














































			ATMOSPHERIC REMOTE SENSING - MAPPING CAPABILITY MATRIX CSER 12 March 2010												
			Table Key: O= operational, O\$ = operational but cost prohibitive, f = feasible but not operational, nf =not feasible, fp=partly feasible, OE=possible if extent is bigger then several pixels												
SENSOR Type Platform				Passive						Active					
				Multi-spectral			Hyper-spectral			Photo graph	Radar		Laser		
				Airborne	Satellite	Satellite	Airborne	Satellite	Satellite	Airborne	Airborne	Satellite	Airborne		Satellite
PIXEL SIZE Fine < 5m, Medium 5 m - 100 m, Coarse 100 m >				Fine	Fine	Coarse	Fine	Medium	Coarse	n.a.	n.a.	n.a.	n.a.	n.a.	
Parameter and environment															
Solar	Top of atmosphere irradiance	total		nf	nf	f	nf	nf	O	nf	nf	nf	nf	nf	
		direct		nf	nf	f	nf	nf	O	nf	nf	nf	nf	nf	
		diffuse		nf	nf	f	nf	nf	O	nf	nf	nf	nf	nf	
	Surface irradiance	total		nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	O
		direct		nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	O
		diffuse		nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	O
Emitted longwave	radiance		f	f	O	f	f	O	nf	nf	nf	nf	nf	O	
Aerosols	optical depth/ thickness		nf	f	O	nf	O	O	nf	nf	nf	f	f	O	
	transmissivity		nf	f	O	nf	O	O	nf	nf	nf	f	nf	O	
	particle size distribution		nf	f	O	nf	O	O	nf	nf	nf	f	nf	O	
	particle mass concentration		nf	nf	O	nf	?	?	nf	nf	nf	nf	nf	O	
	species		nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	f*	?	
	structure in profile		nf	nf	nf	nf	nf	nf	nf	nf	nf	nf	O	O	
Gases	Water vapour		f	f	O	O	O	O	nf	nf	nf	f	nf	O	
	CO ₂		f	nf	f	O	O	O	nf	nf	nf	f	nf	O	
	O ₃		f	nf	f	O	O	O	nf	nf	nf	f	nf	O	
	N ₂ O		f	nf	f	O	O	O	nf	nf	nf	f	nf	O	
	O ₂		f	nf	f	O	O	O	nf	nf	nf	f	nf	O	
	CH ₄		f	nf	f	O	O	O	nf	nf	nf	f	nf	O	
Cloud properties	Height (* = from thermal data)		f	*O	*O	f	*O	*O	nf	O	O	O	nf	O	
	Droplet radius		nf	nf	O	?	?	?	nf	?	fp	fp	nf	?	
	Thickness (* = from thermal data)		f	*O	*O	f	*O	*O	nf	O	O	O	nf	O	
	Cloud mask/fraction		f	f	O	f	f	f	f	fp	fp	nf	nf	nf	
	Cloud top temperature (* = from thermal data)		f	*O	*O	f	*O	*O	nf	O	O	O	nf	O	
	structure in profile		nf	nf	pf	nf	nf	pf	nf	?	O	nf	nf	O	
Rain - fall	rain rate		nf	nf	Oa	nf	nf	nf	nf	O	Oa	nf	nf	O	
	accumulated total (3 hr, daily)		nf	nf	Oa	nf	nf	nf	nf	nf	Oa	nf	nf	O	
	accumulated total (monthly, annually, plus)		nf	nf	Oa	nf	nf	nf	nf	nf	Oa	nf	nf	O	
Atmospheric Properties	airmass stability indices		nf	nf	O	nf	nf	?	nf	nf	nf	nf	nf	?	
	Water vapour		nf	nf	O	?	?	O	nf	?	?	nf	nf	?	
	Air temperature profile		nf	nf	O	?	?	O	nf	nf	nf	nf	nf	O	