Through prediction, S2S activities connect basic science to users and services.

S2S embodies the seamless prediction paradigm, across timescales, and from science to use.
Emerging Opportunities & Issues

• S2S connects WCRP core science (Obj 1) with risk management (Obj 4) through forecasts and early warning system development activities.
  • 6 Science subprojects
  • 16 Climate-service demonstration projects spanning GFCS priority areas.
  • R2O: Still big issue with low S2S precip skill over land.
• S2S strongly linked operationally & regionally
  • WMO GPCS, NMHSs, RCCs, RCOFs (R2O)
  • CORA: opportunity to connect Objs 2+3 through Obj 4
  • Downscaling question: potential to link w/ CORDEX
• Data infrastructure integration
  • Ocean/Sea-Ice fields are now being added to the S2S database
  • Existing integration thru IRI Data Library to S2S, SubX, NMME, EU-C3S for server-side computing
  • Weather & Climate data needs Big Data community platform in cloud for access/analysis (incl. AI)
• Education & capacity building though WMO trainings & regional institutions like APCC & RIMES: WCRP/WMO Academies?

s2sprediction.net
Additional Slides
S2S Linkages

**GEWEX-GASS WGSIP**
Land-atmosphere coupling & initialization
MIPS: LS4P, LFMIP-OBS, GLACE-ESM
SnowGLACE.

**CLIVAR, CliC**
Ocean
coordinated case studies of ocean extreme events & air-sea interaction. Sea ice prediction assessment. Impact of the ocean obs system.

**WGNE, GAW Aerosols**
S2S/WGNE coord expt with/without interactive aerosols.
4-6 modeling centers

**WGNE, PDEF DAOS**
Ensembles
Stochastic physics sensitivity expt.

**SPARC**
Stratosphere
Nudging expts to better understand impact of SSWs. Also impact of QBO on the MJO.

**WGSIP, WWRP MJO**
Teleconnections
Systematic errors Relationships

**WGSIP, WWRP**
MJO
Teleconnections
Systematic errors Relationships

**WMO, JWGFV**
Research 2 Operations
Criteria for GPCs & S2S Lead Centre
Verification scores, MME methods, calibration, product development research

**WWRP-SERA**
Real-time Pilot Initiative
How the Normally Hard-Hit Philippines Just Averted Major Typhoon Damage

Forecast issued on 2 Dec 2019. “Week 1”

Forecast issued on 11 Nov. 2019. “Week 4”

Enhanced strike probability predicted over 3 weeks in advance
Major damage averted through better prep - Longer lead forecasts are critical to robust risk management.