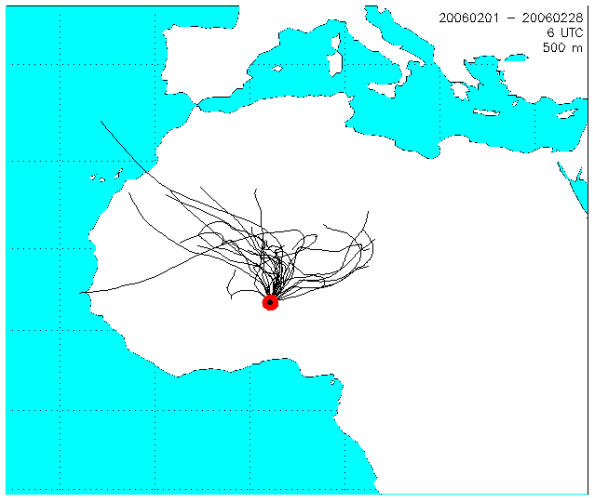
Routine Back-Trajectories

Joint A/RPWG Meeting
Madison, WI

HYSPLIT-4 run params

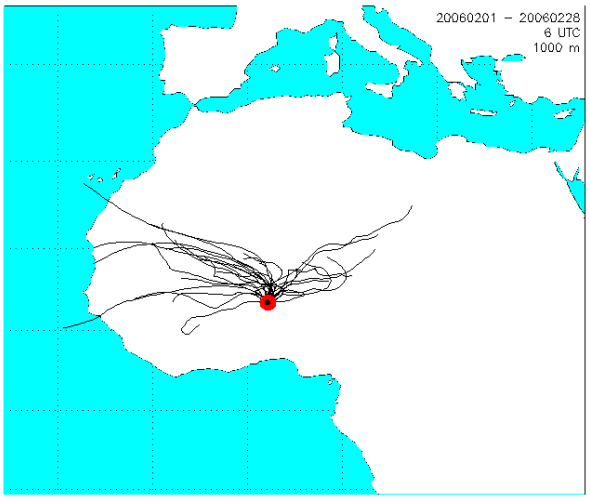
- Met-data input:
  - since Dec. 2004 GDAS (global, 1x1deg, 23 pressure levels)
  - since 1948 reanalysis (global, 2.5x2.5, 17 pressure levels)
- 5 altitudes (10, 500, 1000, 2000, 4000 m)
- 4 runs/day (0Z, 6Z, 12Z, 18Z)
- 10 day long
- Vars: RH, theta, temp, rain, mixdepth, terrain, solar
- takes 0.9 hr for 1 site (NIM) on SunFire 240 (XDC development server)
  per site, but running multiple (6) sites once increases only to 1.5 hr
- NIM for all of 2006-01-01/2007-01-31 ready by end of the week.

