



Priority Task - TERRA Nova



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TERRA Nova - Background

- A new TERRA module in ICON
- Introducing new parametrizations and schemes
- Good results for new TERRA on global scale
- Assimilation of new module to COSMO is expected to improve model skills, but needs to be tested

TERRA Nova – Major Improvements

- Block Structure
- Bare soil evaporation
- (Canopy scheme)
- Interception storage
- Snow density
- TERRA URB

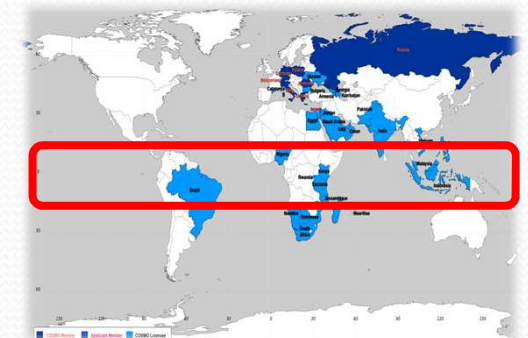
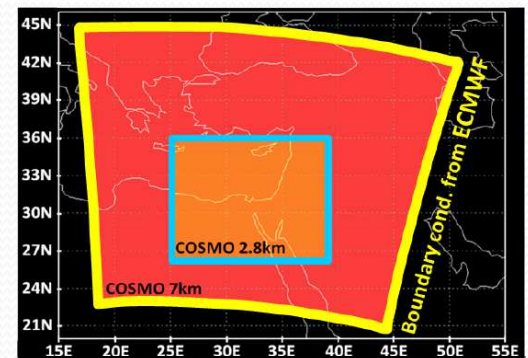
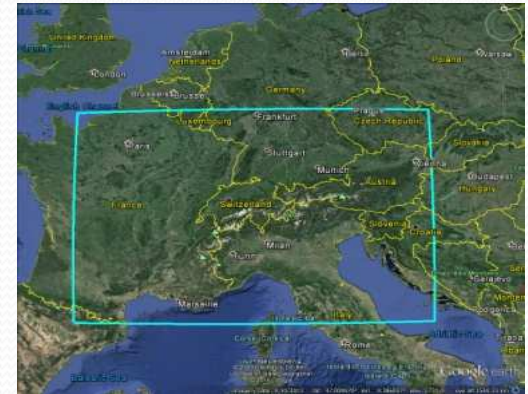
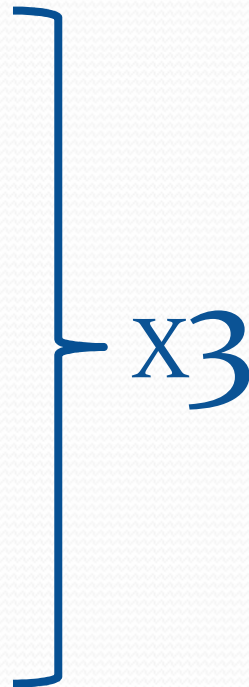


TERRA Nova – Priority Task (0.4 FTE)

Task	Contributing Scientist(s)	FTE-Years	Start	Deliverables	Date of Delivery
1	Y. Ziv (IMS)	0.15	9.2016	Evaluate Forecast Skill	5.2017
2	Y. Ziv (IMS) Y. Levi (IMS) J.M Bettems (MS) J. Helmert (DWD)	0.15 0.01 0.02 0.02	2.2017	Assessment of new schemes	9.2017
3	Y. Ziv (IMS) A. Shtivelman (IMS)	0.03 0.02	9.2016	COSMO environment set up in a ECMWF computational centre.	1.2017

TERRA Nova – Methodology

- 3 domains
 - Central Europe
 - Tropical set up / Russia
 - Israel
- 3 resolutions: 6.8km, 2.2km, 1.1km
- 2 seasons: winter (snow), summer
- Include RHM in March
- **ECMWF computing centre: ~ 1 Mil. BUs**



TERRA Nova – Verification

- Parameters tested
- Meteorological parameters: T, DP, Precip., Wind, Upper air
- Using existing verifications tools
- Soil parameters: T, WC
- Fluxes? (COSMO data pool)

TERRA Nova – Checking New Schemes

- Test cases approach
- Verification against flux measurements
- Not a full calibration

