SIOS Core Data	SIOS core data definition TBD during the workshop	GCOS hierarchical structure Domain / Subdomain / Observed Variables	GCMD hierarchical structure Term / Variable_Level_1 / Variable_Level_2	GCOS Definition	GCMD Definition
SCD 1.1. WIND SPEED	Speed of air at a known height above the surface which is to be specified in the metadata (m/s).	ATMOSPHERE / SURFACE / SURFACE WIND SPEED	ATMOSPHERIC WINDS / SURFACE WINDS / WIND SPEED	Speed of air at a known height above the surface which is to be specified in the metadata (m/s).	Ratio of the distance covered by the air to the time taken to cover it. The instantaneous speed corresponds to the case of an infinitely small-time interval. The mean speed corresponds to the case of a finite time interval. It is one component of wind velocity, the other being wind direction).
SCD 1.2. WIND DIRECTION	Direction from which wind is blowing at a known height above the surface which is to be specified in the metadata (degrees)	ATMOSPHERE / SURFACE / SURFACE WIND DIRECTION	ATMOSPHERIC WINDS / SURFACE WINDS / WIND DIRECTION	Direction from which wind is blowing at a known height above the surface which is to be specified in the metadata (degree true)	The direction from which the wind is blowing.
SCD 1.3. AIR TEMPERATURE	Air temperature at a known height above surface, with the height specified in the metadata (K)	ATMOSPHERE / SURFACE / TEMPERATURE (NEAR SURFACE)	ATMOSPHERIC TEMPERATURE / SURFACE TEMPERATURE / AIR TEMPERATURE	Air temperature at a known height above surface, with the height specified in the metadata (K)	The temperature indicated by a thermometer exposed to the air in a place sheltered from direct solar radiation.
SCD 1.4. NET RADIATION	The difference between the downward and upward (total and terrestrial) radiation (W m-2).	ATMOSPHERE / SURFACE / ENERGY AND TEMPERATURE	ATMOSPHERIC RADIATION / NET RADIATION /		Net radiation refers to the difference between the downward and upward (total and terrestrial) radiation. The net flux of all radiations. Can also refer to the net solar radiation which is the difference between the solar radiations directed downwards and upwards.
SCD 1.5. SHORTWAVE RADIATION	Radiation at wavelengths shorter than 4 microns (W m-2).	ATMOSPHERE / SURFACE / SURFACE ERB SHORTWAVE	ATMOSPHERIC RADIATION / SHORTWAVE RADIATION /	Flux density of the solar radiation at the Earth's surface (W/m2	Shortwave radiation is radiation at wavelengths shorter than 4 microns. Sometimes called the solar radiation. Usually radiation in the visible and near-infrared wavelengths.
SCD 1.6. LONGWAVE RADIATION	Radiation with wavelengths longer than 4 micros (W m-2).	ATMOSPHERE / SURFACE / SURFACE ERB LONGWAVE	ATMOSPHERIC RADIATION / LONGWAVE RADIATION /	Flux density of radiation emitted by the gases, aerosols and clouds of the atmosphere to the Earth's surface (W/m2)	Longwave radiation is radiation with wavelengths longer than 4 micros. Also referred to as infrared radiation or terrestrial radiation.
SCD 1.7.	The amount of precipitation collected and	ATMOSPHERE / SURFACE / ESTIMATES OF LIQUID AND SOLID PRECIPITATION	PRECIPITATION / PRECIPITATION AMOUNT / 24 HOUR	Integration of solid and liquid precipitation rate reaching the ground over several time intervals.	The amount of precipitation collected and measured at a weather observing site during a 24 hour period.

24 HOUR PRECIPITATION AMOUNT	measured at a weather observing site during a 24 hour period (mm).		PRECIPITATION AMOUNT	The reference requirement refers to integration over 24h.	
SCD 1.8. HUMIDITY	The ratio of the amount of atmospheric moisture present relative to the amount that would be present if the air were saturated with respect to water or ice to be specified in the metadata (%)	ATMOSPHERE / SURFACE / WATER VAPOUR (RELATIVE HUMIDITY - SURFACE)	ATMOSPHERIC WATER VAPOR / WATER VAPOR INDICATORS / HUMIDITY	Relative humidity at a known height above surface, with the height specified in the metadata. It is the ratio of the amount of atmospheric moisture present relative to the amount that would be present if the air were saturated with respect to water or ice to be specified in the metadata (%)	Generally, some measure of the water vapor content of air.
SCD 1.9. UPPER AIR TEMPERATURE	From GCOS web site products are profiles in troposphere and stratosphere. If we like to add deep atmospheric layers (????) we should I believe add another variable. For the first we can have several instruments. For higher levels only micvrtowave and radar. Our capabily to have 3D data should be carefully investigate as well as time resolution.	ATMOSPHERE / UPPER ATMOSPHERE / TEMPERATURE OF DEEP ATMOSPHERIC LAYERS	ATMOSPHERIC TEMPERATURE / UPPER AIR TEMPERATURE /	3D field of the atmospheric temperature of deep atmospheric layers (K)	Temperature is defined, in general, as the degree of hotness or coldness measured on some definite temperature scale by means of any of various types of thermometers. In meteorology, a profile is defined as a graph of the value of a scalar quantity versus a horizontal, vertical, or time scale. It usually refers to a vertical representation.
SCD 1.10. UPPER LEVEL WINDS	We could take an approach similar to temperature even if GCOS talk more of retrievals, so products arising from	ATMOSPHERE / UPPER ATMOSPHERE / UPPER-AIR WIND RETRIEVALS	ATMOSPHERIC WINDS / UPPER LEVEL WINDS /	3D field of the horizontal vector component (2D) of the 3D wind vector (m/s)	Generally, the wind speeds and directions at various levels in the atmosphere above the domain of surface weather observations, as determined by any of the methods of winds-aloft observation.

