

Opening Remarks
PICES 28th Annual Governing Council Meeting
Victoria, Canada
October 26, 2019

Carmel Lowe
Canadian Governing Council Member

Mr. Chairman, Executive Secretary and Fellow Governing Council Members,

On behalf of Canada, it is our profound pleasure to have had the opportunity to host this year's annual PICES meeting here in Canada and, along with my colleague Lesley MacDougall, to welcome you and the extended PICES community and its valued partners to Victoria, British Columbia.

I will begin my remarks by offering my heartfelt thanks to the Secretariat staff and the army of behind-the-scenes volunteers that resulted in a superbly organized and executed scientific meeting. Truly special thanks go to Robin Brown, our Executive Secretary, for his stalwart leadership which was central not only to the success of this meeting but also to the on-going effectiveness of PICES operations during his tenure. I know it's a cliché but he 'will leave big boots to fill' when he retires in 2020 and he will be sorely missed.

Changing ocean conditions, their impacts on biological resources and the direct and indirect consequences these impacts have on the ecosystem services our ocean provides to coastal populations in the North Pacific is something I have mentioned in past remarks at Governing Council meetings. It is heartening to note that this year's meeting included many talks and posters that demonstrate the significant progress PICES scientists have made in documenting these changes at smaller and smaller spatial and temporal scales and in predicting near- and nearer-term future climate conditions that provide a call to action by citizens and decision-makers across our shared ocean. As an example, Emanuele Di Lorenzo's talk in the final POC session yesterday presented some strong evidence that the current marine heatwave in the Northeastern Pacific Ocean is likely to continue to grow and amplify through the coming winter.

During the last two years alone, the northeastern Pacific has experienced a number of extreme climate change events that resulted in massive destruction of salmon habitat from forest fires, flooding and related landslides, as well as the proliferation of harmful algal blooms and extended periods with low surface oxygenated waters in our coastal zone that led to death or premature harvesting of millions of aquaculture fish and killed or significantly compromised wild marine species. Sean Anderson's talk on Black Swan events and the opportunity careful analysis of time series and model results provide to better predict their occurrence and manage their impacts is another example of really positive progress by PICES scientists.

Ensuring that our documented changes and insights into the current and future performance of Pacific Ocean ecosystems are effectively communicated to decision-makers at local, regional and global scales is an area where PICES can and must do more. Decision-makers need our insights to undertake the necessary planning, adaptation, and mitigation for their probable consequences. However, there were a number of presentations at this meeting, including the keynote speech by Jackie King, in the opening session and several talks from early career scientists that showcased very successful approaches to achieving this. We must be deliberate in finding ways to expand and embed such approaches into all of PICES work and to harness the power of social media to reach all of the audiences that could potentially benefit from our knowledge.

Similarly, we need to mobilize citizens to contribute observations to fill gaps where we cannot and to furnish the information needed to validate the accuracy of our models and predictions. We heard several examples of how this has been done successfully by PICES scientists at this meeting, including Paul Covert and Spencer Taft's talk on co-planning and co-delivery of an ecosystem characterization effort in Burrard Inlet, British Columbia that includes the full participation of a First Nations Community, and PICES special project FishGIS that is mobilizing local fishers in Indonesia to capture vital information on the current state of the ocean there and threats to its ecosystem performance using no more than a cell phone. PICES needs to find ways to expand these efforts.

PICES has a long history of fruitful partnership and collaboration with other science organizations that have allowed us to lever their strengths and capacities toward a common goal – some of these organizations have been with us this week and are represented in the room here today. Looking ahead to the UN Decade of

Ocean Science for Sustainable Development, Canada stands ready with our fellow PICES countries and our partners to play a leadership role in the planning and execution of new science to deliver on its goals.

Thank you.

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Yafeng Yang
China Governing Alternate Delegate

Dear Chair, Distinguished members of the Governing Council of PICES and Executive Secretariat of PICES,

It is my pleasure to represent China in the PICES Governing Council meeting this year.

I would like to begin by extending my congratulations on the success of the 2019 PICES Annual Meeting, which is one of the biggest in terms of the numbers of participants and workshops.

As well, I would also like to express my sincere thanks to Canada and the PICES Secretariat for your excellent preparation and organization of this meeting.

