

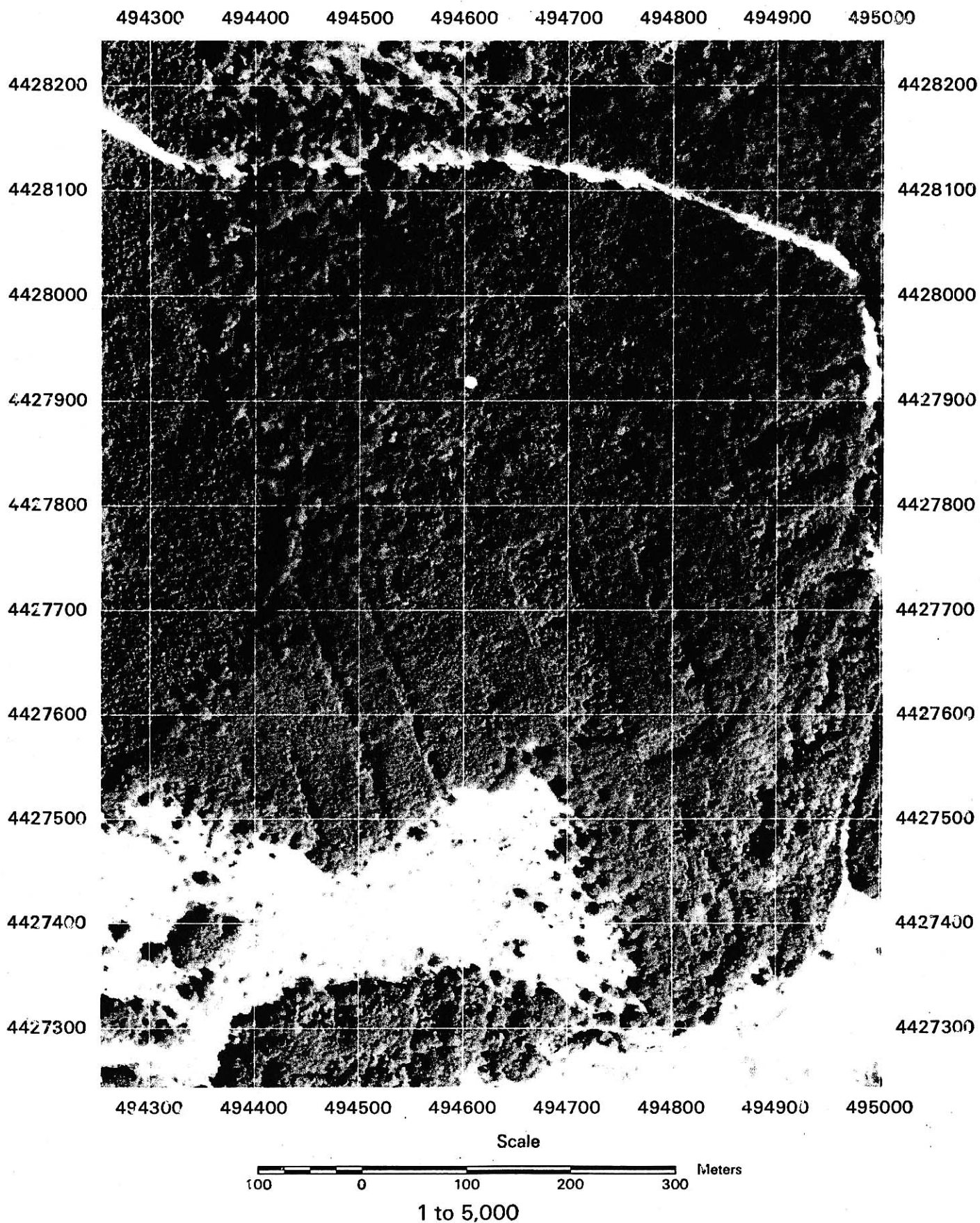
Productivity estimation in forested area

Yoshio Aways
Tohoku Research Center
Forestry and Forest Products Research Institute