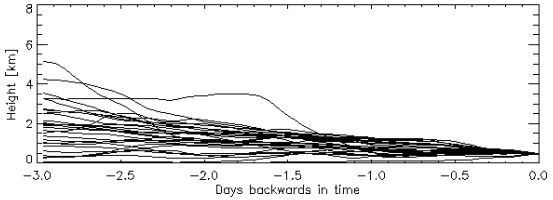


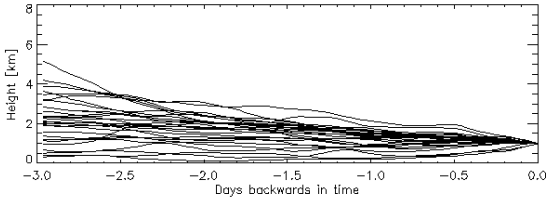
06 UTC

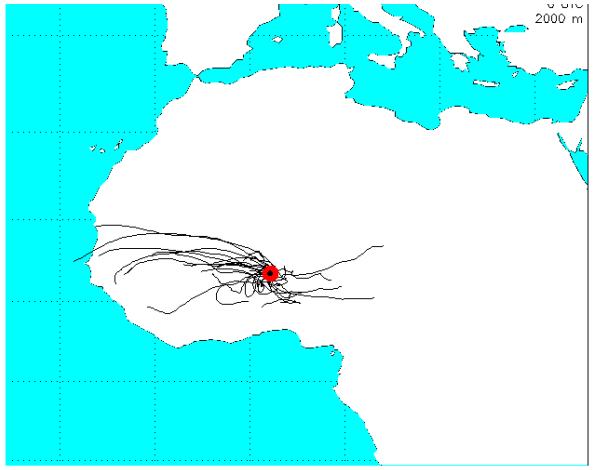
500 m

1000 m









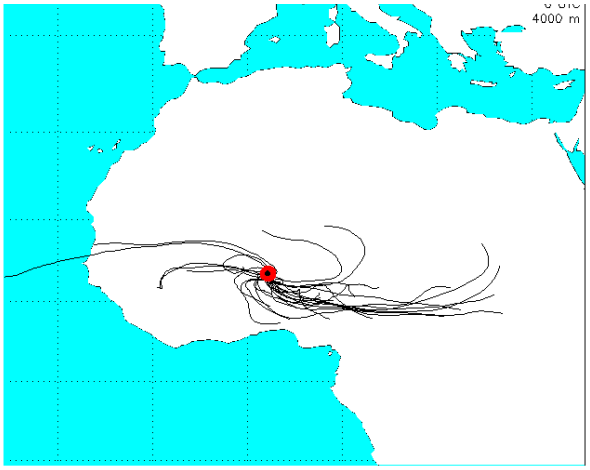
Dave Turner

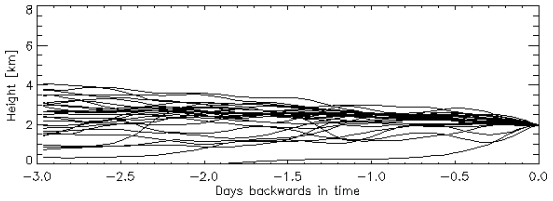
Sample Plots

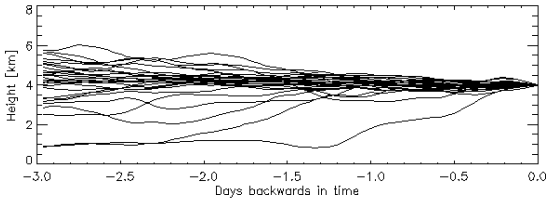
NIM 2006-02

2000 m

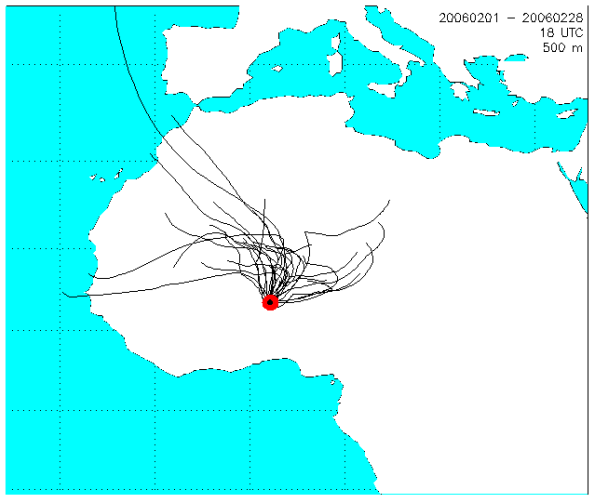
4000 m



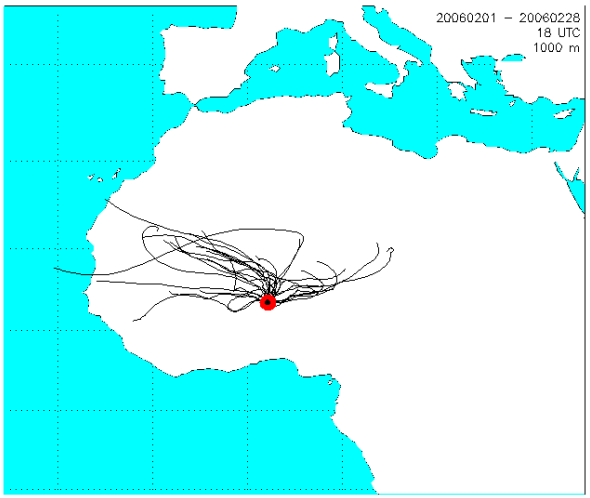




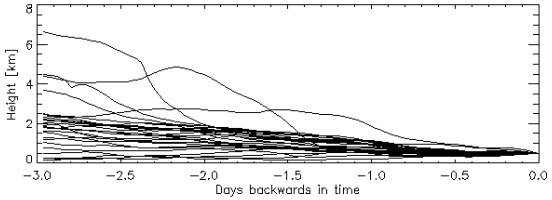
18 UTC

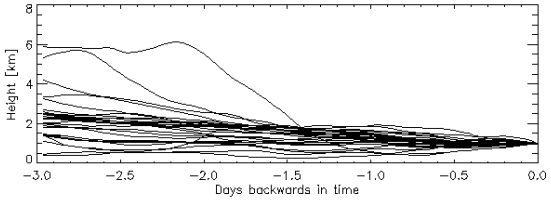


500 m



1000 m

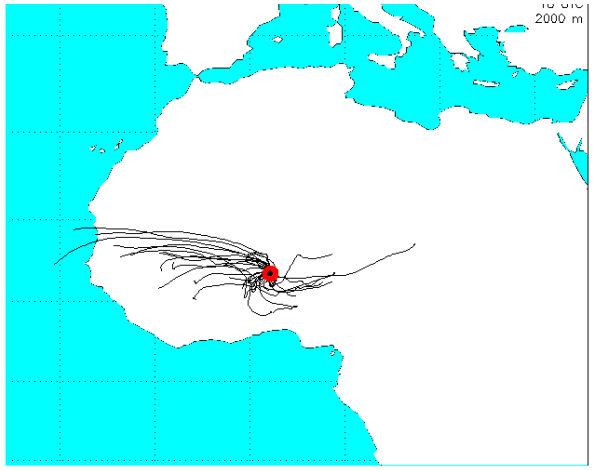




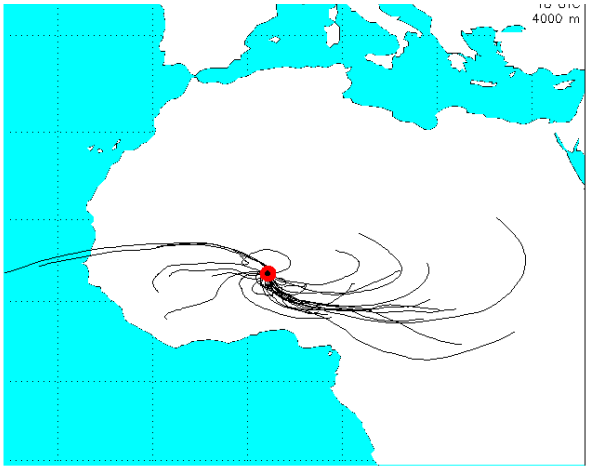
Dave Turner

Sample Plots

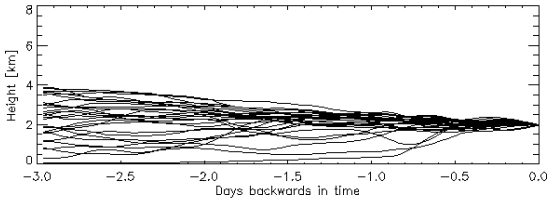
NIM 2006-02

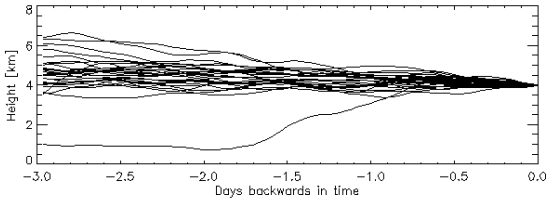


2000 m



4000 m





What next?

- Turn into a “external VAP” product for all sites?
  - need ECR
  - limit back-traj length to 2/3 days?
  - longer traj. would require an “ensemble” approach to be meaningfull
  - tune params to least common denominator for all sites? Or, …
- Operational issues
  - should it be run/generate data continuously?
  - or run tuned for intensive periods, AMF deployments?
- Feedback to me or Dave Turner
  - maybe put discussion on AWG wiki?

CSPHOT Mentoring Status

Laurie Gregory
Richard Wagener

Recent history

- 2005 mentorship discontinued to save money
  - site operations to deal with Aeronet directly for instrument swaps, maintenance etc.
  - XDC to monitor data flow
- 2006/7: instruments retrofitted
  - for internet data-transfer rather than satellite transmission, resulted in loss of real-time diagnostics
