

Vegetation Distribution seen from OCTS

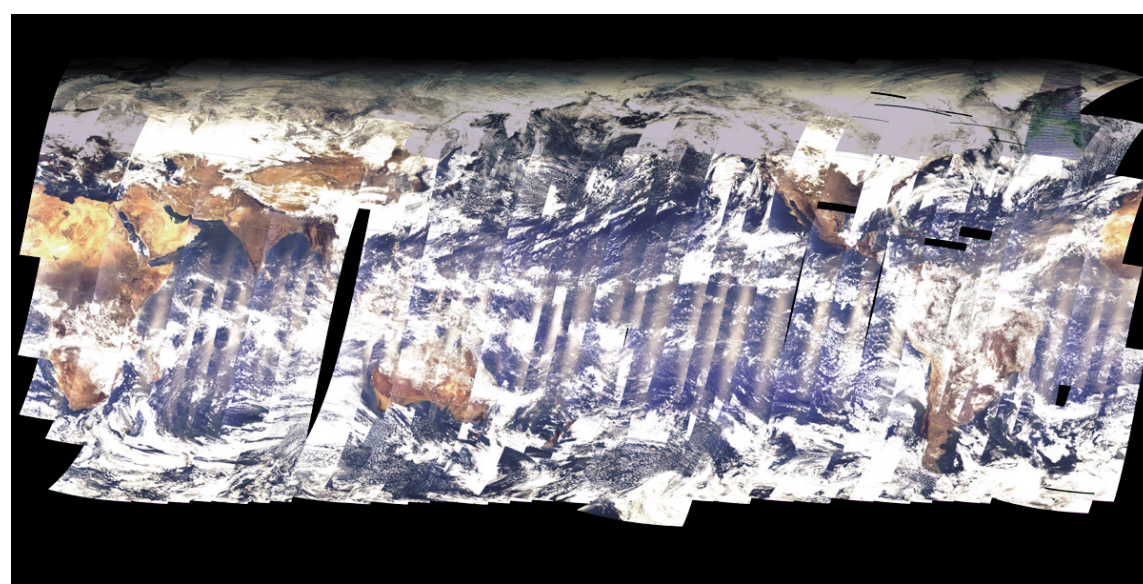
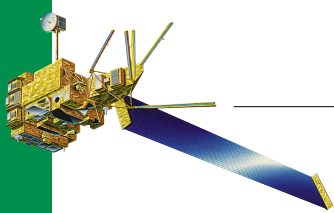


Fig.1 ADEOS OCTS (B,G,R=Ch.2,Ch.4,Ch.5) 14-16 February 1997.

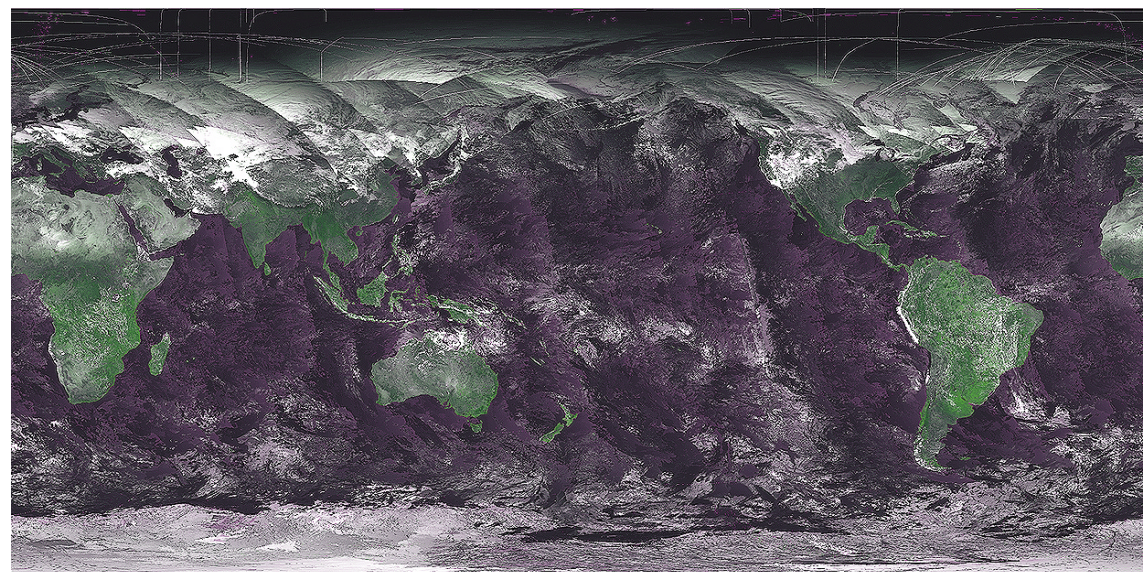
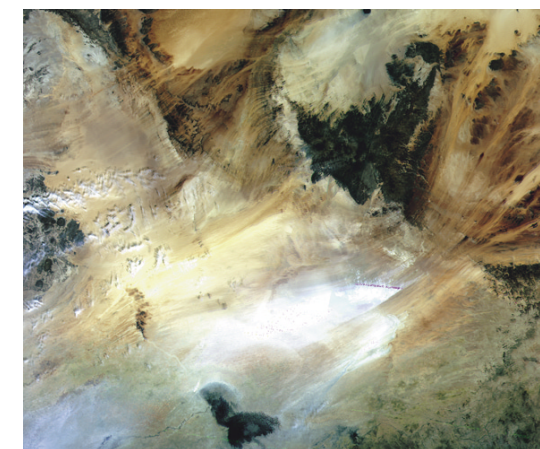
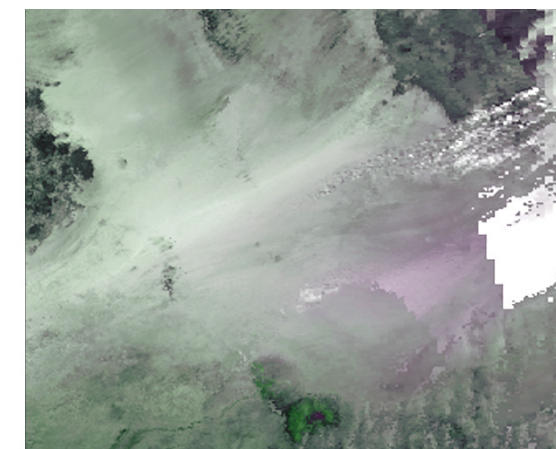


