



US CLIVAR Summit 2014 Agenda
July 8-11, 2014
 Warwick Hotel, Denver, Colorado

Tuesday, July 8

Time	Agenda	Room
1745 – 1800	Check-in	Millennium Gallery
1800 – 1815	Welcome, introductions, meeting objectives, and outcomes (Bob Weller)	Millennium Ballroom
1815 – 1830	US CLIVAR overview (Mike Patterson)	
1830 – 1900	Working dinner	
1900 – 2030	ENSO Monitoring, Analysis, and Prediction Challenges <ul style="list-style-type: none"> • Challenges in Monitoring and Prediction for Current ENSO Conditions (Yan Xue) • Uncertainties in Prediction – An ENSO Perspective (Arun Kumar) 	Millennium Ballroom

Wednesday, July 9

Time	Agenda	Room
0730 – 0800	Refreshments/Check-in	Millennium Gallery
0800 – 0830	Morning Plenary (Mike Patterson , moderator) Implementing the US CLIVAR Science Plan (Bob Weller)	Millennium Ballroom
0830 – 0900	International CLIVAR Program update (Detlef Stammer)	
0900 – 1000	US agency engagement (Agency Managers)	
1000 – 1020	Break	Millennium Gallery
1020 – 1040	Coordinated Ocean-Ice Reference Experiments (CORE) (Gokhan Danabasoglu)	Millennium Ballroom
1040 – 1105	Process-Oriented Model Diagnostics (Jim Kinter)	
1105 – 1230	Science Team and Working Group reports (20 min each) Introduction (Mike Patterson) US AMOC (Gokhan Danabasoglu) Eastern Tropical Ocean Synthesis (Tom Farrar) Hurricanes WG (Suzana Camargo) Extremes WG (Matt Barlow)	
1230 – 1350	Lunch on your own	
1350 – 1510	Working Group reports (20 min each) Greenland Ice Sheet/Ocean Interactions (Fiamma Straneo via webcast)	Millennium Ballroom

	Southern Ocean Heat & Carbon Uptake (Joellen Russell , Igor Kamenkovich) Ocean Carbon Uptake in CMIP5 Models (Taka Ito via webcast) ENSO Diversity (Antonietta Capotondi)	
1510 – 1530	Break	Millennium Gallery
1530 – 1600	Special Session: Progress and Prospects for Connecting Predictions, Applications, and Decision Making in the United States (Gregg Garfin) <ul style="list-style-type: none"> • Introduction: goals, participants, format • US CLIVAR overview of science challenges and uncertainties 	Millennium Ballroom
1600 – 1700	Special Session: Progress and Prospects for Connecting Predictions, Applications, and Decision Making in the United States <i>Climate Applications Science and Services Session: concerns, needs, key process, modeling, and prediction questions</i> Panelists: <ul style="list-style-type: none"> • Water Resources - Jim Prairie (US Bureau of Reclamation) • Natural Resources – Shawn Carter (USGS) • Agriculture and Forestry - Linda Joyce (USDA-Forest Service) • Marine and Ocean Environments - Mike Alexander (NOAA Earth System Research Lab, on behalf of NOAA NMFS) • Experimental Applied Climate Science and Services - Robin Webb (NOAA Earth System Research Lab) 	
1700 – 1725	Facilitated discussion	
1725 – 1730	Questions to be addressed by Panels	
1830 – 2000	Networking event	

Thursday, July 10

Time	Agenda	Room
0730 – 0800	Refreshments	Millennium Gallery
0800 – 0830	Charge to the panel breakouts (Bob Weller)	Millennium Ballroom
0830 – 1200	Panel breakouts (break at 1000) Phenomena, Observations & Synthesis Process Study Model Improvement Predictability, Predictions and Applications Interface (See below for detailed agenda of breakout sessions)	Millennium Ballroom; Cambridge; Executive
1200 – 1330	Lunch on your own	

1330 – 1730	Breakouts resume (break at 1500)	
1730	Break for day; dinner on your own	

Friday, July 11

Time	Agenda	Room
0730 – 0800	Refreshments	Millennium Gallery
0800 – 1000	Panel breakouts (continued) Phenomena, Observations & Synthesis Process Study Model Improvement Predictability, Predictions and Applications Interface	Millennium Ballroom; Cambridge; Executive
1000 – 1030	Break	Millennium Gallery
1030 – 1130	Plenary (Janet Sprintall , moderator) Panel breakout summaries and action items (Panel Co-chairs , each 15 min presentation plus 5 min Q&A)	Millennium Ballroom
1130 – 1200	Conclusions and Next Steps (Bob Weller)	
1200	Summit adjourns	

