19th JCSDA Science Workshop and Tech Review

Day 1: Tuesday, May 16, 2023

Time	Presentations / Topics / Activities	Presenter
8:00 AM – 9:00 AM	REGISTRATION AND CONTINENTAL BREAKFAST	
9:00 AM – 9:10 AM	Welcome from JCSDA Director and Chairman of the Management Oversight Board (MOB)	Dr. Thomas Auligné; Dr. Mike Farrar (NOAA)
	Agency Overview	**Session Monitor: Dr. Jim Yoe**
9:10 AM – 9:30 AM	Introduction from the MOB	MOB Members
9:30 AM – 9:45 AM	Agency Partner Overview (NOAA/NWS)	Daryl Kleist (NWS/NCEP)
9:45 AM – 10:00 AM	Agency Partner Overview (NASA)	Ron Gelaro (NASA/GMAO)
10:00 AM – 10:15 AM	Agency Partner Overview (USAF)	Anil Rao (USAF Weather) (TBC)
10:15 AM – 10:30 AM	Agency Partner Overview (NOAA/OAR)	Curtis Alexander (NOAA/OAR)
10:30 AM – 11:00 AM	MORNING BREAK	
11:00 AM – 11:15 AM	Agency Partner Overview (Navy)	Nancy Baker (Navy/NRL)
11:15 AM – 11:30 AM	Agency Partner Overview (NOAA/NESDIS)	Laurie Rokke (NESDIS/STAR)
11:30 AM – 11:45 AM	Agency Observer Overview (NCAR)	Chris Snyder (NCAR/MMM)
11:45 AM – 12:00 PM	Agency Observer Overview (Met Office)	David Simonin (Met Office)
12:00 PM – 1:20 PM	LUNCH BREAK	
	Observation Processing	**Session Monitor: Dr. Krishna Kumar**
1:20 PM – 1:40 PM	Estimating Observation Error Correlation Matricies in JEDI-Skylab and Assessing their Impact	Lindsey Hayden (UCAR/JCSDA)
1:40 PM – 2:00 PM	Introduction to RO Modeling EXperiment (ROMEX)	Hui Shao (UCAR/JCSDA)
2:00 PM – 2:20 PM	En-3DEnVar and GNSSRO Observation Error tuning with JEDI-MPAS	Jonathan J. Guerrette (Tomorrow.io)
2:20 PM – 2:40 PM	All-Sky Geostationary Satellite Radiance Data Assimilation in JEDI Using CRTM	Greg Thompson (UCAR/JCSDA)
2:40 PM – 3:00 PM	AFTERNOON BREAK	
	Community Radiative Transfer Model (CRTM)	**Session Monitor: Dr. Ron Gelaro**
3:00 PM - 3:20 PM	Community Radiative Transfer Model: Research to Operational Innovation	Benjamin Johson (UCAR/JCSDA)
3:20 PM - 3:40 PM	CRTM microwave cloud scattering lookup tables and radar simulator	Isaac Moradi (NASA GMAO/UMD)
3:40 PM – 4:00 PM	Advances in CRTM aerosol simulations with v3 release	Cheng Dang (UCAR/JCSDA)
4:00 PM – 5:00 PM	**Poster Session #1**	
	The transition of Conventional Observations Assimilated in GSI to JEDI: Status and Challenges"	Wei Gu (NASA/GSFC)
	All-sky ATMS radiance data assimilation with JEDI-MPAS	Junmei Ban (NCAR/MMM)
	Comparison of GNSSRO operators with JEDI hybrid 3DEnVar	Hailing Zhang (UCAR/COSMIC and JCSDA)
	Estimating the impact of commercial GNSSRO observations with an Ensemble of Data Assimilations approach	Francois Vandenberghe (UCAR/JCSDA)
	Implementation of Observations in the Navy's NEPTUNE-JEDI	Nancy Baker (Naval Research Lab)
	Assimilation of FORMOSAT-7/COSMIC-2 GNSS RO Data in the Central Weather Bureau Numerical Weather Prediction System	Ting-Chi Wu (Central Weather Bureau, Taiwan)
	The Transition of Satellite Observations Assimilated in GEOS ADAS to JEDI: Status and Challenges	Jianjun Jin (NASA/GMAO)