Fig.2 NOAA AVHRR GAC (B,G,R=Ch.1,Ch.2,Ch.1) February 1993.

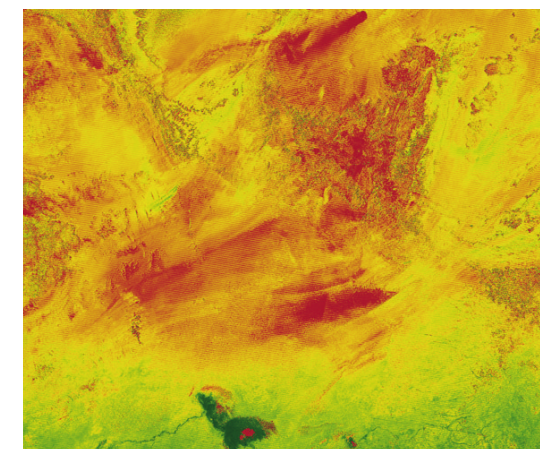


OCTS

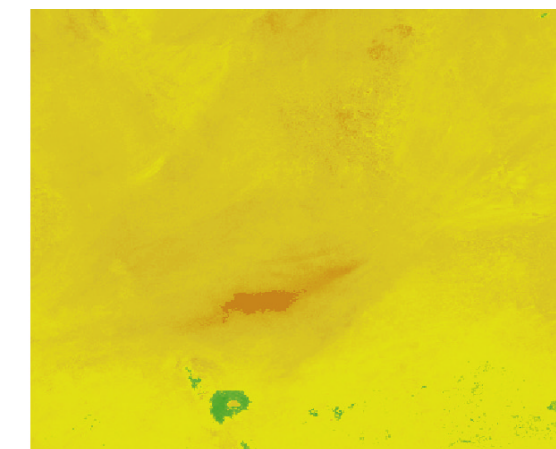


AVHRR GAC

Fig.3 Chad Lake



OCTS VI
0 0.05

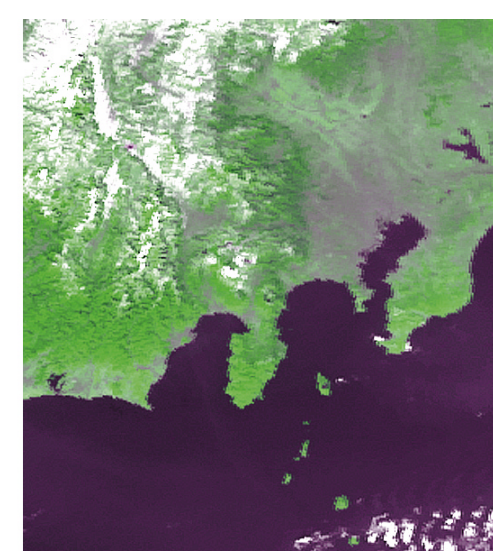


AVHRR NDVI
0 0.05

Fig.4 Chad Lake



OCTS (Resolution 700m)



AVHRR LAC (Resolution 1km)

Fig.5 Mt. Fuji

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First 700 m resolution global images were taken by OCTS on ADEOS. Unfortunately, ADEOS stopped its operation on 30 June 1997, but 9 months data had been collected. OCTS data was highly expected to monitor the Earth's environment due to its high performance (IFOV: 700 m, 12 channels data: 6 visible channels, 2 NIR channels, 4 TIR channels).

Global natural color image using OCTS channel 2, 4, and 5 is shown in Fig. 1. When this image is compared with Fig. 2 (which was made by NOAA AVHRR data), we can understand that OCTS image has much more information than NOAA AVHRR image. Figure 3 shows OCTS and AVHRR images around Lake Chad area in Africa, which is famous for desertification. It is also obvious that OCTS image has more information than AVHRR image from this figure. Figure 4 shows the vegetation index (VI) image from OCTS and normalized vegetation index (NDVI) (*1) image from AVHRR corresponding Fig. 3 area. Vegetation Index from OCTS image discriminates water surface, rich grassland and semi-desert area which AVHRR can't discriminate these land cover. Figure 5 shows natural color images from OCTS and AVHRR around Kanto area in Japan. Differences between urban area and other area are recognized in OCTS image. Such differences are not recognized in AVHRR image. Land cover change due to human activities is very important information in the field of the Earth observation. Precise global land cover information in 1997 will be obtained from OCTS image.

*1 Normalized Vegetation Index (NDVI): A ratio between near- infrared band and red band. It is defined by the following equation.

$$NDVI = (NIR - R) / (NIR + R)$$

NDVI was originally defined to the data of NOAA AVHRR and is supposed to correlate with biomass.