

Dornier Aircraft Program for the October-November 2004 Campaign at Maldives:

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I. Overview of the Campaign:

Goal: To observe the vertical profile of aerosols and clouds over Hanimaadhoo observatory and to measure the horizontal gradients of aerosols and cloud properties; both North into the Arabian sea and South of Hanimaadhoo to Gan.

II. Duration:

The flights will take place between October 15 and November 15.

III. Specifics:

Primary Platform: Island Aviation Dornier Aircraft for measuring the horizontal gradients of aerosols and clouds between Hanimaadhoo and 400 nm north and south of Hanimaadhoo.

Validation Data: Provided by ABC-MCO at Hanimaadhoo and Gan Islands.

Flight Plans: There are three flight plans. Please refer to attached schematics.

Latitude - Longitude Domain of the flight:

The flight distance will range from about 25 miles to a maximum of 400 miles each way. There are two flight plans, shown as flight pattern #1 and flight pattern #2 in Figure 1. The domain of pattern #1 will fall within the boundary of the northwest domain given in Figure 1. The particular direction and distance of the flight will be decided on the morning of the flight, about 2 hours before the actual flight time. The domain of flight pattern #2 will fall within the boundary of the south to southeast domain given in flight pattern #2. The particular direction and distance within this domain will be decided two hours before the time of flight.

The direction and duration of the flight will depend on the weather forecast and cloud conditions. We will work with the Maldivian Meteorological Department to obtain current forecasts.

The altitude of the flight will range from about 500 feet to 10000 feet. Our flight plans will also include vertical profiling of the atmosphere from 500 feet to about 10000 feet, during which time we will typically fly at one level for about 25 miles, climb to the next level, then fly back 25 miles, where the process will repeat. We will also fly through low level clouds and sample cloud properties. The clouds we are interested in are shallow clouds (not deep cumulus clouds).

We will not fly in disturbed weather conditions or when there is heavy rainfall.

One of the ABC personnel (the PI, an Instrument scientist, or the Manager) will participate in the flight and direct the pilot to the specific flight pattern, altitude, cloud type, etc.

IV. Availability of Data:

The data collected by aircraft will be made available to the Maldivian government.