  - added cloud mode, did not work initially, needed EEPROM upgrades
- 2007 July: Laurie Gregory to mentor CSPHOT
  - Site Ops continue to deal directly with Aeronet, but actions will be recorded in common OSS and DQPR DBs

Current status

- NSA C1 - Barrow:
  - Last installed: May 2007 with new EPROM - need to confirm.
  - Status : Operating nominally. But need to investigate errors from Aeronet ops page.
- SGP C1 - CART-SITE:
  - Last installed: April 30,2007 with new EPROM and in cloud mode. Confirmed.
  - Status: Operating nominally.
- TWP C2 - Nauru:
  - Last Update: August,2007 with new EPROM in cloud mode. Need Confirmation.
  - Status: Operating nominally.
  - Problems: Missing data from 2007-07-04/08-30 due to serial cable problem

Current status (Cont'd)

- AMF FKB M1 - Black Forest:
  - Last Install: August 2007 with new EPROM, but no data yet
  - Status: No data received by Aeronet due to alignment and connection problems.
- TWP C3 - Darwin:
  - Note: Not ARM instrument, owned by CSIRO
  - Status: No data since February 2007, waiting for update from Ross Mitchell

Near term activities

- Brian Ermold is adding a raw data collection to SDS so status can be monitored in DSview by operations, and problems are noted sooner
- Laurie will update operations procedures based on recent events, experiences. Need smoother exchange of instruments as they rotate for recalibration at aeronet.
- Aeronet is working on cloud mode product
- Update yearly ingest to archive Aeronet analyses