Validation Data

Area		Mt. Yatsu	Morioka	Appi	Yakutuku	Mt. Moriyoshi	Tomakomai
Size		point to area	point	point to area	point to area	area	area
Observation Type		periodic/SAT	periodic	periodic/SAT	one time/SAT	GIS	GIS
Forest Type		larch	beech	beech	larch	Ceder, BRD	spruce, larch, BRD
Observation Year		2000-	1999-	1999	-	empirical data	empirical data
Parameters	Method						
Spectra	spectrometer	(○)	○	△			
fAPAR	PAR sensor		○		+		
PAI	Fish-eye photo	○	○	○			
LAI	litter trap	○	○	○			
DBH	dendrometer	○	○	○			
Tree height	Vertex	○	○	○			
NPP		(△)	○	9.8 ton/ha/y		9.8 ton/ha/y	2.9 ton/ha/y
light use efficiency	PAR sensor		○	○			

with Dr. Honda



Aerial photo of the Appi beech forest (1988, WGS84)

0HP3



ブナ林の固定プロット 1999/7/7
(岩手県安比)

Experimental plot in a beech forest, Jul. 7, 1999
(Appi, Iwate, Japan)

安比ブナ NPP測定結果 (乾重 ton/ha/year)
NPP of a Beech stand in Appi, Iwate, Japan (DW ton/ha/year)

緯度・経度 (Lat. Lon.) 39.999 N, 140.934 E

		1999 春 (spring)	2000 春 (spring)	2000 秋 (autumn)
総蓄積	Total biomass	330.82	336.20	341.87
地上部	above ground	275.68	280.17	284.89
地下部	below ground	55.14	56.03	56.98
蓄積変化	Woody biomass increment	5.38	5.67	
落葉	Fallen leaf	2.91	2.49	
落枝	Fallen branch	0.58	0.26	
ブナのタネ	Seed		0.53	
その他	Etc.		1.15	
NPP	NPP	8.87	10.10	

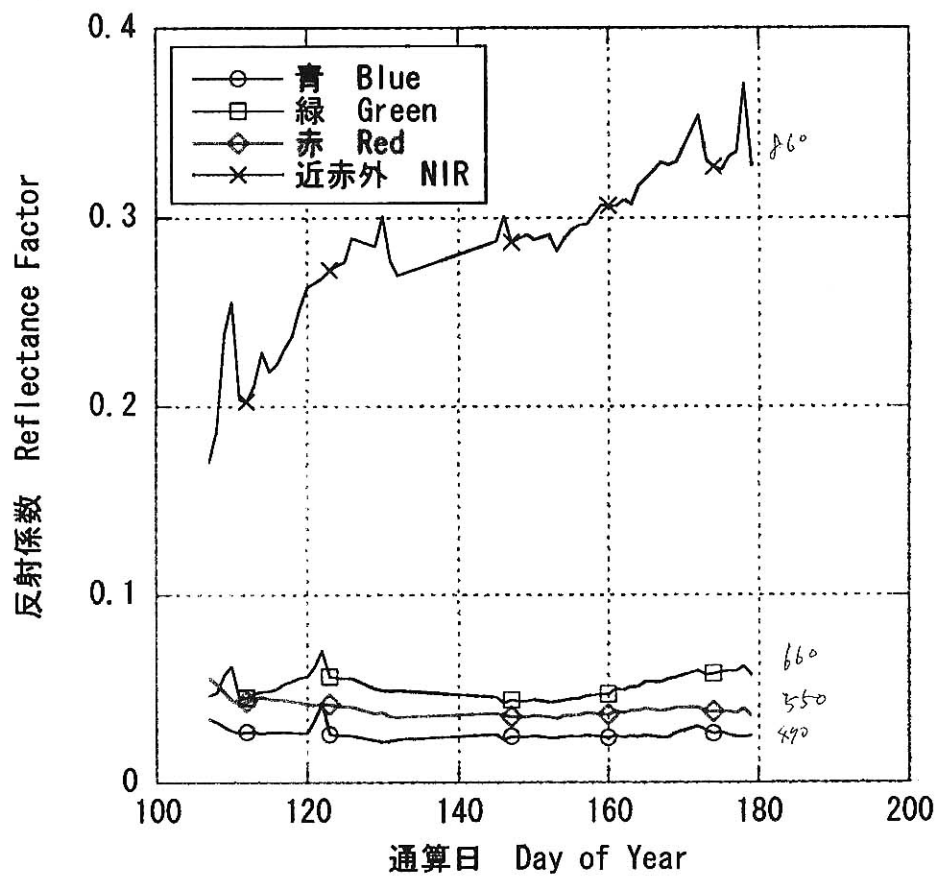
* : ブナ材の比重を0.63として計算した。

Specific gravity of beech wood was 0.63 in the NPP calculation.



