

Description

YOPP dataset consists of two different ECMWF outputs:

1) Operational ensemble forecast (ENS IFS)

- **Medium-range forecast up to +360 hours** (3-hourly up to 144 hours, then 6-hourly outputs)
- Archived in MARS as **Control forecast** (type=cf, stream=enfo, class=yp)
- 7 additional pressure levels to have a better vertical resolution in higher altitudes

2) Dedicated research run containing additional tendencies

- **Short-range forecast up to +48 hours** (3-hourly outputs)
- Archived in MARS as **Forecast** (type=fc, stream=oper, class=yp)
- Research run that mimics very closely the operational control forecast of the ENS IFS was run from the 15.7. 2017 onwards
- Additional tendencies from various physical and dynamical processes were archived on model levels (not available from ENS IFS run)
 - The differences for all parameters are on average small compared to the control forecast run, however, locally there can be differences in some parameters
 - The tendencies are described in the table below

Field 3D (note tendencies and fluxes are accumulated)	Units	Grib code ^{*1}
u-tendency from explicit dynamics	m/s ² * s	162114
v-tendency from explicit dynamics	m/s ² * s	162115
T-tendency from explicit dynamics	K/s * s	162116
q-tendency from explicit dynamics	kg/kg/s * s	162117
T-tendency from radiation	K/s * s	162118
u-tendency from vert. diff + orog drag + surf processes	m/s ² * s	162119
v-tendency from vert. diff + orog drag + surf processes	m/s ² * s	162120
T-tendency from vert. diff + orog drag + surf processes	K/s * s	162121
q-tendency from vert. diff + orog drag + surf processes	kg/kg/s * s	162122
u-tendency of gravity wave drag (including non-orographic)	m/s ² * s	162123
v-tendency of gravity wave drag (including non-orographic)	m/s ² * s	162124
T-tendency of gravity wave drag (including non-orographic) = dissipation wave break	K/s * s	162125
u-tendency from convection (deep+shallow)	m/s ² * s	162126
v-tendency from convection (deep+shallow)	m/s ² * s	162127
T-tendency from convection (deep+shallow)	K/s * s	162128
q-tendency from convection (deep+shallow)	kg/kg/s * s	162129
Precip. flux from convection liquid	kg/(m ² s) * s	162130
Precip. flux from convection ice	kg/(m ² s) * s	162131
T-tendency from cloud scheme	K/s * s	162132
q-tendency from cloud scheme	kg/kg/s * s	162133
ql-tendency from cloud scheme (stratiform)	kg/kg/s * s	162134
qi-tendency from cloud scheme (stratiform)	kg/kg/s * s	162135

*1 paramId in ECMWF's ecCodes