Breakout Sessions

POS Panel Breakout - Thursday, July 10

Time	Agenda	Room
0830 – 0845	Welcome, session objectives and outcomes (Dimitris Menemenlis)	Cambridge
0845 – 1000	Session 1: Evaluation of Ocean Phenomena, Observations, and Synthesis	
0845 – 0905	Review of November NCWCP GODAE Symposium and Real-time multiple ocean reanalyses intercomparison to quantify uncertainties in ocean reanalyses (Yan Xue)	
0905 – 0925	El Nino, La Nina, and Walker Circulation (David Halpern)	
0925 – 0945	Review Obs4MIPS and Ana4MIPS (Felix Landerer via webcast)	
0945 – 1000	Discussion on key challenges and opportunities (Yan Xue)	
1000 – 1030	Break	
1030 – 1200	Session 2: Utilization of Ocean Observations and Synthesis	Cambridge
1030 – 1050	ENSO diversity and impacts (Antonietta Capotondi)	
1050 – 1110	Pacific Ocean decadal variability and ecosystem response (Art Miller)	
1110 – 1130	Deeper ocean remote sensing and deeper ocean response to climate change and hiatus (Xiao-Hai Yan)	
1130 – 1150	Arctic climate change and extreme midlatitude events: Observational analysis and modeling investigation (Xiangdong Zhang)	
1150 – 1200	Discussion on key challenges and opportunities (Antonietta Capotondi)	
1200 – 1330	Lunch on your own	
1330 – 1500	Session 3: Joint Session with PPAI on Observation and Synthesis Requirements for Predictability and Prediction Studies	Millennium Ballroom
1330 – 1350	Recommendations of the 2012 CLIVAR/GSOP/WHOI air-sea flux workshop, follow-on activities, and specific recommendations for reducing air-sea flux estimation errors (Lisan Yu)	
1350 – 1410	International Quality Controlled Ocean Database (IQuOD) (Janet Sprintall)	
1410 – 1430	Predictability resulting from subsurface climate variability in the Pacific (Emanuele Di Lorenzo via recording)	
1430 – 1450	Advancing the Nation's capability to anticipate tornado and severe weather risk (Scott Weaver)	
1450 – 1500	Discussion on key challenges and opportunities (Lisan Yu)	
1500 – 1530	Break	

1530 – 1640	Session 4: Joint Session with PSMI on Diagnostic Tools and Metrics for Intercomparison of Reanalyses and Utilization of innovation, Increments, and Residuals	Capitol
1530 – 1540	Innovation, increments, and residuals: Definitions and examples (Patrick Heimbach)	
1540 – 1550	Example utilization of residuals: Arctic Halocline and Antarctic Slope Front (Dimitris Menemenlis)	
1550 – 1600	Challenges in evaluating lower-dimensional features (Gad Levy)	
1600 – 1615	Metrics based on fuzzy similarities between lower dimensional features for intercomparison of reanalyses (Barnabas Bede)	
1615 – 1640	Discussion on key challenges and opportunities (Detlef Stammer)	
1645 – 1730	Session 5: Automatic Differentiation Tools	Cambridge
1645 – 1700	Automatic differentiation tools (Patrick Heimbach)	
1700 – 1710	Fuzzy differentiation tools (Barnabas Bede)	
1710 – 1730	Discussion on key challenges and opportunities (Detlef Stammer)	
1730	Break for day, dinner on your own	

POS Breakout Continued - Friday, July 11

0730 – 0800	Light breakfast	Millennium Gallery
0800 – 1000	Session 6: Need for Sustained and Improved Ocean Observations and Synthesis	Cambridge
0800 – 0820	Climate variability in under sampled regions: South Atlantic MOC and tropical Atlantic (Renellys Perez)	
0820 – 0840	Need for sustained and improved ocean observations and synthesis for water cycle studies (Subrahmanyam Bulusu)	
0840 – 0900	Extremes Working Group perspective on need for sustained and improved observations (Matt Barlow)	
0900 – 0930	Discussion on key challenges and opportunities (Renellys Perez)	
0930 – 1000	Wrap up discussion: Summary, recommendations, workshops, and working groups (Yan Xue and Dimitris Menemenlis)	

PSMI Panel Breakout - Thursday, July 10

Time	Agenda	Room
0830 – 0845	Welcome, session objectives, and outcomes	Executive
0845 – 1000	Session 1: Process Study Reviews	
0845 – 0900	ASIRI (Amala Mahadevan)	
0900 – 0915	SPURS 1 and SPURS 2 (Tom Farrar)	
0915 – 0930	DYNAMO (Chidong Zhang)	
0930 – 0945	Year of Maritime Continent (Chidong Zhang)	
0945 – 1000	Marginal Ice Zone and Arctic Sea State (Craig Lee)	
1000 – 1030	Break	
1030 – 1200	Session 2: Joint Session with PPAI on Modeling Metrics for Quantifying Predictions and Predictability Limits	Millennium Ballroom
1030 - 1045	The Drought Task Force Drought Assessment Protocol and use to evaluate model improvements (Andy Wood, webcast)	
1045 – 1100	Methods for identifying science-limited (and noise-limited) metrics/measurements of the ocean state (Kathy Pegion)	
1100 – 1115	Predictions using fuzzy metrics-based aggregation of climate models (Barnabas Bede)	
1115– 1130	Metrics from the Perspective of the Practitioner's Dilemma (Joe Barsugli)	
1130 – 1200	Discussion on key challenges and opportunities (Bruce Anderson and Gad Levy)	
1200 – 1315	Lunch on your own	
1315 – 1345	Session 1 (cont.): Review of process study written reports <ul style="list-style-type: none"> • DIMES (by Jim Ledwell) • IASLCIP (by Vasu Misra) • OSNAP and N. Atlantic/Arctic (by Fiamma Straneo) • SAMOC (by Renellys Perez) • SOCRATES (by Rob Wood) • Eastern Tropical Atlantic (by Paquita Zuidema) 	Executive
1345 – 1415	Discussion of process studies	
1415 – 1515	Session 3: CPT reviews	
1415 – 1430	Internal wave driven mixing in global ocean models (Gokhan Danabasoglu)	
1430 – 1445	Ocean mixing processes associated with high spatial heterogeneity in sea ice and the implications for climate models (Gokahn Danabasoglu)	
1445 – 1500	Cloud parameterization and aerosol indirect effects (Vince Larson, webcast)	
1500 – 1515	Stratocumulus to cumulus transition (Joao Teixeira, webcast)	
1515 – 1530	Break	