The title of this year's Annual Meeting is *Connecting Science and Communities in a Changing North Pacific* and if you look back, you will find that the word “*changing*” or “*changes*” has been frequently mentioned in the titles of the PICES Annual Meetings in recent years. I think this somehow reflects our common recognition of the fact the ocean environment is changing significantly in the North Pacific region under the global background and also our common concerns on how the changes will impact our life and our society. However, we have to admit that our knowledge on the changes is still far from enough. This will require us to work more intensively in the manner of closer cooperation in different disciplines and sea areas. As one of the important international organizations for promoting marine science in this region, PICES is duly working to develop the cooperation among marine scientists, institutions, communities and countries, in accordance to the mandates defined by its Convention.

Also, I would encourage PICES to strengthen its roles by taking advantage of any international initiatives, including the UN Decade of Ocean Science for Sustainable Development Goals. In this regard, I am glad to

see that PICES has co-organized the Regional Planning Workshop for the North Pacific and Western Pacific Marginal Seas towards the UN Decade of Ocean Science for Sustainable Development, through cooperation with WESTPAC earlier this year. I believe this will be a solid step forward to enhance the development of ocean science in the future and the roles ocean science could play in promoting the sustainable development.

I also want to highlight with appreciation the efforts of PICES in promoting the communication between marine scientists and social scientists, by establishing the Human Dimensions Committee. To achieve the sustainable development goals in the North Pacific, it will be more and more important to inform and influence the policy makers in this region of PICES's scientific achievements.

I would also like to take this opportunity to brief the Governing Council on the institutional reform of China's State Council. As approved by the National People's Congress of China in the year of 2018, the State Council of China was restructured and a new ministry, named as the Ministry of Natural Resources of China, was established. The Ministry was merged from the former Ministry of Land and Resources, the National Administration of Surveying, Mapping and Geoinformation, as well as the State Oceanic Administration of China (SOA), which has served as the national focal point to PICES in the past decades. Some mandates of SOA, like the marine environment protection, were moved to other ministries. However, as one of the core responsibilities, the coordination of marine affairs, including marine science, is still under the framework of the Ministry of Natural Resources. My colleagues from the headquarters of the Ministry, who are unfortunately not be able to attend this meeting, asked me to deliver this message that the new Ministry and Chinese government will continue its strong support to PICES and will encourage more Chinese scientists to participate in and contribute to the PICES activities.

Finally, I would like to thank our host and the PICES Secretariat again. I look forward to a fruitful Governing Council meeting in these two days.

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Toshiaki Kobayashi
Japan Governing Council Member

Mr. Chairman and distinguished members of the Governing Council of PICES,

It is a great pleasure to attend the PICES 2019 Governing Council Meeting here in Victoria. On behalf of the Japanese delegation, I would like to express my sincere appreciation for the Secretariat and Canadian delegation for the preparation of this annual meeting. All members of the Japanese delegation are impressed by the beauty of this seaside city.

Japan is also a country surrounded by the sea, and seems directly affected by climate change. Recently, a devastating typhoon hit numerous areas of Japan and around 80 people lost their lives. Due to a series of natural disasters that affect Japan every year, people in our country have been recognizing, more than ever, the impacts of climate change on our lives. Not only Japan, but the entire world is being affected by global warming and we have to tackle this issue without borders of countries and disciplines as reported by IPCC.

The ocean plays a crucial role in absorbing atmospheric heat and carbon dioxide, and serves as a vital buffer against climate change. However, marine ecosystem is facing serious threats including the accumulation of plastic waste in the ocean.

This June, Japan hosted G20 Osaka Summit and participant countries shared “Osaka Blue Ocean Vision”, aiming to reduce additional pollution by marine plastic litter to zero by 2050. In order to achieve this objective, the Government of Japan launched “MARINE Initiative” that supports the reduction of marine plastic litter all over the world. Japan has formulated a “Long-term Strategy under the Paris Agreement”, toward full-scale operation of the Paris agreement next year. We will contribute to the climate change issues by realizing a virtuous cycle of the environment and growth through disruptive innovation.