	analysis and not direct observations.				
SCD 1.11. CLOUD TYPES		WMO / WMO / CLOUD TYPE_WMO	CLOUDS / CLOUD TYPES /	At present, the only method for observing most cloud types is visual. Pictorial guides and coding information are available from many sources, such as WMO (1975, 1987), as well as from publications of National Meteorological Services.	(Also known as cloud genus) The main characteristic form of a cloud used in its identification
SCD 1.12. CLOUD BASE HEIGHT		WMO / WMO / CLOUD-BASE HEIGHT_WMO	CLOUDS / CLOUD PROPERTIES / CLOUD HEIGHT	The height of the cloud base lends itself to instrumental measurement, which is now widely used at places where cloud height is operationally important. However, the estimation of cloud-base height by human observer is still widespread.	In weather observations, the height of the cloud base above local terrain. In satellite remote sensing, cloud height is often referred to as the height of the cloud top above local terrain or above mean sea level. Also, can be defined as the vertical distance from the cloud base to the cloud top; more commonly referred to as the "thickness" or "depth" of the cloud.
SCD 1.13. WATER VAPOR FLUX		ATMOSPHERE / UPPER ATMOSPHERE / HYDROSPHERE	ATMOSPHERIC WATER VAPOR / WATER VAPOR PROCESSES / WATER VAPOR FLUX		Flow of Water Vapor across an area per unit time, for "water vapor flux" units of kg/m^2/s
SCD 1.26. U/V WIND COMPONENTS	This is a parameter assosiated with measurements with radars in mesosphere and thermosphere. We need more clearly separate from upper-air measurements. They are not part of GCOS	ATMOSPHERE / UPPER ATMOSPHERE / PHYSICAL PROPERTIES	ATMOSPHERIC WINDS / UPPER LEVEL WINDS / U/V WIND COMPONENTS		Zonal (U) and Meridional (V) wind velocity.
SCD 1.27. TURBULENCE	This is a parameter assosiated with measurements with radars in mesosphere and thermosphere. We need more clearly separate from upper-air	ATMOSPHERE / UPPER ATMOSPHERE / PHYSICAL PROPERTIES	ATMOSPHERIC WINDS / WIND DYNAMICS / TURBULENCE		Random and continuously changing air motions that are superposed on the mean motion of the air.

	measurements. They are not part of GCOS				
SCD 1.28. VERTICAL WIND VELOCITY/SPEED	This is a parameter assosiated with measurements with radars in mesosphere and thermosphere. We need more clearly separate from upper-air measurements. They are not part of GCOS	ATMOSPHERE / UPPER ATMOSPHERE / PHYSICAL PROPERTIES	ATMOSPHERIC WINDS / WIND DYNAMICS / VERTICAL WIND VELOCITY/SPEED		The component of wind motion rising perpendicular to the plane of the horizon.
SCD 1.29. All-sky (630.0 nm, 557.7nm, 427.8 nm., cloud observation)	I believe this also pertain to above stratosphere and refers to all-sly imager for aurora				
SCD 1.30. Nem(F2), hm(F2) - Peak values of electron density and altitude of Ne maximum, ionosphere F2 layer	pertain to ionized atmosphere				
SCD 1.x. new suggestions					
SCD 1.31. TOTAL ELECTRON CONTENT (TEC)	pertain to ionized atmosphere		ATMOSPHERIC ELECTRICITY/TOTAL ELECTRON CONTENT		Total electron content is the total vertically integrated number of electrons per unit surface area on the earth. In standard metric units this is 10E16 electrons/m^2 also known as a TEC unit or TECU
SCD 1.32 ABL turbulence	ABL turbulence is a wide term. I suggest to split ABL turbulence in some basic surface layer parameters :				

	Sensible heat flux, friction velocity and roughness length				
SCD 1.33 albedo	in GCOS is attributed to land/biosphere				
SCD 1.34 UV radiation	broadband or integrated by spectrum				