1530 – 1630	Session 4: Joint Session with POS – Diagnostic Tools and Metrics for Intercomparison of Reanalyses and Utilization of Innovation, Increments, and Residuals	Capitol
1530 – 1540	Innovation, increments, and residuals: Definitions and examples (Patrick Heimbach)	
1540 – 1550	Example utilization of residuals: Arctic Halocline and Antarctic Slope Front (Dimitris Menemenlis)	Capitol
1550 – 1600	Challenges in evaluating lower-dimensional features (Gad Levy)	
1600 – 1615	Metrics based on fuzzy similarities between lower dimensional features for intercomparison of reanalyses (Barnabas Bede)	
1615 – 1640	Discussion on key challenges and opportunities (Detlef Stammer)	
1640 – 1730	Session 3 Cont.: Discussion of CPTs (current and future)	Executive
1730	Break for day, dinner on your own	

PSMI Breakout Continued - Friday, July 11

0730 – 0800	Light breakfast	Millennium Gallery
0800 – 0900	Session 5: PSMI Discussion: Synthesize reports, big picture view, future foci	Executive
0900 – 1000	PSMIP wrap-up discussion	

PPAI Panel Breakout - Thursday, July 10

Time	Agenda	Room
0830 – 0900	Welcome, session objectives and outcomes	Millennium Ballroom
0900 – 1000	Session 1: Benchmarking predictions and predictability limits	
	Identify and prioritize strategies that: <ul style="list-style-type: none"> • Identify “science-limited” targets that offer the most promise for improved predictability of the ocean and climate • Determine best practices for quantifying improvements in predictions and projections • Provide/solicit guidance on methods of communicating these improvements (and limitations) to broader research, operational and user communities Speakers: Arun Kumar , Mike Alexander , Kathy Pegion	
1000 – 1030	Break	
1030 – 1200	Session 2: Joint session with PSMI on Modeling Metrics for Quantifying Predictions and Predictability Limits	Millennium Ballroom
1030 - 1045	The Drought Task Force Drought Assessment Protocol and its use to evaluate model improvements (TBD)	
1045 – 1100	Methods for identifying science-limited (and noise-limited) metrics/measurements of the ocean state (Kathy Pegion)	
1100 – 1115	Predictions using fuzzy metrics-based aggregation of climate models (Barnabas Bede)	
1115– 1130	Metrics from the Perspective of the Practitioner's Dilemma (Joe Barsugli)	
1130 – 1200	Discussion on key challenges and opportunities (Bruce Anderson and Gad Levy)	
1200 – 1330	Lunch on your own	
1330 – 1500	Session 3: Joint Session with POS on Observation and Synthesis Requirements for Predictability and Prediction Studies	Millennium Ballroom
1330 – 1350	Recommendations of 2012 CLIVAR/GSOP/WHOI air-sea flux workshop, follow-on activities, & specific recommendations for reducing air-sea flux estimation errors (Lisan Yu)	
1350 – 1410	International Quality Controlled Ocean Database (IQuOD) (Janet Sprintall)	
1410 – 1430	Predictability resulting from subsurface climate variability in the Pacific (Emanuele Di Lorenzo via recording)	
1430 – 1450	North American hydroclimate variability in observationally constrained and climate model datasets (Scott Weaver)	
1450 – 1500	Discussion on key challenges and opportunities (Lisan Yu)	
1500 – 1530	Break	

1530 – 1700	Session 4: Implementing strategies for connecting predictions, applications, and decision making	Millennium Ballroom
	Identify and prioritize scientific, programmatic, and administrative strategies and action items needed to make progress in connecting predictions, applications, and decision making efforts	
1730	Break for day, dinner on your own	

PPAI Breakout Continued - Friday, July 11

0730 – 0800	Light breakfast	Millennium Gallery
0800 – 1000	Session 5: Continuation of implementation strategies for connecting predictions, applications, and decision making and a wrap-up discussion	Millennium Ballroom