Day 2: Wednesday, May 17, 2023

Time	Presentations / Topics / Activities	Presenter
8:00 AM – 9:00 AM	CONTINENTAL BREAKFAST	
	Marine Applications	**Session Monitor: Dr. Lidia Cucurull**
9:00 AM – 9:20 AM	Implementation of JEDI/SOCA in EMC's weakly coupled GDAS	Guillaume Vernieres (NOAA/NWS/CEP)
9:20 AM – 9:40 AM	Progress towards the assimilation of Ocean color radiances data	Hamideh Ebrahimi & Travis Sluka (UCAR/JCSDA)
9:40 AM – 10:00 AM	Preliminary Results of JEDI SOCA-Science 3DVAR Application to HAFS	Yongzuo Li (SAIC @ NOAA/EMC)
10:00 AM – 10:30 AM	MORNING BREAK	
	Atmosphere, Land, and Coupled Applications	**Session Monitor: Dr. Terra Ladwig**
10:30 AM – 10:50 AM	Towards convective-scale data assimilation with global and regional JEDI-MPAS	Jake Liu (NCAR/MMM)
10:50 AM – 11:10 AM	An Update on the Navy's JEDI-enabled NEPTUNE Data Assimilation System	Sarah King (U.S. Naval Research Laboratory)
11:10 AM – 11:30 AM	Accelerating transition to JEDI ensemble solvers for coupled data assimilation in the GEFS system	Sergey Frolov (NOAA/OAR/PSL)
11:30 AM – 11:50 AM	JEDI application in Assimilation and Evaluation of GTS Synoptic Snow Depth Observations into NCEP Operational FV3GFS System	Jiarui Dong (Lynker @ NOAA/NCEP/EMC)
12:00 PM – 1:20 PM	LUNCH BREAK	
	Composition Applications	**Session Monitor: Dr. Sarah Lu**
1:20 PM – 1:40 PM	The JEDI atmospheric COMPOsition project: progress and plans	Jérôme Barré (UCAR/JCSDA)
1:40 PM – 2:00 PM	Development of JEDI-Based 3D-EnVar Aerosol Assimilation System for Global Aerosol Forecasting at NOAA	Mariusz Pagowski (CIRES and NOAA/OAR)
2:00 PM – 2:20 PM	Data assimilation of atmospheric composition using JEDI-SKYLAB	Maryam Abdi-Oskouei (UCAR/JCSDA)
2:20 PM – 2:40 PM	Aerosol-aware thermal infrared radiance data assimilation	Shih-Wei Wei (University at Albany)
2:40 PM – 3:00 PM	AFTERNOON BREAK	
3:00 PM – 4:00 PM	JCSDA SkyLab Presentation and Live Demo	
4:00 PM – 5:00 PM	**Poster Session #2**	
	A Cycling Ocean Variational Data Assimilation Workflow using GEOS and SOCA	Dorukhan Ardag (NASA/SSAI)
	Evaluation of different data assimilation methods with regional MOM6 using JEDI-SOCA	Kriti Bhargava (UCAR/JCSDA)
	Integrating JEDI and METplus for evaluation of atmospheric composition	Sarah Lu (Univ. of Albany and UCAR/JCSDA)
	Observation impact measures in JEDI-Skylab	Fabio Diniz (UCAR/JCSDA)
	Hybrid Tangent Linear Models in JEDI	Christian Sampson (UCAR/JCSDA)
	Integrating Jupyter Notebook into Eva for On-the-Fly Exploration of Data Assimilation Diagnostics	Akira Sewnath (NASA Goddard)

Day 3: Thursday, May 18, 2023		
Time	**Presentations / Topics / Activities**	**Presenter**
8:00 AM – 9:00 AM	CONTINENTAL BREAKFAST	
	Joint Effort for Data assimilation Integration (JEDI)	**Session Monitor: Dr. Dan Holdaway**
9:00 AM – 9:20 AM	Taking the guesswork out of software environments: how spack-stack enables research and development, research to operations, and operations to research	Dom Heinzeller (UCAR/JCSDA)
9:20 AM – 9:40 AM	Leveraging Cloud Computing for JEDI Infrastructure	Ashley Griffin & Evan Parker (UCAR/JCSDA)
9:40 AM – 10:00 AM	Bringing GSI Background Error Covariance Capability to JEDI: Status Update	Ricardo Todling (NASA/GMAO)
10:00 AM – 10:30 AM	MORNING BREAK	
10:30 AM – 10:50 AM	UFS model in skylab	Clementine Gas (UCAR/JCSDA)
10:50 AM – 11:10 AM	The VAriable DErivation Repository (VADER)	Steven Vahl (UCAR/JCSDA)
11:10 AM – 11:30 AM	Delivering FAIR principles through IODA and R2D2 to enable leading edge NWP science	Eric Lingerfelt & Stephen Herbener (UCAR/JCSDA)
11:30 AM – 12:00 PM	Field-of-view averaging: adding non-local obs operators in JEDI	Francois Hebert (UCAR/JCSDA)
12:00 PM – 12:30 PM	**Wrap Up and Closing of the Workshop**	