ksec1

GRIB section 1, the product definition section

KSEC1 must be initialised when encoding; it is filled in by GRIBEX when decoding.

An INTEGER array.

When section 1 contains data for ECMWF local use, KSEC1 must be dimensioned accordingly, see ECMWF local GRIB usage definitions.

Contents of KSEC1

Element	Contents	ecCodes keys
1	Version number of code table 2.	**paramId**
2	Identification of centre (see WMO code table 0), 98 for ECMWF.	**centre**
3	Generating process identification number, allocated by the originating centre. (255 is used at ECMWF as an indicator for dummy surface pressure fields). See ECMWF model identifiers.	**generatingProcessIdentifier**
4	Grid definition. NNN catalogue number of grid used by the originating centre (See Volume B of WMO publication No.9). 255 for a non-catalogued grid, in which case the grid description follows in KSEC2.	**gridType**

5	Flag showing whether sections 2 and 3 are present (see WMO code table 1):
	`  0, Sections 2 and 3 are omitted.`
	`64, Section 2 is omitted, Section 3 is included.`
	`128, Section 2 is included, Section 3 is omitted.`
	`192, Sections 2 and 3 are included.`
		gridType
		bitmapPresent

6	Parameter indicator (see WMO code table 2).	**shortName** **paramId**
7	Type of level indicator (see WMO code table 3), or satellite identifier. Satellite usage is as defined by INPE/CPTEC and used by ECMWF pending final definition by WMO.	**typeOfLevel**
8	Height, pressure, etc of level (see WMO code table 3). Single level or top of layer, or satellite spectral band. Satellite usage is as defined by INPE/CPTEC and used by ECMWF pending final definition by WMO.	**level**
9	Height, pressure, etc of level (see WMO code table 3). Bottom of layer if element 7 indicates a layer.	**typeOfLevel**
10-14	Reference time of data. Date and time of start of averaging or accumulation.	**dataDate**
10	Year of century (YY).	**dataDate**
11	Month (MM).	
12	Day (DD).	
13	Hour (HH).	**dataTime**
14	Minute (MM).	
15	Time unit indicator (see WMO code table 4).	**stepType = instant | avg | accum | max | min | diff | rms | sd | cov | ratio** **stepUnits = s (seconds) | m (minutes) | h (hours) | 3h | 6h | 12h | D (day) | M (month) | Y (year) | 10Y | 30Y | C (century)** **default value for stepUnits is "h"** **startStep, endStep** **stepRange (= "endStep" | "startStep-endStep")**
16	P1 - Time period (number of time units) 0 for analyses or initialised analyses.	
17	P2 - Time period (number of time units). Or time interval between successive analyses, initialised analyses or forecasts undergoing averaging or accumulation. Otherwise set to zero.	
18	Time range indicator (see WMO code table 5).	
19	Number of products included in an average, when the time range indicates an average or accumulation. Otherwise set to zero.	

20	Number of products missing from an average, when the time range indicates an average or accumulation. Otherwise set to zero.	**step**
21	Century of reference time of data (eg 20 for 1997).	**date/1000-1**
22	Sub-centre identifier.	**subCentre**
23	Decimal scale factor.	**decimalScaleFactor** **decimalPrecision**

24	Flag field to indicate local use in Section 1:
	`0 No local use in section 1.`
	`1 Local use in section 1.`
		setLocalDefinition

25-36	Reserved for WMO reserved fields. Set to 0.	
37	ECMWF local GRIB use definition identifier. This number determines the contents of elements 38-nn. See ECMWF local GRIB usage definitions. Local definition numbers 192 to 255 inclusive will not be used for ECMWF local extensions. They are free for use by Member States.	**class** **type** **stream** **expver** **...**

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Note:
  For year 2000, KSEC1(21) = 20 and KSEC1(10) = 100
  For year 2001, KSEC1(21) = 21 and KSEC1(10) = 1
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