Pollution 20
Numbers ETSOs Fish, Birds, Mammals

6 VARIABLES: Fis-demersal Fis-inverts Fis-pelagic Fis-salmon MMB-Birds MMB-Mammals

Total 48
ETSOMS
ENVIRONMENTAL TIME SERIES OBSERVATION MANAGEMENT SYSTEM

Step 1. Online user interface to a data management system that organizes ETSOs into an ETSO data base.

Step 2. Queries of the data base can produce summaries and basic reports that serve the needs of the newly formed NPESR Work Group

Step 3. NPESR Work Group including Editorial Board use the system to provide online reports, develop syntheses, prepare third edition.
PICES ETSO Data Management System
Example: Researcher submitting ETSO
The human impact on the mercury accumulation in modern sediments of Amur Bay, the Japan/East Sea
Kirill Aksentov\textsuperscript{1} V.I. Il'ichev Pacific Oceanological Institute Far Eastern Branch Russian Academy of Science (POI FEB RAS), 43 Baltiyskaya Street, Vladivostok, Russia (aksentov@poi.dvo.ru)

It is important to study the processes of the distribution and migration of mercury in the environment because of its high toxicity. Since the onset of the industrial period anthropogenic emissions of mercury have increased and its global cycling have been significantly altered (Fitzgerald et al., 2007; Schuster et al., 2002). The Amur Bay has been being exposed to the intense anthropogenic influence since the middle of the 20th century. The sources of pollutants are the industrial discharges of the enterprises located in the Razdol’naya River basin and on the Murav’ev-Amurskii Peninsula (Vladivostok city). This study investigates the reconstruction of mercury accumulation in bottom sediments of Amur Bay.

\textbf{TYPICAL ABSTRACT FORMAT}
\textbf{PREPARED FOR CUT AND PASTE}

\begin{itemize}
\item \textbf{TITLE}
\item \textbf{AUTHOR}
\item \textbf{CONTACT INFORMATION}
\item \textbf{ABSTRACT}
\item \textbf{PLUS FIGURES AND REFERENCES}
\item \textbf{DATA ATTACHMENT OPTIONAL}
\end{itemize}

\textbf{Figure 1.} Vertical profiles of total mercury concentrations in the sediment cores from the Amur Bay (I08-3, I07-8) and the Zolotoi Rog Bay (M06-34). 1, 7 – background concentration; 2 – moderate impact, 3, 5 – intensive contamination; 4, 6, 8, - recent level.

\textbf{References}
Researcher – Invitation to Submit

- Link from PICES Website
- Email invitation

[Image of an email invitation with a link to submit material to the North Pacific Ecosystem Status Report (NPESR)].
Landing page from email link
North Pacific Ecosystem Status Report – Ecosystem Time Series Observations

If possible, the text of the contribution should incorporate the following:
- Description of time series observation (ETSO): a description of the ETSO including reference to methods, locating coordinates or polygon (decimal), and how the ETSO is useful for understanding climate change or its impacts.
- Status and trends: the historical trends and current status of the ETSO in relation to base period (Suggested: average 1998 – 2008, if available, or other appropriate base period to illustrate trend)
- Factors influencing observed trends: potential causes for observed trends and current status
- Implications: Briefly answer these questions: What are the implications or impacts of the observed trends on the ecosystem or ecosystem components? What do the trends mean? Why are they important? How can this information be used to inform policy makers’ decisions?
Create an account during first visit or sign in

Create your account

Aksentov

Mid.

Kirill

aksentov@poi.dvo.ru

You must use a valid email address to receive confirmation / notifications regarding your submissions.

********

Your password must be at least 6 characters.

********

Create Account and Continue
The form for submitting an ETSO, first page

- Title *
  - The human impact on the mercury accumulation on modern sediments of Amur

- NPESR Geographic Location *
  - Sea of Okhotsk

- PICES Committee
  - MEQ - Marine Environmental Quality Committee

- Nation
  - Russia
Form for submitting an ETSO, 2nd page, author’s information

Contributed By:
Aksentov et al.

Contact Author: *
Kirill Aksentov

Contact Author Address:

Mailing address, including nation

Contact Author email:
aksentov@poi.dvo.ru
Form for submitting an ETSO, 3rd page

Body of Contribution *
Acceptable file types: pdf, doc, docx, txt, rtf, jpg, gif, mp3, mp4, m4a, zip, tiff, png, wpf, odt, wav, mov, xls, wpd, ppt, pptx, avi, mpg, xlsx, sib, mus, 3gp, flv, webm, psd, ai, mobi, epub, wmv, eps, key, ogg, aac, flac, aiff, wma, mkv, musx, ibooks, iba, tex, bbl, ltex, m4v, svg, fdx.

Choose Files

Upload a file containing the body of your contribution.
Select up to 8 files to attach.
No files have been attached yet.

Figure(s) and/or Table(s) that illustrate the ETSO
Acceptable file types: pdf, doc, docx, txt, rtf, jpg, gif, mp3, mp4, m4a, zip, tiff, png, wpf, odt, wav, mov, xls, wpd, ppt, pptx, avi, mpg, xlsx, sib, mus, 3gp, flv, webm, psd, ai, mobi, epub, wmv, eps, key, ogg, aac, flac, aiff, wma, mkv, musx, ibooks, iba, tex, bbl, ltex, m4v, svg, fdx.

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Literature Cited in Body of Contribution

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caroline=submittable.com@email.sub...

To:  Chandler, Peter

Inbox  Tuesday, October 25, 2016 2:45 PM

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Dear Peter,
Thank you for sending your submission to PICES.

You can review your submission online by going here:
http://pices.submittable.com/user/submissions/6600118

Thanks!
-PICES
Proposed Next Steps

- Invitations, confirmations to authors through (Dec 2016)
- ETSO Submissions by authors through (Feb 2017)
- Nominations to WG-NPESR
- WG-NPESR review and add ETSOs
- North Pacific Synthesis Workshop (Apr or May 2017)
- Synthesis through (Dec 2017)
- Publications (web based, printed reports with ISBN, special volumes in peer-reviewed science literature) starting in (2018)
END PRESENTATION

QUESTIONS ?