PICES has played and continues to play an important role in a wide range of topics, conducting valuable research on marine science. Japan expresses its respect and appreciation to all those who have been working for the activities of PICES. I hope that today's discussion will further promote the mutual understanding among the member states and that all the member countries will reach a common understanding on enhancing various processes to ensure the future activities of PICES.

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Mr. Eun Won Yu
Korea Governing Council Member

Good morning, everyone. I am Eun-Won Yu, the director of the Marine Development Division for MOF, as the National Delegate for the Republic of Korea. To begin, I am so delighted to attend the PICES 2019 Annual Meeting here on Victoria, Canada. Furthermore, I extend my sincere gratitude to Canada for the hospitality and to the PICES Secretariat for giving a great amount of effort and commitment to make this Annual Meeting possible.

Recent problems related to Climate Change, Global Warming, and Environmental Pollution are spreading rapidly, becoming a threat to all of us. Let's not forget that multilateral action is taking place in scientific, technological, political, and social fields to find a solution. However, if these actions remain disassociated from one another, the consequences will likewise remain nominal. Thus, we need to connect the dots from these different fields, and make sure that the connections are synthesized, so that the problems can be dealt with in a faster and decisive manner.

On that note, this year's theme at the 2019 PICES Annual Meeting, which is "Connecting Science and Communities in a Changing North Pacific," is quite fitting as a contemporary motif, and brings us a meaningful implication at the same time.

Correspondingly, the Republic of Korea is reacting to issues like marine litter, microplastic and depletion of fish stocks by creating a system where professionals, local residents and governments are allowed to fully cooperate and share valuable information.

I truly hope that PICES member nations, researchers, and the local community can encourage participation and cooperation to cope with problems in the North Pacific Ocean. The Republic of Korea will affirm our commitment to scientific research activities in compliance with PICES agreement, and make sure that experts, including scientists, are given adequate support for continuing their research. We anticipate that the Republic of Korea will provide much contribution to the progress of PICES.

Furthermore, I take this time to acknowledge the work of Mr. Robin Brown, who has wisely guided PICES for the last six years as the Executive Secretary. Without his dedication, PICES would not have been able to experience such advancement.

We also look forward to PICES prosper continuously with the new Executive Secretary about to take office.

Once again, I thank the PICES Secretariat and Canada for hosting this Annual Meeting, which I believe, will certainly be a success upon its conclusion.

Thanks for listening.

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Igor Shevchenko
Russia Governing Council Alternate Delegate

Dear Mr. Chairman, distinguished delegates from member-countries, ladies and gentlemen:

On behalf of the Russian Federation I would like to thank our colleagues and friends from Canada for hosting the 28th PICES Annual Meeting in Victoria, home of PICES Secretariat, a beautiful city full of autumn colors and blossoming flowers.

PICES activities in the field of ocean sciences are growing and expanding, attracting more and more people, which is reflected in the statistics from this Annual Meeting: 630 people from 25 countries and 22 international organizations and programs attended the PICES-28 meeting. It clearly indicates that the interest in PICES activities is growing among scientists from member countries and far beyond.

We express our deepest thanks to the Local Organizing Committee and the PICES Secretariat who did their best to organize the meeting with its complicated structure when several, sometimes up to 9, science meetings were running concurrently. Now, after more than a week since the beginning of the meeting, it is clear to everyone that this Annual Meeting is a success.

Judging from what we have heard and seen at this meeting, it is evident that PICES not only successfully accumulates knowledge from different disciplines of ocean science, but now starts moving from the stage of collecting and analyzing various data sources to the stage of knowledge synthesis on marine ecosystems and using modern approaches for forecasting ecosystem change over time.

PICES is involved in joint scientific activities and projects with international bodies such as IOC and ICES, to name a few. PICES is ready to make its invaluable input into the UN Decade for Ocean Science and Sustainable Development, since it has long been working in the North Pacific within the recently suggested UN framework. PICES has established fruitful relationships and cooperation with marine science and fisheries management organizations in the North Pacific, such as NPAFC and NPFC. At this meeting, PICES provided a platform for discussion of the results from the multipurpose multinational cruise into the Gulf of Alaska on board of the Russian vessel with the goal to study marine pelagic ecosystems and, in particular,

Pacific salmon, using a vast array of techniques and approaches. Such joint research activities with multiple outcomes, when performed systematically, will certainly provide a deeper insight into the North Pacific marine ecosystem structure and function.