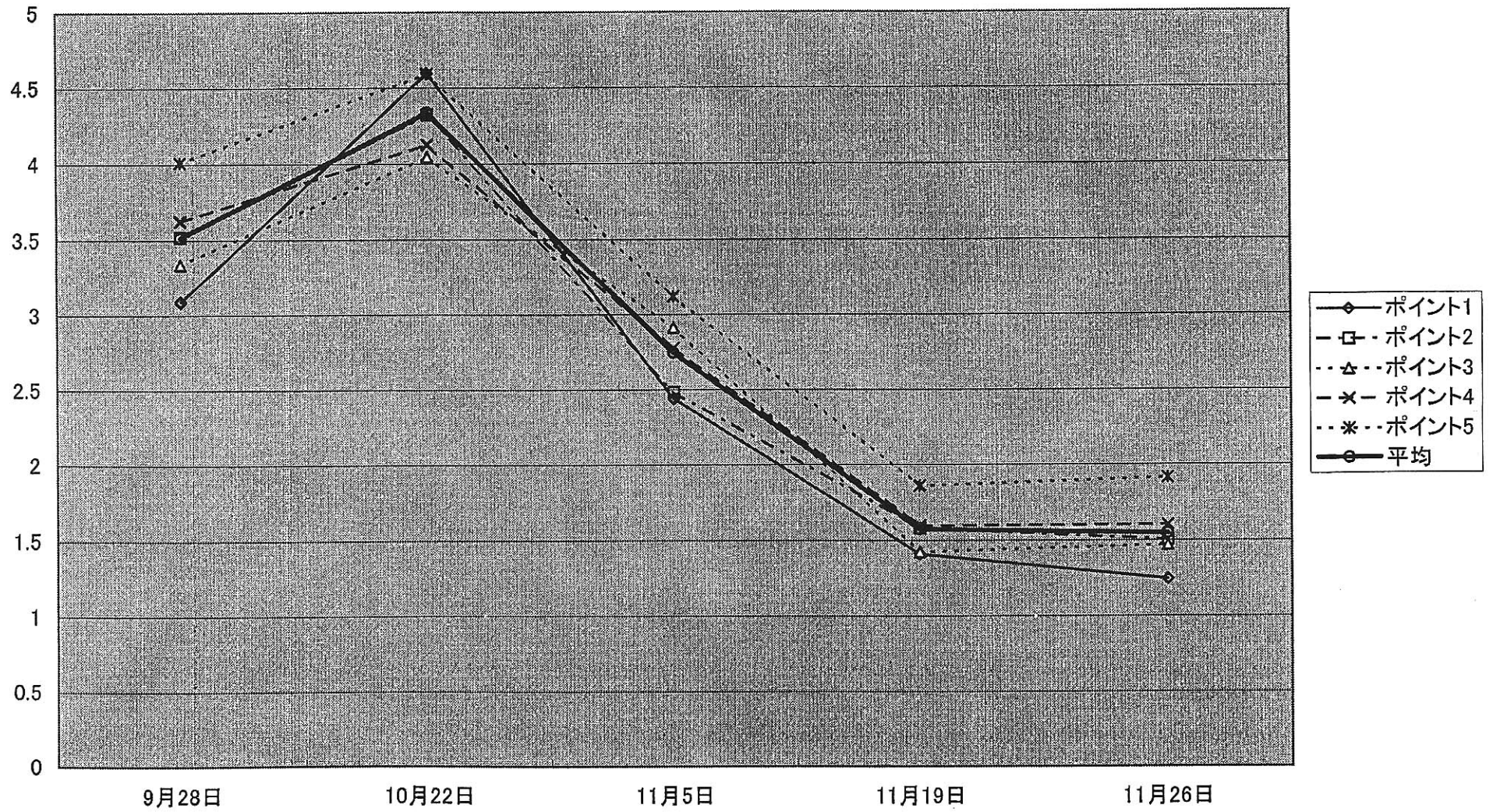
2 波長光センサ (盛岡 2001年4月14日)

0HP6



反射係数の季節変化 — 日平均値
 Seasonal change of reflectance factors - Daily averages
 (ブナ 盛岡, Beech, Morioka, Japan in 2001)

葉面積指数(FY1999)



OHP8