

ICES WKSICCME_PROJECT REPORT 2015

SCICOM STEERING GROUP ON ECOSYSTEM PROCESSES AND DYNAMICS

ICES CM 2015/SSGEPD:19

REF. SICCME, SCICOM

Report of the ICES/PICES Workshop on Modelling Effects of Climate Change on Fish and Fisheries (WKSICCME_Project)

10–12 August 2015

Seattle, USA



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Recommended format for purposes of citation:

ICES. 2015. Report of the ICES/PICES Workshop on Modelling Effects of Climate Change on Fish and Fisheries (WKSICCME_Project), 10-12 August 2015, Seattle, USA. ICES CM 2015/SSGEPD:19. 3 pp. <https://doi.org/10.17895/ices.pub.8419>

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Executive summary

The ICES/PICES Strategic Initiative on Climate Change effects on Marine Ecosystems (SICCME) workshop on projecting modelling (WKSICCME_Project) took place on 10–12 August 2015 in Seattle, Washington, USA. The workshop was attended by 63 scientists from 10 nations. The workshop was convened by: Anne Hollowed (USA), Kirstin Holsman (USA), Shin-ichi Ito (Japan), Michio Kawamiya (Japan), Trond Kristiansen (Norway), Myron Peck (Germany), John Pinnegar (UK), Cisco Werner (USA). The workshop was funded by ICES, PICES, the Norwegian Research Council, NOAA's Climate Program Office and NOAA Fisheries.

WKSICCME was convened to:

- a) Identify a suite of representative future fishing and ecosystem scenarios that could be employed for use in evaluating climate change effects on fish and fisheries;
- b) Identify a suite of climate models and representative concentration pathways that would be used to project climate change;
- c) Identify suites of single species climate enhanced projection models, multi-species climate enhanced projection models, full food web (e.g., EcoSIM), and dynamic spatially explicit ecosystem models that would be used to project the implications of a) and b) on commercially important marine fish stocks in the northern hemisphere.

The first day of the meeting was devoted to background talks and discussion sessions to orient participants to the proposed tasking. A total of 10 talks were presented on Day 1 with facilitated discussions on focused topics. Days 2 and 3 were kicked off by six “lightning talks” to set the stage followed by facilitated discussions and breakout groups. The intra-disciplinary breakout groups focused on regional climate modelling, modelling biological responses, and modelling fish dependent community responses. Breakout session convenors reported in plenary on the key recommendations of the intra - disciplinary sessions.

The workshop was successful and will result in at least 4 papers that will be submitted to the peer reviewed literature. The group identified 14 potential regions where there was sufficient data to model the effects of climate change on fish and fisheries. The group recommended that a socio-economic workshop be proposed and convened in 2016 to address the range of possible management responses. The group clarified how the SICCME project is separate and distinct from a similar modelling activity, FISH-MIP.

Specific recommendations will be included in a longer report which will be presented at ICES/PICES SICCME meeting in autumn 2015. The group agreed on time lines and activities to keep the momentum in our project.