

2012 SPARC Data Assimilation Workshop
Fidel Center 3rd Floor Conference Area,
New Mexico Institute of Mining and Technology, Socorro, New Mexico
11–13 June 2012

AGENDA
(v2.2, 9 July 2012)

Monday Morning 11 June 2012 (Chair: Manney/Minschwaner)

8:30–9:00 Registration

9:00–9:20 Welcome:

Mary Dezemeber, NMT Associate VP for Academic Affairs
Ken Minschwaner, David Jackson, Gloria Manney

Session 1 – SNAP

9:20–10:00 P. Hitchcock et al (Invited), *Stratospheric Predictability and the Arctic Polar-night Jet Oscillation*

10:00–10:40 M. Charron, et al (Invited), *The Stratospheric Extension of the Canadian, Global Deterministic Medium Range Weather Forecasting System and its Impact on Tropospheric Forecasts*

10:40–11:10 Coffee Break/Poster Viewing

11:10–11:30 Y. Zyulyaeva & S. Gulev, *Troposphere-Stratosphere Interaction Diagnostics of the 3D Eliassen-Palm Flux and its Association with the North Pacific SST in Different NWP Products*

11:30–11:50 D. Jackson, *Intercomparison of Operational Stratosphere-resolving Global NWP Systems*

11:50–12:10 SNAP Discussion (Charron/Jackson leading)

12:10–1:30 Lunch/Poster Viewing

Monday Afternoon 11 June 2012 (Chair: Schwartz/Davis)

Session 2 – Gravity Waves (GW)

1:30–2:10 J.M. Alexander (Invited), *Gravity Waves: Contrasting Observations and their Representation in Climate Models*

2:10–2:40 M. Pulido et al, *A Model Independent Technique Based on the Ensemble Kalman Filter to Estimate Unresolved Gravity Wave Drag: Evaluation on the Lorenz 96 Model*
+material from:

G. Scheffler & M. Pulido, *Impact of Gravity Wave Drag Parameter Estimation using Data Assimilation on the General Circulation of the Middle Atmosphere*

2:40–3:00 Poster Previews

3:00–4:00 **Poster Session I**

4:00–4:40 D. Siskind (Invited), *Case Studies of the Middle Atmospheric Response to Gravity Wave Drag using NPGAPS-ALPHA at Varying Resolutions*

4:40–5:00 R.S. Lieberman, *Tidal Variability in NOGAPS-ALPHA*

5:00–5:20 GW Discussion (Alexander leading)

5:30 GW Side Meeting

6:00 Icebreaker

Tuesday Morning 12 June 2012 (Chair: Hitchcock/Santee)

Session 3 – S-RIP I

9:00–9:20 M. Fujiwara & S. Polavarapu, *SPARC Reanalysis/Analysis Intercomparison Project (S-RIP)*

9:20–10:00 M. Rex (Invited), *Studies of the Tropical Tropopause Region and Polar Ozone Loss – Two Areas that are Particularly Sensitive to Uncertainties in Meteorological Fields from Data Assimilation Systems*

10:00–10:20 C. Long et al, *Usefulness of the Recent Reanalyses to Provide Indicators of Climate Change*

10:20–10:40 S. Chabrilat et al, *Fitness of Meteorological Analyses by ECMWF and CMC to Model Tracer Transport in the Arctic Vortex 2010-2011*

10:40-11:10 Coffee Break/Poster Viewing

11:10–11:50 K. Rosenlof (Invited), *The Stratospheric Mean Meridional Circulation as Diagnosed from Reanalyses*

11:50–12:10 A.E. Dessler & M.R. Schoeberl, *On the Control of Stratospheric Water Vapor and the Implications for Climate Change*

12:10–12:30 S. Davis et al, *A Multi-diagnostic Intercomparison of Tropical Width Time Series Using Models, Reanalyses, and Satellite Observations*

12:30–2:00 Lunch/Poster Viewing/S-RIP Side Meeting

Tuesday Afternoon 12 June 2012 (Chair: Fujiwara/Dessler)

