Presented by Dr. Barnes
at MTT mtg on 4/5/90

MODIS ATMOSPHERE OBJECTIVES

STUDIES OF TROPOSPHERIC DYNAMICS CLIMATOLOGY AND CHEMISTRY AS OBTAINED THROUGH OBSERVATIONS OF CLOUD CHARACTERISTICS (HEIGHT, TYPE, ALBEDO, ETC.), AEROSOLS, WATER VAPOR, AND TEMPERATURE (INCLUDING SURFACE TEMPERATURE)

MODIS LAND OBJECTIVES

STUDIES OF THE SPATIAL AND TEMPORAL VARIABILITY IN LAND SURFACE PROPERTIES (E.G., VEGETATION COVER AND PHENOLOGY, SNOW AND ICE, RADIATIVE PROPERTIES INCLUDING RADIATION BALANCE) WITH EMPHASIS ON PROBLEMS SUCH AS DESERTIFICATION, REGIONAL VEGETATION STRESS DUE TO ACID RAIN OR DROUGHT, AND SUCCESSION OR CHANGE IN VEGETATION SPECIES DUE TO DEFORESTATION AND ANTHROPOGENIC EFFECTS

MODIS OCEAN OBJECTIVES

STUDIES OF SPATIAL AND TEMPORAL VARIABILITY OF OCEANIC SURFACE PROPERTIES (E.G., PHOTOSYNTHETIC PIGMENTS, SEA SURFACE TEMPERATURE, FLOW VISUALIZATION, ATTENUATION COEFFICIENTS AND SEA ICE) WITH SPECIAL EMPHASIS ON OCEAN PRIMARY PRODUCTIVITY.

MODIS SCIENCE OBJECTIVES

OVERALL OBJECTIVE

LONG TERM OBSERVATIONS FOR IMPROVED UNDERSTANDING OF THE GLOBAL DYNAMICS AND PROCESSES OCCURRING ON THE SURFACE OF THE EARTH AND IN THE LOWER ATMOSPHERE (INCLUDING SURFACE-ATMOSPHERE INTERACTIONS) THROUGH EXPLOITING THE VISIBLE AND INFRARED SPECTRUM AND OBSERVATION RESOLUTIONS OF 1-2 DAYS AND 250-1000 METERS

MODIS-N
A SCANNING RADIOMETER FOR EOS

NO. CHANNELS	λ (μm)	Δλ (nm)	IFOV METERS	S/N (0-70° SZA)	NEDT (TYPICAL)	COMMENTS
1	0.6 - 0.9	40 - 50	214	100 - 200		Edge Detection
2,25	0.4 - 2.1	20 - 50	428	100 - 300		Land Processes
7	0.4 - 0.9	10 - 15	856	500 - 900		Ocean Color
2	0.6 - 0.7	10 - 15	856	1100		Fluoresence
[illegible]	0.9 - 1.0	10 - 30	856	60 - 250		Water Vapor
[illegible]	[illegible] - 8.6	30 - 300	[illegible]		.05K @ 300K	Atmos. Parameters
[illegible]	[illegible]	100 - 300	[illegible]		.25K @ 250K	Cloud & Surface Temperature
36						

ORBIT	2330 KM (810°)
SCAN RATE	20 RPM
OBJECT DIAMETER	18 CM
RADIO CALIBRATION	SOLAR, LUNAR, SURFACE
DUTY CYCLE	100%
DATA RATE	12.6 MBPS (DAY)
	2.8 MBPS (NIGHT)
COOLER	PASSIVE
SIZE	1.6 X 1.0 X 1.0 METERS
MASS	200 KG
POWER	225 WATTS

MODIS N[illegible]

THE COLUMNS [illegible] -TO-NOISE [illegible] ARE
SPECIFICATION [illegible] SPECIFICATION
CIRCULATED [illegible] ATED
VALUES DEPEND [illegible] BE ACHIEVED
AT FOCAL PLANE [illegible]

SYST[illegible]
EN[illegible]

BAND NUMBER	[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	200	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	300	300	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	300	250	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	300	250	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	300	240	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	300	220	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

WATTS/(CM2-SR-UM) [illegible]

ASSUME [illegible]