Recall of SURFEXv8.0++ in CNRM-CM6 compared to v8.0

- XIOS server (also included in SFXv8.1)
    - parallel i/o
    - netcdf format
    - on-line post processing
- Arrange/Add more than 300 diagnostics (energy, water, carbon) for CMIP specification (to be used preferentially with XIOS). Some are given next pages but names can be change according to change in CMIP data request. These diag are only for CMIP6 configuration (Global, ISBA, Flake, Sea) and they must be improved for other configuration (like MEB). A key LDIAG_CMIP was added.
- Improvement of land-use routines (simplification, water and carbon conservations, ...)
- Fire forest dynamic and Carbon leaching to river and ocean
- Daily or monthly nudging for soil moisture (Wg) and snow mass (Wn)

2019-2020 plans in Climate Group :

- Use of SURFEXv8.1 before phasing SURFEXv8.0++ to prepare future v9.0.
- Discretization of soil carbon reservoirs + soil gas diffusion + methane fluxes (Xavier Morel thesis) added in SURFEXv8.0++ before v9.0.

Future plans in Climate Group :

- MEB evaluation at the global scale (off-line and in-line)
- Coupling MEB-litter to litter biomass and fire
- Aerosol emission/deposition from SURFEX to Arpege-Climat
- Improve of vegetation/carbon parameter per vegtype especially for MEB
- Improve the representation of arctic regions in SURFEX:
  (1) ES vs. Crocus: we plan to use Crocus in the future climate model;
  (2) improve the representation of arctic snow;
  (3) add moss and lichen;
  (4) black carbon deposit?