Digital Imagery
Stuart Beaton

- Currently: VHS tapes w/ GPS time and Lat/Lon overlaid

- Coming: Digital stills, MPEG movie
  - JPEG still images at 1 frame per second (fps)
  - Annotated with A/C position, state parameters
  - Compiled into 24 fps MPEG-compressed movie.

Benefits

- Higher quality images
- Easy, lossless dissemination
- Manipulate contrast, brightness, etc.
- Computer image analysis
- Easily import to papers and presentations
- Movies: Random access, key variables on each 1s frame, single-frame forward and reverse

Format

- Stills:
  - JPEG, high-quality, ~ 10:1 compression.
  - Viewable with most image-display packages.
  - 36,000 images from 10 hour flight.

- Movies:
  - 24 fps MPEG-4, about 1500 kbs, ~8:1 compression.
  - QuickTime 6 or later (Mac, Win)
  - Mplayer (Mac, Win, linux)
  - VLC (Mac, Win, *nix, others)
  - Not WMP 9, WMP 10?

Rico

- First intensive test.
- Forward looking from cockpit.
- FF02, FF05, All RF except RF04
- Some data gaps - communication breakdowns.
- Field of view ~ 50 (v) x 67 (h) degrees, slightly larger than VHS camera.

Future

- Resolve communication breakdown.
- 3-6 directions.
- Stills available at WINDS stations in real-time.
- Uncompressed option (e.g. down-looking).
- Preliminary movie created after flight.
- Selectable frame rate.