Our integrative science program FUTURE has been maturing, and as you all know, there was a recent publication in *Frontiers in Marine Science*, the FUTURE Synthesis paper, which incorporated the Social-Ecological-Environmental Systems framework to coordinate and integrate marine science within PICES and, in particular, suggested, through four case studies, the approach to analyze complex inter-relationships between marine ecosystems and coastal communities.

It is important to notice that PICES puts a lot of effort into getting new generations of young scientists involved in all its activities. As a result, numerous very good talks were presented by early career scientists at this annual meeting. Attracting younger generations to a broad variety of scientific and administrative issues is our investment in the PICES future.

Fisheries science in Russia is in the process of organizational and structural transformations. But as before, PICES is considered as a focal point for international marine ecosystem studies in the North Pacific Ocean.

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Cisco Werner and Enrique Curchitser
U.S.A. Governing Council Members

Mr. Chairman, Secretary and fellow General Council members:

We begin by thanking Canada, the city of Victoria and the local organizing committee for their warm welcome and for graciously hosting the PICES 2019 Annual Meeting. We also recognize the PICES Secretariat for its – as always – excellent organization and execution of every aspect, no matter how large or small. In this year’s meeting, there were nearly 700 registered participants. It was one of the largest PICES meetings we can recall. We are particularly encouraged by the large number of early career scientists, which are the future of the organization and a vote of confidence in its mission and science. Again, on behalf of the U.S. delegation, we extend our heartfelt congratulations and thank you to all.

In this meeting there were 15 topic sessions, 19 workshops, 4 sessions organized by the standing sections and a large poster session. We had sessions on effective science communication, emerging observational tools, new data analysis advances such as machine learning, microplastics, turbulence and much more. From molecules to humans, from rivers to global oceans. The vibrant and diverse PICES community was in full display. There are few opportunities to experience this range of scientific knowledge under one roof.

Once again, we meet on the heels of a devastating typhoon in Japan, fires in California and the well-publicized heatwave in the North Pacific Ocean. What we refer to as *extreme events* are becoming common occurrences. The impacts of these events on marine ecosystems and humans are measurable and significant. That is why the theme of this year’s meeting, *Connecting Science and Communities in a Changing North Pacific*, is particularly important. We recognize that the science this organization carries out can have significant impact on people’s well-being and national economies. It is precisely during these times that we look to work

together with our partners here in PICES to ensure the organization remains vibrant and relevant. That can only happen with all of our dedication and commitment.

Helping adaptation and building resilience in our communities is becoming ever more important. Pursuing fundamental knowledge of how the marine environment works is both challenging and important. Working towards accurate predictions on various timescales is essential. Effectively communicating our knowledge is a must. PICES is in a position to contribute not only to scientific and governmental entities, but also to a range of stakeholders increasingly in need of relevant information. With the upcoming UN International Decade of the Ocean, PICES can also have a leading role as a premier science organization in the North Pacific.

As PICES marches towards 30 years as an organization, we have acquired a significant timeseries of knowledge in the North Pacific. We must continue the work of synthesizing and sharing the information we have. We should continue to tackle emerging topics and improve the communication of that knowledge to our governments and communities through our publications and other media.

We take the opportunity to thank Dr. Hiroaki Saito for his outstanding service as Chair of the Science Board, and look forward to working with Dr. Vera Trainer, the next Chair. Dr. Trainer, based in NOAA's Northwest Fisheries Science Center (NWFSC), is a leading expert in the study of harmful algal blooms (HABs), an important topic for coastal communities. We are encouraged by the progress of the PICES science program FUTURE. Their recent synthesis paper in *Frontiers of Marine Science* and outreach material serve as affirmation of the quality of the work being carried out under the FUTURE umbrella and set the stage for future activities in the organization.

Finally, the US delegation recognizes that this is the last Governing Council meeting with Robin Brown as the Executive Secretary of the organization. For the record, we want to highlight his contributions to PICES and outstanding service over many years in the organization and in particular the last few as Executive Secretary.

On behalf of the entire US delegation, we again thank Canada, the City of Victoria, the Secretariat and the local organizing committee for successfully hosting this year's meeting.

Thank you.