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*Supplement of*

## **Mountain waves can impact wind power generation**

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**Namelist.wps:**

```
&share  
wrf_core = 'ARW',  
max_dom = 2,  
start_date = '2016-09-23_12:00:00', '2016-09-23_12:00:00',  
end_date = '2016_09_25_12:00:00', '2016_09_25_12:00:00',  
interval_seconds = 21600,  
io_form_geogrid = 2,  
/  

```

```
&geogrid  
parent_id = 1, 1,  
parent_grid_ratio = 1, 4,  
i_parent_start = 1, 51,  
j_parent_start = 1, 40,  
e_we = 381, 1001,  
e_sn = 351, 901,  
geog_data_res = 'default','default',  
dx = 3000,  
dy = 3000,  
map_proj = 'lambert',  
ref_lat = 46,  
ref_lon = -119.5,  
truelat1 = 46,  
truelat2 = 46,  
stand_lon = -119.5,  
/  

```

```
&ungrib  
out_format = 'WPS',  
prefix = 'FILE',  
/  

```

```
&metgrid  
fg_name = 'FILE'  
io_form_metgrid = 2,  
/  

```

**Namelist.input:**

```
&time_control  
run_days = 0,  
run_hours = 48,  
run_minutes = 0,  
run_seconds = 0,  
start_year = 2016, 2016,  
start_month = 09, 09,  
start_day = 23, 23,  
start_hour = 12, 12,  
start_minute = 00, 00,  
start_second = 00, 00,
```

```
end_year      = 2016, 2016,
end_month     = 09, 09,
end_day       = 25, 25,
end_hour      = 12, 12,
end_minute    = 00, 00,
end_second    = 00, 00,
interval_seconds = 21600,
input_from_file = .true.,.true.,
restart       = .true.,
restart_interval = 360,
io_form_history = 2,
io_form_restart = 2,
io_form_input  = 2,
io_form_boundary = 2,
debug_level    = 0,
history_interval = 5, 5,
frames_per_outfile = 1, 1,
/
```

&domains

```
time_step      = 10,
time_step_fract_num = 0,
time_step_fract_den = 1,
max_dom        = 2,
max_ts_locs    = 50,
ts_buf_size    = 7040,
max_ts_level   = 88,
s_we           = 1, 1,
e_we           = 381, 1001,
s_sn           = 1, 1,
e_sn           = 351, 901,
s_vert         = 1, 1, 1, 1, 1,
e_vert         = 88, 88, 88, 88, 88,
eta_levels     = 1.00000, 0.99935, 0.99871, 0.99806,
               0.99742, 0.99677, 0.99609, 0.99538,
               0.99464, 0.99386, 0.99304, 0.99218,
               0.99127, 0.99032, 0.98933, 0.98829,
               0.98719, 0.98605, 0.98484, 0.98358,
               0.98226, 0.98087, 0.97941, 0.97789,
               0.97629, 0.97461, 0.97285, 0.97101,
               0.96908, 0.96705, 0.96493, 0.96271,
               0.96038, 0.95793, 0.95538, 0.95270,
               0.94989, 0.94696, 0.94388, 0.94066,
               0.93729, 0.93360, 0.92955, 0.92512,
               0.92026, 0.91495, 0.90914, 0.90278,
               0.89584, 0.88825, 0.87997, 0.87095,
               0.86112, 0.85042, 0.83879, 0.82617,
               0.81247, 0.79764, 0.78161, 0.76430,
               0.74566, 0.72562, 0.70412, 0.68112,
               0.65658, 0.63048, 0.60281, 0.57359,
               0.54285, 0.51066, 0.47711, 0.44234,
               0.40652, 0.36985, 0.33259, 0.29501,
```

```
0.25746, 0.22028, 0.18491, 0.15347,  
0.12553, 0.10069, 0.07861, 0.05898,  
0.04154, 0.02603, 0.01225, 0.00000,  
p_top_requested      = 10000,  
num_metgrid_levels  = 38,  
num_metgrid_soil_levels = 4,  
dx                  = 3000, 750,  
dy                  = 3000, 750,  
grid_id             = 1, 2,  
parent_id           = 1, 1,  
i_parent_start      = 1, 51,  
j_parent_start      = 1, 40,  
parent_grid_ratio   = 1, 4,  
parent_time_step_ratio = 1, 4,  
feedback            = 0,  
smooth_option       = 0,  
/  

```

#### &physics

```
mp_physics           = 10, 10,  
ra_lw_physics        = 4, 4,  
ra_sw_physics        = 4, 4,  
radt                 = 20, 5,  
sf_sfclay_physics    = 5, 5,  
sf_surface_physics   = 2, 2,  
bl_pbl_physics       = 5, 5,  
bldt                 = 0, 0,  
cu_physics           = 1, 0,  
cudt                 = 5, 0,  
isfflx               = 1,  
ifsnow               = 0,  
icloud               = 0,  
surface_input_source = 1,  
num_soil_layers      = 4,  
sf_urban_physics     = 0, 0,  
num_land_cat         = 24,  
/  

```

#### &fdda

```
/
```

#### &dynamics

```
w_damping            = 1,  
diff_opt             = 1, 1,  
km_opt               = 4, 4,  
diff_6th_opt         = 2, 2,  
diff_6th_factor      = 0.12, 0.12,  
base_temp            = 290.  
damp_opt             = 3,  
zdamp                = 5000.,5000.,  
dampcoef             = 0.2, 0.2,  
khdif                = 0, 0,  
kvdif                = 0, 0,
```

```
non_hydrostatic      = .true.,.true.,
moist_adv_opt        = 1, 1,
scalar_adv_opt       = 1, 1,
tke_adv_opt          = 1, 1,
h_mom_adv_order      = 5, 5,
v_mom_adv_order      = 3, 3,
h_sca_adv_order      = 5, 5,
v_sca_adv_order      = 3, 3,
/
```

```
&bdy_control
spec_bdy_width       = 5,
spec_zone            = 1,
relax_zone           = 4,
specified            = .true.,.false.,
nested               = .false.,.true.,
/
```

```
&namelist_quilt
nio_tasks_per_group  = 0,
nio_groups           = 1,
/
```