Session 4 – S-RIP II

- 2:00–2:20 G.L. Manney et al, *Climatology and Variability of Upper Tropospheric/Lower Stratospheric Jets from MERRA Reanalysis*
- 2:20–2:40 M.J. Schwartz et al, *Characteristics of Multiple Tropopauses in Data Assimilation Systems as a Context for Analysis of Satellite-based Trace Gas Measurements*
- 2:40–3:00 S. Davis et al, *Variability and Trends in Effective Diffusivity from Reanalysis, and their Implications for Stratospheric Circulation Changes*
- 3:00-3:20 S-RIP discussion (Fujiwara leading)
- 3:20–4:20 **Poster Session II**

Session 5 – DAS

- 4:20–4:40 J.P. McCormack et al, *High Altitude Data Assimilation at the Naval Research Laboratory: Recent Results and Future Directions*
- 4:40–5:00 C. Long et al, *Current and Future Plans at NCEP for Reanalysis*
- 5:00–5:20 L. Neef & K. Matthes, *Assimilating Observations of Atmospheric Angular Momentum: Synthetic-Observation Experiments with NCAR's Community Atmospheric Model*
- 5:20-5:40 Q. Errera & R. Menard, *Spectral Representation of Spatial Correlations in Variational Assimilation Systems with Grid Point Models: Application to the Belgian Assimilation System of Chemical Observations (BASCOE)*
- 6:30 Workshop Dinner (NMT Macey Center, North Patio)

Wednesday Morning 13 June 2012

(Chair: Alexander/Jackson)

Session 6 – Chem DAS

- 9:00–9:20 J.L. Neu et al, *Joint Assimilation of Tropospheric Emission Spectrometer and Microwave Limb Sounder Ozone Measurements in the GEOS-Chem Chemistry Transport Model*
- 9:20–9:40 K. Wargan et al, *Recent Advances in Ozone Data Assimilation at the GMAO - Towards a New Reanalysis*
- 9:40–10:00 M. Keller et al (presented by D. Jones), *Assimilating MOPITT CO*

Observations in GEOS-CHEM using a Weak Constraint 4D-Var Algorithm

- 10:00–10:20 F. Kolonjari et al, *ACE-FTS Measurements of Anthropogenic Ozone Depleting Substances*
- 10:20–10:50 Coffee Break/Poster Viewing
- 10:50–11:10 J. deGrandpre et al, *On the prognostic treatment of stratospheric ozone in the Environment Canada global NWP model*
- 11:10–11:30 T. Verhoelst, et al, *Parameterized Observation Operators and Their Application on Illustrative 3D Atmospheric Chemical Fields*
- 11:30–12:30 Overall Discussion/Wrap-up/Future Plans (Jackson Leading)
- 1:30 VLA Tour

Posters:

Session I, staffed Monday afternoon

- M.L. Santee et al, *Variations in trace gas distributions in the upper troposphere and stratosphere deduced from Aura Microwave Limb Sounder measurements and their relationship to the strength of transport barriers diagnosed from meteorological analyses*
- W.H. Daffer et al, *Intercomparisons of Upper Tropospheric/Lower Stratospheric Jet and Tropopause Diagnostics in Operational Data Assimilation Products*
- G.L. Manney et al, *Stratospheric Sudden Warming Signatures in Satellite Data and Data Assimilation Systems: Stratopause Evolution and Transport*
- S. Bancala et al, *Analyzing the Preconditioning of Major SSWs in ECMWF Assimilations* (presented by G. Manney)
- J. France et al, *A Climatology of Stratopause Temperature and Height in the Polar Vortex and Anticyclones*
- J. Xu & A.M. Powell Jr, *Uncertainty of the Stratospheric/Tropospheric Temperature Trends in 1979-2008: Multiple Reanalyses, MSUs, and Radiosondes*

Session II, staffed Tuesday afternoon

K.W. Hoppel et al, *Assimilation of SSMIS UAS brightness temperature observations for mesospheric analysis* (presented by J. McCormack)

S. Skachko et al, *Ensemble-based Data Assimilation for Stratospheric Chemistry* (presented by Q. Errera)

A. Lambert et al, *Aura MLS Near-Real-Time Processing Stream for use in Data Assimilation and in Support of SEAC4RS* (presented by M. Schwartz)

W.A. Lahoz et al, *Monitoring Air Quality: the Role of OSSE's in Determining the Future Global Observing System* (presented by Q. Errera)

R.S. Lieberman et al, *Doppler Wind and Temperature Sounder*